Letter of Offer
Dated April 13, 2022
For Eligible Unitholders only

IRB INFRASTRUCTURE TRUST

(An irrevocable trust set up under the Indian Trusts Act, 1882 and registered as an infrastructure investment trust with the Securities and Exchange Board of India)

Principal place of business: Off No-11th Floor/1101, Hiranandani Knowledge Park, Technology Street, Hill Side Avenue, Powai, Mumbai 400 076, Maharashtra, India
SEBI Registration Number: IN/InvIT/19-20/0012; **Tel**: +91 22 6733 6400
Compliance Officer: Mr. Kaustubh Shevade; **E-mail**: kaustubh.shevade@irb.co.in

Sponsor	Investment Manager	Trustee
IRB Infrastructure Developers Limited	**MMK Toll Road Private Limited**	**IDBI Trusteeship Services Limited**

FOR PRIVATE CIRCULATION TO THE ELIGIBLE UNITHOLDERS OF THE IRB INFRASTRUCTURE TRUST ONLY

Issue of up to 24,429,805 units (the "**Units**") representing an undivided beneficial interest in IRB Infrastructure Trust (the "**Trust**") at a price of ₹100 per Unit (the "**Issue Price**") aggregating up to ₹2,442.98 million on a rights basis to Eligible Unitholders in the ratio of 1 Unit for every 35 Units held by them on the Record Date (the "**Issue**"). The Record Date is April 8, 2022.

THIS ISSUE IS BEING MADE ONLY TO ELIGIBLE UNITHOLDERS IN RELIANCE UPON THE CIRCULAR DATED NOVEMBER 4, 2020 ON GUIDELINES FOR RIGHTS ISSUE OF UNITS BY AN UNLISTED INFRASTRUCTURE INVESTMENT TRUST (INVIT) ISSUED BY THE SECURITIES AND EXCHANGE BOARD OF INDIA (THE "SEBI RIGHTS ISSUE GUIDELINES") AND THE SECURITIES AND EXCHANGE BOARD OF INDIA (INFRASTRUCTURE INVESTMENT TRUSTS) REGULATIONS, 2014 READ WITH THE MASTER CIRCULAR FOR INFRASTRUCTURE INVESTMENT TRUSTS (INVITS) DATED NOVEMBER 29, 2021 ("SEBI MASTER CIRCULAR").

This Letter of Offer relates to the Issue being made to existing Eligible Unitholders as on the Record Date under the Securities and Exchange Board of India (Infrastructure Investment Trusts) Regulations, 2014 and the SEBI Rights Issue Guidelines read with the SEBI Master Circular.

The Investment Manager, having made all reasonable inquiries, accepts responsibility for and confirms that this Letter of Offer contains all information with regard to the Trust, the Units and this Issue, which is material in the context of this Issue, that the information contained in this Letter of Offer is true and correct in all material aspects and is not misleading in any material respect, that the opinions and intentions expressed herein are honestly held and that there are no other facts, the omission of which makes this Letter of Offer as a whole or any of such information or the expression of any such opinions or intentions misleading in any material respect.

This Letter of Offer has not been, and will not be, registered as a prospectus, will not be circulated or distributed to the public at large in India or any other jurisdiction, and will not constitute a public offer in India or any other jurisdiction.

THIS LETTER OF OFFER IS PERSONAL TO EACH ELIGIBLE UNITHOLDER. THIS LETTER OF OFFER HAS BEEN PREPARED BY THE INVESTMENT MANAGER SOLELY FOR PROVIDING INFORMATION IN CONNECTION WITH THIS ISSUE.

YOU MAY NOT, AND ARE NOT AUTHORIZED TO, (1) DELIVER THIS LETTER OF OFFER TO ANY OTHER PERSON; OR (2) REPRODUCE THIS LETTER OF OFFER IN ANY MANNER WHATSOEVER. ANY DISTRIBUTION OR REPRODUCTION OF THIS LETTER OF OFFER, IN WHOLE OR IN PART, IS UNAUTHORIZED. FAILURE TO COMPLY WITH THIS INSTRUCTION MAY RESULT IN A VIOLATION OF THE SECURITIES AND EXCHANGE BOARD OF INDIA (INFRASTRUCTURE INVESTMENT TRUSTS) REGULATIONS, 2014 OR OTHER APPLICABLE LAWS OF INDIA AND OF OTHER JURISDICTIONS.

INVESTMENTS IN UNITS INVOLVE RISKS AND INVESTORS SHOULD NOT INVEST ANY FUNDS IN THIS ISSUE UNLESS THEY CAN AFFORD TO TAKE THE RISK OF LOSING THEIR ENTIRE INVESTMENT. FOR MAKING AN INVESTMENT DECISION, INVESTORS MUST RELY ON THEIR OWN EXAMINATION OF THE TRUST, THE UNITS, THIS ISSUE, AND THIS LETTER OF OFFER. INVESTORS ARE ADVISED TO CAREFULLY READ THIS LETTER OF OFFER, INCLUDING THE SECTION "RISK FACTORS" AND "RIGHTS OF UNITHOLDERS" ON PAGES 15 AND 249, RESPECTIVELY, BEFORE MAKING AN INVESTMENT DECISION. THE UNITS HAVE NOT BEEN RECOMMENDED OR APPROVED BY THE SECURITIES AND EXCHANGE BOARD OF INDIA (THE "SEBI") NOR DOES THE SEBI GUARANTEE THE ACCURACY OR ADEQUACY OF THE CONTENTS OF THIS LETTER OF OFFER. EACH ELIGIBLE UNITHOLDER IS ADVISED TO CONSULT ITS OWN ADVISORS ABOUT THE CONSEQUENCES OF AN INVESTMENT IN THE UNITS BEING OFFERED PURSUANT TO THIS LETTER OF OFFER.

The distribution of this Letter of Offer or the disclosure of its contents without the Investment Manager's prior consent to any person other than the Eligible Unitholders is unauthorized and prohibited. Each Eligible Unitholder, by accepting delivery of this Letter of Offer, agrees to observe the foregoing restrictions and to make no copies of this Letter of Offer or any documents referred to in this Letter of Offer.

ISSUE SCHEDULE*

ISSUE OPENS ON	**TUESDAY, APRIL 19, 2022**
ISSUE CLOSES ON	**THURSDAY, APRIL 21, 2022#**

** Eligible Unitholders are requested to ensure that any renunciation is completed in such a manner that Rights Entitlements are credited to the demat accounts of the Renouncees on or prior to the Issue Closing Date.*
 # The Investment Manager will have the right to extend the Issue Period as it may determine from time to time, provided that this Issue will not remain open for a period longer than 15 Working Days.

TABLE OF CONTENTS

NOTICE TO INVESTORS **1**
SECTION I – GENERAL **4**
DEFINITIONS AND ABBREVIATIONS 4
PRESENTATION OF FINANCIAL, INDUSTRY AND MARKET DATA 10
FORWARD-LOOKING STATEMENTS 13
SECTION II – RISK FACTORS **15**
SECTION III – INTRODUCTION **42**
SUMMARY FINANCIAL INFORMATION 42
THE ISSUE 62
GENERAL INFORMATION 63
OBJECTS OF THE ISSUE 66
STATEMENT OF TAX BENEFITS 72
SECTION IV – ABOUT THE TRUST **82**
BACKGROUND AND STRUCTURE OF THE TRUST 82
INDUSTRY OVERVIEW 104
BUSINESS 109
CORPORATE GOVERNANCE 138
SUMMARY OF THE CONCESSION AGREEMENTS 144
REGULATIONS AND POLICIES 224
LEVERAGE 232
RELATED PARTY TRANSACTIONS 238
VALUATION 241
DISTRIBUTIONS 246
RIGHTS OF UNITHOLDERS 249
SECTION V – PARTIES TO THE TRUST **255**
THE SPONSOR AND PROJECT MANAGER 255
THE INVESTMENT MANAGER 258
THE TRUSTEE 264
SECTION VI – OTHER PARTIES **269**
AUDITOR 269
VALUER 270
SECTION VII – FINANCIAL INFORMATION **271**
FINANCIAL STATEMENTS 271
MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS 355
FINANCIAL INDEBTEDNESS 375
SECTION VIII – LEGAL AND OTHER INFORMATION **379**
MATERIAL LITIGATION AND REGULATORY ACTION 379
GOVERNMENT AND OTHER APPROVALS 394
OTHER REGULATORY DISCLOSURES 397
SECTION IX – ISSUE INFORMATION **398**
ISSUE PROCEDURE 398
SECTION X – OTHER INFORMATION **405**

MATERIAL CONTRACTS AND DOCUMENTS FOR INSPECTION 405
DECLARATIONS 407
ANNEXURE A: INITIAL PORTFOLIO VALUATION REPORT ..... A
ANNEXURE B: TRAFFIC REPORTS ..... B
ANNEXURE C: PDTPL VALUATION REPORT C

NOTICE TO INVESTORS

The statements contained in this Letter of Offer relating to the Trust, the Units and the Target SPV are material, true, correct and adequate to enable investors to make an informed decision. The opinions and intentions expressed in this Letter of Offer with regard to the Trust, Units and the Target SPV are honestly held, have been reached after considering all relevant circumstances and are based on reasonable assumptions and information presently available with the Investment Manager or the Sponsor/Project Manager. There are no other facts in relation to the Trust, the Units and the Target SPV, the omission of which would, in the context of this Issue, make any statement in this Letter of Offer misleading in any material respect. Further, each of the Investment Manager and the Sponsor/Project Manager has made all reasonable enquiries to ascertain such facts and to verify the accuracy of all such information and statements.

This Letter of Offer is solely for the use of the person who has received it from the Investment Manager. This Letter of Offer is not to be reproduced or distributed to any other person. Further, this Letter of Offer and the Application Form will be sent only to the e-mail addresses of Eligible Unitholders who have provided their e-mail addresses to the Investment Manager.

Each Applicant must rely on its own examination of the Trust and the Target SPV and the merits and risks involved in investing in the Units. Applicants should not construe the contents of this Letter of Offer as legal, tax, accounting or investment advice.

The delivery of this Letter of Offer, at any time, does not imply that the information contained in it is correct as of any time subsequent to its date. This Letter of Offer is personal to each Eligible Unitholder. This Letter of Offer shall not be relied upon by, and the Investment Manager, the Trustee and/or the Sponsor/Project Manager shall not be liable to any subsequent acquirer, transferee or investor of the Units.

The distribution of this Letter of Offer or the disclosure of their contents to any person, other than the Eligible Unitholders to whom they are addressed and those retained by such Eligible Unitholders to enable them to make a decision with respect to their subscription to the Units, is unauthorized and prohibited. Each Applicant agrees to observe the foregoing restrictions and make no copies of this Letter of Offer or any other material in connection with this Issue or the Units.

Each Applicant will be deemed to have made the representations, agreements and acknowledgments as described in this section "*Notice to Investors*". Nothing contained herein will relieve any party of its rights or obligations under the Framework Agreement.

Notice to Investors in certain other jurisdictions

The distribution of this Letter of Offer, the Application Form and the issue of the Units in certain jurisdictions may be restricted by law. As such, this Letter of Offer does not constitute, and may not be used for, or in connection with, an offer or solicitation by anyone in any jurisdiction in which such offer or solicitation is not authorized or to any person to whom it is unlawful to make such offer or solicitation. In particular, no action has been taken by the Investment Manager which would permit an issue of the Units in any jurisdiction other than India. Accordingly, the Units may not be offered or sold, directly or indirectly, and neither this Letter of Offer nor any Issue materials in connection with the Units be distributed or published in or from any country or jurisdiction that would require registration of the Units in such country or jurisdiction.

Representations by Applicants

References herein to "you" or "your" is to each Applicant.

By subscribing to the Units pursuant to this Issue, you are deemed to have represented to the Trustee, the Investment Manager and the Sponsor/ Project Manager, and you acknowledge and agree as follows:

1. You are permitted to acquire the Units under the laws of any applicable jurisdiction and that you have necessary capacity and authority, and have obtained all necessary consents and authorizations to enable you to commit to this participation in this Issue and to perform your obligations in relation thereto (including, without limitation, on behalf of any person) and honor such obligations;

2. You will make all necessary filings, in relation to this Issue and your investment in Units, with appropriate governmental, statutory or regulatory authorities, including the RBI, as may be required, in accordance with applicable law;

3. You are aware that the Units have not been, and will not be registered through a prospectus under the InvIT Regulations, or under any other law in force in India. This Letter of Offer will be submitted to the SEBI;

4. None of the Trust, the Sponsor/ Project Manager, the Investment Manager, the Trustee, the Target SPV or any of their respective shareholders, directors, officers, employees, counsel, representatives, advisers, agents or affiliates is making any recommendations to you or advising you regarding the suitability of any transactions it may enter into in connection with this Issue. None of the Trust, the Sponsor/ Project Manager, the Trustee, the Investment Manager, the Target SPV or any of their respective shareholders, employees, counsel, officers, directors, representatives, advisers, agents or affiliates have any duties or responsibilities to you for providing the protection afforded to their clients, or for providing advice in relation to this Issue and are in no way acting in a fiduciary capacity towards you;

5. All statements, other than statements of historical fact included in this Letter of Offer, including, without limitation, those regarding the Trust's financial position, business strategy, plans and objectives for future operations and the Investment Objectives, are forward-looking statements. Such forward-looking statements involve known and unknown risks, uncertainties and other important factors that could cause actual results to be materially different from future results, performance or achievements expressed or implied by such forward-looking statements. Such forward-looking statements are based on numerous assumptions regarding the Trust's present and future business strategies and the environment in which the Trust will operate in the future. You should not place undue reliance on forward-looking statements, which speak only as of the date of this Letter of Offer. The Trust, the Trustee, the Sponsor and the Investment Manager assume no responsibility to update any of the forward-looking statements contained in this Letter of Offer;

6. You have been provided a copy of the Letter of Offer and have read it in its entirety including, in particular, the section "*Risk Factors*" on page 15;

7. You are aware and understand that the Units are being offered only to Eligible Unitholders on the Record Date on a rights basis and are not being offered to the general public;

8. In making your investment decision, you have (i) relied on your own examination of the Trust, the Target SPV, the Units and the terms of this Issue, including the merits and risks involved, (ii) consulted your own independent advisors or otherwise have satisfied yourself concerning, without limitation, the effects of local laws and (iii) received all information in the Letter of Offer that you believe is necessary or appropriate in order to make an investment decision in respect of Trust and the Units;

9. You acknowledge that an investment in the Units involves a high degree of risk and that the Units are, therefore, a speculative investment. You are seeking to subscribe to the Units in this Issue for your own investment and not with a view to resell or distribute in any manner that could characterize you as an underwriter or similar party in any jurisdiction;

10. You will obtain your own independent legal, financial or tax advice and will not rely on the Investment Manager, the Sponsor/ Project Manager, the Trustee or any of their respective shareholders, employees, counsel, officers, directors, representatives, advisers, agents or affiliates when evaluating the tax consequences in relation to the Units (including but not limited to this Issue and the use of the proceeds of this Issue);

11. You are not the Trustee, the Valuer or an employee of the Valuer involved in the valuation of the Project SPVs or the Target SPV;

12. You understand that the Units to be Allotted in this Issue will, when issued, be credited as fully paid and will rank *pari passu* in all respect with all other Units, including in respect of the right to receive all distributions declared, made or paid in respect of the Units after the Allotment. For details, see "*Distributions*" on page 246;

13. The Trustee, the Investment Manager, the Sponsor/ Project Manager, their respective shareholders, employees, counsel, offices, directors, representatives, advisers, agents or affiliates, will rely on the truth and accuracy of the foregoing representations, warranties, acknowledgements and undertakings which are given to the Trust, the Sponsor/ Project Manager, the Investment Manager and the Trustee;

14. You are eligible to invest in India, in this Issue and in the Units under applicable law, including the SEBI Rights Issue Guidelines and the FEMA Rules, and have not been prohibited by the SEBI or any regulatory authority from buying, selling or dealing in units or securities;

15. You understand that none of the Investment Manager, the Sponsor/ Project Manager or the Trustee has any obligation to purchase or subscribe to all, or any part, of the Units subscribed by you in this Issue;

16. Any dispute arising in connection with this Issue will be governed by, and construed in accordance with, the laws of the Republic of India and shall be subject to the jurisdiction of the court in Mumbai, Maharashtra; and

17. You have made the representations, warranties, acknowledgements and agreements provided in this section and each of the representations, warranties, acknowledgements and agreements set out above shall continue to be true and accurate at all times, until and including the Allotment of Units in this Issue.

SECTION I – GENERAL

DEFINITIONS AND ABBREVIATIONS

This Letter of Offer uses certain definitions and abbreviations which, unless otherwise specified or the context otherwise indicates, requires or implies, shall have the meanings as provided below. References to any legislation, act, regulation, rule, guideline, policy, circular, notification or clarification shall be deemed to include all amendments, supplements, re-enactments and modifications thereto from time to time, and any reference to a statutory provision shall include any subordinate legislation made from time to time thereunder.

General Terms

Term	Description
Trust	IRB Infrastructure Trust, an irrevocable trust set up under the Trusts Act and registered as an infrastructure investment trust under the InvIT Regulations
We / us / our	Unless the context otherwise requires or implies, the Trust and the Project SPVs

Trust Related Terms

Term	Description
Associate	"Associate" shall have the meaning given to such term under Regulation 2(1)(b) of the InvIT Regulations
Auditor / Trust's Auditor	Gokhale & Sathe, Chartered Accountants
Capital Contribution	The total subscription amounts by way of cash or share swap or otherwise (including transfer of interest in the Trust Assets by the Sponsor) received by the Trust from Unitholders (including the Sponsor) in connection with any placement, offering or issue of Units
Croxley	Croxley Investment Pte. Ltd.
Debt Novation Agreements	The debt novation agreements dated February 19, 2020 entered into by the Trust (acting through the Trustee), the Investment Manager and the Sponsor, with each of the Project SPVs and the Sponsor's affiliates (as applicable), in relation to the novation of subordinated debt and unsecured loans provided by the Sponsor and its associates to the Project SPVs, as amended
Expanded Portfolio	The Initial Portfolio together with the toll road asset owned, operated and maintained by PDTPL
Financial Investors	Bricklayers Investment Pte. Ltd., Chiswick Investment Pte. Ltd., Dagenham Investment Pte. Ltd., Anahera Investment Pte. Ltd. and Stretford End Investment Pte. Ltd.
Formation Transactions	The transactions pursuant to which the Trust acquired the shareholding of the Sponsor in the Project SPVs and the subordinated debt and unsecured loans provided by the Sponsor and its associates to the Project SPV stood novated in favor of the Trust in consideration for Units issued to the Sponsor
Framework Agreement	The framework agreement dated August 6, 2019 among the Sponsor, the Investment Manager, the Financial Investors and Croxley, as amended
Indenture of Trust	The indenture of trust dated August 27, 2019 between the Sponsor and the Trustee to settle the Trust
Initial Portfolio	The toll road assets owned, operated and maintained by the Project SPVs
Initial Portfolio Valuation Report	Valuation report dated January 31, 2022 issued by the Valuer in relation to the valuation of the Initial Portfolio
Investment Management Agreement	The investment management agreement dated August 27, 2019 between the Trustee (on behalf of the Trust) and the Investment Manager for managing and administration of the Trust, in accordance with the InvIT Regulations, as amended
Investment Manager	MMK Toll Road Private Limited
Manager Group or Manager Group Members	The Investment Manager, the Project SPVs, the Trust and the entities controlled by the Investment Manager/ the Trust, including any other SPVs
Parties to the Trust	The Sponsor, the Investment Manager, the Trustee and the Project Manager
PDTPL Acquisition	The acquisition by the Trust of PDTPL through subscription to equity shares of PDTPL
PDTPL Financial Information	The audited financial information of PDTPL as of December 31, 2021 and for the period from April 15, 2021 to December 31, 2021
PDTPL or Target SPV	Palsit Dankuni Tollway Private Limited

Term	Description
PDTPL Project Implementation Agreement	The project implementation agreement to be entered into by the Trustee (on behalf of the Trust), the Investment Manager and the Project Manager with PDTPL, which sets out the obligations of the Project Manager with respect to the execution, operation and maintenance of the project undertaken by PDTPL in accordance with the InvIT Regulations
PDTPL Shareholder Loan Agreement	The shareholder loan agreement dated April 7, 2022 entered into by the Trust (acting through the Trustee) and the Investment Manager with the Target SPV to provide unsecured loans to the Target SPV
PDTPL Valuation Report	Valuation report dated April 3, 2022 issued by the Valuer in relation to the valuation of PDTPL
Pro Forma Financial Information	The pro forma financial information of the Trust and PDTPL as at and for the Financial Year 2021 and the nine-month period ended December 31, 2021 prepared in accordance with the requirements of the SEBI Rights Issue Guidelines and the InvIT Regulations
Policies	The policies in relation to the Manager Group as specified in "*Corporate Governance*" on page 138
Project Entities	The entities through which the Sponsor operates its various road infrastructure projects
Project Implementation Agreements	The project implementation agreements dated February 3, 2020, as amended, entered into by the Trustee (on behalf of the Trust), the Investment Manager and the Project Manager, with each of the Project SPVs, which set out the obligations of the Project Manager with respect to the execution, operation and maintenance of the project undertaken by such Project SPV in accordance with the InvIT Regulations
Project Manager	IRB Infrastructure Developers Limited
Project SPV Shareholder Loan Agreements	The shareholder loan agreements dated February 19, 2020 entered into by the Trust (acting through the Trustee) and the Investment Manager with each of the Project SPVs to provide unsecured loans to each of the Project SPVs
Project SPVs	The entities that form part of the Initial Portfolio of the Trust, namely the following: i) AE Tollway Limited; ii) CG Tollway Limited; iii) IRB Hapur Moradabad Tollway Limited; iv) IRB Westcoast Tollway Limited; v) Kaithal Tollway Limited; vi) Kishangarh Gulabpura Tollway Limited; vii) Solapur Yedeshi Tollway Limited; viii) Udaipur Tollway Limited; and ix) Yedeshi Aurangabad Tollway Limited
Shareholder Loan Agreements	Collectively, the Project SPV Shareholder Loan Agreements and the PDTPL Shareholder Loan Agreement
Special Purpose Consolidated / Combined Financial Information	Special purpose consolidated / combined financial information for the Trust and the Project SPVs, prepared in accordance with the requirements of the InvIT Regulations and Ind AS, and the related notes, schedules and annexures thereto, as at and for the nine-month periods ended December 31, 2021 and December 31, 2020 and the Financial Years 2021, 2020 and 2019. The Project SPVs were transferred to the Trust on February 25, 2020 by the Sponsor pursuant to the Formation Transactions undertaken as part of the initial offer through private placement of Units. The effective date for consolidation was March 1, 2020. Consolidated financial information has been included for the nine-month periods ended December 31, 2021 and December 31, 2020 and the Financial Year 2021. The financial information for Financial Year 2020 includes consolidated financial information for the one-month period ended March 31, 2020 and combined financial information for the 11 month period from April 1, 2019 to February 29, 2020. Combined financial information has been included for the Financial Year 2019. The combined financial information has been prepared as if the Trust structure was in place and 100% interest of the Project SPVs was part of the Trust since April 1, 2018
Sponsor	IRB Infrastructure Developers Limited
SPVs or Identified SPVs	The SPVs held by the Trust in accordance with the InvIT Regulations
Stock Exchanges	BSE Limited and National Stock Exchange of India Limited
Traffic Consultant	Steer Davies Gleave India Private Limited
Traffic Reports	The reports dated September 2021 prepared by the Traffic Consultant for the underlying road projects operated by the Project SPVs and the Target SPV
Trust Assets	The assets owned by the Trust, whether directly or through an SPV or a Holding Company, and shall include all rights, interests and benefits arising from and incidental to ownership of such assets

Term	Description
Trust Documents	The Indenture of Trust, the charter documents of the Investment Manager, the Investment Management Agreement, the Trust Contribution Agreement (if any), the Project Implementation Agreements, any agreements among the Trustee, the Investment Manager and the Unitholders, in relation to the Trust, the Units, any debt securities or instruments or obligations issued by the Trust, any offering document in connection with a capital or debt issuance by the Trust (including the Issue), including any preliminary placement memorandum, final placement memorandum, information memorandum, draft offer document, offer document and final offer document, Policies, the Investment Manager and/or the SPVs/Holdcos, Business Plans and Annual Budget adopted by the Investment Manager and such other documents in connection herewith, as executed, issued, adopted and amended, modified, supplemented or restated from time to time
Trust Group or Trust Group Members	The Sponsor and the Manager Group Members
Trustee	IDBI Trusteeship Services Limited
Unitholder	An investor which holds Units of the Trust from time to time
Units	Undivided beneficial interest in the Trust and the Units together represent the entire beneficial interest in the Trust
Valuer	Mr. Sunit Khandelwal

Project SPVs

Term	Description
AETL	AE Tollway Limited
CGTL	CG Tollway Limited
IRB HMTL	IRB Hapur Moradabad Tollway Limited
IRB WTL	IRB Westcoast Tollway Limited
KGTL	Kishangarh Gulabpura Tollway Limited
KTL	Kaithal Tollway Limited
SYTL	Solapur Yedeshi Tollway Limited
UTL	Udaipur Tollway Limited
YATL	Yedeshi Aurangabad Tollway Limited

Issue Related Terms

Term	Description
Allot/ Allotment/ Allotted	Unless the context otherwise requires, the issue and allotment of Units pursuant to this Issue
Allottees	Persons to whom Units will be issued and Allotted pursuant to this Issue
Applicant	Eligible Unitholders and Renouncees who are entitled to apply or make an application for Units pursuant to this Issue in terms of this Letter of Offer
Application Amount	The amount payable by an Applicant simultaneously with the submission of the Application Form during the Issue Period, for the number of Units applied for at the Issue Price specified in this Letter of Offer
Application Form	The Application Form used to make an application for Allotment of Units in this Issue
Client ID	Client identification number maintained with one of the Depositories in relation to a demat account
Demographic Details	Details of the Applicants including the Applicant's address, name of the Applicant's father/husband, investor status, occupation and bank account details
Designated Account	Account designated as "IRB Infrastructure Trust" in whose favor Applicants are required to transfer money through direct credit/NEFT/NACH/RTGS in respect of the Application Amount when submitting an Application
Eligible Unitholders	Unitholders of the Trust as on the Record Date
Issue	Issue of up to 24,429,805 Units at a price of ₹100 per Unit aggregating up to ₹2,442.98 million on a rights basis to Eligible Unitholders in the ratio of 1 Unit for every 35 Units held by them on the Record Date
Issue Closing Date	April 21, 2022, which is the last date until which the Application Forms shall be accepted.

Term	Description
	The Investment Manager will have the right to extend the Issue Period as it may determine from time to time, provided that this Issue will not remain open for a period longer than 15 Working Days
Issue Opening Date	April 19, 2022, prior to which the Application Forms shall be dispatched to Eligible Unitholders by the Investment Manager and the date from which the Investment Manager shall accept Application Forms
Issue Period	Period between the Issue Opening Date and the Issue Closing Date, inclusive of both days, during which Applicants can submit their Application Forms
Issue Price	₹100 per Unit
Issue Proceeds	The gross proceeds of this Issue, being ₹2,442.98 million* **Assuming full subscription* For further details in relation to the use of Issue Proceeds, see the section "*Objects of the Issue*" on page 66
Letter of Offer	This letter of offer dated April 13, 2022 filed with the SEBI
Record Date	April 8, 2022
Registrar and Unit Transfer Agent or Registrar	KFin Technologies Limited
Renouncee	Any person(s) who, not being the original recipient, has/have acquired the Rights Entitlement
Renunciation Period	The period during which Eligible Unitholders can renounce or transfer their Rights Entitlements, which will commence from the Issue Opening Date. Eligible Unitholders are requested that renunciation is completed in such a manner that Rights Entitlements are credited to the demat account of the Renouncee on or prior to the Issue Closing Date
Rights Entitlements	The right to apply for Units being offered pursuant to this Issue in accordance with the SEBI Rights Issue Guidelines, in this case being 1 Unit for every 35 Units held by an Eligible Unitholder on the Record Date. The Rights Entitlement for each Eligible Unitholder will be specified in the Application Form
Working Day	Any day which is not (a) a Saturday or Sunday; or (b) a day on which commercial banks in Mumbai, Delhi or Singapore are closed for ordinary banking business. In respect of the Issue Period, "Working Day" shall mean all days, excluding Saturdays, Sundays and public holidays, on which commercial banks in Mumbai are open for business

Technical/Industry Related Terms/Abbreviations

Term	Description
BOT	Build-Operate-Transfer
CCEA	Cabinet Committee on Economic Affairs
DBFOT	Design-Build-Finance-Operate-Transfer
EPC	Engineering Procurement and Construction
ETC	Electronic Toll Collection
MoRTH	Ministry of Road Transport and Highways
NH	National Highway
NHAI	National Highways Authority of India
NHDP	National Highways Development Project
O&M	Operation and Maintenance
PPP	Public Private Partnership

Conventional Terms/Abbreviations

Term	Description
Alternative Investment Funds or AIFs	Alternative investment funds as defined in, and registered under, the SEBI AIF Regulations
CAGR	Compounded Annual Growth Rate
Category I FPIs	FPIs registered as "Category I foreign portfolio investors" under the SEBI FPI Regulations

Term	Description
Category II FPIs	FPIs registered as "Category II foreign portfolio investors" under the SEBI FPI Regulations
CDSL	Central Depository Services (India) Limited
CIN	Corporate Identity Number
Companies Act, 2013	Companies Act, 2013 read with the rules, regulations, clarifications and notifications thereunder
Contract Labour Act	Contract Labour (Regulation and Abolition) Act, 1970
COVID-19	Coronavirus disease 2019
DIN	Director Identification Number
DPIIT	Department for Promotion of Industry and Internal Trade, Ministry of Commerce and Industry, Government of India (formerly known as Department of Industrial Policy and Promotion)
DP ID	Depository participant identification
DP/ Depository Participant	A depository participant as defined under the Depositories Act
Debenture Trustees Regulations	Securities and Exchange Board of India (Debenture Trustees) Regulations, 1993
Depositories	NSDL and CDSL
Depositories Act	Depositories Act, 1996
FCNR Account	Foreign Currency Non-Resident Account, and has the meaning ascribed to the term "FCNR(B) account" under the Foreign Exchange Management (Deposit) Regulations, 2016
FDI	Foreign Direct Investment
FDI Policy	The 'Consolidated FDI Policy Circular of 2020' (No. 5(2)/2020-FDI Policy) issued by the DPIIT (FDI Division), which has been effective since October 15, 2020
FEMA	Foreign Exchange Management Act, 1999, read with rules and regulations thereunder
FEMA Rules	The Foreign Exchange Management (Non-debt Instruments) Rules, 2019
Financial Year / Fiscal / FY	Unless stated otherwise, the period of 12 months ending March 31 of that particular year
FPI(s)	Foreign portfolio investors, as defined in and registered under the SEBI FPI Regulations
GoI / Government	Government of India
HUF	Hindu Undivided Family
ICAI	The Institute of Chartered Accountants of India
IFRS	International Financial Reporting Standards
Income Tax Act/ I.T. Act	The Income Tax Act, 1961
Ind AS	Indian Accounting Standards
InvIT Regulations	Securities and Exchange Board of India (Infrastructure Investment Trusts) Regulations, 2014 and the circulars, notifications, guidelines and clarifications issued thereunder, each as amended
IST	Indian Standard Time
km	Kilometres
LLP Act	The Limited Liability Partnership Act, 2008
Mutual Fund(s)	Mutual fund(s) as defined in and registered under the Securities and Exchange Board of India (Mutual Funds) Regulations, 1996
NACH	National Automated Clearing House
NAV	Net asset value
NEFT	National Electronic Fund Transfer
NRE Account	Non-Resident External Account, as defined under the Foreign Exchange Management (Deposit) Regulations, 2016
NRI	An individual resident outside India who is a citizen of India
NRO	Non-Resident Ordinary Account, as defined under the Foreign Exchange Management (Deposit) Regulations, 2016
NSDL	National Securities Depository Limited
p.a.	Per annum
PAN	Permanent Account Number
PAT	Profit after tax
Pension Fund	Pension fund, as defined in and registered under the Pension Fund Regulatory and Development Authority Act, 2013
PFRDA	Pension Fund Regulatory and Development Authority
RBI	Reserve Bank of India
Registration Act	Registration Act, 1908
RTGS	Real Time Gross Settlement
SCRA	Securities Contracts (Regulation) Act, 1956
SCRR	Securities Contracts (Regulation) Rules, 1957

Term	Description
SEBI	The Securities and Exchange Board of India constituted under the SEBI Act
SEBI Act	Securities and Exchange Board of India Act, 1992
SEBI AIF Regulations	Securities and Exchange Board of India (Alternative Investment Funds) Regulations, 2012
SEBI Depository Regulations	Securities and Exchange Board of India (Depositories and Participants) Regulations, 2018
SEBI FPI Regulations	Securities and Exchange Board of India (Foreign Portfolio Investors) Regulations, 2019
SEBI FVCI Regulations	Securities and Exchange Board of India (Foreign Venture Capital Investors) Regulations, 2000
SEBI Master Circular	Master Circular for Infrastructure Investment Trusts (InvITs) dated November 29, 2021 issued by the SEBI
SEBI Rights Issue Guidelines	Circular dated November 4, 2020 on guidelines for rights issue of units by unlisted infrastructure investment trusts (InvITs) issued by the SEBI
SEBI VCF Regulations	Securities and Exchange Board of India (Venture Capital Funds) Regulations, 1996
Trusts Act	Indian Trusts Act, 1882
VCFs	Venture capital funds as defined in and registered with the SEBI under the SEBI VCF Regulations

The words and expressions used but not defined herein shall have the meanings assigned to such terms under the SEBI Act, the SCRA, the InvIT Regulations and the rules, regulations, circulars and guidelines made thereunder.

Notwithstanding the foregoing, terms in "*Statement of Tax Benefits*", "*Regulations and Policies*", "*Summary of the Concession Agreements*", "*Financial Statements*", and "*Material Litigation and Regulatory Action*" on pages 72, 224, 144, 271 and 375, respectively, shall have the meanings given to such terms in these respective sections.

PRESENTATION OF FINANCIAL, INDUSTRY AND MARKET DATA

Certain Conventions

All references to "India" contained in this Letter of Offer are to the Republic of India and all references to the "U.S.", "USA" or the "United States" are to the United States of America.

Unless stated otherwise, all references to page numbers in this Letter of Offer are to the page numbers of this Letter of Offer.

Financial Data

Unless stated otherwise, the financial data included in this Letter of Offer in relation to the Trust and the Project SPVs is derived from the Special Purpose Consolidated / Combined Financial Information which has been prepared in accordance with the requirements of the InvIT Regulations and Ind AS. This Letter of Offer includes Special Purpose Consolidated / Combined Financial Information for the Trust and the Project SPVs as at and for the nine-month periods ended December 31, 2021 and December 31, 2020 and the Financial Years 2021, 2020 and 2019. The Project SPVs were transferred to the Trust on February 25, 2020 by the Sponsor pursuant to the Formation Transactions undertaken as part of the initial offer through private placement of Units. The effective date for consolidation was March 1, 2020. Consolidated financial information has been included for the nine-month periods ended December 31, 2021 and December 31, 2020 and the Financial Year 2021. The financial information for Financial Year 2020 includes consolidated financial information for the one-month period ended March 31, 2020 and combined financial information for the 11 month period from April 1, 2019 to February 29, 2020. Combined financial information has been included for the Financial Year 2019. The combined financial information has been prepared as if the Trust structure was in place and 100% interest of the Project SPVs was part of the Trust since April 1, 2018. For further information, see "*Financial Statements*" on page 271.

PDTPL, the Target SPV proposed to be acquired by the Trust, was incorporated on April 15, 2021. This Letter of Offer includes the audited financial statements of PDTPL as of and for the period from April 15, 2021 to December 31, 2021 as well the summary financial information of PDTPL for such period. For further information, see "*Summary Financial Information*" and "*Financial Statements*" on pages 51 and 312, respectively.

This Letter of Offer also contains Pro Forma Financial Information of the Trust and PDTPL as at and for the Financial Year 2021 and the nine-month period ended December 31, 2021 prepared in accordance with the requirements of the SEBI Rights Issue Guidelines and the InvIT Regulations. For further information, see "*Financial Statements*" on page 340.

This Letter of Offer also includes summary financial statements of (i) the Sponsor as of and for the Financial Years 2021, 2020 and 2019 from the audited consolidated financial statements of the Sponsor which have been prepared in accordance with the Companies Act and Ind AS; and (ii) the Investment Manager for the Financial Years 2021, 2020 and 2019 from the audited standalone financial statements of the Investment Manager which have been prepared in accordance with the Companies Act and Ind AS. For further information, see "*Summary Financial Information*" on page 54.

The financial year for the Trust, the Sponsor, the Investment Manager and the Project SPVs commences on April 1 and ends on March 31 of the next year. Accordingly, all references to a particular Financial Year or fiscal, unless stated otherwise, are to the 12-month period ended on March 31 of that year.

The degree to which the financial information included in this Letter of Offer will provide meaningful information is entirely dependent on the reader's level of familiarity with Indian accounting policies and practices, the Companies Act, Ind AS and the InvIT Regulations. The Investment Manager has not attempted to explain these differences or quantify their impact on the financial data included in this Letter of Offer, and it is urged that you consult your own advisors regarding such differences and their impact on our financial data. Any reliance by persons not familiar with the accounting policies and practices on the financial disclosures presented in this Letter of Offer should accordingly be limited.

In this Letter of Offer, all figures and percentage figures in decimals have been rounded off to two decimals. However, where any figures may have been sourced from third-party industry sources, such figures may be rounded-off to such number of decimal points as provided in such respective sources. In this Letter of Offer, (i) the sum or percentage change of certain numbers may not conform exactly to the total figure given; and (ii) the

sum of the numbers in a column or row in certain tables may not conform exactly to the total figure given for that column or row. Any such discrepancies are due to rounding off.

Unless stated or the context requires otherwise, any percentage amounts, as disclosed in "*Risk Factors*", "*Business*" and "*Management's Discussion and Analysis of Financial Condition and Results of Operations*" on pages 15, 109 and 355, respectively, and elsewhere in this Letter of Offer have been calculated on the basis of the Special Purpose Consolidated / Combined Financial Information.

Currency and Units of Presentation

All references to:

i) "Rupees" or "Rs." or "INR" or "₹" are to Indian Rupees, the official currency of the Republic of India; and
ii) "US$" or "USD" are to United States Dollars, the official currency of the United States of America.

Certain numerical information in this Letter of Offer has been presented in "million" and "billion" units. One million represents 1,000,000 and one billion represents 1,000,000,000.

Exchange Rates

This Letter of Offer contains conversions of certain other currency amounts into Indian Rupees. These conversions should not be construed as a representation that these currency amounts could have been, or can be converted into Indian Rupees, at any particular rate or at all.

The following table sets forth, for the periods indicated, information with respect to the exchange rate between the Rupee and the U.S. Dollar (in Rupees per U.S. Dollar):

As at	Reference rate (₹ per US$)
December 31, 2021	74.30
March 31, 2021^	73.50
December 31, 2020	73.05
March 31, 2020^	75.39
March 29, 2019*	69.17

^ Source: Financial Benchmarks India Private Limited reference rate.
** Source: Financial Benchmarks India Private Limited reference rate. Exchange rate as at March 29, 2019, as Financial Benchmarks India Private Limited reference rate is not available for March 31, 2019 and March 30, 2019 being a Sunday and Saturday respectively.*

Industry and Market Data

Unless stated otherwise, industry and market data used in this Letter of Offer has been obtained or derived from the Traffic Reports prepared by the Traffic Consultant with respect to the toll revenues for the underlying road projects operated by the Project SPVs and the Target SPV, which are commissioned reports, and publicly available information as well as other Government and industry publications and sources. The Investment Manager has commissioned the Traffic Reports, included in this Letter of Offer as "*Annexure B: Traffic Reports*", to provide an independent estimation of the projected traffic volumes with respect to the underlying road projects operated by the Project SPVs and the Target SPV, which is based on historical data and certain assumptions. The Traffic Reports are subject to the following disclaimer:

"This Letter of Offer includes selected provisions of or a summary of the "Palsit – Dankuni Traffic and Revenue Due Diligence" dated September 2021; "Agra – Etawah and Hapur Moradabad Traffic and Revenue Due Diligence" dated September 2021; "Kishangarh– Gulabpura and Chittorgarh – Gulabpura, Udaipur – Gujarat Border Traffic and Revenue Due Diligence" dated September 2021; "Kundapur – Karwar Traffic and Revenue Due Diligence" dated September 2021; "Kaithal – Rajasthan Traffic and Revenue Due Diligence" dated September 2021; and "Solapur – Yedeshi and Yedeshi - Aurangabad Traffic and Revenue Due Diligence" dated September 2021 (collectively, the "Reports") prepared by Steer Davies & Gleave India Private Limited, solely in its capacity as the Traffic Consultant (the "Traffic Consultant"), on behalf of IRB Infrastructure Trust (the "Client") for the Issue and is not a full statement of the terms of the Report. Accordingly, such summary or excerpt is qualified in its entirety by reference to and is subject to the full text of the Report, which are attached to this Letter of Offer as Annexure B. Investors must view the summaries in the context of the full Reports, which are subject to the limitations and disclaimers in such Reports. Without limiting the generality of the foregoing, the

Reports are expressly subject to the qualifications, assumptions made, procedures followed, matters considered and any limitations on the scope of work contained therein.

Investors should note that these summaries, and the Reports, are provided only as of the date set forth therein and do not contemplate any event, circumstances or changes with respect to the Issue or otherwise after such date. The foregoing summaries of the Reports may include projected information and data (financial and otherwise), and other forward-looking information, that may or may not occur or prove to be accurate. Such projected and forward-looking information is based on current expectations and projections about future events which are beyond the control of the Traffic Consultant, the Client or any other participant in the Issue, and such projections and information can be affected by inaccurate assumptions. While these projections and information were prepared in good faith, no assurance can be given as to the accuracy or adequacy of such projections and information, or the assumptions underlying such projections and information.

Traffic Consultant developed the relationships in the models used to produce the forecasts for the projects based on data available through May 2021. Since March 2020, the outbreak of the virus known as COVID- 19 has spread throughout the world and has been defined by the World Health Organization as a "pandemic". As of the date of distribution of the Reports, the COVID19 outbreak is having a material impact on global economic and political affairs including having a significant impact on all the transportation industries, including toll road traffic, where in particular vehicle volumes have fallen in response to quarantine and self-care measures that governments have been imposing as a response to the different waves of infection rates in different parts of the country. The situation remains dynamic and is subject to significant change. In this challenging context, Traffic Consultant has produced base forecasts (directly produced from models using a combination of pre-COVID19 and post-COVID19 views) with a view on a possible scenario for the traffic forecasts based on an assumption of recovery from the COVID19-related traffic decrease. However, it is important to note that this is only one view, and there continues to remain uncertainty as to the short-term, intermediate or prolonged effects of and responses to the COVID19 pandemic on the projects. All of these effects could impact the COVID19-related aspects of the Reports.

As a result, no assurance can be provided by Traffic Consultant that the scenarios and assumptions Traffic Consultant has identified will prove to be accurate. Given the uncertainty inherent in this unprecedented pandemic, Traffic Consultant advises that all readers of the Reports consider the Reports in the context of their own assessment of the COVID19 outbreak and its current and potential impacts before making final decisions related to the projects.

TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, THE LIABILITY OF THE TRAFFIC CONSULTANT FOR ANY LOSS, DAMAGE, COST OR EXPENSE SUFFERED OR INCURRED BY ALL PERSONS OR ENTITIES AND FOR ALL CLAIMS RESPECTING ITS WORK PERFORMED IN CONNECTION WITH THE ISSUE OR THE REPORTS IS HEREBY LIMITED IN THE AGGREGATE TO THE AMOUNT OF FEES ACTUALLY PAID BY THE CLIENT TO THE TRAFFIC CONSULTANT IN RESPECT OF THE REPORTS AND CONNECTED SERVICES."

Industry as well as Government publications generally state that information contained in those publications has been obtained from sources believed to be reliable but that their accuracy and completeness are not guaranteed and their reliability cannot be assured. Such data involves risks, uncertainties and numerous assumptions and is subject to change based on various factors, including those discussed in the section "*Risk Factors*" on page 15. Accordingly, investment decisions should not be based solely on such information.

The extent to which market and industry data used in this Letter of Offer is meaningful depends on the reader's familiarity with and understanding of methodologies used in compiling such data. There are no standard data gathering methodologies in the industry in which business of the Project SPVs/Trust/Target SPV is conducted, and methodologies and assumptions may vary widely among different industry sources.

Websites

The information contained on the websites of the Trustee, the Sponsor or the other websites referenced in this Letter of Offer or that can be accessed through such websites, neither constitutes part of this Letter of Offer, nor is it incorporated by reference therein and should not form the basis of any investment decision. As at the date of the Letter of Offer, the Trust and the Investment Manager do not have a website. For details of the websites of the Trustee and the Sponsor, see "*General Information*" on page 63.

FORWARD-LOOKING STATEMENTS

This Letter of Offer contains certain "forward-looking statements". These forward-looking statements generally can be identified by words or phrases such as "aim", "anticipate", "believe", "expect", "estimate", "intend", "objective", "plan", "goal", "project", "propose", "seek to", "likely", "will", "will continue", "will pursue", or other words or phrases of similar import. Similarly, statements that describe strategies, objectives, plans or goals are also forward-looking statements. All forward-looking statements are subject to risks, uncertainties and assumptions about the Trust, the Project SPVs and the Target SPV that could cause actual results to differ materially from those contemplated by the forward-looking statements.

The Valuation Report is based on certain projections and accordingly, should be read together with the assumptions and notes thereto. The Traffic Reports include projections/estimates in relation to traffic growth, and accordingly, should be read in conjunction with the notes and assumptions thereto. See "*Annexure A: Initial Portfolio Valuation Report*", "*Annexure B: Traffic Reports*" and "*Annexure C: PDTPL Valuation Report*" on pages A-1, B-1 and C-1, respectively.

Actual results may differ materially from those suggested by forward-looking statements due to risks or uncertainties associated without expectations with respect to, but not limited to, regulatory changes pertaining to the infrastructure sector in India and our ability to respond to them, our ability to successfully implement our strategy, our growth and expansion plans, technological changes, our exposure to market risks, general economic and political conditions in India which have an impact on our business activities or investments, the monetary and fiscal policies of India, inflation, deflation, unanticipated turbulence in interest rates, foreign exchange rates, equity prices or other rates or prices, the performance of the financial markets in India and globally, changes in domestic laws, regulations and taxes and changes in competition in the infrastructure sector. Certain important factors that could cause actual results to differ materially from our expectations include, but are not limited to, the following:

- the outbreak and continuing spread of COVID-19 has had, and could further have, a material adverse effect on our business, financial condition and results of operations;
- the debt financing provided by the Trust to each of the Project SPVs and to be provided by the Trust to the Target SPV is comprised of unsecured, interest-free loans which will become interest-bearing at a future date in accordance with the respective Shareholder Loan Agreements. The payment obligations of the respective Project SPVs and the Target SPV in relation to such debt financing will be subordinated to all existing and future obligations of the Project SPVs and the Target SPV towards any senior lenders;
- any payment by the Project SPVs or the Target SPV, including in an event of termination of the relevant concession agreement, is subject to a mandatory escrow arrangement which restricts their flexibility to utilize the available funds;
- the regulatory framework governing infrastructure investment trusts in India is still evolving and the interpretation and enforcement thereof involve uncertainties, which may have a material, adverse effect on the ability of certain categories of investors to invest in the Units, our business, financial condition and results of operations and our ability to make distributions to Unitholders;
- we may not be able to make distributions to Unitholders or the level of distributions may fall;
- any default under the existing financing arrangements by any of the Project SPVs or the Target SPV could adversely impact the Trust's ability to continue to own a majority of each of the Project SPVs and the Target SPV, its cash flows and its ability to make distributions to Unitholders;
- we have a limited operating history and may not be able to operate our business successfully or generate sufficient cash flows to make or sustain distributions. The Special Purpose Consolidated / Combined Financial Information in this Letter of Offer has been prepared for purposes of this Issue and may not be indicative of the Trust's future financial condition and results of operations;
- the Valuation Reports, and any underlying reports, are not opinions on the commercial merits or financial condition of the Trust, the Project SPVs or the Target SPV and the valuation contained in such Valuation Reports may not be indicative of the true value of the Project SPVs' assets or the Target SPV's asset;
- we have referred to the data derived from Traffic Reports commissioned from the Traffic Consultant, which are based on certain bases, estimates and assumptions that are subjective in nature and may not be accurate; and
- we are in the process of acquiring the Target SPV (pursuant to definitive acquisition agreements), which if not completed in a timely manner or at all, or any failure to realize the anticipated benefits of the PDTPL Acquisition, may adversely affect us.

For further discussion on factors that could cause actual results to differ from expectations, see the sections "*Risk*

Factors", "*Industry Overview*", "*Business*" and "*Management's Discussion and Analysis of Financial Condition and Results of Operations*" on pages 15, 104, 109 and 355, respectively. By their nature, certain market risk disclosures are only estimates and could be materially different from what actually occurs in the future. As a result, actual gains or losses could materially differ from those that have been estimated.

Forward-looking statements reflect current views as of the date of this Letter of Offer and are not a guarantee of future performance or returns to investors. These statements are based on certain beliefs and assumptions, which in turn are based on currently available information.

Although the Investment Manager believes the assumptions upon which these forward-looking statements are based are reasonable, any of these assumptions could prove to be inaccurate, and the forward-looking statements based on these assumptions could be incorrect. The Investment Manager, the Trustee, the Sponsor or any of their affiliates/advisors do not have any obligation to update or otherwise revise any statements reflecting circumstances arising after the date hereof or to reflect the occurrence of underlying events, even if the underlying assumptions do not come to fruition.

There can be no assurance that the expectations reflected in the forward-looking statements and financial information will prove to be correct. Given these uncertainties, Applicants are cautioned not to place undue reliance on such forward-looking statements and not to regard such statements to be a guarantee or assurance of our future performance or returns to investors.

SECTION II – RISK FACTORS

An investment in the Units involves risks. Prospective investors should carefully consider all the information in this Letter of Offer, including the risks and uncertainties described below, before making an investment in the Units. To obtain a complete understanding, prospective investors should read this section together with the sections "Business", "Financial Statements", "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Rights of Unitholders" on pages 109, 271, 355 and 249, respectively, as well as the other information contained in this Letter of Offer. The risks and uncertainties described in this section may not be the only risks and uncertainties the Trust, the Project SPVs and the Target SPV currently face. Additional risks and uncertainties not presently known to the Trustee or the Investment Manager, or that the Trustee or the Investment Manager do not currently consider material, may arise or may adversely affect our business, financial condition, cash flows and results of operations. If any of the following risks, or other risks that are not currently known or are currently considered immaterial, actually occur, our business prospects, results of operations, cash flows and financial condition could suffer, the price of the Units could decline and prospective investors may lose all or part of their investment. Unless otherwise specified in the relevant risk factors, the Trustee and the Investment Manager are not in a position to specify or quantify the financial or other risks mentioned herein.

This Letter of Offer also contains forward-looking statements that involve risks, uncertainties and assumptions. The actual results of the Trust, the Project SPVs and the Target SPV could differ materially from those anticipated in these forward-looking statements as a result of certain factors, including the considerations described below and elsewhere in this Letter of Offer.

This Letter of Offer includes Special Purpose Consolidated / Combined Financial Information for the Trust and the Project SPVs as at and for the nine-month periods ended December 31, 2021 and December 31, 2020 and the Financial Years 2021, 2020 and 2019. The Project SPVs were transferred to the Trust on February 25, 2020 by the Sponsor pursuant to the Formation Transactions undertaken as part of the initial offer through private placement of Units. The effective date for consolidation was March 1, 2020. Consolidated financial information has been included for the nine-month periods ended December 31, 2021 and December 30, 2020 and the Financial Year 2021. The financial information for Financial Year 2020 includes consolidated financial information for the one-month period ended March 31, 2020 and combined financial information for the 11 month period from April 1, 2019 to February 29, 2020. Combined financial information has been included for the Financial Year 2019. The combined financial information has been prepared as if the Trust structure was in place and 100% interest of the Project SPVs was part of the Trust since April 1, 2018.

PDTPL, the Target SPV proposed to be acquired by the Trust, was incorporated on April 15, 2021. This Letter of Offer includes the audited financial statements of PDTPL as of and for the period from April 15, 2021 to December 31, 2021. This Letter of Offer also contains Pro Forma Financial Information of the Trust and PDTPL as at and for the Financial Year 2021 and the nine-month period ended December 31, 2021 prepared in accordance with the requirements of the SEBI Rights Issue Guidelines and the InvIT Regulations.

Investors should be aware that the price of the Units, and the income from them, may be subject to volatility. If any of the risks described below occurs, our business and prospects could be materially and adversely affected and investors could lose all or part of their original investment.

In making an investment decision, prospective investors must rely upon their own examinations and the terms of this Issue, including the merits and the risks involved. Prospective investors should consult their tax, financial and legal advisors about the particular consequences of investing in this Issue.

In this section, unless the context otherwise requires, a reference to "we", "us" and "our" refers collectively to the Trust and the Project SPVs. References herein to the "Initial Portfolio" are to the pre-PDTPL Acquisition portfolio of the Trust and to the "Expanded Portfolio" are to the post-PDTPL Acquisition portfolio of the Trust.

Risks Related to the Structure of the Trust

1. *The outbreak and continuing spread of COVID-19 has had, and could further have, a material adverse effect on our business, financial condition and results of operations.*

The World Health Organisation has declared the outbreak of COVID-19 as a "pandemic" on March 12, 2020. There have been border controls and travel restrictions imposed by various countries as a result of the COVID-19 outbreak. Such outbreak of an infectious disease together with any resulting restrictions on travel and/or

imposition of quarantine measures may result in protracted volatility in international markets and/or result in a global recession as a consequence of disruptions to travel and retail segments, tourism, and supply chains and may adversely impact the operations, revenues, cashflows and profitability of the Trust, the Project SPVs and the Target SPV. There can be no assurance that any precautionary or other measures taken against infectious diseases would be effective. In particular, the COVID-19 outbreak has caused markets and economies worldwide to lose significant value and impacted economic activity worldwide. An economic slowdown has been caused by the spread of COVID-19, and it is possible that the outbreak of COVID-19 will cause a prolonged global economic crisis or recession.

The NHAI had temporarily suspended toll collection at toll plazas across India from March 26, 2020. Toll collection subsequently resumed on April 20, 2020. In addition, during the months of April 2021 and May 2021, due to the measures implemented in the states where our projects are under construction, by the respective State Governments, our project sites were required to occasionally close down for short periods of time. Further, from the second fortnight of April 2021, various State Governments have imposed restrictions on travel, which has led to a decline in our toll collections. For details of the gross monthly toll revenues of the Project SPVs, see "*Business – Details of the Project SPVs and the Initial Portfolio*" on page 114. There was a second wave of COVID-19 in India during 2021 and caused widespread mortality, severely strained healthcare resources across the country.

We have implemented additional measures to increase hygiene standards at all locations and enforce strict social distancing norms for employees and other stakeholders who have to attend to essential activity at workplace. These are unprecedented times and the situation on the ground is evolving very rapidly. However, there is no assurance that our supply chains for fuel, raw materials and other commodities, including without limitation, fuel, equipment and spares will not be affected as a result of any restriction of movement of people and goods imposed by any government and any such restriction may affect our operations. In addition, the traffic and toll revenue on the Initial Portfolio has been and on the Expanded Portfolio may continue to be impacted as a result of such restrictions or economic slowdown caused by COVID-19 which may adversely affect our cash flows. The above factors may have an adverse effect on the Trust's operating results, businesses, assets, financial condition, performance, ability to access the equity and debt markets, cost of capital and liquidity and prospects.

There is significant uncertainty relating to the long term adverse impact of the COVID-19 pandemic, including the detection of new strains and subsequent waves of COVID-19 infections in India as well as various other parts of the world, on the global economy, global financial markets and the Indian economy. For example, a new COVID-19 variant was detected in January 2022 and has resulted in an exponential rise in infections in certain parts of the world. The ultimate extent of COVID-19 on our business, financial condition and results of operations will depend on these uncertain future developments. We remain subject to a risk that that COVID-19 could continue to have a material adverse impact on our business, financial condition, results of operations and prospects.

2. ***The debt financing provided by the Trust to each of the Project SPVs and to be provided by the Trust to the Target SPV is comprised of unsecured, interest-free loans which will become interest-bearing at a future date in accordance with the respective Shareholder Loan Agreements. The payment obligations of the respective Project SPVs and the Target SPV in relation to such debt financing will be subordinated to all existing and future obligations of the Project SPVs and the Target SPV towards any senior lenders.***

The debt financing provided by the Trust to each of the Project SPVs and to be provided by the Trust to the Target SPV comprises certain unsecured, interest-free loans (the "**Shareholder Loans**"), which is subordinated to the debt owed to the senior lenders of the respective Project SPVs and the Target SPV at all times. The Shareholder Loans for the Project SPVs will become interest-bearing upon the earlier of (i) the completion of construction of the project of the relevant Project SPV and (ii) the listing of the Units. The Shareholder Loans for the Target SPV will become interest-bearing upon the completion of construction of the project of the Target SPV. Pursuant to the Framework Agreement, under certain circumstances, if the Units of the Trust are not listed within a specified time period, the Sponsor will be required to make certain payments to the Financial Investors in connection with any delay. Also see *"Background and Structure of the Trust – Certain Agreements in relation to the Trust – Framework Agreement*", "*Background and Structure of the Trust – Certain Agreements in relation to the Trust – – Shareholder Loan Agreements*" and "*Objects of the Issue – Details of Utilization of Issue Proceeds*" on pages 92, 98 and 69, respectively.

All payment obligations of the Project SPVs and the Target SPV to the Trust under the Shareholder Loan Agreements are proposed to be serviced from the balance amounts remaining in the escrow accounts maintained

by each Project SPV/Target SPV as mandated under the relevant concession agreements, after the payment of, among other things, all taxes due, all expenses in connection with the construction of the project, operations and maintenance expenses, including expenses for repair works, payment of concession fees, debt service payments to senior lenders (as defined under the relevant concession agreements), negative grants payable to the NHAI, reimbursement of expenditure incurred by the NHAI, any payments and damages due and payable and any reserve requirements set forth in the financing agreements, as defined in the relevant concession agreements (the "**Surplus Cash Flows**"). Accordingly, any reduction in the cash flows of the Project SPVs or the Target SPV or any unanticipated increase in any of the payments to be made by the Project SPVs or the Target SPV from the escrow accounts may result in a decrease in the Surplus Cash Flows, which may materially and adversely impact the ability of the Project SPVs and the Target SPV to meet their payment obligations to the Trust in relation to the Shareholder Loans. Further, the receivables of each Project SPV and the Target SPV (including the Surplus Cash Flows) are secured in favor of the existing senior lenders to the extent of the amounts payable to such senior lender pursuant to the terms of their respective financing arrangements and restrictive covenants under the financing arrangements with such senior lenders and the concession agreements prevent the Project SPVs and the Target SPV from opening new bank accounts, and accordingly, the Project SPVs and the Target SPV are not permitted to transfer the Surplus Cash Flows (as they arise) to a separate bank account in the name of the Project SPV/Target SPV that can be charged in favor of the Trust. We expect such receivables to remain secured in favor of the senior lenders until all amounts outstanding under such financing arrangements are paid in their entirety to the senior lenders. If an event were to occur under such financing arrangements such that all amounts outstanding under such financing arrangements were to become immediately due and payable, all, or substantially all, of the Surplus Cash Flows may be utilized in satisfying such payment obligations, thereby materially and adversely affecting the ability of such Project SPVs or the Target SPV to meet their payment obligations to the Trust. Any adverse impact on any receivables payable to the Trust under such debt financing will materially and adversely affect the Trust's ability to make distributions to the Unitholders. Further, if the relevant concession agreement is terminated, the Surplus Cash Flows together with the termination payments deposited in the relevant escrow account will be applied towards the payment of the amounts outstanding to the senior lenders prior to the payment of the amounts outstanding under the Shareholder Loans. Accordingly, such amounts may be insufficient to repay all amounts outstanding under the Shareholder Loans.

3. ***Any payment by the Project SPVs or the Target SPV, including in an event of termination of the relevant concession agreement, is subject to a mandatory escrow arrangement which restricts their flexibility to utilize the available funds.***

The escrow arrangements mandated under the concession agreements require all monies that are received by each Project SPV and the Target SPV, including funds constituting the financing package, the fees collected from the operation of the Expanded Portfolio and any termination payments received from the NHAI, to be deposited in an escrow account and utilized only in accordance with the order prescribed under the escrow agreement. The consent of the NHAI is required to amend the order of outflow of payments from such escrow account. The escrow arrangements typically prioritize the payment of all taxes due, followed by payment of expenses in connection with the construction of the project, operation and maintenance expenses including expenses for repair works, payment of concession fees, debt service payments, negative grant/premium payable to the NHAI, reimbursement of expenditure incurred by the NHAI, any payments and damages due and payable and any reserve requirements set forth in any financing agreements. For details of the escrow arrangements, see "*Summary of the Concession Agreements*" on page 144.

With respect to withdrawals on termination, the escrow arrangements typically prioritize the payment of all taxes due, followed by the payment of 90% of debt due to senior lenders (excluding subordinated debt), the payment of any outstanding concession fee, the payment of damages in relation to the concession, retentions and payments arising out of liability for any defects, the remainder of debt due, subordinated debt, operation and maintenance expenses and any other payments under the concession agreement, after which the balance may be withdrawn by the Project SPVs or the Target SPV for their own purposes. The Shareholder Loans will be classified as subordinated debt and equity under the concession agreements (other than to the extent of refinancing of the debt availed from existing senior lenders). Accordingly, the ability of the Trust to access such termination payments in relation to the Shareholder Loans will be subordinated to the discharge of all obligations towards the senior lenders and the payment of, among other things, any outstanding concession fees and damages. Any shortfall in the termination payments received from the NHAI may prevent us from recovering our investments or returns in the relevant Project SPVs and the Target SPV adequately or at all.

4. ***The regulatory framework governing infrastructure investment trusts in India is still evolving and the interpretation and enforcement thereof involve uncertainties, which may have a material, adverse effect***

on the ability of certain categories of investors to invest in the Units, our business, financial condition and results of operations and our ability to make distributions to Unitholders.

The SEBI issued the InvIT Regulations with effect from September 26, 2014. The regulations have been amended and supplemented with additional guidelines, including on May 11, 2016 (as amended) and circulars dated October 20, 2016, November 29, 2016, April 13, 2018, November 27, 2019 (as amended) and January 17, 2020 (as amended). The SEBI Rights Issue Guidelines were issued on November 4, 2020.

Because the regulatory framework governing infrastructure investment trusts is still evolving, interpretation and enforcement by regulators and courts involves uncertainties. Further, regulations and processes with respect to certain aspects of infrastructure investment trusts, including, but not limited to, the dissolution and delisting of infrastructure investment trusts and the liabilities of Unitholders, have not yet been issued or adopted. For example, infrastructure investment trusts are not "companies" or "bodies corporate" within the meaning of various SEBI regulations. Accordingly, the applicability of several regulations to the Trust is unclear.

Infrastructure investment trusts operate in a relatively unclear regulatory environment. Changes to the Issue structure, changes to agreements entered into or proposed to be entered into in connection with this Issue, cost increases, fines, legal fees or business interruptions may result from changes to regulations, from new regulations, from new interpretations by courts or regulators of existing regulations or from stricter enforcement practices by regulatory authorities of existing regulations. In addition, new costs may arise from audit, certification and/or self-assessment standards required to maintain compliance with new and existing InvIT Regulations. Such changes in regulation, interpretation and enforcement may render it economically infeasible to continue conducting business as an infrastructure investment trust or otherwise have a material, adverse effect on our business, financial condition and results of operations.

Because we operate in an evolving and relatively untested regulatory environment, it is difficult to forecast how any new laws, regulations or standards or future amendments to the InvIT Regulations will affect infrastructure investment trusts and the infrastructure sector in India, and no assurance can be given that the regulatory system will not change in a way that will impair our ability to comply with the regulations, conduct our business, compete effectively or make distributions. Failure to comply with changes in laws, regulations and standards may have a material, adverse effect on our business, financial condition, results of operations and prospects.

5. ***We may not be able to make distributions to Unitholders or the level of distributions may fall.***

The Trust's distributions will be based on the NDCF available for distribution and not on whether the Trust makes an accounting profit or loss. The InvIT Regulations provide that not less than 90% of NDCF of each Project SPV (and upon completion of the PDTPL Acquisition, the Target SPV) are required to be distributed to the Trust in proportion of its holding in each of the Project SPVs (and upon completion of the PDTPL Acquisition, the Target SPV) subject to applicable provisions of the Companies Act. Under the InvIT Regulations, not less than 90% of the NDCF of the Trust is required be distributed to the Unitholders not less than once a year in case of an infrastructure investment trust which has undertaken an initial offer through private placement. Such distributions are required to be made not later than 15 days from the date of declaration. The Investment Manager has adopted a distribution policy pursuant to which distributions are required to be made to the Unitholders on a quarterly basis. For further details, see "*Distributions*" on page 246.

The utilization of the Issue Proceeds by the Trust is not subject to monitoring by any independent agency.

The Trust primarily relies on interest payments and principal repayments in relation to the Shareholder Loans, the subordinated debt and the unsecured loans for generating its NDCF. NDCF at the Trust level may also be generated through payment of dividends by the Project SPVs or the Target SPV, as applicable, or buy-back of shares of the Project SPVs or the Target SPV. Similar to the Shareholder Loans, a portion of the subordinated debt and unsecured loans are also proposed to become interest-bearing upon the earlier of (i) the completion of construction of the project of the relevant Project SPV and (ii) the listing of the Units. See also " – *The Project SPVs and the Target SPV are subject to restrictive covenants under their financing agreements that could limit our flexibility in managing our business or to use cash or other assets."* on page 33.

There can be no assurance or guarantee that the Trust will have sufficient distributable or realized profits or surplus in any future period to make distributions quarterly in any amount or at all. The ability of the Project SPVs and the Target SPV to service the Shareholder Loans, unsecured loans and subordinated debt and pay dividends may be affected by a number of factors including, among other things:

- their respective businesses and financial positions;
- insufficient cash flows received from the assets;
- applicable law which may restrict the payment of dividends by the Project SPVs and the Target SPV;
- operating losses incurred by the Project SPVs or the Target SPV in any financial year;
- changes in accounting standards, taxation laws and regulations, laws and regulations in respect of foreign exchange repatriation of funds, corporation laws and regulations relating thereto; and
- the terms of agreements, including any concession agreements or financing agreements, to which they are, or may become, a party.

Further, the method of calculation of NDCF is subject to change. Any change in the applicable law in India or elsewhere (including, for example, tax laws and foreign exchange controls) may limit the Trust's ability to pay or maintain distributions to Unitholders. No assurance can be given that the Trust will be able to pay or maintain the levels of distributions or that the level of distributions will increase over time, or that future acquisitions will increase the Trust's distributable free cash flow to Unitholders. Any reduction in, or elimination or taxation of, payments of distributions could materially and adversely affect the distributions made by the Trust.

6. ***Any default under the existing financing arrangements by any of the Project SPVs or the Target SPV could adversely impact the Trust's ability to continue to own a majority of each of the Project SPVs and the Target SPV, its cash flows and its ability to make distributions to Unitholders.***

Any default under the existing financing arrangements by any of the Project SPVs or the Target SPV could adversely impact the Trust's ability to own the Project SPVs and the Target SPV, its cash flows and its ability to make distributions to Unitholders.

In addition, the lenders of the Project SPVs had issued consents in relation to the Formation Transactions pursuant to which the Project SPVs were transferred to the Trust. Such consents impose certain obligations on the Trust, including:

- the existing escrow agreement for the projects and all the toll collection arrangements to be continued;
- no dilution in security and rights of existing lenders;
- IRB group shall continue to hold 51% shareholding in the Trust during the currency of the loan;
- Prior to release of the pledged shares, the Sponsor, the Trust, the Project SPV, and the security trustee (acting on behalf of the lenders) shall execute an agreement setting out inter alia the mechanism of and obligations of the parties in relation to the release of the pledge by the security trustee and recreation of the pledge by the Trust to the satisfaction of the lenders;
- unsecured loans availed by the Project SPV from the Trust will be subordinated to the debt from senior lenders through the currency of loan. Any payment towards unsecured loans extended by the Trust shall be governed by the clause relating to 'restricted payment' as per the existing financing documents; and
- any new appointment/removal of the Investment Manager/Project Manager by the Trust shall be with prior approval from lenders.

7. ***We have a limited operating history and may not be able to operate our business successfully or generate sufficient cash flows to make or sustain distributions. The Special Purpose Consolidated / Combined Financial Information in this Letter of Offer has been prepared for purposes of this Issue and may not be indicative of the Trust's future financial condition and results of operations.***

This Letter of Offer includes Special Purpose Consolidated / Combined Financial Information for the Trust and the Project SPVs for the nine-month periods ended December 31, 2021 and December 31, 2020 and the Financial Years 2021, 2020 and 2019. The Project SPVs were transferred to the Trust on February 25, 2020 by the Sponsor pursuant to the Formation Transactions undertaken as part of the initial offer through private placement of Units. The effective date for consolidation was March 1, 2020. Consolidated financial information has been included for the nine-month periods ended December 31, 2021 and December 31, 2020 and the Financial Year 2021. The financial information for Financial Year 2020 includes consolidated financial information for the one-month period ended March 31, 2020 and combined financial information for the 11 month period from April 1, 2019 to February 29, 2020 and is shown as a single period for purposes of presentation and convenience only. Combined financial information has been included for the Financial Year 2019. The combined financial information has been prepared as if the Trust structure was in place and 100% interest of the Project SPVs was part of the Trust since April 1, 2018. Also see "*Financial Statements*" on page 271.

The Special Purpose Consolidated / Combined Financial Information has been prepared for the sole purpose of this Issue and may not necessarily represent our financial position, results of operations and cash flows had the Trust (together with the Project SPVs) been in existence during the periods presented (in case of the combined financial information), nor do they give an indication of our financial results, cash flows and financial position in the future.

8. ***The Valuation Reports, and any underlying reports, are not opinions on the commercial merits or financial condition of the Trust, the Project SPVs or the Target SPV and the valuation contained in such Valuation Reports may not be indicative of the true value of the Project SPVs' assets or the Target SPV's asset.***

Mr. Sunit Khandelwal has been appointed as the Valuer to undertake valuation of the Project SPVs. The Valuer has issued the Initial Portfolio Valuation Report, included in *Annexure A* to this Letter of Offer, which sets out his opinion as to the fair enterprise value of the Project SPVs as on December 31 2021. Incwert Advisory Private Limited has issued a confirmation certificate in relation to the Initial Portfolio Valuation Report.

The Valuer has also issued the PDTPL Valuation Report, included in *Annexure C* to this Letter of Offer, which sets out his opinion as to the fair enterprise value of the Target SPV as on December 31, 2021.

In order to issue the Valuation Reports, the Valuer has based his assumptions regarding the traffic volume, toll rates, operation and maintenance costs, amortization, debt repayments and non-cash net working capital projections on information provided by and discussions with or on behalf of us, the Sponsor/Project Manager and the Investment Manager, and which reflects current expectations and views regarding future events and, therefore, necessarily involves known and unknown risks and uncertainties. Please see the Initial Portfolio Valuation Report included as *Annexure A* to this Letter of Offer and the PDTPL Valuation Report included as *Annexure C* to this Letter of Offer for a detailed description of the assumptions and methodology. The Valuation Reports contain forecasts, projections and other "forward-looking" statements that relate to future events, which are, by their nature, subject to significant risks and uncertainties. The future events referred to in these forward-looking statements involve risks, uncertainties and other factors which may cause the actual results or performance to be materially different from any future results or performance expressed or implied by the forward-looking statements.

The Valuation Reports are not an opinion on the commercial merits and structure of the Trust, the Project SPVs or the Target SPV, nor are they an opinion, expressed or implied, as to the financial condition of the Trust upon Allotment. The Valuation Reports do not purport to contain all the information that may be necessary or desirable to fully evaluate the Trust, the Project SPVs or the Target SPV or an investment in the Trust or the Units. The Valuation Reports are not based on a comprehensive review of the business, operational or financial condition of the Project SPVs or the Target SPV and, accordingly, make no representation or warranty, expressed or implied, in this regard.

The Valuation Reports do not constitute and should not be construed as any form of assurance as to the financial condition or future performance of the Trust or as to any other forward-looking statements included therein, including those relating to certain macro-economic factors, by or on behalf of the Sponsor/Project Manager, the Investment Manager, the Trustee or their respective affiliates. Further, we cannot assure you that the valuations prepared by the Valuer reflect the true value of the net future revenues of the Project SPVs or the Target SPV or that other valuers would arrive at the same valuation. Accordingly, the valuation contained therein may not be indicative of the true value of the Project SPVs' or the Target SPV's assets. The Valuation Reports do not take into account any subsequent developments and should not be considered as a recommendation by the Sponsor, the Investment Manager, the Project Manager, the Trustee, their respective affiliates or any other party that any person should take any action based on the Valuation Reports. Accordingly, Applicants should not rely on the Valuation Reports in making an investment decision to subscribe to Units in this Issue.

9. ***We have referred to the data derived from Traffic Reports commissioned from the Traffic Consultant, which are based on certain bases, estimates and assumptions that are subjective in nature and may not be accurate.***

We have relied on Traffic Reports issued by the Traffic Consultant, and commissioned by the Investment Manager, to forecast the traffic volumes for the Project SPVs' projects and the Target SPV's project and to prepare traffic reports on the Initial Portfolio and PDTPL's asset, which are set out in *Annexure B* to this Letter of Offer. The Traffic Reports are subject to various limitations and are based upon certain bases, estimates and assumptions that are subjective in nature and that are based, in part, on information provided by and discussions

with or on behalf of us, the Sponsor/Project Manager and the Investment Manager. The Traffic Reports reflect current expectations and views regarding future events, and therefore, necessarily involve known and unknown risks and uncertainties. The Traffic Reports contain forecasts, projections and other "forward-looking" statements that relate to future events, which are, by their nature, subject to significant risks and uncertainties, including population growth, gross domestic product growth, vehicle ownership rates, per capita income, agricultural output and fuel consumption. The future events referred to in the Traffic Reports involve risks, uncertainties and other factors which may cause the actual traffic volumes to be materially different from any future traffic volumes expressed or implied by the Traffic Reports. There can be no assurance that the bases, estimates and assumptions adopted by the Traffic Consultant for the purposes of preparing the Traffic Reports will prove to be accurate. If any of these bases or assumptions is incorrect, future traffic volumes for the Initial Portfolio and the Target SPV's asset could be materially different from those that are set out in the Traffic Reports and this Letter of Offer. Further, the Traffic Consultant has also advised readers of the Traffic Reports to consider the Traffic Reports in the context of their own assessment of the COVID-19 outbreak and its current and potential impact given the uncertainty inherent in the unprecedented pandemic. Also see "*Presentation of Financial, Industry and Market Data – Industry and Market Data*" on page 11.

Risks Related to our Business and Industry

10. *We are in the process of acquiring the Target SPV (pursuant to definitive acquisition agreements), which if not completed in a timely manner or at all, or any failure to realize the anticipated benefits of the PDTPL Acquisition, may adversely affect us.*

The Trust (acting through the Trustee) and the Investment Manager have entered into a share subscription agreement dated April 7, 2022 with the Target SPV and the Sponsor for the PDTPL Acquisition (the "**PDTPL Share Subscription Agreement**"). Pursuant to the PDTPL Share Subscription Agreement, the Trust proposes to subscribe to 121,200,000 equity shares, aggregating to 99.96% of the equity share capital of PDTPL for a total consideration of ₹1,212 million. The Trust (acting through the Trustee) and the Investment Manager have also entered into the PDTPL Shareholder Loan Agreement. The proceeds of the Issue are proposed to be utilized for subscription to the equity shares of PDTPL by the Trust under the Share Subscription Agreement and providing unsecured loans to PDTPL under the Shareholder Loan Agreement. See "*Objects of the Issue – Details of Utilization of Issue Proceeds*" on page 69.

Certain ancillary agreements have also been entered into in connection with the PDTPL Acquisition, including amendments to the Framework Agreement, the IM SHA and the Name Licensing Agreement. Further, as at the date of this Letter of Offer, the draft of the PDTPL Project Implementation Agreement has been submitted to the NHAI. The PDTPL Project Implementation Agreement will be executed after the completion of the Issue.

There can be no assurance that the conditions under the PDTPL Share Subscription Agreement can be completed in a timely manner or at all. Any inability or delay in satisfying any conditions may result in a delay in or failure to complete the PDTPL Acquisition. Accordingly, there can be no assurance that we will be able to successfully complete the PDTPL Acquisition in the manner set out in the agreements in relation to the PDTPL Acquisition or at all.

Further, pursuant to the PDTPL Acquisition, we will assume the existing liabilities of the Target SPV and its asset. The terms of the agreements for the PDTPL Acquisition contain indemnities, which are limited on account of monetary and time limits among other limitations, which will limit our recourse under these agreements. Any losses or liabilities suffered by us in relation to PDTPL for which we are unable to recover under these agreements may materially and adversely impact our results of operations, profitability, cash flows and our ability to make distributions to Unitholders.

Also, after the completion of the PDTPL Acquisition, the Sponsor will continue to be a shareholder in PDTPL, together with its nominee shareholders, holding 0.04% of the post-acquisition equity share capital of PDTPL as mandatory holding under the terms of PDTPL's concession agreement. See "*– The Sponsor, whose interests may be different from the other Unitholders, will be able to exercise significant influence over the Trust.*" on page 35 for risks in relation to our relationship with the Sponsor.

11. *If we are not successful in integrating PDTPL, our business, financial condition and results of operations may be adversely impacted.*

While we believe that synergies would result from the PDTPL Acquisition, there is a risk that such synergies may

not actually occur or the extent of synergies actually recognized post-acquisition may not be as expected. Other risks associated with the proposed acquisition include:

- the difficulty of maintaining uniform standards, controls, procedures and policies throughout our business;
- accurately judging micro-market dynamics, growth potential and competitive environment applicable to PDTPL, particular given that we are expanding our portfolio into the state of West Bengal in India where none of our road assets are located or pass through;
- incurring unknown or unexpected potential liabilities;
- obtaining, maintaining and complying with the conditions prescribed under necessary permits certificates, licenses and approvals from governmental and regulatory authorities and agencies; and
- higher than planned expenditure to preserve and grow the value of PDTPL.

This could materially and adversely affect our business, results of operations and financial condition.

12. *The Pro Forma Financial Information included in this Letter of Offer is prepared for illustrative purposes only. Our actual results may be materially different from the outcome of the event or transaction as presented in the Pro Forma Financial Information.*

This Letter of Offer contains Pro Forma Financial Information of the Trust and PDTPL as at and for the Financial Year 2021 and the nine-month period ended December 31, 2021 prepared in accordance with the requirements of the SEBI Rights Issue Guidelines and the InvIT Regulations. The Pro Forma Financial Information has been prepared based on certain assumptions for illustrative purposes only, including that the PDTPL Acquisition had taken place as of April 15, 2021, and may not necessarily represent our financial position, results of operations and cash flows had PDTPL been acquired by the Trust during the periods presented, nor do they give an indication of our financial results, cash flows and financial position in the future.

The Auditors' report on the Pro Forma Financial Information also includes certain matters of emphasis. Attention has been drawn to the basis of preparation, wherein it has been stated as regard to statement of profit and loss that, the pro forma statement of profit and loss for the year ended March 31, 2021 does not reflect the PDTPL Acquisition since PDTPL was incorporated on April 15, 2021 and also further that, the pro forma statement of profit and loss for the nine-month period ended December 31, 2021 has been prepared as if the PDTPL Acquisition occurred on April 15, 2021.

Further, in relation to the pro forma adjustments, with respect to equity attributable to Unitholders, the Trust has been assumed to control approximately 99.96% of the equity share capital of PDTPL pursuant to the PDTPL Share Subscription Agreement and accordingly, the equity share capital of PDTPL is not eliminated in the pro forma consolidated balance sheet as at December 31, 2021 and no other additional material adjustments have been made to the pro forma balance sheet or the pro forma statement of profit and loss.

The Pro Forma Financial Information is based upon available information and assumptions that the Investment Manager believes to be reasonable. If the assumptions underlying the preparation of such information do not occur, our actual results could be materially different from those indicated in the information. The rules and regulations related to the preparation of pro forma financial information in other jurisdictions may vary significantly from the basis of preparation for the Pro Forma Financial Information. Accordingly, the Pro Forma Financial Information should not be relied upon as if it has been prepared in accordance with those standards and practices.

13. *Our failure to extend applicable concession agreements or our inability to identify and acquire new road assets that generate comparable or higher revenue, profits or cash flows than the Project SPVs and the Target SPV may have a material adverse impact on our business, financial condition and results of operations and our ability to make distributions.*

The concession agreements of the Project SPVs and the Target SPV stipulate a limited concession period. Certain concession agreements provide that if the actual traffic volume falls short of or exceeds the target traffic volume on a defined date, the concession period may be extended or reduced, respectively, by the NHAI according to a formula specified in the agreement. The table below sets out the details of the Project SPVs' and the Target SPV's concession periods.

Project SPV	Project	Concession period	Commencement of concession period	End of concession period with no reduction or extension	Residual concession period as of December 31, 2021 with no extension or reduction (approx.)
AETL	Agra - Etawah NH-2 Project	24 years	August 1, 2016	July 31, 2040	18 years and 7 months
CGTL	Gulabpura - Chittorgarh NH-79 Project	20 years	November 4, 2017	November 3, 2037	15 years, 10 months and 3 days
IRB HMTL	Hapur - Moradabad NH-9 Project	22 years	May 28 , 2019	May 26, 2041	19 years, 4 months and 26 days
IRB WTL	Goa - Kundapur NH-17 Project	28 years	March 3, 2014	March 2, 2042	20 years, 2 months and 1 day
KGTL	Kishangarh - Gulabpura NH-79/79A Project	20 years	February 21, 2018	February 20, 2038	16 years, 1 month and 20 days
KTL	Kaithal - Rajasthan Board NH-152/65 Project	27 years	July 15, 2015	July 14, 2042	20 years, 6 months and 13 days
SYTL	Solapur - Yedeshi NH-211 Project	29 years	January 21, 2015	January 20, 2044	22 years and 19 days
UTL	Udaipur - Rajasthan NH-8 Project	21 years	September 3, 2017	September 2, 2038	16 years, 8 months and 1 day
YATL	Yedeshi - Aurangabad NH-211 Project	26 years	July 1, 2015	June 30, 2041	19 years, 5 months and 30 days
PDTPL	Palsit-Dankuni NH-19 Project	17 years	April 2, 2022	April 1, 2039	N.A.

As at December 31, 2021, the residual periods for the concessions of the Project SPVs ranged from approximately 15 years, 10 months and three days to 22 years and 19 days. For further details on the residual concession period of each of the Initial Portfolio assets, see "*Business*" on page 109.

There can also be no assurance that we will be able to acquire new toll-road assets upon the expiry of the Project SPVs' existing concession agreements or at any time thereafter. Accordingly, the number of assets forming part of our portfolio and the revenue generated by them may vary from time to time. Further, even if new toll-road assets are added to our portfolio, there can be no assurance that such toll-road assets will be able to generate comparable or higher cash flows, revenues and profits than the Project SPVs or the Target SPV whose concession periods have expired. If the Project SPVs or the Target SPV are unable to extend their concession agreements,

or if we are unable to acquire new toll-road assets that generate comparable or higher cash flows, revenue or profits than the Project SPVs and the Target SPV, our business, financial condition and results of operations and our ability to make distributions to Unitholders may be materially and adversely affected. For further details on the terms of each of the concession agreements, see "*Summary of the Concession Agreements*" on page 144.

14. *The Project SPVs' and the Target SPV's toll-road concessions may be terminated prematurely under certain circumstances.*

The Initial Portfolio comprises our principal assets. Upon the completion of the PDTPL Acquisition, we will also hold PDTPL and its road asset. We will be unable to continue the operation of a particular road concession without a continuing concession right from the NHAI. A concession may be revoked by the NHAI for certain reasons set forth in the relevant concession agreement, including, but not limited to, one or more of the following:

- any failure by the relevant Project SPV or the Target SPV to comply with prescribed minimum shareholding requirements;
- any failure by the relevant Project SPV or the Target SPV to participate in, or match the bid of, the successful bidder in the event of any proposed augmentation of capacity of the relevant road asset;
- any failure by the relevant Project SPV or the Target SPV to augment the capacity of the project if the average daily traffic exceeds the traffic capacity for which the project;
- any failure by the relevant Project SPV or the Target SPV to make any payments, including negative grants, to the NHAI in a timely manner;
- any failure by the relevant Project SPV or the Target SPV to comply with operational or maintenance standards;
- any temporary or permanent halt of operations at the relevant Project SPV or the Target SPV;
- any occurrence of an event of default under any financing document where the lender has recalled any part of the loan;
- any continuation of a force majeure event, such as an act of God, act of war, expropriation or compulsory acquisition of any project assets by the government, industrial strikes, and civil commotions, boycotts and political agitations, beyond a specified time; and
- any failure by the relevant Project SPV or the Target SPV to comply with any other material terms of the relevant concession agreement.

The concession agreements also provide that, if the actual traffic volume exceeds the target traffic volume on a defined date, the NHAI may reduce the concession period according to a formula specified in the concession agreement or require the concessionaire to undertake additional capacity augmentation in lieu of a reduction in the concession period.

For each of the Project SPVs and the Target SPV, we have assumed that we will continue to operate the relevant project until the last date of the concession period as per the relevant concession agreement and have not made provisions for any reduction in the concession periods.

As at the date of this Letter of Offer, completion certificates have not been issued in relation to certain of our four-laning-to-six-laning projects, i.e., IRB WTL, IRB HMTL and KGTL. If we are unable to complete the six-laning of these projects within the timelines under the concession agreements or to the satisfaction of the NHAI, our concession agreements may be terminated by the NHAI.

AETL, KTL, SYTL, UTL and YATL have received their final completion certificates. CGTL has received a completion certificate dated August 14, 2021. UTL has received a completion certificate dated May 31, 2021. IRB WTL has received a provisional completion certificate. The receipt of the final completion certificate is subject to the completion of all conditions specified in the provisional completion certificate, such as quadrant pitching, avenue plantation and completion of rest areas. Certain of these activities are subject to the receipt of certain approvals and/or resources from the NHAI. If IRB WTL is unable to complete the pending items listed in the provisional certificate, the respective concession agreements may be terminated. For more information, see "*Government and Other Approvals – Approvals in Relation to the Project SPVs and the Target SPV*" on page 395.

In addition, AETL, CGTL, IRB HMTL, KGTL, UTL and the Target SPV are required to pay annual premiums in consideration for being granted the right to build and operate their respective projects. Failure to make such payments could result in the termination of the relevant concession agreement by the NHAI.

In accordance with the terms and conditions of the concession agreements, should threshold levels of traffic set out in the concession agreements be exceeded, the Project SPVs or the Target SPV may be required to undertake certain development of the Expanded Portfolio assets during an extended concession period by way of augmenting the capacity of the relevant Expanded Portfolio assets. While the Project SPVs and the Target SPV are currently in various stages of development, construction and completion, none of the Project SPVs or the Target SPV have exceeded the levels of traffic set out in the respective concession agreements and as such, have not been required to undertake certain development of the Expanded Portfolio, any future requirement to undertake such development may present additional risks to us. Certain concession agreements may impose penalties or provide for termination of such agreement for late or non-completion of the certain development of the Expanded Portfolio assets.

Our business, financial condition, reputation and results of operations may be materially and adversely affected if the completion of the construction of the Expanded Portfolio and/or the conditions specified in the relevant provisional completion certificate is delayed or not achieved in the specified manner. There can be no assurance that these will be completed in the time expected, or at all. Further, there is no assurance that all potential liabilities that may arise from delays or shortfall in performance of contractors will be accurately estimated as part of the planned costs of the construction of the Expanded Portfolio or conditions specified in the relevant provisional completion certificate, or that the damages that may be claimed from such contractors will be adequate to compensate any loss of revenues or profits resulting from such delays, shortfalls or disruptions. Such risks may increase if completion is delayed for an extended period. If we fail to manage any of the aforesaid risks or any unforeseen risks effectively, our revenues, profitability and results of operations could be materially and adversely affected. For further details on the events that may require the Project SPVs and the Target SPV to undertake certain development of the Expanded Portfolio assets as contemplated under the relevant concession agreements, see "*Business*" and "*Summary of the Concession Agreements*" on pages 109 and 144, respectively.

If a concession agreement is terminated by the NHAI due to a default by a Project SPV or the Target SPV, or by the Project SPV or the Target SPV due to a default by the NHAI, such Project SPV or Target SPV is entitled to termination payments or otherwise from the NHAI in accordance with the terms of the relevant concession agreement. The Shareholder Loans may be for a maturity term that exceeds the maturity term of the original facilities obtained from the senior lenders. There can be no assurance that the NHAI will recognize such amounts as outstanding after the term of the original facilities obtained by the Project SPVs or the Target SPV from their respective senior lenders. There can also be no assurance that the NHAI will pay the termination payments promptly or at all or that any termination payments will be adequate to enable us to recover our investments or returns in the relevant Project SPVs or the Target SPV.

If any of the concession agreements are reduced or terminated prematurely, our business, financial condition and results of operations may be materially and adversely affected. For further details on the termination of the concession agreements, the termination payments, and the definition of "default" as contemplated under the relevant concession agreements, see "*Business*" and "*Summary of the Concession Agreements*" on pages 109 and 144, respectively.

15. *A decline in traffic volumes would materially and adversely affect our business prospects, financial condition and results of operations and our ability to make distributions to Unitholders.*

The Project SPVs currently operate the Initial Portfolio assets and the Target SPV operates its road asset. Toll revenues depend on toll receipts, which in turn depend on toll fees and traffic volumes on the toll roads. Traffic volumes are directly or indirectly affected by many external factors, including:

- toll fees;
- fuel prices in India;
- the frequency of traveller use;
- the number and affordability of automobiles;
- the quality, convenience and travel efficiency of alternative routes outside of our network of toll roads;
- the convenience and extent of a toll road's connections with other parts of the local, state and national highway networks;
- the availability and cost of alternative means of transportation, including rail networks and air transport;
- the level of commercial, industrial and residential development in areas served by the Project SPVs' and the Target SPV's projects;
- adverse weather conditions; and
- seasonal holidays.

In addition, under the terms of the concession agreements entered into by each of the Project SPVs, the Target SPV and the NHAI, the Government and State Governments have the right to construct and open additional roads which may serve as alternate routes to the relevant Expanded Portfolio assets after the expiry of between eight and 15 years, depending on terms of the concession. The construction of such alternative roads and highways may result in a diversion of vehicular traffic from the relevant Expanded Portfolio assets and a reduction of revenue from toll receipts. Further, local roads and state highways may be improved so as to serve as alternate routes to the relevant Expanded Portfolio assets, and tolls may or may not be charged on such local roads and state highways. The existence or improvement of such alternative roads and highways may also result in a diversion of vehicular traffic from the relevant Expanded Portfolio assets and a reduction of revenue from toll receipts. For additional information on alternate routes, please see the Traffic Reports set out in *Annexure B* to this Letter of Offer. Also see "*Summary of the Concession Agreements*" on page 144.

While most of the Project SPVs' concession agreements and the Target SPV's concession agreement provide for an extension in the concession period if the actual traffic volumes are significantly lower than the target traffic volumes set forth in the respective concession agreements, there can be no assurances that the concession period will be actually extended by the NHAI. In the event that the actual traffic volumes are significantly less than the projected traffic volumes, the revenue generated from toll receipts may be lower than anticipated and our business prospects, financial condition and results of operations and our ability to make distributions to Unitholders may be materially and adversely affected.

16. *We may face limitations and risks associated with debt financing, refinancing and restrictions on investment.*

We are subject to regulatory restrictions in relation to our debt financing and refinancing. We may from time to time require debt financing and refinancing to carry out the Investment Manager's investment strategy. In the event that we undertake debt financing or refinancing, we may be limited by Indian law as to the form of financing or refinancing that we may undertake. For instance, under the InvIT Regulations, only listed InvITs are permitted to issue listed debt securities and accordingly, as an unlisted infrastructure investment trust, this mode of debt financing is not currently available to us. Additionally, while the RBI has permitted scheduled commercial banks and certain financial institutions to lend to InvITs, such lending is subject to the conditions specified in the circular which include, *inter-alia*, banks putting in place a board-approved policy for exposure to InvITs and the determination of SPVs not being in "financial difficulty" and lending subject to such policies.

Pursuant to the Indenture of Trust, the limits for the aggregate consolidated borrowings and deferred payments applicable to the Trust and the SPVs are required to be determined based on approval of the Unitholders such that the votes cast in favor of the resolution are not less than one-and-a-half times the votes cast against such resolution.

In the event that we undertake debt financing or refinancing, we may also be subject to risks associated with debt financing and refinancing, including the risk that our cash flow may be insufficient to meet required payments of principal and interest under such financing and to make distributions to Unitholders. Our ability to generate sufficient cash to satisfy our debt obligations will depend on our future operating performance, which may be affected by prevailing economic conditions and financial, business and other factors beyond our control. There is no assurance that we will be able to generate sufficient cash flow to meet all of our debt obligations. If we are unable to make payments due under our debt facilities, the lenders may be able to declare an event of default and initiate enforcement proceedings relating to any security provided in respect of the loan facilities, and/or call upon any guarantees, and this may materially and adversely affect our ability to make distributions to Unitholders. In case of default, lenders could initiate proceedings against the Trust Assets and the Trust Assets which remain after recovery of the defaulted amount would be remitted to the Unitholders on a proportionate basis. Such default may also result in the termination of certain concession agreements by the concessioning authority.

We may also be subject to certain covenants in connection with any future borrowings that may limit or otherwise materially and adversely affect our operations and our ability to make distributions to Unitholders, such as covenants restricting our ability to acquire assets or undertake other capital expenditure, requirements to set aside funds for maintenance or repayment of security deposits or requirements to maintain certain financial ratios. For further details, see "*Financial Indebtedness*" on page 375.

Further, if prevailing interest rates or other factors at the time of financing or refinancing (including changes in market conditions and maturity term imposed by any lenders) result in higher interest rates, the interest expense

may be significant and may have a material and adverse effect on our cash flow and the amount of distributions available to Unitholders.

Additionally, as an unlisted infrastructure investment trust, the Trust is permitted to invest only in "eligible infrastructure projects" as defined under the InvIT Regulations, which excludes infrastructure projects that do not meeting certain thresholds. This may restrict the scope of potential acquisitions of assets in the future.

17. *Certain Project SPVs have experienced negative cash flows during the last three financial years.*

The Project SPVs set out below have experienced negative cash flows during the last three financial years.

Project SPV	Net cash flow used in operating activities (₹ in million)		
	Financial Year 2021	Financial Year 2020	Financial Year 2019
AETL	527.16	406.13	(10,013.53)
IRB WTL	854.66	(2,197.89)	3,820.25
YATL	936.08	(3,464.85)	2,897.82
IHMTL	2,258.45	(446.20)	15.53

Negative cash flows over extended periods, or significant negative cash flows in the short term, could materially impact our ability to operate our business and implement our construction and growth plans. As a result, our cash flows, business, financial condition and results of operations could be adversely affected.

18. *Leakage of the toll fees on the Project SPVs' and the Target SPV's roads may materially and adversely affect our revenues and financial condition.*

The Project SPVs' and the Target SPV's toll receipts are primarily dependent on the integrity of toll-collection systems and the willingness of road users to pay toll fees. While each of the Project SPVs and the Target SPV has an integrated toll-collection system in place, the level of revenues derived from collection of tolls may be reduced by leakage through toll evasion, theft, fraud or technical defaults in the Project SPVs' or the Target SPV's toll systems or forced violations by users of the relevant Expanded Portfolio assets. Further, Project SPVs and the Target SPV may also, at times, need to allow users of the relevant Expanded Portfolio assets to pass through without paying applicable tolls due to heavy traffic build-up, or may be unable to collect tolls due to political protests or other agitations relating to tolling. For instance, due to a protest against certain agricultural laws in India, tolling for the Kaithal – Rajasthan project operated by KTL was halted from December 25, 2020. The protest was called off on December 15, 2021 and toll collection resumed from December 16, 2021. Pursuant to a circular dated July 2, 2021 issued by the NHAI, the impact of such protest has been considered an indirect political force majeure event for purposes of the concession agreement and concessionaires would accordingly be entitled to appropriate relief with respect to the period of concession, cost of force majeure, interest payment on debt and O&M expenses. For details, see "*Management's Discussion and Analysis of our Financial Condition and Results of Operations – Factors affecting Results of Operations*" and "*Regulations and Policies*" on pages 355 and 224, respectively.

In addition, in certain circumstances, the governmental authorities or Indian courts could seek to suspend toll-collection for or during certain periods, in full or in part, on the Expanded Portfolio assets, which suspension would result in a reduction in our revenues. Further, toll-collection errors may amount to a loss of revenue as there is an inherent risk of under-collection of toll fees given that most users of toll roads pay in cash. Any significant failure by us to monitor and control leakage in toll-collection systems could have a material, adverse effect on our business, prospects, financial condition and results of operations and our ability to make distributions. See "*Summary of the Concession Agreements*" on page 144.

19. *Our business will be subject to seasonal fluctuations that may affect our cash flows.*

Our cash flows will be affected by seasonal factors, which may materially and adversely affect traffic volumes. Traffic volumes tend to decrease during the monsoon season and conversely tend to increase during holiday seasons. The monsoon season may also restrict our ability to carry on activities related to our operation and maintenance of the Expanded Portfolio. This may result in delays in periodic maintenance and reduce productivity, thereby materially and adversely affecting our business, financial condition and results of operations.

20. *Changes in the policies adopted by governmental entities or in the relationships of any of the Trust, the*

Project SPVs and the Target SPV with the Government of India or state governments could materially and adversely affect our business, financial performance and results of operations.

The Project SPVs and the Target SPV derive almost all of their revenue from their respective concession agreements with the NHAI and must maintain good relationships with the NHAI, the Government of India and the various state governments. We expect that we will continue to depend on, and benefit from, policies relating to the terms of the concessions and other incentives that we will receive from governmental entities in respect of the Project SPVs' and the Target SPV's existing projects and any future projects. In addition, we benefit from, and depend on, the NHAI and various Government of India and state government entities in terms of policies, incentives, budgetary allocations and other resources provided by these entities for the roads industry in general. Any adverse change in any existing governmental policies, incentives, allocations or resources, or any change in our relationships with governmental entities, could materially and adversely affect our business, financial condition and results of operations. Also see "*Regulations and Policies*" on page 224. There can be no assurance that the Government of India will continue to focus on and promote toll-road projects on a build-operate-transfer basis.

Additionally, toll roads which involve public-private partnerships may be subject to delays, extensive internal processes, policy changes, changes due to local, national and internal political pressures and changes in governmental or external budgetary allocation and insufficiency of funds. Since governmental entities are responsible for awarding concessions and are a party to the development and operation of the awarded projects, our business will be directly and significantly dependent on their support. Any withdrawal of support or adverse changes in their policies, even if not quantifiable monetarily, may lead to the Project SPVs' and the Target SPV's concession agreements being restructured or renegotiated or the concession period being decreased, which could materially and adversely affect the Project SPVs' and the Target SPV's financing, capital expenditure, revenues, development or operations.

21. ***Certain provisions of the standard form of concession agreement may be non-negotiable or untested, and the concession agreements may contain certain restrictive terms and conditions which may be subject to varying interpretations.***

Our concession agreements were entered into with the NHAI and we have limited ability to negotiate the terms of these contracts. The concession agreements that we have entered into are based on a model concession agreement prescribed by the NHAI. For example, the toll fees under the concession agreements are fixed, subject to annual adjustments to account for inflation as specified in the concession agreements and the applicable rules issued by the NHAI. In addition, the operation and maintenance standards and specifications require the Project SPVs and the Target SPV to incur operation and maintenance costs on a regular and periodic basis. The model concession agreement prescribed by the NHAI also provides for a fixed term concession and, although all concession agreements provide for an extension or reduction of the concession period based on certain factors, including actual traffic volumes on the target date, the concession agreements do not provide for renewal of the concession agreement after the expiry of the term.

The form of the concession agreement has evolved within the last decade and there is limited guidance available on the interpretation of a number of provisions and conditions of such concession agreements. In addition, certain terms of the concession agreements, such as those related to an augmentation in the capacity of the toll roads, substitution of the NHAI in any or all of the project agreements, termination payments by the NHAI, construction of additional competing roads by the NHAI, the Government of India or state governments and payment of compensation by the NHAI for changes in law are untested. Accordingly, courts or regulators may consider a different interpretation of certain provisions and conditions in the concession agreements of the Project SPVs and the Target SPV, which may be adverse to us.

The concession agreements of the Project SPVs and the Target SPV also contain certain restrictive covenants. For instance, the concession agreements contain provisions that mandate substitution clauses in the project agreements. Such substitution clauses allow the NHAI to step into project agreements in place of a Project SPV or the Target SPV in the event of suspension or termination of the concession agreements due to a breach or default by such Project SPV or the Target SPV. The concession agreements also provide that the lenders to a Project SPV or the Target SPV may substitute the Project SPV or the Target SPV with new concessionaires approved by the NHAI in the event of a default by the Project SPV under the relevant concession agreement, financing agreements or other project agreements. Additionally, pursuant to a circular dated January 29, 2014 issued by the NHAI, the NHAI or lenders may substitute the Project SPV or the Target SPV in the event of a "financial default" by such Project SPV or the Target SPV, which includes situations in which the NHAI or lenders

have reason to believe that the Project SPV or the Target SPV is likely to face financial distress and is likely to default in its compliance with the terms of the relevant concession agreement.

The terms of the Project SPVs' and the Target SPV's concession agreements require the Project SPVs and the Target SPV to indemnify the NHAI for losses arising out of the design, engineering, construction, procurement, operation and maintenance of the toll road or arising out of breach of the obligations of the Project SPVs and the Target SPV under the concession agreements.

In the event the NHAI or a lender invokes any restrictive provision in the concession agreements or interprets any term or condition in an adverse manner, such invocation or interpretation may materially and adversely affect our business, financial condition and results of operations. For further details on the terms of the concession agreements, see "*Summary of the Concession Agreements*" on page 144.

22. *Certain actions of the Project SPVs and the Target SPV require the prior approval of the NHAI, and no assurance can be given that the NHAI will approve such actions in a timely manner or at all.*

Certain terms and conditions in the Project SPVs' and the Target SPV's concession agreements, financing agreements, and our other approvals require the NHAI's prior written approval to be obtained for one or more of the following actions, among others:

- amendment, modification or replacement by the Project SPV or the Target SPV of any project agreements (including financing agreements) relating to the operation of the Expanded Portfolio assets to which the Project SPV or the Target SPV is a party if the amendment, modification or replacement of such agreement increases or imposes any financial liability or obligation on the NHAI;
- the creation of any encumbrance or security interest over, or transfer of rights and benefits of the Project SPVs or the Target SPV under, the concession agreements or any project agreements; and
- the selection or replacement of any engineering, procurement and construction contract, operation and maintenance contractor and execution of the engineering, procurement and construction agreements and the operation and maintenance agreements.

Pursuant to a letter dated January 3, 2020, the NHAI has approved the establishment of the Trust and the transfer of the Project SPVs to the Trust subject to certain conditions, including, (i) submission of no-objection certificates from the lenders of all the Project SPVs; (ii) the concessionaire/developer complying with all the provisions of the concession agreements including holding 51% in the Trust until two years after the completion / provisional COD of the projects; (iii) the incoming investor complying with all relevant contractual obligations of the concession agreements; (iv) the proposal not having the effect of increasing any financial liability or obligation on the NHAI and not jeopardizing the interests of NHAI in any manner; and (v) an undertaking that all statutory compliances as required by SEBI guidelines will be adhered to.

The concession agreements of the Project SPVs and the Target SPV also require the submission to the NHAI, for its review and comments, all project agreements to which a Project SPV or the Target SPV is a party prior to entry, amendment or replacement of such agreements, even if such agreements do not affect the financial liability or obligations of the NHAI. As at the date of this Letter of Offer, we have submitted a draft of the PDTPL Project Implementation Agreement to the NHAI for its review. Subject to any comments from the NHAI, the agreement will be executed after the completion of this Issue.

The restrictions described above may impose constraints on our flexibility to conduct our business. Further, if as a result of these restrictions, we are unable to pursue a favorable course of action or to respond to an unfavorable event, condition or circumstance, then our business, financial condition and results of operations may be materially and adversely affected. For details on the terms of the concession agreements, see "*Summary of the Concession Agreements*" on page 144.

23. *We depend on certain directors, executive officers and key employees of the Investment Manager and the Project Manager, and such entities may be unable to retain such personnel or to replace them with similarly qualified personnel, which could have a material, adverse effect on the business, financial condition, results of operations and prospects of the Trust, the Project SPVs and the Target SPV.*

Our performance depends, in part, upon the continued service and performance of certain directors, executive officers and key employees of the Investment Manager and the Project Manager. The continued operations and growth of our business will be dependent upon the Investment Manager and the Project Manager being able to attract and retain

personnel who have the necessary and required experience and expertise. Competition for qualified personnel with relevant industry expertise in India is intense due to the scarcity of qualified individuals in the toll roads business, and the aforesaid entities may not be able to retain their executive officers and key employees or attract and retain fresh talent in the future. Any inability by the Investment Manager or the Project Manager to retain their respective directors, executive officers and key employees, or the inability to replace such individuals with similarly qualified personnel, could have a material, adverse effect on the business, financial condition, results of operations and prospects of the Trust, the Project SPVs and the Target SPV.

24. *There can be no assurance that we will be able to successfully undertake future acquisitions of road assets or efficiently manage the infrastructure road assets we have acquired or may acquire in the future.*

Our growth strategy in the future may involve strategic acquisitions of toll roads and other road assets, including pursuant to the Framework Agreement. Pursuant to the Framework Agreement, the Sponsor has agreed to certain arrangements in relation to submission of bids for (i) any new concession by the Sponsor and/or its affiliates involving the development or operation of roads and highways; or (ii) over any extensions of the concession period of road projects held by the Sponsor and/or its affiliates (other than the Project SPVs) with the Financial Investors. For details, see "*Related Party Transactions – Details of Related Party Transactions proposed to be undertaken*" and " – *The Sponsor, whose interests may be different from the other Unitholders, will be able to exercise significant influence over the Trust."* on pages 239 and 35, respectively. We may not be able to conclude appropriate or viable acquisitions in a timely manner. The success of our past acquisitions and any future acquisitions will depend upon several factors, including:

- our ability to finance and acquire operational toll roads and other road assets on a cost-effective basis;
- our ability to integrate acquired personnel, operations, products and technologies into our organization effectively;
- unanticipated problems or legal liabilities of the acquired businesses; and
- tax or accounting issues relating to the acquired businesses.

There can be no assurance that we will be able to achieve the strategic purpose of such acquisitions or operational integration or an acceptable return on such investments, which may materially and adversely affect our profits, financial condition and distributions.

Further, concession agreements for future road projects may also contain terms and conditions that are more restrictive than those under the current Project SPVs' concession agreements for the Initial Portfolio or the Target SPV's concession agreement. These restrictions may restrict our flexibility in managing our business or projects and could in turn materially and adversely affect our business prospects, financial condition and results of operations.

25. *The Project SPVs' and the Target SPV's concessions are illiquid in nature, which may make it difficult for us to realize, sell or dispose of our shareholding in the Project SPVs or the Target SPV.*

The Project SPVs' and the Target SPV's concessions are illiquid in nature, among other reasons, on account of market conditions, the residual periods of the concession agreements, various approvals, consents and confirmations required by the NHAI as per the concession agreements, and a scarcity of disposal options and/or potential acquirers. As a result, it may be difficult for us to realize, sell or dispose of our shareholding in the Project SPVs or the Target SPV at an attractive price, or at the appropriate time, or at all, and such illiquidity may have a material, adverse effect on our market value, business, prospects, financial condition and results of operations. Further, in addition to the restrictions on minimum holding period and divestment under the InvIT Regulations, we are required to comply with the provisions of the concession agreement including holding at least 51% of each of the Project SPVs and the Target SPV until two years after the completion of construction / provisional COD with respect to each of the Expanded Portfolio assets.

26. *Our insurance policies may not provide adequate protection against all possible risks associated with our operations.*

The Project SPVs' and the Target SPV's principal types of insurance coverage include standard fire and special perils insurance, contractor all-risk insurance and money insurance. However, there can be no assurance that all possible risks are adequately insured against or that we will be able to procure adequate insurance coverage at commercially reasonable rates in the future.

Further, the Expanded Portfolio is subject to various risks that we may not be insured against, adequately or at all, including:

- changes in governmental and regulatory policies;
- shortages of, or adverse price movement for, construction materials;
- design and engineering defects;
- breakdown, failure or substandard performance of the road assets and other equipment;
- improper installation or operation of the road assets and other equipment;
- labor disturbances;
- terrorism and acts of war;
- inclement weather and natural disasters;
- environmental hazards, including earthquakes, flooding, tsunamis and landslides; and
- adverse developments in the overall economic environment in India.

Further, we are subject to various risks in the operation of the Expanded Portfolio, including on account of accidents on the Expanded Portfolio assets. For further details, see "*Material Litigation and Regulatory Action*" on page 379. Our insurance may not provide adequate coverage in certain circumstances and is subject to certain deductibles, exclusions and limits on coverage. To the extent we suffer damage or loss which is not covered by insurance, or exceed our insurance coverage, such damage or loss would have to be borne by us. We can make no assurance that material losses in excess of insurance proceeds (if any at all) will not occur in the future, which could materially and adversely affect our financial condition, business and results of operations.

27. *The Project SPVs, the Target SPV, the Sponsor/Project Manager, the Investment Manager and the Trustee are involved in certain legal and other proceedings, which may not be decided in their favor.*

The Project SPVs, the Target SPV the Sponsor/Project Manager, the Investment Manager and the Trustee are involved in legal proceedings or claims which are pending at different levels of adjudication before various courts, tribunals and regulatory authorities. For details of certain material outstanding legal proceedings, see "*Material Litigation and Regulatory Action"* on page 379. There is no assurance that these legal proceedings and regulatory matters will be decided in favor of the respective entities. Decisions in any of the aforesaid proceedings adverse to our interests may have a material, adverse effect on our or their business, future financial performance and results of operations. If the courts, tribunals or regulatory authorities decide against the Project SPVs, the Target SPV, the Sponsor/Project Manager, the Investment Manager or the Trustee, we or such entities may face monetary and/or reputational losses and may have to make provisions in our financial statements, which could increase expenses and liabilities. While the Sponsor will provide certain indemnities under the relevant share purchase agreement in relation to the Project SPVs and the Target SPV, there can be no assurance that the relevant Project SPV, the Target SPV or the Trust will be able to successfully bring a claim against the Sponsor under the relevant share purchase agreements or that such indemnities will be adequate to satisfy all the losses, damages, costs and expenses suffered by the Trust, the Project SPVs and the Target SPV arising from such proceedings or the consequences thereof.

28. *We do not own the "IRB" trademark and logo. Our license to use the "IRB" trademark and logo may be terminated under certain circumstances and our ability to use the trademark and logo may be impaired.*

We do not own the "IRB" trademark and "IRB" logo, which are registered in the name of, and owned by, the Sponsor. However, pursuant to a separate name licensing agreement, as amended, the Sponsor has granted to the Trust, each of the Project SPVs, the Target SPV and the Investment Manager, the non-transferable and non-assignable right to use the IRB trademark as part of their respective corporate names, if applicable, as well as the IRB logo in connection with their respective businesses, on a non-exclusive basis. The license may be terminated under certain circumstances, including (i) if the Sponsor or any of its subsidiaries ceases to be the sponsor of the Trust for any reason whatsoever; or (ii) if the Sponsor or any of its subsidiaries ceases to hold at least 51% of the equity share capital of the Investment Manager, or an entity which is not a subsidiary of the Sponsor is appointed as the investment manager of the Trust. Upon the termination of any license, the Trust, the Project SPVs and the Target SPV will be required to cease the use of the IRB trademark and change its name to remove IRB from its name within three months from the date of termination, which may have a material, adverse effect on the operations of the Trust, the Project SPVs and the Target SPV and require management's time and attention.

29. *The Expanded Portfolio is concentrated in the infrastructure sector and toll-road industry in India, and our business could be adversely affected by an economic downturn in that sector or industry. The Project SPVs' and projects are geographically concentrated in Rajasthan and Maharashtra.*

The Initial Portfolio comprises nine toll roads in India. Upon completion of the PDTPL Acquisition, the portfolio of the Trust will also include PDTPL and its road asset. This concentration may expose us to the risk of economic downturns in the infrastructure sector and the toll-road industry to a greater extent than if our assets were more diversified across other industries in the infrastructure sector or other sectors of the economy.

As at the date of this Letter of Offer, four Initial Portfolio assets are located in or pass through Rajasthan. Additionally, two Initial Portfolio assets each are located in or pass through Maharashtra and Uttar Pradesh. Our business therefore will be significantly dependent on the general economic conditions, market conditions and natural disasters in the states in which we operate, in particular Rajasthan and Maharashtra. Any regional slowdown in economic activity in these areas resulting in a reduction in traffic on the Initial Portfolio assets could materially and adversely affect our business, financial condition and results of operations.

30. *Political and other agitations against the collection of tolls may affect our ability to collect tolls over prolonged periods, which could have a material, adverse effect on our business, results of operation and financial condition.*

Over the past few years, there have been agitations by political parties and local community members against the collection of tolls on local road and state highway projects across various states, including Maharashtra. These agitations have often turned violent and resulted in the destruction of toll-collection booths and other related property. If such events spread to the Project SPVs' or the Target SPV's projects, which are located on the national highways, it may limit our ability to collect tolls over a prolonged period and may have a material, adverse effect on our business, financial condition and results of operations. Further, the Project SPVs' and the Target SPV's concession agreements provide that in the event that the Project SPVs' or the Target SPV's ability to collect tolls is disrupted as a result of political and other agitations over a specified period, either party to the concession agreement may terminate the agreement. While the concession agreements provide for a specified payment mechanism in the case of such termination, there can be no assurance that the Project SPVs or the Target SPV will receive such payments from the NHAI in a timely manner or at all, or that such payments will be adequate to recover our investment or return, which may materially and adversely affect our business, financial condition and results of operations.

31. *We may be unable to renew or maintain the statutory and regulatory permits and approvals required to operate the Expanded Portfolio.*

The Project SPVs and the Target SPV are required to obtain and maintain certain permits, approvals, licenses, registrations and permissions under various regulations, guidelines, circulars and statutes regulated by various regulatory and governmental authorities for operating the Expanded Portfolio assets. For further details, see "*Government and Other Approvals*" on page 394. Under the Project Implementation Agreements, the Project Manager is responsible for the maintenance of such approvals. In relation to the obligations of the Project Manager under the Project Implementation Agreements, see *"The Sponsor and Project Manager – Functions, Duties and Responsibilities of the Project Manager*" on page 256. If the Project Manager, the Project SPVs, the Target SPV and/or the third-party contractor(s) fail to obtain or maintain them, or if there is any delay in obtaining or renewing them, our business, financial condition and results of operations could be materially and adversely affected. Further, these permits, approvals, licenses, registrations and permissions could be subject to several conditions, and we can make no assurance that we would be able to continuously meet such conditions or be able to prove compliance with such conditions to the statutory authorities. This could lead to the cancellation, revocation or suspension of relevant permits, licenses or approvals, which may result in the interruption of our operations and may materially and adversely affect our business, financial condition and results of operations.

32. *Compliance with, and changes in, safety, health and environmental laws and regulations in India may materially and adversely affect our business.*

Our business will be subject to environmental, health and safety laws and regulations and various labor, workplace and related laws and regulations in India and requirements under the concession agreements. For further details, see "*Regulations and Policies*" on page 224. Any changes in, or amendments to, these standards or laws and regulations could further regulate our business and could require us to incur additional, unanticipated expenses in order to comply with these changed standards. Under the Project Implementation Agreements, the Project Manager is responsible for the maintenance of such requirements and standards. In relation to the obligations of the Project Manager under the Project Implementation Agreements, see *"The Sponsor and Project Manager – Functions, Duties and Responsibilities of the Project Manager*" on page 256. If we fail to meet safety, health and environmental requirements, we may also be subject to administrative, civil and criminal proceedings by

governmental authorities, as well as civil proceedings by environmental groups and other individuals, which could result in substantial fines and penalties against us. Penalties imposed by regulatory authorities on us or third parties upon whom we depend may also disrupt our business and operations.

There can be no assurance that we will not become involved in future litigation or other proceedings or be held responsible in any such future litigation or proceedings relating to safety, health and environmental matters in the future. Clean-up and remediation costs, as well as damages, payment of fines or other penalties, other liabilities and related litigation, could materially and adversely affect our business, prospects, financial condition and results of operations.

33. *The Project SPVs' and the Target SPV's financing agreements entail interest at variable rates, and any increases in interest rates may adversely affect our results of operations, financial condition and cash flows.*

The Project SPVs and the Target SPV are susceptible to changes in interest rates and the risks arising therefrom. For details, see "*Financial Indebtedness*" on page 375. These financing agreements entail interest at variable rates with a provision for the periodic reset of interest rates. Currently, certain of the Project SPVs' and the Target SPV's borrowings are at floating rates of interest. Further, under the Project SPVs' and the Target SPV's financing agreements, the lenders are entitled to change the applicable rate of interest depending upon the policies of the RBI and in the event of an adverse change in the Project SPVs' or the Target SPV's credit risk rating. Any increase in interest rates may have an adverse effect on our results of operations, financial condition and cash flows.

34. *The Project SPVs and the Target SPV are subject to restrictive covenants under their financing agreements that could limit our flexibility in managing our business or to use cash or other assets.*

Various financing agreements that the Project SPVs and the Target SPV have entered into with certain banks and financial institutions contain certain restrictive covenants, including, but not limited to, requirements that they obtain consent from the lenders prior to:

- effecting any change in the nature or scope of the project or any change in the financing plan;
- effecting any change in capital structure (including shareholding pattern);
- raising any equity or preference share capital;
- making any capital expenditure other than permitted investments;
- making any dividend payments to the Trust or making any other restricted payments (including redemption of any shares of any class, prepayment in relation to any indebtedness, payment of interest on unsecured loans, investment in any entity) except as permitted under the financing agreements;
- creating of any security interest in any of the secured property;
- incurring any other indebtedness, including the issuance of debentures, other than permitted indebtedness;
- entering into any partnership, profit-sharing or royalty agreement;
- removing any person exercising substantial powers of management over the affairs of the Project SPVs or the Target SPV in case of an event of default;
- amending the constitutional documents of the Project SPVs or the Target SPV;
- undertaking of any new project or making of any investment or taking any assets on lease;
- providing guarantees, indemnities or similar assurances in respect of indebtedness of any other person, (other than in the ordinary course of business);
- repaying or prepaying any subordinated loan or loans brought in as equity taken by the Project SPVs or the Target SPV from the Sponsor;
- creating any subsidiary or permit the Project SPV or the Target SPV to become a subsidiary;
- undertaking or permitting any scheme of arrangement or compromise with its creditors or shareholders; and
- changing the management/management control or the composition of the board of directors of any Project SPV or the Target SPV.

For details, see "*Financial Indebtedness*" on page 375. In addition, these restrictive covenants may also affect some of the Trust's rights as the shareholder of the Project SPV/Target SPV and the Project SPV's/Target SPV's ability to pay dividends if it is in breach of its obligations under the applicable financing agreement.

In case of any shortfall in project receivables, the relevant Project SPV or the Target SPV may need to make good the shortfall from its own sources and/or arrange for the loan to be repaid through revenue shortfall loans

from the relevant concession authority. Such financing agreements also require us to maintain certain financial ratios. In the event of any breach of any covenant contained in these financing agreements, we may be required to immediately repay our borrowings either in whole or in part, together with any related costs. There can be no assurance that we will be able to secure consents from, and/or negotiate revised terms with, the lenders on terms favorable to the Trust or at all.

Further, the financing agreements also contain cross default provisions which could automatically trigger defaults under other financing agreements. Certain lenders are also entitled to accelerate the repayment of the loans at any time based on the lenders' assessment of the cash flows, subject to any approval required from the concessioning authority.

If the Project SPV or the Target SPV is suspended under the concession in relation to any default by such Project SPV or the Target SPV, at any time during such suspension, the senior lenders of each Project SPV and the Target SPV have the right to request the NHAI to substitute the concessionaire in accordance with the substitution agreement.

Any downgrading of the credit rating of the Project SPVs or the Target SPV by a credit rating agency or any adverse comment from the statutory auditors of such Project SPV, the Target SPV or the Trust may qualify as an event of default under the relevant financing agreements of the Project SPVs and the Target SPV. Certain financing agreements also provide the banks and financial institutions with the right to convert amounts due into equity in the event of default, with the approval of the relevant concessioning authority. Certain of these banks and financial institutions also have a right to appoint nominee directors under these financing agreements in the event of default. Pursuant to the provisions of certain loan facilities availed by us, the lenders are entitled to recall the loan at any time on demand or call notice, requiring the borrower to repay (either in full or in part) the amount outstanding on any particular day.

Any or all of the above restrictive covenants may restrict our ability to conduct business and any breach thereof may adversely affect our results of operations and financial condition.

35. *Shares of the Project SPVs and the Target SPV are pledged in favor of lenders, who may exercise their rights under the respective share pledge agreements in the event of default under relevant financing agreements.*

Shares of the Project SPVs and the Target SPV are pledged in favor of the lenders to such Project SPVs/Target SPV to secure loan facilities obtained by the Project SPVs/Target SPV. 51% of the equity share capital of each of the Project SPVs has been pledged in favor of their respective lenders and after the completion of the PDTPL Acquisition, not more than 51% of the equity share capital of the Target SPV is proposed to be pledged in favor of its lenders in accordance with the relevant financing documents.

If there are any defaults in payment or any breach under the relevant financing agreements, the lenders may exercise their right to enforce the security interest under the financing agreements, including by taking ownership of the pledged shares, selling the pledged shares to any third-party purchaser, and exercising voting rights in respect of the pledged shares on any matter at any meeting of the members of the relevant Project SPVs or the Target SPV. If any such event occurs, we may not be able to fully recognize revenue attributable to these Project SPVs or the Target SPV, if at all. In addition, if we lose ownership or control of any of our Project SPVs or the Target SPV, our business, results of operations and financial condition, and our ability to make distributions, would be adversely affected.

36. *We will enter into related-party transactions. There can be no assurance that we could not have achieved more favorable terms if such transactions had been entered into with third parties.*

The PDTPL Acquisition is a related party transaction. We will continue to enter into transactions with related parties, subject to and in accordance with the terms of the Framework Agreement. The procedure with respect to such related party transactions is subject to modification by law, which may have a material, adverse effect on the Trust. Further, there can be no assurance that we could not achieve more favorable terms had such transactions been entered into with unrelated parties. The transactions that we will enter into may involve conflicts of interest which may be detrimental to us. See "*Related Party Transactions*" on page 238. There can be no assurance that such transactions, individually or in the aggregate, will not have a material, adverse effect on our business, financial condition and results of operations, including because of potential conflicts of interest or otherwise.

Risks Related to the Trust's Relationships with the Sponsor and the Investment Manager

37. *The Sponsor, whose interests may be different from the other Unitholders, will be able to exercise significant influence over the Trust.*

After the completion of this Issue, the Sponsor will continue to own an aggregate of 51% of the issued and outstanding Units and will be entitled to vote as a Unitholder on all matters other than matters where it is a related party and not permitted to vote under the InvIT Regulations. Although the Investment Manager has a distinct board of directors, the Sponsor is nonetheless in a position to exercise significant influence in matters which require the approval of Unitholders by virtue of its ownership of Units in the Trust. The interests of the Sponsor may conflict with the interests of our other Unitholders and the Sponsor may, for business considerations or otherwise, seek to benefit itself instead of the Trust or the interests of the other Unitholders. The Sponsor also exercises significant influence over the Investment Manager.

We also rely on the Sponsor to comply with its obligations under the various transaction agreements to which it is a party, including the Framework Agreement and the PDTPL Share Subscription Agreement. Pursuant to the Framework Agreement, the Sponsor has agreed that prior to the submission of Bid for any Potential Project, it will consult the Financial Investors in good faith and make best efforts to bid for the Potential Project on behalf of the Trust on such terms as agreed between Sponsor and the Financial Investors. If the Sponsor and the Financial Investors are unable to reach an agreement in relation to the terms of the Bid within a reasonable period, the Sponsor will be free to submit a Bid as it deems fit for the Potential Project provided such Bid is not on terms and conditions less favorable than the terms and conditions proposed by the Financial Investors.

The Sponsor (together with its nominee shareholders) currently holds 100% of the equity share capital of PDTPL (the "**PDTPL IRB Shares**"). The Sponsor has represented that such shareholding constitutes shares that are mandatorily required to be held by the Sponsor as per the regulations, circulars and guidelines of the NHAI and PDTPL's concession agreement. Upon completion of the PDTPL Acquisition, the shareholding of the Sponsor (together with its nominee shareholders) in PDTPL will reduce to 0.04%. Under the PDTPL Share Subscription Agreement, the Sponsor is required to make an irrevocable invitation to offer to the Trust for the PDTPL IRB Shares within a period of six months from the completion of a period of two years after the completion of the construction period (as defined under the PDTPL's concession agreement) such period, the "**PDTPL IRB Shares Offer Period**"). The Trust also has the right to require the Sponsor to make an invitation to offer for the PDTPL IRB Shares at any time after the completion of a period of two years after the completion of the construction period. If the Sponsor does not make an invitation to offer to the Trust within the PDTPL IRB Shares Offer Period, upon the expiry of such period, the requirement for the Sponsor to make such offer will be automatically triggered.

In addition, as our Project Manager, we rely on the Sponsor to provide construction works for the Project SPVs and the Target SPV which are not yet completed and operation and maintenance services for the completed Project SPVs and the Target SPV. Pursuant to the Project Implementation Agreements, the Project SPVs (other than AETL, CGTL, KTL, SYTL, UTL and YATL) will continue to make payments to the Project Manager for the remaining engineering, procurement and construction works in relation to the relevant project on a monthly basis, or as otherwise agreed among the parties to the Project Implementation Agreements based on invoices raised by the Project Manager. Any such payment of fees will be in the nature of a related party transaction and the relevant approvals would be required under the InvIT Regulations. As at the date of this Letter of the Offer, the PDTPL Project Implementation Agreement has not been executed. For further information about the fees payable to the Project Manager, please see "*Background and Structure of the Trust – Fees and Expenses*" on page 102.

We also rely on the Sponsor's expertise in executing build-operate-transfer projects in case of any additional work which we may be required to carry out for any of the Project SPVs, the Target SPV or other assets. In the event that the Sponsor does not continue to focus on the infrastructure development sector or the toll-road industry, our business strategy, financial condition and results of operations may be materially and adversely impacted.

38. *The Sponsor is a listed company, operates other road assets and has sponsored another infrastructure investment trust ("Listed InvIT"), and anything that impacts the business, results of operations and trading price of the Sponsor's equity shares or the units of the Listed InvIT may have a material adverse effect on the Trust.*

The Sponsor has been listed on the Stock Exchanges since 2008. The Sponsor has also previously sponsored the Listed InvIT, which has been listed on the Stock Exchanges since 2017 and is also engaged in the toll-roads sector.

As of December 31, 2021, the Sponsor had eight road projects of which two were operational and six were under-construction or awaiting appointed date. The Listed InvIT currently has a portfolio of six toll-road projects. Because of our relationship with the Sponsor and its future toll-road assets, anything that impacts the business, results of operations and trading price of the Sponsor's equity shares or the Listed InvIT's units may have a material, adverse effect on the Trust.

39. ***The Investment Manager may not be able to implement its capital and risk management strategies.***

There is no assurance that the Investment Manager will be able to implement these strategies successfully or that it will be able to expand our portfolio at any specified rate or to any specified size or to maintain distributions at projected levels. The Investment Manager may not be able to make acquisitions or investments on favorable terms or within a desired time frame, and it may not be able to manage the operations of its underlying assets in a profitable manner. Factors that may affect this risk may include, but are not limited to, changes in the regulatory framework in India, competition for assets, partial award of concessions or licenses favoring local or other competitors of the Trust, changes in the Indian regulatory or legal environment or macro-economic conditions. If the Investment Manager is unable to implement these strategies successfully or expand our portfolio, we will nonetheless be required to pay the Investment Manager an annual management fee, which may be revised with the approval of the Unitholders such that the votes cast in favor of the resolution are not less than one-and-a-half times the votes against such resolution, in accordance with the terms of appointment of the Investment Manager.

Even if the Investment Manager is able to successfully grow the operating business of the underlying assets and to acquire toll roads and other eligible infrastructure projects in India, there can be no assurance that the Investment Manager will achieve any returns on such acquisitions or capital investments.

40. ***Parties to the Trust are required to maintain the eligibility conditions specified under Regulation 4 of the InvIT Regulations on an ongoing basis. The Trust may not be able to ensure such ongoing compliance by the Sponsor/Project Manager, the Investment Manager and the Trustee, which could result in the cancellation of the registration of the Trust.***

Parties to the Trust are required to maintain the eligibility conditions specified under Regulation 4 of the InvIT Regulations on an ongoing basis. These eligibility conditions include, among other things, that (a) the Sponsor, Investment Manager and Trustee are separate entities, (b) the Sponsor has a net worth of not less than ₹1,000 million and has a sound track record in the development of infrastructure or fund management in the infrastructure sector, (c) the Investment Manager has a net worth of not less than ₹100 million and has not less than five years' experience in fund management or advisory services or development in the infrastructure sector or the combined experience of the directors/partners/employees of the investment manager in fund management or advisory services or development in the infrastructure sector is not less than 30 years (provided that for computing the combined experience, only the experience of the directors/partners/employees with more than five years of experience in fund management or advisory services or development in the infrastructure sector shall be considered), (d) the Trustee is registered with the SEBI under Securities and Exchange Board of India (Debenture Trustees) Regulations, 1993 and is not an associate of the Sponsor or Investment Manager and (e) each of the Sponsor/Project Manager, the Investment Manager and the Trustee are "fit and proper persons" as defined under Schedule II of the Intermediaries Regulations on an ongoing basis. The Trust may not be able to ensure such ongoing compliance by the Sponsor/Project Manager, the Investment Manager and the Trustee, which could result in the cancellation of the registration of the Trust.

41. ***The Investment Manager is required to comply with certain ongoing reporting and management obligations in relation to the Trust. There can be no assurance that the Investment Manager will be able to comply with such requirements.***

The Investment Manager is required to comply with certain ongoing reporting and management obligations in relation to the Trust in accordance with the InvIT Regulations. These requirements include, among other things, (a) making investment decisions with respect to the underlying assets or projects of the Trust, (b) overseeing the activities of the Project Manager, (c) investing and declaring distributions in accordance with the InvIT Regulations, (d) submitting reports to the Trustee and (e) ensuring the audit of the Trust's accounts. There can be no assurance that the Investment Manager will be able to comply with such requirements in a timely manner or at all, which could subject the Investment Manager, the other parties to the Trust, the Trust or any person involved in the activity of the Trust to applicable penalties under the InvIT Regulations, the Intermediaries Regulations and/or the SEBI Act. Any such failure to comply or the imposition of any penalty could have a material adverse effect on our business, financial condition and results of operations. Under the InvIT Regulations, the SEBI also

has the right to inspect documents, accounts and records relating to the activity of the Trust, the SPVs or Parties to the InvIT and may issue directions in the nature of, *inter-alia*, (i) requiring the Trust to surrender its certificate of registration; (ii) requiring the Trust to wind-up; (iii) requiring the Trust to sell its assets; (iv) requiring the Trust or Parties to the Trust to take such action as may be in the interest of investors; or (v) prohibiting the Trust or Parties to the Trust from operating in the capital markets or from accessing the capital markets for a specified period.

Risks Related to India

42. *Changing laws, rules and regulations, including changes in legislation or the rules relating to tax regimes, legal uncertainties and the political situation in India may materially and adversely affect our business, financial condition and results of operations.*

Our business, financial condition and results of operations could be materially and adversely affected by any change in laws or interpretations of existing, or the promulgation of new, laws, rules and regulations applicable to us and our business. There can be no assurance that the Government of India or the state governments will not implement new regulations and policies which will require the Trust, the Project SPVs or the Target SPV to obtain additional approvals and licenses from governmental and other regulatory bodies or impose onerous requirements and conditions on our operations.

Tax laws and regulations are subject to differing interpretations by tax authorities. Differing interpretations of tax and other fiscal laws and regulations may exist within governmental ministries, including tax administrations and appellate authorities, thus creating uncertainty and potential unexpected results. The degree of uncertainty in tax laws and regulations, combined with significant penalties for default and a risk of aggressive action, including by retrospective legislation, by the governmental or tax authorities, may result in tax risks in the jurisdictions in which we operate being significantly higher than expected. These events may result in a material, adverse effect on our business, financial condition, results of operations and prospects. Tax authorities in India may also introduce additional or new regulations applicable to our business which could adversely affect our business and profitability.

The Government of India has implemented two major reforms in Indian tax laws, namely the goods and services tax and provisions relating to General Anti-Avoidance Rules. Given the relatively recent implementation of these laws, the manner of implementation of these tax regimes could create uncertainty.

The right to own property in India is subject to restrictions that may be imposed by the Government of India. In particular, the Government of India under the provisions of the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 ("**Land Acquisition Act**") has the right to compulsorily acquire any land if such acquisition is for a "public purpose," after providing compensation to the owner. However, the compensation paid pursuant to such acquisition may not be adequate to compensate the owner for the loss of such property. The likelihood of such acquisitions may increase as central and state governments seek to acquire land for the development of infrastructure projects such as roads, railways, airports and townships. While the NHAI or the relevant concessioning authority is responsible for the acquisition of the land underlying the toll-road infrastructure projects, any delays or disputes relating to such acquisition could lead to delays and disruptions in the execution of our projects, which would have a material adverse effect on our business, financial condition and results of operations.

The Competition Act, 2002, as amended (the "**Competition Act**"), regulates practices having an appreciable adverse effect on competition in the relevant market in India. The Competition Act aims to, among other things, prohibit all agreements and transactions which may have an appreciable adverse effect on competition in India. Further, the CCI has extra-territorial powers and can investigate any agreements, abusive conduct or combination occurring outside India if such agreement, conduct or combination has an appreciable adverse effect on competition in India. In the event that that any of the assets proposed to be acquired by us in the future cross the prescribed thresholds, we cannot assure you that we will receive the necessary approvals from the CCI to consummate such transactions. Any prohibition or substantial penalties levied under the Competition Act could materially and adversely affect our financial condition and results of operations. Any adverse impact on our financial condition or operations due to the Competition Act may have a material adverse impact on our business, financial condition, results of operations and prospects and our ability to make distributions to the Unitholders.

43. *Significant increases in the price or shortages in the supply of crude oil and products derived therefrom, including petrol and diesel fuel, could materially and adversely affect the volume of traffic at the projects operated by the Project SPVs and the Target SPV and the Indian economy in general, including the*

infrastructure sector.

India imports a significant majority of its requirements of crude oil. Crude oil prices are volatile and are subject to a number of factors, including the level of global production and political factors, such as war and other conflicts, particularly in the Middle East, where a substantial proportion of the world's oil reserves are located. The ongoing Russia-Ukraine conflict has caused a significant increase and volatility in the price of crude oil and impacted fuel prices in India. Further increases in the price of or shortages in the supply of crude oil could materially and adversely affect the volume of traffic at the projects operated by the Project SPVs and the Target SPV and materially and adversely affect the Indian economy in general, including the infrastructure sector, which could have a material, adverse effect on our business, financial condition and results of operations.

44. ***Our business is dependent on economic growth in India and financial stability in Indian markets, and any slowdown in the Indian economy or in Indian financial markets could have a material adverse effect on our business.***

The Trust is registered in India, and all of our assets are located in India. As a result, we are highly dependent on the prevailing economic conditions in India and our results of operations are significantly affected by factors influencing the Indian economy. Factors that may adversely affect the Indian economy, and hence our results of operations, may include:

- any increase in interest rates or inflation in India;
- any exchange rate fluctuations;
- any scarcity of credit or other financing in India;
- prevailing income, consumption and saving conditions among consumers and corporations in India;
- changes in India's tax, trade, fiscal or monetary policies;
- political instability, terrorism or military conflict in India or in countries in the region or globally, including in India's various neighboring countries;
- the occurrence of natural or man-made disasters, pandemics or epidemics;
- prevailing regional or global economic conditions;
- the balance of trade movements, including export demand and movements in key imports, including oil and oil products; annual rainfall which affects agricultural production;
- civil unrest, riots, protests, acts of violence, terrorist attacks, regional conflicts or situations or war involving India or other countries could materially and adversely affect the financial markets, which could impact our business; and
- other significant regulatory or economic developments in or affecting India or its infrastructure sector.

Any slowdown or perceived slowdown in the Indian economy, or in specific sectors of the Indian economy, could have a material, adverse effect on our business, financial condition and results of operations and the price of the Units.

Further, the Indian economy and Indian financial market are influenced by economic and market conditions in other countries, particularly in emerging market in Asian countries. Financial turmoil in Asia, Europe, the United States and elsewhere in the world in recent years, as well as the ongoing Russia-Ukraine conflict, has affected the Indian economy. Although economic conditions are different in each country, investors' reactions to developments in one country can have a material, adverse effect on the securities of companies in other countries, including India. A loss in investor confidence in the financial systems of other emerging markets may cause increased volatility in Indian financial markets and, indirectly, in the Indian economy in general. Any global financial instability, including any instability related to current relation between the United States and China, could also have a negative impact on the Indian economy. Financial disruptions may occur again and could harm our results of operations and financial condition.

45. ***Any downgrading of India's sovereign debt rating by a domestic or international rating agency could materially and adversely affect our ability to obtain financing and, in turn, our business and financial performance.***

India's sovereign debt rating could be downgraded due to various factors, including changes in tax or fiscal policy or a decline in India's foreign exchange reserves, which are outside of our control. Any adverse revisions to India's credit ratings for domestic and international debt by domestic or international rating agencies may materially and adversely impact our ability to raise additional financing, and the interest rates and other commercial terms at which any such additional financing is available. This could have a material, adverse effect on our business and financial performance,

ability to obtain financing for capital expenditures and the price of the Units.

46. ***Fluctuations in the exchange rate of the Indian Rupee with respect to the U.S. Dollar or other currencies will affect the foreign currency equivalent of the value of the Units and any distributions.***

Fluctuations in the exchange rates between the Indian Rupee and other currencies will affect the foreign currency equivalent of the Indian Rupee price of the Units. Such fluctuations will also affect the amount that holders of the Units will receive in foreign currency upon conversion of any cash distributions or other distributions paid in Indian Rupees by us on the Units, and any proceeds paid in Indian Rupees from any sale of the Units.

Risks Related to Ownership of the Units

47. ***It may not be possible for Unitholders to enforce foreign judgements.***

The Trustee, the Investment Manager and the Sponsor are incorporated in India and the Trust is settled and registered in India. All of our assets are located in India and we may, from time to time, invest in toll roads in India. Where investors wish to enforce foreign judgements in India, where our assets are or will be located, they may face difficulties in enforcing such judgements. India is not a party to any international treaty in relation to the recognition or enforcement of foreign judgements. India exercises reciprocal recognition and enforcement of judgements in civil and commercial matters with a limited number of jurisdictions, including Singapore. In order to be enforceable, a judgement obtained in a jurisdiction which India recognizes as a reciprocating territory must meet certain requirements of the Code of Civil Procedure, 1908 ("**Civil Code**"). Further, the Civil Code only permits enforcement of monetary decrees not being in the nature of any amounts payable in respect of taxes, or other charges of a like nature or in respect of a fine or other penalty and does not provide for the enforcement of arbitration awards even if such awards are enforceable as a decree or judgement. Judgements or decrees from jurisdictions not recognized as a reciprocating territory by India cannot be enforced or executed in India except through a fresh suit upon judgement. Even if we or a Unitholder were to obtain a judgement in such a jurisdiction, we or it would be required to institute a fresh suit upon the judgement and would not be able to enforce such judgement by proceedings in execution. In addition, the party which has obtained such judgement must institute the new proceedings within three years of obtaining the judgement. It is unlikely that an Indian court would award damages on the same basis or to the same extent as was awarded in a judgement rendered by a foreign court if the Indian court believed that the amount of damages awarded was excessive or inconsistent with public policy in India. In addition, any person seeking to enforce a foreign judgement in India is required to obtain prior approval of the RBI to repatriate outside India any amount recovered pursuant to the execution of the judgement.

Consequently, it may not be possible to enforce in an Indian court any judgement obtained in a foreign court, or effect service of process outside of India, against Indian companies, their directors and executive officers, and any other parties resident in India. Additionally, there is no assurance that a suit brought in an Indian court in relation to a foreign judgement will be disposed of in a timely manner.

48. ***The Trust may be dissolved, and the proceeds from the dissolution thereof may be less than the amount invested by the Unitholders.***

The Trust is an irrevocable trust registered under the Registration Act and it may only be extinguished, dissolved and terminated in accordance with the InvIT Regulations and other applicable law. Under the Indenture of Trust, in the event of dissolution, the net assets of the Trust, remaining after settlement of all liabilities, and the retention of any reserves which the Trustee deems to be necessary to discharge contingent or unforeseen liabilities, shall be paid to the Unitholders. Should the Trust be dissolved, depending on the circumstances and the terms upon which assets of the Trust are disposed of, there is no assurance that a Unitholder will recover all or any part of its investment. There may also be uncertainty around the interpretation and implementation of certain provisions in relation to the insolvency of a trust under the Insolvency and Bankruptcy Code, 2016.

49. ***The reporting requirements and other obligations of infrastructure investment trusts are still evolving. Accordingly, the level of ongoing disclosures made to and the protection granted to Unitholders may be more limited than those made to or available to the shareholders of a company in India.***

The InvIT Regulations, along with the guidelines and circulars issued by the SEBI from time to time, govern the affairs of infrastructure investment trusts in India. However, as compared to the statutory and regulatory framework governing companies in India, the regulatory framework applicable to infrastructure investment trusts is relatively new and thus, still evolving. The SEBI introduced a framework for unlisted InvITs pursuant to

amendments to the InvIT Regulations issued in April 2019. Unlisted InvITs may also list their units subject to compliance with the requirements under the InvIT Regulations and the conditions specified by the SEBI.

Accordingly, the ongoing disclosures made to Unitholders under the InvIT Regulations may differ from those made to the shareholders of a company in accordance with the Companies Act. Further, the rights of the Unitholders may not be as extensive as the rights of the shareholders of a company and accordingly, the protection available to the Unitholders may be more limited than those available to such shareholders.

50. ***The price of the Units may decline after this Issue.***

The Issue Price determined by the Investment Manager may not be indicative of the price of the Units upon completion of this Issue. If the price of the Units declines significantly, Eligible Unitholders may be unable to resell their Units at or above their purchase price, if at all. There can be no assurance that the price of the Units will not fluctuate or decline significantly in the future. The price and value of the Units will depend on many factors, including, among others:

- the perceived prospects of our business and investments and the market for toll roads and other infrastructure projects;
- differences between our actual financial and operating results and those expected by investors and analysts;
- the perceived prospects of future toll roads and other infrastructure projects that may be added to our portfolio in accordance with our investment mandate;
- changes in general economic or market conditions;
- the market value of our assets;
- the perceived attractiveness of the Units against those of other business trusts, equity or debt securities;
- the balance of buyers and sellers of the Units;
- the size and liquidity of the Indian business trusts market;
- any changes to the regulatory system, including the tax system, both generally and specifically in relation to India business trusts;
- the ability of the Investment Manager to implement successfully its investment and growth strategies;
- foreign exchange rates;
- variations in our quarterly operating results;
- additions or departures of key management personnel of the Investment Manager and/or the Project SPVs;
- changes in the amounts of our distributions, if any, and changes in the distribution payment policy or failure to execute the existing distribution policy;
- actions by Unitholders;
- changes in market valuations of similar business entities or companies;
- announcements by us or our competitors of significant contracts, acquisitions, disposals, strategic partnerships, joint ventures or capital commitments;
- speculation in the press or investment community; and
- changes or proposed changes in laws or regulations affecting the road industry and infrastructure development in India or enforcement of these laws and regulations, or announcements relating to these matters.

To the extent that we retain operating cash flow for investment purposes, working capital reserves or other purposes, these retained funds, while increasing the value of our underlying assets, may not correspondingly increase the price of the Units. Our performance with regard to future earnings and distributions may materially and adversely affect the market price of the Units. In addition, Unitholders who do not, or are not able to, participate in a new issuance of Units may experience a dilution of their interest in the Trust. The Units are not capital-safe products and there is no guarantee that Unitholders can regain the amount invested, in full or in part. If the Trust is extinguished, it is possible that investors may lose a part or all of their investment in the Units.

51. ***Any future issuance of Units by us or sales of Units by the Sponsor or any of other significant Unitholders may dilute your Unitholding.***

Any future issuance of Units by us could dilute investors' holdings of Units. Any such future issuance of Units could impact our ability to raise capital through an offering of our securities. There can be no assurance that we will not issue further Units. Upon completion of this Issue, assuming full subscription in the Issue, 448,531,541 Units (constituting 51% of the total number of Units on a post-Issue basis, assuming full subscription in the Issue) are expected be held by the Sponsor. While the Sponsor has agreed to certain *inter-se* arrangements in relation to

the sale of its Unitholding with the Financial Investors and pre-emptive rights in case of any further issue of Units, if the Sponsor (pursuant to any applicable waivers), directly or indirectly, sells or is perceived as intending to sell a substantial number of its Units, the price for the Units could be materially and adversely affected. These sales may also make it more difficult for us to raise capital through the issue of new units at a time and at a price we deem appropriate. We cannot assure you that the Unitholders, including the Sponsor (subject to the terms of the Framework Agreement), and other significant Unitholders, will not dispose of, pledge or otherwise encumber their Units. For details of the *inter-se* arrangements, see "*Background and Structure of the Trust – Certain Agreements in relation to the Trust – Framework Agreement*" and "*Rights of Unitholders*" on pages 92 and 249, respectively.

52. *Our rights and the rights of the Unitholders to recover claims against the Investment Manager or the Trustee are limited.*

Under the Investment Management Agreement, the Investment Manager is not liable for, among other things, any action for any investment decision taken in respect of the Trust, other than for fraud, gross negligence, or wilful misconduct on the part of the Investment Manager.

Pursuant to the Indenture of Trust, the Trustee is not liable for anything done or omitted to be done or suffered by the Trustee in good faith. Further, the Trustee is not liable for any action or omission that results in any depletion in the value of the trust fund and consequent losses of the Unitholder, except in situations where such depletion is a result of the gross negligence, fraud or wilful default on the part of the Trustee, or a violation of the Investment Management Agreement, as determined by a court of competent jurisdiction whose decision is final and non-appealable. Any costs and expenses incurred by the Trustee in connection with any legal proceedings, in relation to the Trust, shall be incurred by the Trustee from the Trust Assets.

The Investment Management Agreement provides that the Investment Manager is entitled to be indemnified out of the Trust Assets against all taxes and other liabilities, claims, costs, losses, damages and expenses (including reasonable attorney's fees and costs) ("**Losses**") incurred in connection with the Trust, unless arising out of fraud, gross negligence or wilful misconduct. As a result, the Trust's rights and the rights of the Unitholders to recover claims against the Investment Manager are limited. Further, recourse to the Trustee may be limited under the Indenture of Trust. The Indenture of Trust provides for the indemnification of the Trustee for all Losses, except Losses incurred due to any fraud, gross negligence or wilful misconduct, or material breach of the provisions of the Investment Management Agreement, or the provisions of the other Trust Documents, as finally determined by a court of competent jurisdiction.

53. *Information and the other rights of Unitholders under Indian law may differ from such rights available to equity shareholders of an Indian company or under the laws of other jurisdictions.*

The Indenture of Trust and various provisions of Indian law govern our corporate affairs. Legal principles relating to these matters and the validity of corporate procedures, fiduciary duties and liabilities, and Unitholders' rights may differ from those that would apply to a company in India or a trust in another jurisdiction. Unitholders' rights and disclosure standards under Indian law may also differ from the laws of other countries or jurisdictions. Also see "*Rights of Unitholders*" on page 249.

SECTION III – INTRODUCTION

SUMMARY FINANCIAL INFORMATION

The following tables set forth the summary financial information derived from:

a) the Special Purpose Consolidated / Combined Financial Information, prepared in accordance with the requirements of the InvIT Regulations and Ind AS, as of and for the nine-month periods ended December 31, 2021 and December 31, 2020 and the Financial Years ended March 31, 2021, March 31, 2020 and March 31, 2019;

b) the audited financial statements of PDTPL as at and for the period from April 15, 2021 to December 31, 2021, prepared in accordance with Ind AS and the Companies Act;

c) the consolidated financial statements of the Sponsor, prepared in accordance with Ind AS and the Companies Act, as of and for the Financial Years ended March 31, 2021, March 31, 2020 and March 31, 2019; and

d) the standalone financial statements of the Investment Manager, prepared in accordance with Ind AS and the Companies Act, as of and for the Financial Years ended March 31, 2021, March 31, 2020 and March 31, 2019.

The degree to which the summary financial information included herein below will provide meaningful information is entirely dependent on the reader's level of familiarity with Indian accounting practices, Ind AS, the Companies Act and the InvIT Regulations. Accordingly, any reliance by persons not familiar with Indian accounting practices, Ind AS, the Companies Act and the InvIT Regulations on the summary financial information presented below should be limited.

The summary financial information derived from the Special Purpose Consolidated / Combined Financial Information, as presented herein below, should be read in conjunction with the Special Purpose Consolidated / Combined Financial Information, the notes thereto and the sections "*Financial Statements*" and "*Management's Discussion and Analysis of Financial Condition and Results of Operations*" on pages 271 and 355, respectively.

The Project SPVs were transferred to the Trust on February 25, 2020 by the Sponsor pursuant to the Formation Transactions undertaken as part of the initial offer through private placement of Units. The effective date for consolidation was March 1, 2020. In the Special Purpose Consolidated / Combined Financial Information, consolidated financial information has been included for the nine-month periods ended December 31, 2021 and December 31, 2020 and the Financial Year 2021. The financial information for Financial Year 2020 includes consolidated financial information for the one-month period ended March 31, 2020 and combined financial information for the 11 month period from April 1, 2019 to February 29, 2020 and is shown as a single period for purposes of presentation and convenience only. Combined financial information has been included for the Financial Year 2019. The combined financial information has been prepared as if the Trust structure was in place and 100% interest of the Project SPVs was part of the Trust since April 1, 2018.

A. Summary Special Purpose Consolidated / Combined Financial Information

I. *Special Purpose Consolidated / Combined Balance Sheet as at December 31, 2021, March 31, 2021, March 31, 2020 and March 31, 2019*

(₹ in million)

	As at December 31, 2021	As at March 31, 2021	As at March 31, 2020	As at March 31, 2019
ASSETS				
Non-current assets				
Property, Plant and Equipment	9.28	10.60	13.18	10.9
Goodwill	604.54	604.54	604.54	-
Other Intangible assets	2,18,700.35	2,11,717.65	1,99,478.98	1,35,725.68
Intangible assets under development	4,716.06	4,684.26	13,853.63	34,156.49
Financial assets				
i) Investments		-	-	-
ii) Loans	-	-	-	-
iii) Others	2.74	3.28	1.06	99.39
Other non-current assets		0.14	-	679.32
Deferred tax assets (net)	86.82	-	-	-
	2,24,119.79	**2,17,020.47**	**2,13,951.39**	**1,70,671.78**
Current assets				
Inventories			-	27.86
Financial assets				
i) Investments	416.37	572.5	-	184.38
ii) Trade receivables	22.17	100.24	352.12	14.02
iii) Cash and cash equivalents	493.08	413.49	189.7	325.82
iv) Bank balance other than (iii) above	2,221.65	1,744.35	1,576.40	1,450.03
v) Loans	-			3.96
vi) Others	1,594.50	635.99	400.26	293.38
Current tax assets (net)	110.69	147.11	207.9	137.67
Other current assets	2,248.03	2,166.40	3,399.05	5,942.90
	7,106.49	**5,780.08**	**6,125.43**	**8,380.02**
	-			
Total assets	**231,226.28**	**222,800.55**	**220,076.82**	**179,051.80**

	As at December 31, 2021	As at March 31, 2021	As at March 31, 2020	As at March 31, 2019
EQUITY AND LIABILITIES				
Equity				
Equity share capital	85,504.33	81,688.00	76,582.50	15,636.69
Share application money		-	-	-
Subordinate debt		-	-	25,969.07
Other equity				
Other reserves	-	-	-	
	6,923.51	3,669.05	312.75	1,548.37
Total Equity	**78,580.82**	**78,018.95**	**76,269.75**	**43,154.13**
Non-controlling interests				
	78,580.82	**78,018.95**	**76,269.75**	**43,154.13**
Non-current liabilities				
Financial liabilities				
i) Borrowings	92,702.60	89,161.31	77,374.13	90,849.96
ii) Other financial liabilities	25,251.30	24,720.81	35,070.78	2,084.34
iii) Trade payables	5,327.53	2,463.41		
Provisions	1,078.76	357.84	64.96	9.46
Deferred tax liabilities (net)	-	424.33	395.71	295.91
Other non-current liabilities	-	-	-	-
	1,24,360.19	**1,17,127.70**	**1,12,905.58**	**93,239.67**
Current liabilities				
Financial liabilities				
i) Borrowings	4,614.73	4,784.87	326.78	7,155.21
ii) Trade payables				
a) total outstanding dues of micro enterprises and small enterprises	18.34	13.18	14.36	-
b) total outstanding dues of creditors other than micro enterprises and small enterprises	10,585.91	2,547.07	2,731.74	8,529.24
iii) Other financial liabilities	12,999.27	20,198.86	27,666.07	26,854.20
Other current liabilities	67.03	109.78	162.54	107.41
Provisions	-	-	-	1.42

Current tax liabilities (net)	-	0.14	-	10.52
	28,285.27	**27,653.90**	**30,901.49**	**42,658.00**
Total liabilities	**152,645.46**	**144,781.60**	**143,807.07**	**135,897.67**
Total equity and liabilities	**231,226.28**	**222,800.55**	**220,076.82**	**179,051.80**

II. *Special Purpose Consolidated / Combined Statement of Profit and Loss for the nine-month periods ended December 31, 2021 and December 30, 2020 and the Financial Years 2021, 2020 and 2019*

(₹ in million)

Particulars	For the period December 31, 2021	For the period December 31, 2020	For the year ended March 31, 2021	For the year ended March 31, 2020	For the year ended March 31, 2019
Income					
Revenue from operations	9,439.09	7,410.55	10,361.51	11,649.12	7,886.81
Other income	70.72	98.48	112.71	180.55	156.65
Total income	**9,509.81**	**7,509.03**	**10,474.22**	**11,829.67**	**8,043.46**
Expenses					
Cost of material consumed	-	0.50	-	46.44	-
Road work and site expenses	3,035.23	2,955.50	3983.41	4,211.94	1,756.86
Employee benefits expenses	-	-	-	236.12	207.12
Depreciation and amortisation expenses	1,167.18	871.97	1255.69	1,753.97	1,099.83
Finance costs	7,069.59	6,149.47	8,228.17	7,620.92	3,898.60
Investment Manager Fees	30.570045	24.727418	46.254986	26.92	-
Other expenses	1969.21	139.64	138.32	158.72	122.46
Total expenses	**13,271.78**	**10,141.81**	**13,651.84**	**14,055.03**	**7,084.87**
Profit/(loss) before tax	**-3,761.97**	**-2,632.78**	**-3,177.62**	**-2,225.36**	**958.59**
Tax expenses					
Current tax	0.38	0.39	46.20	141.61	527.45
Deferred tax	-511.15	49.59	28.66	99.75	179.89
Total tax expenses	**-510.77**	**49.98**	**74.86**	**241.36**	**707.34**

Profit/(loss) after tax	**-3,251.20**	**-2,682.76**	**-3,252.48**	**-2,466.72**	**251.25**
Other comprehensive income					
Item that will not be reclassified to profit or loss:					
(a) Re-measurement (loss)/gain on defined benefit plans (net of taxes)	-	-	-	1.07	-1.84
Other comprehensive (loss) for the year/ period, net of tax	**-**	**-**	**-**	**1.07**	**-1.84**
Total comprehensive income for the year/period	**-3,251.20**	**-2,682.76**	**-3,252.48**	**-2,465.65**	**249.41**

III. ***Special Purpose Consolidated / Combined Cash flows Statement for the nine-month period ended December 31, 2021 and the Financial Years 2021, 2020 and 2019***

(₹ in million)

Particulars	For the period ended December 31, 2021	For the year ended March 31, 2021	For the year ended March 31, 2020	For the year ended March 31, 2019
Cash flow from operating activities				
Profit/(loss) before tax	(3,761.97)	(3,177.62)	(2,225.36)	958.59
Pre-incorporation profit		-	604.54	-
Adjustment to reconcile profit before tax to net cash flows:				
Depreciation and amortisation	1,167.18	1,255.69	1,753.97	1,099.83
Resurfacing expenses	720.92	292.88	64.96	-
Fair value gain on mutual funds	0.54	(1.43)	0.01	(0.04)
Net (gain) on sale of current Investment	(9.15)	(13.08)	(34.11)	(81.95)
Finance costs	7,069.59	8,228.17	7,620.92	1,715.15
Interest income	(58.67)	(82.04)	(115.64)	-
Other non operative income	(3.44)	(13.28)	(30.81)	(0.32)
Gain/(loss) on fair value measurement of other payable	1,764.21	(2.86)	-	-
Operating profit before working capital changes	**6,889.21**	**6,486.41**	**7,638.48**	**3,691.27**
Movement in working capital:				
Increase/ (decrease) in trade payables	10,908.12	2,277.55	(5,783.13)	1,948.03
Increase/ (decrease) in provisions	-	-	(9.81)	1.30
Increase/ (decrease) in other financial liabilities	298.76	(2,516.37)	35,726.21	(83.40)
(Decrease)/ increase in other liabilities	(42.75)	(52.75)	55.12	(25.64)
Decrease / (increase) in trade receivables	78.07	251.88	(338.10)	17.49
Decrease / (increase) in inventories	-	-	27.86	(27.86)
Increase in loans		(4.53)	4.78	(3.76)
(Increase) / decrease in other financial assets	(977.48)	(213.15)	(42.77)	47.49
(Increase) / decrease in other assets	(81.47)	1,232.51	3,006.77	6,623.09
Cash generated from operations	**(17,072.45)**	**7,461.55**	**40,285.40**	**12,188.01**
Taxes paid (net)	35.90	14.70	(222.33)	(591.86)

Net cash flows generated from operating activities	**17,108.35**	**7,476.25**	**40,063.07**	**11,596.15**
Cash flows from investing activities				
Purchase of property, plant and equipment including CWIP, intangible assets including intangible assets under development and capital advances	(16,912.44)	(18,933.90)	(48,328.12)	(40,819.27)
Proceeds/ redemption from sale of non-current investments*		-	-	477.23
Proceeds from sale/ (purchase) of current investments (net)	164.74	(557.99)	218.48	1,003.24
Investments in bank deposits (having original maturity of more than three months) (net)	(477.30)	(167.95)	(126.37)	(1,450.03)
Interest received	81.61	75.08	179.84	(60.35)
Dividend received		-	-	-
Net cash flows (used in) investing activities	**(17,143.39)**	**(19,584.76)**	**(48,056.17)**	**(40,849.18)**
Cash flows from financing activities				
Proceeds from non-current borrowings	3,443.19	9,204.86	17,032.83	26,372.50
Repayment of non-current borrowings		(39.62)	(30,035.08)	(56.02)
Proceeds/ (Repayment) of current borrowings (net)	(130.83)	4,155.57	(7,085.60)	(2,448.94)
Issue of equity share capital	3,816.33	5,105.50	60,945.81	2,139.30
Unit issue expenses	(3.26)	(103.82)	-	-
Issue of sub-ordinate debt	-	-	(25,969.07)	4,229.05
Finance cost paid	(7,010.81)	(5,990.16)	(7,031.92)	(1,656.50)
Net cash flows generated from financing activities	**114.63**	**12,332.32**	**7,856.97**	**28,579.40**
Net increase / (decrease) in cash and cash equivalents (A+B+C)	**79.58**	**223.81**	**(136.13)**	**(673.63)**
Cash and cash equivalents at the beginning of the year / period	413.50	189.69	325.82	999.45
Cash and cash equivalents at the end of the year (refer note 12)	**493.08**	**413.50**	**189.69**	**325.82**
Components of cash and cash equivalents				
Balances with scheduled banks:				
- Trust, retention and other escrow accounts	143.43	113.94	74.14	82.88
- Others	172.82	288.60	105.39	199.19
- In deposit accounts with original maturity less than 3 months	169.32	-	-	-
Cash on hand	7.51	10.96	10.17	43.75
Total cash and cash equivalents	**493.08**	**413.50**	**189.69**	**325.82**

Debt reconciliation statement in accordance with Ind AS 7				
Opening balances				
Long term borrowing	90,833.34	78,815.63	91,817.88	66,246.26
Short term borrowing	4,155.57	-	7,085.60	9,534.54
Movements				
Cash Flows				
Long term borrowing	590.72	9,165.24	(13,002.25)	25,571.62
Short term borrowing	(130.83)	4,155.57	(7,085.60)	(2,448.94)
Non-cash changes				
Long term borrowing	2,852.47	2,852.47		
Short term borrowing				
Closing balances				
Long term borrowing	94,276.53	90,833.34	78,815.63	91,817.88
Short term borrowing	4,024.74	4,155.57	-	7,085.60

Notes:

1. All figures in bracket are outflow.
2. Taxes paid are treated as arising from operating activities and are not bifurcated between investing and financing activities.
3. The Consolidated cash flow statement has been prepared under Indirect Method as per Ind AS 7 “Statement of Cash Flows”.

B. PDTPL's Summary Financial Information

PDTPL's Balance Sheet as at December 31, 2021

(₹ in million)

	As at December 31, 2021
ASSETS	
Non-current assets	
Intangible assets under development	0.05
	0.05
Current assets	
Financial assets	
i) Cash and cash equivalents	0.05
Other current assets	151.04
	151.09
Total assets	**151.14**
EQUITY AND LIABILITIES	
Equity	
Equity share capital	0.50
Other equity	(0.11)
Total Equity	**0.39**
Non-controlling interests	
	0.39
Current liabilities	
Financial liabilities	
i) Borrowings	11.47
ii) Trade payables	
a) total outstanding dues of micro enterprises and small enterprises	-
b) total outstanding dues of creditors other than micro enterprises and small enterprises	127.48
Other liabilities	11.80
	150.75
Total liabilities	**150.75**
Total equity and liabilities	**151.14**

PDTPL's Statement of Profit and Loss for the period from April 15, 2021 to December 31, 2021

(₹ in million)

Particulars	For the period ended December 31, 2021
Income	
Revenue from operations	-
Other income	-
Total income	**-**
Expenses	
Other expenses	0.11
Total expenses	**0.11**
Profit/(loss) before tax	**(0.11)**
Tax expenses	
Current tax	-
Deferred tax	-
Total tax expenses	**-**
Profit/(loss) after tax	**(0.11)**
Other comprehensive income	
Item that will not be reclassified to profit or loss:	
(a) Re-measurement (loss)/gain on defined benefit plans (net of taxes)	-
Other comprehensive (loss) for the year/ period, net of tax	**-**
Total comprehensive income for the year/period	**(0.11)**

PDTPL's Statement of Cash Flows for the period from April 15, 2021 to December 31, 2021

(₹ in million)

Particulars	For the Period ended December 31, 2021
A. Cash flow from operating activities	
Profit/(loss) before tax	(0.11)
Adjustment to reconcile profit before tax to net cash flows:	
Finance costs	-
Depreciation and amortisation expenses	-
Operating profit before working capital changes	**(0.11)**
Movement in working capital:	
(Increase) / decrease in other assets	(151.04)
Increase/ (decrease) in trade payables	127.48
(Decrease)/ increase in other liabilities	11.80
Cash generated from operations	**(11.87)**
Taxes paid (net)	-
Net cash flows generated from operating activities	**(11.87)**
B. Cash flows from investing activities	
Purchase of property, plant and equipment and intangible assets	(0.05)
Proceeds from Issue of equity shares	0.50
Net cash flows (used in) investing activities	**0.45**
C. Cash flows from financing activities	
Proceeds from short-term borrowings	11.47
Net cash flows generated from financing activities	**11.47**
Net increase / (decrease) in cash and cash equivalents (A+B+C)	**0.05**
Cash and cash equivalents at the beginning of the year / period (refer note 5)	-
Cash and cash equivalents at the end of the year (refer note 5)	**0.05**
Components of cash and cash equivalents	
Balances with scheduled banks:	
- Others	0.05
Cash on hand	-
Total cash and cash equivalents (Note 7)	**0.05**
Debt reconciliation statement in accordance with Ind AS 7	
Opening balances	
Long term borrowing	-
Short term borrowing	-
Movements	
Long term borrowing	-
Short term borrowing	11.47
Closing balances	
Long term borrowing	-
Short term borrowing	11.47

C. Summary Consolidated Financial Information of the Sponsor

Sponsor's Summary Consolidated Balance Sheet as at March 31, 2021, March 31, 2020 and March 31, 2019

(₹ in million)

		March 31, 2021	March 31, 2020	March 31, 2019
I	**ASSETS**			
-1	**Non-current assets**			
	Property, Plant and Equipment	1,377.31	1,535.12	1,716.67
	Capital work-in-progress	360.60	360.60	360.60
	Right-of-use asset	86.18	117.20	-
	Goodwill on consolidation	78.04	78.04	78.04
	Other Intangible assets	2,69,479.66	2,74,974.74	3,27,636.89
	Intangible assets under development	6,369.61	3,669.71	37,605.52
a.	Financial assets			
	i) Investments	44,866.61	41,330.54	6,130.57
	ii) Trade receivable	2,476.18	-	-
	iii) Loans	46.00	77.38	0.08
	iv) Other financial assets	30,956.49	30,936.62	727.99
b.	Deferred tax assets (net)	710.66	596.80	1,673.51
c.	Other non-current assets	29.44	28.88	200.48
		3,56,836.78	**3,53,705.63**	**3,76,130.35**
-2	**Current assets**			
a.	Inventories	3,216.72	3,313.55	4,424.86
b.	Financial assets			
	i) Investments	3,122.58	128.01	323.01
	ii) Trade receivables	3,403.08	4,407.58	1,135.23
	iii) Cash and cash equivalents	6,534.85	4,428.71	2,777.31
	iv) Bank balance other than (iii) above	16,854.88	18,278.34	12,825.71
	v) Loans	4,321.03	158.18	635.29
	vi) Other financial assets	13,054.75	10,195.12	2,054.51
c.	Current tax assets (net)	767.03	403.08	353.75
d.	Other current assets	3,624.74	3,863.38	4,300.73
		54,899.66	**45,175.95**	**28,830.40**
	TOTAL ASSETS	**4,11,736.44**	**3,98,881.58**	**4,04,960.75**

	March 31, 2021	March 31, 2020	March 31, 2019
EQUITY AND LIABILITIES			
Equity			
Equity share capital	3,514.50	3,514.50	3,514.50
Other equity	65,493.19	63,314.29	59,637.00
	69,007.69	**66,828.79**	**63,151.50**
Liabilities			
Non-current liabilities			
Financial liabilities			

i) Borrowings	1,65,033.75	64,580.71	1,44,076.06
ii) Lease liabilities	43.17	76.70	-
iii) Other financial liabilities	1,24,773.76	1,38,883.02	1,34,391.97
Provisions	421.55	393.86	456.75
Deferred tax liabilities (net)	24.06	27.01	322.92
Other non-current liabilities	-	-	1,021.50
	2,90,296.29	**2,03,961.30**	**2,80,269.20**
Current liabilities			
Financial liabilities			
i) Borrowings	15,817.01	20,659.87	13,115.38
ii) Trade payables			
a) total outstanding dues of micro enterprises and small enterprises	777.59	1,138.26	457.95
b) total outstanding dues of creditors other than micro enterprises	6,368.02	6,302.02	6,602.98
iii) Lease liabilities	45.02	49.69	-
iv) Other financial liabilities	23,183.11	89,843.08	35,563.80
Other current liabilities	5,681.09	9,248.54	4,380.77
Provisions	80.18	123.60	410.40
Current tax liabilities (net)	480.44	726.43	1,008.77
	52,432.46	**1,28,091.49**	**61,540.05**
Total liabilities	**3,42,728.75**	**3,32,052.79**	**3,41,809.25**
TOTAL EQUITY AND LIABILITIES	**4,11,736.44**	**3,98,881.58**	**4,04,960.75**

Sponsor's Summary Consolidated Statement of Profit and Loss for the Financials Years 2021, 2020 and 2019

(₹ in million)

	March 31, 2021	March 31, 2020	March 31, 2019
Income			
Revenue from operations	52,986.30	68,522.23	67,070.18
Other income	1,889.00	1,949.56	1,956.00
TOTAL INCOME	**54,875.30**	**70,471.79**	**69,026.18**
Expenses			
Cost of material consumed	3,990.75	4,367.72	3,231.08
Road work and site expenses	17,627.90	28,156.21	27,968.85
Employee benefits expense	2,618.57	2,873.51	2,861.74
Finance costs	16,924.43	15,643.61	11,200.58
Depreciation and amortisation expenses	5,817.04	4,683.14	5,395.13
Other expenses	3,622.46	3,410.73	3,635.56
TOTAL EXPENSES	**50,601.15**	**59,134.92**	**54,292.94**
Profit before share of profit/(loss) from joint venture/ exceptional item and tax	**4,274.15**	**11,336.87**	**14,733.24**
Share of loss from joint ventures (net)	(1657.96)	(158.42)	-
Profit before exceptional items and tax	**2,616.19**	**11,178.45**	**14,733.24**
Exceptional item	-	573.87	-
Profit before tax	**2,616.19**	**11,752.32**	**14,733.24**
Tax expenses			
Current tax (including earlier years Rs. 8.83 millions (March 31, 2020 Rs. 5.66 millions))	1,862.39	4,319.26	6,192.62
Deferred tax	(417.69)	224.43	40.97
TOTAL TAX EXPENSES	**1,444.70**	**4,543.69**	**6,233.59**
Profit for the year	**1,171.49**	**7,208.63**	**8,499.65**

	March 31, 2021	March 31, 2020	March 31, 2019
Other comprehensive income			
Item that will not to be reclassified to profit or loss:			
a) Mark to market gain/(loss) on fair value measurement of investments (net of tax)	2,775.59	(3461.60)	(1176.43)
b) Re-measurement loss on defined benefit plans (net of tax)	(10.93)	(19.59)	(37.68)
Other comprehensive income/(loss) for the year, net of tax	**2,764.66**	**(3,481.19)**	**(1,214.11)**
Total comprehensive income for the year, net of tax	**3,936.15**	**3,727.44**	**7,285.54**

Sponsor's Summary Consolidated Cash Flow Statement for the Financial Years 2021, 2020 and 2019

(₹ in million)

		31-Mar-21	31-Mar-20	31-Mar-19
Cash flow from operating activities				
Profit before tax		**2,616.19**	**11,752.32**	**14,733.24**
Adjustments to reconcile profit before tax net cash flows:				
Depreciation and amortisation		5,817.04	4,683.14	5,395.13
Resurfacing expenses		86.87	(311.35)	64.91
Net loss/ (gain) on sale of property, plant and equipment		(4.35)	(10.33)	(6.40)
Fair value gain on mutual funds		(65.09)	(2.33)	(8.85)
Gain on fair value measurement of other receivables		(13.62)	-	-
Share of loss from joint ventures		1,657.96	158.42	-
Net (gain) on sale of current Investment		(43.31)	(65.21)	(110.40)
Extinguishment of premium liability		(834.95)	-	-
Finance costs		16,924.43	15,643.61	11,200.58
Interest income		(1,590.40)	(1,811.90)	(1,691.96)
Other non operative income		(120.16)	(59.01)	(104.03)
Profit on sale of investment in subsidiaries (exceptional item)		-	(573.87)	-
Dividend income on current investments		-	(0.77)	(34.36)
Operating profit before working capital changes		**24,430.61**	**29,402.72**	**29,437.85**
Movement in working capital:				
Increase in trade payables		(294.67)	3,441.20	3,002.60
Increase/ (decrease) in provisions		6.64	9.24	17.68
Increase in other financial liabilities		(3,164.78)	4,003.47	116.75
(Decrease)/ increase in other liabilities		(3,567.45)	13,173.41	331.06
Decrease / (increase) in trade receivables		(1,471.69)	(3,272.68)	190.97
Decrease / (increase) in inventories		96.83	1,110.81	447.70
(Increase) / decrease in loans		24.09	395.09	(41.16)
(Increase) / decrease in other financial assets		(5,458.72)	(4,371.03)	(904.30)
(Increase) / decrease in other assets		238.65	(2,962.95)	(2,016.79)
Cash (used for) / generated from operations		**10,839.51**	**40,929.28**	**30,582.36**
Taxes paid (net)		(2,171.47)	(3,837.02)	(3,482.95)
Net cash flows generated from / (used in) operating activities	**(A)**	**8,668.04**	**37,092.26**	**27,099.41**
Cash flows from investing activities				
Purchase of property, plant and equipment including CWIP, intangible assets including intangible assets under development and capital advances		(77,933.04)	(52,052.26)	(42,188.90)
Proceeds from sale of property, plant and equipment		25.76	39.88	16.69
Proceeds/ redemption from sale of non-current investments		185.37	237.10	309.64
Consideration received on transfer of subsidiaries		1,792.36	7,574.40	-
Investment in joint venture		(2,603.81)	-	-
Loan given to joint ventures		(4,155.57)	-	-
Other recoverable/advance towards subscription of units in joint venture		(2,544.40)	-	-
Receipt of other recoverable/advance towards subscription of units		3,413.14	-	-
Proceeds from sale/ (purchase) of current investments (net)		(2,886.19)	(30.97)	1,634.27

		31-Mar-21	31-Mar-20	31-Mar-19
Investments in bank deposits (having original maturity of more than three months) (net)		1,423.56	(6,877.14)	(2,328.88)
Interest received		1,522.15	2,055.13	1,708.98
Dividend received		-	0.77	34.36
Net cash flows generated from investing activities	**(B)**	**(81,760.67)**	**(49,053.09)**	**(40,813.84)**
Cash flow from financing activities				
Proceeds from non-current borrowings		1,11,924.08	29,141.92	33,975.21
Repayment of non-current borrowings		(15,148.86)	(9,883.97)	(9,455.29)
Proceeds/ (Repayment) of current borrowings (net)		(4,842.85)	7,544.48	1,470.39
Payment of lease liabilities		(49.68)	(47.32)	-
Finance cost paid		(14,926.64)	(12,827.17)	(10,555.42)
Dividend paid on equity shares		(1,757.25)	-	(878.63)
Tax on equity dividend paid		-	(50.15)	(180.61)
Net cash flows (used in) / generated from financing activities	**(C)**	**75,198.80**	**13,877.79**	**14,375.65**
Net increase/ (decrease) in cash and cash equivalents (A+B+C)		**2,106.17**	**1,916.96**	**661.22**
Cash and cash equivalents at the beginning of the year		4,374.21	2,724.26	2,063.04
Less: Cash transferred on sale of subsidiaries		-	(267.01)	-
Cash and cash equivalents at the end of the year		**6,480.38**	**4,374.21**	**2,724.26**
Components of cash and cash equivalents				
Balances with scheduled banks:				
- Trust, retention and other escrow accounts		54.01	96.16	208.59
- Others		5,613.11	744.70	2,176.70
- In deposit accounts with original maturity less than 3 months		732.97	3,435.60	158.61
Cash on hand		134.76	152.25	233.41
Less : Book overdraft		(54.47)	(54.50)	(53.05)
Add: Assets held for sale		-	-	-
Total Cash and cash equivalents		**6,480.38**	**4,374.21**	**2,724.26**

D. Summary Standalone Financial Information of the Investment Manager

I. *Investment Manager's Summary Standalone Balance Sheet as at March 31, 2021, March 31, 2020 and March 31, 2019*

(amount in million)

		March 31, 2021	March 31, 2020	March 31, 2019
I	**ASSETS**			
(1)	**Non-current assets**			
a.	Property, plant and equipment	-	-	0.05
b.	Financial assets			
	i) Investments	0.10	0.10	0.10
	ii) Loans	0.07		
		0.17	**0.10**	**0.15**
(2)	**Current assets**			
a.	Financial assets			
	i) Trade receivable	96.90	-	-
	ii) Cash and cash equivalents	10.84	81.34	0.09
	iii) Loans	-	2.33	401.91
	iv) Other financial assets	0.11	27.02	0.10
b.	Current tax assets (net)	8.46	3.61	4.08
c.	Other current assets	0.63	0.79	-
		116.94	**115.09**	**406.18**
	TOTAL ASSETS	**117.11**	**115.19**	**406.33**
II	**EQUITY AND LIABILITIES**			
	Equity			
a.	Equity share capital	70.00	70.00	70.00
b.	Other equity	32.28	30.57	322.49
		102.28	**100.57**	**392.49**
	Liabilities			
(1)	**Non-current liabilities**			
	Provisions	2.37	2.18	-
		2.37	**2.18**	**-**
(2)	**Current liabilities**			
a.	Financial liabilities			
	i) Borrowings	-	-	13.67
	ii) Trade payables			
	a) total outstanding dues of micro enterprises and small enterprises	-	-	-
	b) total outstanding dues of creditors other than micro enterprises	0.12	7.83	0.15
	iii) Other financial liabilities	5.64	2.93	0.01
b.	Other current liabilities	6.58	1.35	0.01
c.	Provisions	0.12	0.33	-
		12.46	**12.44**	**13.84**
	Total liabilities	**14.83**	**14.62**	**13.84**
	TOTAL EQUITY AND LIABILITIES	**117.11**	**115.19**	**406.33**

II. *Investment Manager's Summary Standalone Statement of Profit and Loss for the the Financial Years 2021, 2020 and 2019*

(amount in million)

	March 31, 2021	March 31, 2020	March 31, 2019
Income			
Revenue from operations	35.09	29.45	-
Other income	2.40	2.08	0.01
TOTAL INCOME	**37.49**	**31.53**	**0.01**
Expenses			
Contract and site expenses	-	1.92	-
Employee benefits expense	29.58	15.88	-
Depreciation and amortisation expenses	-	-	0.01
Other expenses	5.61	11.04	0.43
TOTAL EXPENSES	**35.19**	**28.84**	**0.44**
Profit before tax	**2.30**	**2.69**	**-0.43**
Tax expenses			
Current tax	0.70	0.52	0.03
TOTAL TAX EXPENSES	**0.70**	**0.52**	**0.03**
Profit for the year	**1.60**	**2.17**	**-0.46**
Other comprehensive income			
Item that will not to be reclassified to profit or loss:			
Re-measurement gains/ (losses) on defined benefit plans (net of taxes)	0.11	-	-
Other comprehensive income/(loss) for the year (net of taxes)	**0.11**	**-**	**-**
Total comprehensive income for the year	**1.71**	**2.17**	**-0.46**

III. *Investment Manager's Summary Standalone Cash Flow Statement for the Financial Years 2021, 2020 and 2021*

(amount in million)

		March 31, 2021	March 31, 2020	March 31, 2019
Cash flow from operating activities				
Profit before tax		**2.30**	**2.69**	**(0.43)**
Adjustments to reconcile profit before tax net cash flows:				
Depreciation and amortisation expenses			-	0.01
(Gain) / Loss on sale of fixed assets			(1.83)	
(Gain) / Loss on sale of investment		(0.10)	(0.24)	
Interest income on				
- Bank deposits		(1.37)		
- Others		(0.05)	(0.01)	
Dividend income on				
Other investments (non trade, current)		-	(0.01)	(0.01)
Operating profit before working capital changes		**0.77**	**0.60**	**(0.43)**
Working capital adjustments				
Decrease/(increase) in loans		2.27	(2.33)	-
Decrease/(increase) in trade receivables		(96.90)		
Decrease/(increase) in others financial assets		26.93	(26.92)	-
Increase/(decrease) in provisions		0.10	2.50	-
Decrease /(Increase) in trade payables		(7.71)	7.69	0.03
Decrease/(increase) in other assets		0.16	(0.79)	-
Increase/(Decrease) in other financial liabilities		2.71	2.91	(0.03)
(Decrease)/Increase in other liabilities		5.20	1.35	(0.01)
Cash (used for) / generated from operations		**(66.46)**	**(14.99)**	**(0.44)**
Taxes paid (net)		(5.55)	(0.05)	-
Net cash flows generated from / (used in) operating activities	**(A)**	**(72.01)**	**(15.04)**	**(0.44)**
Cash flows from investing activities				
Proceeds from sale of property, plant and equipment			1.89	-
Purchase of current investments			(91.40)	-
Proceeds from sale/(purchase) of current investments		0.10	91.63	-
Loan given to related parties			-	-
Loans repaid by related parties			401.91	0.46
Interest received		1.41	0.01	-
Dividend received from subsidiary companies			0.01	0.01
Net cash flows generated from investing activities	**(B)**	**1.51**	**404.05**	**0.47**
Cash flow from financing activities				
Equity dividend paid		-	(294.09)	-
Repayment of current borrowings		-	(13.67)	-
Net cash flows (used in) / generated from financing activities	**(C)**	**-**	**(307.76)**	**-**
Net increase/ (decrease) in cash and cash equivalents (A+B+C)		**(70.50)**	**81.25**	**0.03**
Cash and cash equivalents at the beginning of the year		81.34	0.09	0.06
Cash and cash equivalents at the end of the year		**10.84**	**81.34**	**0.09**
Components of cash and cash equivalents				
Balances with scheduled banks:				
- In current accounts		0.84	81.34	0.09
- Original maturity less than 3 months		10.00	-	-
Total Cash and cash equivalents		**10.84**	**81.34**	**0.09**

THE ISSUE

This Issue is a rights issue under the SEBI Rights Issue Guidelines. This Issue has been authorized by a resolution of the board of directors of the Investment Manager dated April 12, 2022.

The following table summarizes the details of this Issue:

Issue	Up to 24,429,805 Units aggregating up to ₹2,442.98 million
Rights Entitlements	1 Unit for every 35 Units held on the Record Date
Record Date	April 8, 2022
Issue Price	₹100 per Unit
Terms of Payment	The full amount of the Issue Price is payable on Application
Issue Proceeds	See "*Objects of the Issue*" on page 66
Details of outstanding Units	
Units outstanding prior to this Issue	855,043,265 Units
Units outstanding after this Issue	879,473,070 Units*

**Assuming full subscription in this Issue*

The Units will be allotted only in dematerialized form, in accordance with the InvIT Regulations and the SEBI Rights Issue Guidelines.

In accordance with the InvIT Regulations, no Unitholder shall enjoy preferential voting or any other rights over another Unitholder. Further, there shall not be multiple classes of Units of the Trust, unless permitted by applicable law.

No person connected with this Issue, including any person connected with the distribution of this Issue, shall offer any incentive, whether direct or indirect, in any manner, whether in cash or kind or services or otherwise to any person for making an application for Allotment of the Units.

GENERAL INFORMATION

The Trust has been settled by the Sponsor as an irrevocable trust under the provisions of the Trusts Act in New Delhi, India pursuant to the Indenture of Trust dated August 27, 2019. The Indenture of Trust is registered under the Registration Act. The Trust is registered with the SEBI as an infrastructure investment trust under the InvIT Regulations.

For details of the business of the Trust, see "*Business*" on page 109.

Principal place of business and correspondence address of the Trust:

IRB Infrastructure Trust
Off No-11th Floor/1101
Hiranandani Knowledge Park
Technology Street, Hill Side Avenue
Powai, Mumbai 400 076
Maharashtra, India
Tel: +91 22 6733 6400
E-mail: irbinfrastructuretrust@irb.co.in
SEBI registration number: IN/InvIT/19-20/0012
Date of registration with the SEBI: November 25, 2019

Contact Person and Compliance Officer

Mr. Kaustubh Shevade has been designated by the Investment Manager as the Compliance Officer with respect to the Trust, and is the relevant contact person with respect to the Trust. His contact details are as follows:

Mr. Kaustubh Shevade
MMK Toll Road Private Limited
Off No-11th Floor/1101
Hiranandani Knowledge Park
Technology Street, Hill Side Avenue
Powai, Mumbai 400 076
Maharashtra, India
Tel: +91 22 6733 6400
E-mail: kaustubh.shevade@irb.co.in

Applicants can contact the Compliance Officer or the Registrar in case of any pre-Issue or post-Issue related problems such as non-credit of Rights Entitlements, Allotted Units in the respective beneficiary account and non-receipt of refunds.

Sponsor/Project Manager

IRB Infrastructure Developers Limited
Off No-11th Floor/1101
Hiranandani Knowledge Park
Technology Street, Hill Side Avenue
Powai, Mumbai 400 076
Maharashtra, India
Tel: +91 22 6640 4220
Email: info@irb.co.in
Contact person: Mr. Mehul Patel

Trustee

IDBI Trusteeship Services Limited
Asian Building, Ground Floor
17, R. Kamani Marg
Ballard Estate, Mumbai 400 001
Maharashtra, India

Tel: +91 22 4080 7016
Email: itsl@idbitrustee.co.in
SEBI registration number: IND000000460
Contact person: Mr. Shivaji Gunware / Mr. Naresh Sachwani

Investment Manager

MMK Toll Road Private Limited
Off No-11th Floor/1101
Hiranandani Knowledge Park
Technology Street, Hill Side Avenue
Powai, Mumbai 400 076
Maharashtra, India
Tel: +91 22 6733 6400
Email: dhananjay.joshi@irb.co.in
Contact person: Mr. Dhananjay Joshi

Advisors to the Sponsor for the Issue

Avener Capital Private Limited
ONE BKC, 1312, C Wing, 13th Floor
Plot No. C 66, G Block, Bandra-Kurla Complex
Bandra East, Mumbai 400 051
Maharashtra, India

Legal Advisors to the Sponsor and the Investment Manager as to Indian law

S&R Associates
One World Center, 1403, Tower 2 B
841 Senapati Bapat Marg, Lower Parel
Mumbai 400 013
Maharashtra, India

Auditor

Gokhale & Sathe Chartered Accountants
Unit No. 304/308/309
Udyog Mandir No. 1
7-C, Bhagoji Keer Marg, Mahim
Mumbai 400 016
Maharashtra, India
Tel: +91 22 4348 4242
E-mail: office@gokhalesathe.in
Firm registration number: 103264W
Peer Review Certificate number: 012211

Valuer

Mr. Sunit Khandelwal
Communication Address: 507 A, 5th floor, Platinum Tower, Sohna Road, Sector 47
Gurugram 122 001, Haryana, India
Registered Address: F 1502, GPL Eden Heights, Sector 70
Gurugram 122 001, Haryana, India
Tel: +91 124 436 2995
E-mail: sunitk@incwert.com

Registrar and Unit Transfer Agent

KFin Technologies Limited
B, Plot No. 31 &32

Gachibowli Financial District
Nanakramguda
Hyderabad 500 032
Telangana
Tel: +91 40 3321 1000
Email: irb.infrastructure@kfintech.com
SEBI registration number: INR000000221
Contact person: Mr. M Murali Krishna
Website: https://www.kfintech.com
Investor Grievance Email: einward.rti@kfintech.com

Credit Rating

No credit rating has been obtained in relation to this Issue or the Trust.

Underwriters

The Trust has not appointed any underwriters for this Issue and this Issue is not underwritten.

OBJECTS OF THE ISSUE

This Issue comprises a fresh issue of up to 24,429,805 Units aggregating up to ₹2,442.98 million on a rights basis to Eligible Unitholders.

The Trustee and the Investment Manager shall ensure that the subscription amounts are kept in a separate bank account in the name of the Trust and are only utilized for adjustment against Allotment of Units or refund of money to Eligible Unitholders.

In accordance with the InvIT Regulations, the Investment Manager (on behalf of the Trust) intends to utilize the Issue Proceeds towards the objects set out below.

Issue Proceeds

The details of the Issue Proceeds are set forth in the following table:

(₹ in million)

Particulars	Amount*
Gross proceeds from the Fresh Issue	2,442.98
Issue Proceeds	**2,442.98**

**Assuming full subscription in this Issue*

Utilization of Issue Proceeds

The proposed utilisation of the Issue Proceeds is set forth in the table below:

(₹ in million)

S. No.	Particulars	Amount*
1.	Acquisition of PDTPL through subscription to equity shares of PDTPL pursuant to the PDTPL Share Subscription Agreement	1,212.00
2.	Providing loans to PDTPL towards funding of the total project cost	1,230.98
Issue Proceeds		**2,442.98**

**Assuming full subscription in this Issue*

The fund requirements mentioned above and the proposed deployment are based on the estimates of the Investment Manager and have not been appraised by any bank, financial institution or any other external agency. The Issue Proceeds will be utilized in accordance with applicable law.

Details of Utilization of Issue Proceeds

The details of utilization of the Issue Proceeds are set forth herein below:

I. *Acquisition of PDTPL through subscription to equity shares of PDTPL pursuant to the PDTPL Share Subscription Agreement*

The Investment Manager, on behalf of the Trust, proposes to utilize an estimated amount of ₹1,212.00 million ("**Subscription Amount**") from the Issue Proceeds to pay the subscription amount for subscription to 121,200,000 equity shares of PDTPL ("**Subscription Shares**") pursuant to the PDTPL Share Subscription Agreement. The Trustee (on behalf of the Trust), the Investment Manager, the Sponsor and PDTPL have entered into the PDTPL Share Subscription Agreement dated April 7, 2022 for the acquisition of PDTPL by the Trust. Certain other agreements have also been entered into in connection with the acquisition of PDTPL by the Trust. For details, see "*Background and Structure of the Trust – The PDTPL Acquisition*" on page 92.

Key terms of the PDTPL Share Subscription Agreement are set out below.

PDTPL Share Subscription Agreement

Certain definitions

"**Closing Date**" shall mean the date of completion of the actions set out in the PDTPL Share Subscription Agreement. Closing shall occur within five days from the date of allotment in the Issue.

"**Governmental Authority**" shall include the SEBI, the NHAI, the Ministry of Road Transport and Highways of the Government of India or any state or union territory of India, the Reserve Bank of India, and any national, state, regional or local government or governmental, regulatory, statutory, administrative, fiscal, taxation, judicial, or government-owned body, department, commission, authority, court, arbitrator, tribunal, agency or entity, in India or outside India, in each case, having jurisdiction over any of the Parties, their operations, or the transactions contemplated in the PDTPL Share Subscription Agreement and the PDTPL transaction documents.

"**Indemnified Party**" shall mean the Trust

"**PDTPL Material Adverse Change**" shall mean any fact, circumstance, or condition that, individually or in the aggregate, has a material adverse effect on or material adverse change in: (i) the business, assets (whether tangible or intangible), liabilities, financial condition or regulatory status of PDTPL or the Sponsor; or (ii) the ability of the Sponsor to perform its obligations under any PDTPL transaction document, or to complete any of the transactions contemplated thereunder; or (iii) the validity, legality or enforceability of the rights or remedies of the Trust or the Investment Manager under the PDTPL Share Subscription Agreement.

"**Subscription Price**" shall mean the price of ₹10 per Subscription Share.

Issuance and subscription of the Subscription Shares

Subject to the terms and conditions of the PDTPL Subscription Agreement, PDTPL has to issue the Subscription Shares to the Trust, and the Trust has agreed to subscribe to all the Subscription Shares, free and clear from all encumbrances, together with all rights, title, interest and benefits appertaining thereto, on the Closing Date, at the Subscription Price per Subscription Share.

The Trust shall ensure that such number of the Subscription Shares aggregating to not more than 51% of the total equity share capital of PDTPL are pledged with the relevant lenders of PDTPL within a specified timeline from the Closing Date in accordance with the financing documents of PDTPL.

PDTPL is also required to complete the necessary form filings with the Registrar of Companies, Maharashtra in relation to the actions contemplated under the PDTPL Share Subscription Agreement post-closing. Further, PDTPL is also required to provide a valuation report to the Trust for tax purposes in relation to the fair market value of the Subscription Shares.

Conditions Precedent

The obligations of the parties to complete the transaction under the PDTPL Share Subscription Agreement is subject to the fulfilment of certain conditions by the Sponsor and the Target SPV on or before the Closing Date, to the satisfaction of the Trust, unless waived or deferred in writing by the Trust at its sole discretion, which, *inter-alia*, include:

- there shall be no legal proceeding pending against, or threatened against (to the knowledge of the Sponsor) the Sponsor, its promoters or PDTPL wherein an unfavorable judgment, decree, injunction or order could reasonably result in any of the transactions contemplated herein being declared unlawful or rescinded, and no such judgment, decree, injunction or order shall be in effect;
- the PDTPL business plan and the PDTPL annual budget shall be in agreed form;
- the representations and warranties provided by IRB under the PDTPL Share Subscription Agreement shall be true, complete and accurate in all respects as of the date of execution of the PDTPL Share Subscription Agreement and as of the Closing Date (except those representations and warranties that address matters only as of a specified date, which shall be true, complete and accurate in all respects as of that specified date);
- the Sponsor (and its Affiliates) shall have obtained all necessary consents in connection with the execution of the PDTPL Share Subscription Agreement, the PDTPL transaction documents and the completion of the transactions contemplated thereunder;
- no PDTPL Material Adverse Change shall be subsisting as on the Closing Date;
- PDTPL and the Sponsor shall have duly performed and complied in all respects with all agreements, covenants and conditions required by the PDTPL transaction documents to be performed or complied with by them prior to or on the Closing Date;
- PDTPL shall have passed: (i) a resolution of its board of directors authorizing the issuance and allotment of the Subscription Shares to the Trust, on a private placement basis, subject to the approval of PDTPL's

shareholders; and (ii) a special resolution of the shareholders of PDTPL approving the issue and allotment of the Subscription Shares to the Trust, on a private placement basis, and certified copies of such resolutions shall have been delivered to the Investment Manager (on behalf of the Trust);

- PDTPL shall have issued a private placement offer letter in the form prescribed under the Companies Act to the Trust in relation to the issuance of the Subscription Shares and shall have recorded the names of the Trust in the form prescribed under the Companies Act;
- PDTPL shall have completed the filing with the Registrar of Companies, Maharashtra of the Forms MGT-14 in relation to the board and shareholder resolutions;
- PDTPL shall have obtained a valuation report from a registered valuer appointed in accordance with Section 247 of the Companies Act;
- PDTPL shall have opened a separate bank account to receive the Subscription Amount as required in accordance with Section 42 of the Companies Act and shall have provided the necessary details relating to such account to the Trust;
- there shall not have been any restriction or any threatened restriction, under applicable law which: (i) involves a challenge to or seeks to or prohibits, prevents, restrains, restricts, delays, makes illegal or otherwise interferes with the consummation of any of the transactions contemplated under the PDTPL Share Subscription Agreement, or impairs or prejudices the due, proper and irrevocable consummation of the transactions contemplated under the PDTPL Share Subscription Agreement, or (ii) seeks to impose conditions upon the ownership or operations of the Sponsor/PDTPL or which affects the ability of the Trust to invest in PDTPL as contemplated under the PDTPL Share Subscription Agreement; and
- the Trust shall have received a certificate (along with all the supporting documents), dated the Closing Date and signed by a duly authorized officer of PDTPL, that each of the conditions set forth above have been satisfied in the prescribed format.

Representations and Warranties

The Sponsor has provided representations and warranties in relation to, *inter-alia*, the organization, status and authority of PDTPL, no conflict with other obligations, the capital structure and shareholding of PDTPL, no conduct of business by PDTPL until the Closing Date, filing of the PDTPL transaction documents with any Governmental Authority in India, obtaining of all material consents required for carrying out business activities by PDTPL and no material breach of any of the conditions of such consents, material contracts, powers of attorney and proceedings, financial close and financial statements, anti-bribery and anti-corruption laws, anti-money-laundering and sanctions laws, no immunity and the absence of any personnel other than external professional advisors.

The Sponsor has also represented that its and its nominee shareholders' shareholding in PDTPL constitute mandatory holding of shares, interest and rights in PDTPL required to be held by the Sponsor as per the regulations, circulars and guidelines of the NHAI and PDTPL's concession agreement.

The Sponsor has also represented, warranted, covenanted and undertaken that it will not exercise any rights that prevent the Trust from complying with the provisions of the InvIT Regulations. Notwithstanding anything to the contrary contained in the PDTPL Share Subscription Agreement or the PDTPL transaction documents, the provisions of the InvIT Regulations will prevail in case of inconsistencies between such agreements and the obligations cast upon the Trust under the InvIT Regulations.

The Investment Manager and the Trust (acting through the Trustee) has provided representations and warranties in relation to, *inter-alia*, their incorporation, existence, authority to enter into the agreement, eligibility to undertake the transactions under the agreement and no conflicts.

The Trust and PDTPL agree and acknowledge that IRB and its affiliates can continue to include PDTPL and its project as part of their experience and eligibility in any bids for infrastructure projects submitted by the Sponsor or its affiliates in the future even after the Closing Date subject to the conditions set out in the PDTPL Share Subscription Agreement.

Shareholding of the Sponsor in PDTPL

The Sponsor is required to make an irrevocable invitation to offer to the Trust for the PDTPL IRB Shares (i.e., the shareholding of the Sponsor and its nominee shareholders in PDTPL) within a period of six months from the completion of a period of two years after the completion of the construction period (as defined under PDTPL's concession agreement) (such period is referred to as the PDTPL IRB Shares Offer Period).

The Trust also has the right, but not the obligation, at any time after the completion of a period of two years after the completion of the construction period, to cause the Sponsor to invite the Trust to offer for all, but not less than all, of the PDTPL IRB Shares, by the delivery of a notice to the Sponsor requesting the Sponsor to immediately make an invitation to offer for the PDTPL IRB Shares.

In the event that the Sponsor does not make an invitation to offer to the Trust and the Trust has not called for such invitation to offer, then upon the expiry of the PDTPL IRB Shares Offer Period, without any further action by any person, the requirement for the Sponsor to make an invitation to offer shall automatically be triggered whereby the Sponsor shall be required to make an irrevocable invitation to offer to the Trust within five days of the expiry of the PDTPL IRB Shares Offer Period and the Trust shall have the right to make or decline to make an offer for the PDTPL IRB Shares.

Indemnification

The Sponsor has agreed to indemnify the Trust against, any losses incurred or sustained by, or imposed upon, the Indemnified Parties based upon, arising out of, with respect to or relating to: (i) any claim against the Indemnified Party or PDTPL that has occurred or relates to the period prior to the Closing Date; (ii) breach or inaccuracy of any of the Sponsor's warranties; (ii) any matter involving fraud, gross negligence or wilful misconduct by the Sponsor or PDTPL; and (iii) any non-fulfilment, non-performance or other breach of any covenant or obligation of the Sponsor or PDTPL under the PDTPL Share Subscription Agreement.

The Sponsor's indemnification obligations are subject to certain limitations as to quantum as specified in the PDTPL Share Subscription Agreement. Further, the Trust will not be entitled to claim any losses with respect to a particular indemnity event unless the losses exceed a particular amount. Payments by the Sponsor in respect of any loss will be limited to the amount of any liability or damage that remains after deducting any insurance proceeds received by the indemnified party in respect of any such claim. Subject to the limitations set out in the PDTPL Share Subscription Agreement, the Seller's liability for all monetary claims for breach of warranties, including claims for damages, will not exceed a specified amount agreed under the PDTPL Share Subscription Agreement.

Governing Law, Dispute Resolution and Termination

The PDTPL Share Subscription Agreement will be governed by the laws of India. Any dispute shall be referred to and finally resolved by arbitration administered by the Singapore International Arbitration Centre in accordance with the Arbitration Rules of the Singapore International Arbitration Centre ("**SIAC Rules**") for the time being in force. The arbitration panel will consist of three arbitrators, each of which shall be appointed by SIAC in accordance with the SIAC Rules. The seat and venue of the arbitration proceedings will be Delhi, India.

The PDTPL Share Subscription Agreement may be terminated prior to the Closing Date: (i) by the mutual written agreement of the parties; (ii) by the Trust or the Sponsor, upon termination of any of the other transaction documents; (iii) upon termination of the Framework Agreement; or (iv) by the Trust and the Sponsor jointly if closing has not occurred on or prior to October 6, 2022.

II. *Providing loans to PDTPL towards funding of the total project cost*

The Investment Manager, on behalf of the Trust, proposes to utilize an estimated amount of ₹1,230.98 million from the Issue Proceeds to provide unsecured loans to PDTPL under the PDTPL Shareholder Loan Agreement after the completion of acquisition of PDTPL under the PDTPL Share Subscription Agreement. Such amounts will be provided pursuant to the PDTPL Shareholder Loan Agreement. PDTPL in turn intends to utilize the proceeds of such financing towards funding of the total cost of its project. Key terms of the PDTPL Shareholder Loan Agreement are set out below.

Purpose	PDTPL shall utilize the loan amounts solely for funding of the total project cost of PDTPL. Any loan amounts disbursed to PDTPL out of the Issue Proceeds shall be utilized solely for such purpose.
Term	PDTPL shall repay the loan at the end of the concession period under the relevant concession agreement as mutually agreed between the parties to the Shareholder Loan Agreement.
Interest	• PDTPL shall pay accrued interest (subject to withholding of applicable taxes) at the rate of 14.5% p.a., or or such other rate as may be decided mutually by the parties to the PDTPL Shareholder Loan Agreement from time to time. Interest will accrue from the

	date of disbursement of the loan. • Interest will be chargeable from the project completion date under the concession agreement. • Interest will be payable in arrears on a quarterly basis, on or before the expiry of the calendar month immediately succeeding the completion of each quarter, provided that PDTPL, may, at its discretion, elect to pay interest on a monthly basis, and such interest shall be payable on the first day of the subsequent month for which the interest is being paid.
Repayment	• The Trust may call on PDTPL to prepay the loan, in full or part, or permit PDTPL to make payments of the outstanding loan, in full or part, after the date such payment is due, at any time during the term of the PDTPL Shareholder Loan Agreement until the final settlement date (as defined in the PDTPL Shareholder Loan Agreement). • PDTPL may prepay the whole or part of the loan together with interest on that amount accrued up to the date of prepayment, by giving a prior written notice of not less than 30 days to the Trust, specifying the amount to be prepaid and the date of proposed prepayment. • The loan (in one or more tranches) provided under the PDTPL Shareholder Loan Agreement shall, at all times be subordinate to the debt provided by the senior lenders. Subject to the terms of the financing agreements and the escrow agreements, payments towards the loan amounts (including interest) shall be made out of balance available in the escrow account for utilization in accordance with the instructions of PDTPL on the relevant interest payment date or repayment date, after meeting all payments due to the senior lenders as of such date.
Security	Unsecured
Events of Default	The occurrence of any of the events or circumstances set out below shall constitute an "**Event of Default**", if not remedied within 180 days (or such extended period as may be provided by the Trust at its sole discretion) from the date of receiving notice of such default from the Trust. PDTPL shall promptly give written notice to the Trust of any Event of Default and of any other event which, with the giving of notice or lapse of time or otherwise could constitute an Event of Default, and inform the Trust of any action taken or proposed to be taken by PDTPL in connection therewith. • **Non-Payment:** PDTPL fails to pay any amount due under the PDTPL Shareholder Loan Agreement or any other finance documents within a period of 180 days from the relevant due date. If debt due to senior lenders is outstanding, the Trust may declare a non-payment Event of Default only if one or more of the senior lenders declares an Event of Default in relation to amounts due to such senior lenders. • **Breach of Covenants and Undertakings:** PDTPL breaches any provision of the PDTPL Shareholder Loan Agreement or any other finance documents. • **Misrepresentation:** Any representation or statement made by PDTPL in any finance document or any other document delivered by or on behalf of PDTPL under or in connection with any transaction document is or proves to have been incorrect or misleading in any material respect when made or results in a material adverse effect on PDTPL or its project. • **Cessation of Business**: PDTPL ceasing or threatening or likely to cease, to carry on all or substantially all of its business or operations. • **Insolvency:** PDTPL is unable to, or presumed or deemed to be unable to, or admits its inability to, pay its debts as they fall due, suspends making payments on any of its debts or, by reason of actual or anticipated financial difficulties, commences negotiations with one or more of its creditors with a view to rescheduling any of its indebtedness. • **Insolvency proceedings:** Any corporate action, legal proceedings or other procedure is taken in relation to: (a) the suspension of payments, a moratorium of any indebtedness, winding-up, dissolution, administration, provisional supervision or reorganization (by way of voluntary arrangement, scheme of arrangement or otherwise) of PDTPL, other than a solvent liquidation or reorganization of PDTPL; (b) a composition or arrangement with any creditor of PDTPL, or an assignment for the benefit of creditors generally of PDTPL, or a class of such creditors; (c) the appointment of a liquidator, receiver, and

	manager, administrator, administrative receiver, compulsory manager, provisional supervisor or other similar officer in respect of PDTPL, or any of its assets; or (d) or any analogous procedure is taken in any jurisdiction. • **Unlawfulness and Invalidity:** (a) It is or becomes unlawful for PDTPL to perform its obligations under the PDTPL Shareholder Loan Agreement or any other finance documents; or (b) any finance document is not or ceases to be legal, valid, binding or enforceable. • **Nationalization or Expropriation**: Any governmental authority has taken or has threatened to take any action to expropriate, condemn, nationalize or seize the relevant project or whole or part of the assets of PDTPL or the whole or substantially whole or part of its project, resulting in PDTPL being deprived or threatened to deprive to carry on its business or which will have a material adverse effect on PDTPL or the relevant project on the operation of the business of PDTPL. • **Cross Default**: PDTPL defaults in the payment of any principal, interest, premium or other amount due (whether by scheduled maturity, mandatory prepayment, acceleration or demand) under any loan or credit agreement and/or defaults in the payments due under any existing facility agreement or the occurrence of an event of default under the existing facility agreements of PDTPL. On and at any time after the occurrence of an Event of Default which has not been waived or cured and which is continuing, the Trust may, upon the delivery of seven business days' notice to PDTPL of the occurrence of an Event of Default: (i) require all or part of the outstanding amounts to be payable immediately; and (ii) exercise such other rights as may be available to the Trust under the PDTPL Shareholder Loan Agreement, the finance documents or under applicable law. No further disbursement shall be made after the occurrence of an Event of Default.
Dispute Resolution	Any dispute shall be referred to and finally resolved by arbitration administered by the Singapore International Arbitration Centre in accordance with the Arbitration Rules of the Singapore International Arbitration Centre ("**SIAC Rules**") for the time being in force. The arbitration panel will consist of three arbitrators, each of which shall be appointed by SIAC in accordance with the SIAC Rules. The seat and venue of the arbitration proceedings shall be Delhi, India.
Governing Law	Laws of India

In addition to the above, the Investment Manager may utilise the Issue Proceeds towards other expenditure (in the ordinary course of business of the Trust) considered expedient. Any such utilization other than as contemplated towards the objects of the Issue described above will be subject to the consent of all the Unitholders. In case of a shortfall in the Issue Proceeds or cost overruns, the Investment Manager may explore a range of options including utilizing the Trust's, the Project SPVs' or the Target SPV's internal accruals or seeking debt financing in accordance with the Business Plan and Annual Budget. The objects of this Issue are proposed to be financed solely through the Issue Proceeds.

Schedule of Deployment

The Investment Manager proposes to deploy the Issue Proceeds during the Financial Year 2023, depending on various factors, including the actual timing of completion of this Issue and the receipt of the Issue Proceeds.

Interim use of Issue Proceeds

Pending utilization of the Issue Proceeds for the purposes described above, the Investment Manager may invest the funds only in deposits in one or more scheduled commercial banks included in the Second Schedule of RBI Act. Pending utilization of the Issue Proceeds for the objects of this Issue, the Investment Manager shall not utilize the Issue Proceeds for any investment in the equity markets (excluding any investment in the equity shares of the Project SPVs), real estate or related products.

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gokhale & sathe (regd.)
chartered accountants
308/309, Udyog Mandir No. 1,
7-C, Bhagoji Keer Marg,
Mahim, Mumbai 400 016

STATEMENT OF TAX CONSIDERATIONS / BENEFITS

Statement of possible tax consideration / benefits available to the Trust and its Unitholders under applicable laws in India

To,

IDBI TRUSTEESHIP SERVICES LIMITED
(Trustee of IRB Infrastructure Trust)
Asian Building, Ground Floor,
17, R. Kamani Marg,
Ballard Estate, Mumbai - 400 001

MMK Toll Road Private Limited
(As the Investment Manager of the IRB Infrastructure Trust)
Off No-11th Floor/1101,
Hiranandani Knowledge Park,
Technology Street, Hill Side Avenue,
Powai, Mumbai 400 076,

Dear Sirs/Madam,

Sub: Statement of possible tax considerations / benefits available to the IRB Infrastructure Trust and its Unitholders under the Income Tax Act, 1961.

We refer to the proposed rights issue of the units of IRB Infrastructure Trust ("the Trust") and enclose the statement showing the current position of tax considerations / benefits available to the Trust and to its Unitholders as per the provisions of the Income-tax Act, 1961 ('the IT Act') presently in force in India (i.e. applicable for the financial year ending 31 March 2023 relevant to the assessment year 2023-24) for inclusion in the letter of offer.

This statement is provided for general information purposes only and each investor is advised to consult its own tax consultant with respect to specific income tax implications arising out of participation in the rights issue.

Unless otherwise specified, sections referred below are sections of the IT Act. The benefits set out below are subject to conditions specified therein read with the Income-tax Rules, 1962 presently in force.

The benefits outlined in the enclosed statement based on the information and particulars provided by the Trust are neither exhaustive nor conclusive.

We do not express any opinion or provide any assurance as to whether:

- the Trust or its Unitholders will continue to obtain these benefits in future;

- the conditions prescribed for availing the benefits have been/would be met with; and
- the revenue authorities/courts will concur with the views expressed herein.

We hereby give our consent to include the enclosed statement regarding tax benefits available to the Trust and to its Unitholders in the letter of offer in connection with the rights issue of the units of the Trust which is intended to be filed with Securities and Exchange Board of India and any regulatory authority as may be required under applicable law.

Limitations

No assurance is given that the revenue authorities/courts will concur with the views expressed herein. Our views are based on the existing provisions of law and its interpretation, which are subject to changes from time to time. We do not assume responsibility to update the views consequent to such changes. We shall not be liable to any claims, liabilities or expenses relating to this assignment except to the extent of fees relating to this assignment, as finally judicially determined to have resulted primarily from bad faith or intentional misconduct. We will not be liable to any other person in respect of this statement.

This statement of possible direct tax benefits enumerated above is as per the Act as amended by the Finance Act 2022. The statement of possible Direct-tax Benefits sets out the possible tax benefits available to the Trust and its Unitholders under the current tax laws presently in force in India. Several of these benefits available are dependent on the Trust or its Unitholders fulfilling the conditions prescribed under the relevant tax laws.

The information provided above sets out the possible tax benefits available to the Unitholders in a summary manner only and is not a complete analysis or listing of all potential tax consequences of the purchase, ownership and disposal of units, under the current tax laws presently in force in India. It is not exhaustive or comprehensive and is not intended to be a substitute for professional advice.

For Gokhale & Sathe
Chartered Accountants
ICAI registration number: 103264W

SD/-

Kaustubh Deshpande
Partner
Membership No. 121011
UDIN: 22121011AGYGZO2047
Place: Mumbai
Date: April 12, 2022

ANNEXURE TO STATEMENT OF POSSIBLE TAX BENEFITS AVAILABLE TO IRB INFRASTRUCTURE TRUST AND ITS UNITHOLDERS UNDER APPLICABLE LAWS IN INDIA UNDER THE INCOME-TAX ACT, 1961 (hereinafter referred to as 'the Act')

TAX BENEFITS AVAILABLE TO IRB INFRASTRUCTURE TRUST ('TRUST') UNDER THE ACT

IRB Infrastructure Trust is an Infrastructure Investment Trust under the Securities and Exchange Board of India (Infrastructure Investment Trusts) Regulations, 2014, made under the Securities and Exchange Board of India Act, 1992.

Section 2(13A) of the Income Tax Act which defines "Business Trust" has been amended by Finance Act 2020 with effect from 1st April 2021 (i.e. from AY 2021-22) to remove the requirement of listing of units of the trust on stock exchange.

The following benefits are available to a Business Trust after fulfilling conditions as per applicable provisions of the Act and the guidelines prescribed by the Securities and Exchange Board of India ('SEBI') (including the Securities and Exchange Board of India (Infrastructure Investment Trusts) Regulations, 2014, as amended) ('SEBI Regulations').

Tax benefit in the hands of the Trust in respect of interest and dividend income:

(a) Interest received or receivable by the Trust from the Special Purpose Vehicles (SPVs) would be exempt from tax. [10(23FC)(a)]

(b) Dividend received or receivable by the Trust from a special purpose vehicle (SPVs) shall be exempt from tax. [10(23FC)(b)]

For the purpose of the above, "special purpose vehicle" would mean an Indian company in which the business trust holds controlling interest and any specific percentage of shareholding or interest, as may be required by the Securities and Exchange Board of India (Infrastructure Investment Trusts) Regulations, 2014.

Accordingly, sec. 194A(3)(xi) exempts SPV from the provisions of tax deduction at source in respect of interest paid/payable to the business trust.

Also, sec. 194 provides that the tax deduction at source is not applicable in respect of dividend credited or paid to a business trust by a special purpose vehicle.

Section 10(34A) of the Act - Income from buy back of shares

Further, income arising from buy-back shall not be taxable as per section 10(34A) of the Act in the hands of the Trust.

Section 115UA(2) read with section 111A, section 112 and section 112A of the Act – Taxability of business income, capital gains and income from other sources in the hands of the Trust

In terms of section 115UA(2) of the Act, the total income of the Trust shall be chargeable to tax at the maximum marginal rates in force except for the income chargeable to tax on transfer of Short-Term Capital assets under section 111A and Long Terms Capital assets under section 112 and section 112A of the Act and income referred to in Sec. 10(23FC)

If the period of holding of a security (other than a unit) listed on a recognized stock exchange in India or a unit of the Unit Trust of India or a unit of an equity-oriented fund or a zero-coupon bond is more than 12 months, it will be considered a long-term capital asset as per section 2(29AA) of the Act. With respect to shares of a company not being listed on a recognized stock exchange or immovable property, being land, building, or both, the determinative period of holding shall be more than 24 months for it to be regarded as long-term capital asset. With respect to other assets including a unit of a mutual fund other than equity oriented mutual fund or unit of a business trust, the determinative period of holding is more than 36 months for it to be regarded as long-term capital asset.

As per the provisions of section 111A of the Act, any income arising from transfer of short-term capital asset being an equity share in a company or a unit of an equity-oriented fund or a unit of a eligible business trust, transacted through a recognized stock exchange and subject to STT, will be taxable at a concessional rate of 15% (plus applicable surcharge and cess if any).

As per the provisions of section 112(1)(d) of the Act, gains arising on the transfer of long-term capital assets shall be chargeable to tax in the hands of the Trust at the rate of 20% (plus applicable surcharge and cess). However, as per the proviso to section 112 of the Act, the tax on long term capital gains on transfer of listed securities (other than units) or Zero-Coupon Bonds shall be at the rate of 10% (plus applicable surcharge and cess) without indexation benefit.

Further, as per section 112A, with effect from FY 2018-19, gains exceeding one lakh rupees arising on the transfer of long-term capital asset, being an equity share in a company or a unit of an equity-oriented fund or a unit of a business trust, transacted through a recognized stock exchange and subject to STT, shall be chargeable to tax in the hands of the Trust at the rate of 10% (plus applicable surcharge and cess) without indexation benefit.

With a view to grandfather gains notionally earned by investors up to 31st January 2018, for securities acquired till such date, it has been provided that taxable gains will be determined considering the cost which will be higher of:

- Actual cost of acquisition; or
- Lower of sale price and Fair Market Value (as specifically defined under the Act)

(Sec. 55(2)(ac))

In accordance with, and subject to the conditions, including the limit of investment of ₹ 50 lakhs, capital gains arising on transfer of a long term capital asset, being land or building or both, shall be exempt from capital gains under section 54EC if the gains are invested within 6 months from the date of transfer in purchase of specified bonds (redeemable after five years and issued on or after 1 April 2018) issued by National Highways Authority of India (NHAI) or Rural Electrification Corporation Ltd (RECL) or any other bond notified by the Central Government, if permitted to be invested by an Investment trust as per the extant governing regulations. In case the whole of the gains are not so invested, the exemption shall be allowed on a pro rata basis.

In accordance with, and subject to the conditions, including the limit of investment of ₹50 lakhs, capital gains arising on transfer of a long term capital asset shall be exempt from capital gains tax under section 54EE if the gains are invested within 6 months from the date of transfer in the purchase of long-term specified assets, being units issued before 1st day of April, 2019, by fund as may be notified by the Central Government, and if permitted to be invested by an Investment trust as per the extant governing regulations. In case the whole of the gains are not so invested, the exemption shall be allowed on a pro rata basis.

As per section 70 read with section 74 of the Act, short term capital loss arising during a year is allowed to be set-off against short term capital gains as well as long term capital gains. Balance loss, if any, shall be carried forward and set-off against any capital gains arising during subsequent eight assessment years. Also, as per section 70 of the Act r.w. section 74, long term capital loss arising during a year is allowed to be set-off only against long term capital gains. Balance loss, if any, shall be carried forward and set-off against long term capital gains arising during subsequent eight assessment years.

TAX BENEFITS AVAILABLE TO UNITHOLDERS OF THE TRUST

Special Benefits available to the Unitholders of the Trust:

Following tax benefit is specifically available to the unitholders of the Trust subject to the fulfilment of the conditions specified in the Act and SEBI Regulations:

Section 10(23FD) of the Act - Tax exemption in respect of income distributed by the Trust:

As per the provisions of section 115UA(1) of the Act, the income distributed by the Trust shall be deemed to be of the same nature and in the same proportion in the hands of the Unitholder as it had been received by or accrued to the business trust.
As per the provisions of section 10(23FD), any income referred to in section 115UA(1) of the Act and distributed by the Trust (except for that proportion of interest income referred in section 10(23FC)(a) of the Act or dividend received/receivable from an SPV referred to in section 10(23FC)(b) in a case where the SPV has exercised the option under section

115BAA; which is taxable under section 115UA(3) of the Act) shall not be included in the total income of the unit- holders.

According to sec. 47(xvii), any transfer of a capital asset, being share of a special purpose vehicle to a business trust in exchange of units allotted by that trust to the transferor shall not be regarded as transfer and accordingly not be liable to capital gains tax.

According to sec. 49(2AC) the cost of units acquired in lieu of shares in SPV shall be deemed to be cost of acquisition of shares in SPV.

As per clause (hc) of explanation 1 of sec. 2(42A), for ascertaining the period of holding of such units, the period of holding of shares in SPV shall also be included.

Notional gain arising on transfer of share of special purpose vehicle to business trust in exchange of units allotted by that trust as referred u/s 47(xvii) or notional gain arising upon change in carrying amount of the units and realised gain on transfer of these units are to be excluded in calculation of book profits for the purposes of MAT u/s 115JB. (clause (iie)) to explanation 1 to section 115JB).

General Benefits available to all Unitholders of the Trust:

For resident Unitholder:

Long-term capital gains:
Income arising on transfer of units of the Trust through a recognized stock exchange, on which STT is paid, shall be chargeable to tax in the hands of the Unitholders at a rate of 10% without indexation benefit (plus applicable surcharge and education cess) under section 112A of the Act if the said units are long-term capital assets. The determinative period of holding for such units to qualify as long-term capital asset is more than 36 months. Income arising on transfer of units of the Trust that are long term capital assets, which is not through a recognized stock exchange and not subject to STT, shall be chargeable to tax at 20%, with indexation benefit (plus applicable surcharge and education cess) under section 112 of the Act. In case of a Unitholder being an individual or HUF, where the total taxable income as reduced by long-term capital gains is below the basic exemption limit, the long-term capital gains will be reduced to the extent of the shortfall and only the balance long-term capital gains will be subjected to such tax in accordance with the proviso to clause (a) of sub-section (1) of section 112 of the Act.

Short-term capital gains:
Short-term capital gains arising on transfer of the units of the Trust will be chargeable to tax at the rate of 15% (plus applicable surcharge and cess) as per the provisions of section 111A of the Act provided such transaction is subject to STT and through a recognized stock exchange. In case of a Unitholder being an individual or HUF, where the total taxable income as reduced by short-term capital gains is below the basic exemption limit, the short-

term capital gains will be reduced to the extent of the shortfall and only the balance short-term capital gains will be subjected to such tax in accordance with the proviso to sub-section (1) of section 111A of the Act.

Set-off of losses:

Short Term Capital Loss computed for the given year is allowed to be set-off against Short Term/ Long Term Capital Gains computed for the said year under section 70 of the Act. Balance loss, if any, shall be carried forward and set-off against any capital gains arising during subsequent eight assessment years. Also, as per section 70 of the Act, long term capital loss arising during a year is allowed to be set-off only against long term capital gains. Balance loss, if any, shall be carried forward and set-off against long term capital gains arising during subsequent eight assessment years.

Deduction of Securities Transaction Tax:

Where the gains arising on the transfer of the units of the Trust are included in the business income of an assessee assessable under the head "Profits and Gains from Business or Profession" and on which securities transaction tax has been charged, such securities transaction tax shall be a deductible expense from business income as per the provisions of section 36(1)(xv) of the Act. The characterization of gains/ losses, arising from transfer of units , as capital gains or business income would depend on the nature of holding in the hands of the unitholders r and various other factors.

For non-resident Unitholder

Long-term capital gains:

Income arising on transfer of units of the Trust, shall be chargeable to tax in the hands of the Unitholders at a rate of 10% without indexation benefit (plus applicable surcharge and education cess) under section 112A of the Act if the said units are long-term capital assets and transfer is through a recognized stock exchange and subject to STT. These assets turn long term if they are held for more than 36 months. Income arising on transfer of units of the Trust that are long term capital assets, which is not through a recognized stock exchange and not subject to STT, shall be chargeable to tax at 20%, with indexation benefit (plus applicable surcharge and education cess) under section 112 of the Act.

Short-term capital gains:

Short-term capital gains arising on transfer of the units of the Trust will be chargeable to tax at the rate of 15% (plus applicable surcharge and cess) as per the provisions of section 111A of the Act if such transaction is chargeable to STT.

Set-off of losses:

Short Term Capital Loss computed for the given year is allowed to be set-off against Short Term/ Long Term Capital Gains computed for the said year under section 70 of the Act. Balance loss, if any, shall be carried forward and set-off against any capital gains arising

during subsequent eight assessment years. Also, as per section 70 of the Act, long term capital loss arising during a year is allowed to be set-off only against long term capital gains. Balance loss, if any, shall be carried forward and set-off against long term capital gains arising during subsequent eight assessment years.

Deduction of Securities Transaction Tax:

Where the gains arising on the transfer of units of the trust are included in the business income of an assessee assessable under the head "Profits and Gains from Business or Profession" and on which securities transaction tax has been charged, such securities transaction tax shall be a deductible expense from business income as per the provisions of section 36(1)(xv) of the Act.

Benefits under Double Taxation Avoidance Agreements:

Under the provisions of section 90(2) of the Act, a non-resident will be governed by the provisions of the Double Tax Avoidance Agreement (DTAA) between India and the country of tax residence of the non-resident and the provisions of the Act apply to the extent they are more beneficial to the assessee.

As per explanation 4 to section 115JB(2), the provisions of section 115JB shall not be applicable to a foreign company if the foreign company is a resident of a country having DTAA with India and such foreign company does not have a permanent establishment within the definition of the term in the relevant DTAA, or the foreign company is a resident of a country which does not have a DTAA with India and such foreign company is not required to seek registration under section 592 of the Companies Act 1956 or section 380 of the Companies Act 2013.

Section 194LBA – Tax Deduction on certain income from units of the Trust:

Where any distributed income referred in section 115UA, is in the nature referred to in clause (23FC) of section 10 payable by the Trust to its unit holder being a non-resident unit holder, then the same shall be subjected to the tax deduction at the rate of 5% (plus applicable surcharge and education cess). However, in view of section 90(2) of the Act, a non-resident will be governed by the provisions of the Agreement for Avoidance of Double Taxation (AADT) between India and the country of tax residence of the non-resident and the provisions of the Act apply to the extent they are more beneficial to the assessee.

For unitholders who are Foreign Portfolio Investors ('FPIs')/ Foreign Institutional Investors ('FIIs'):

Where the gains arising on the transfer of units of the Trust are included in the business income of an assessee assessable under the head "Profits and Gains from Business or Profession" and on which securities transaction tax has been charged, such securities

transaction tax shall be a deductible expense from business income as per the provisions of section 36(1)(xv) of the Act.

As per section 2(14) of the Act, any securities held by a FII which has invested in such securities in accordance with the regulations made under the Securities and Exchange Board of India Act, 1992 shall be deemed to be treated as Capital Gains.

As per section 196D, no tax is to be deducted from any income, by way of capital gains arising from the transfer of units to Foreign Institutional Investor. In respect of non-residents, the tax rates and consequent taxation mentioned above will be further subject to any benefits available under the Tax Treaty, if any, between India and the country in which the FPI/FII has Fiscal domicile. As per the provisions of section 90(2) of the Act, the provisions of the Act would prevail over the provisions of the Tax Treaty to the extent they are more beneficial to the FII.

Pursuant to Central Board of Direct Tax press release dated 24 September 2015, the Government has clarified the inapplicability of Minimum Alternate Tax provisions to FIIs/FPIs.

For unitholders who are Mutual Funds:

Under section 10(23D) of the Act, any income earned by a Mutual Fund registered under the Securities and Exchange Board of India Act, 1992, or a Mutual Fund set up by a public sector bank or a public financial institution, or a Mutual Fund authorized by the Reserve Bank of India would be exempt from income-tax, subject to such conditions as the Central Government may by notification in the Official Gazette specify in this behalf.

The Trust is not required to withhold tax on interest payment to Mutual Fund set up under section 10(23D) of the Act.

The above statement of possible direct tax benefits sets out the provisions of law in a summary manner only and is not a complete analysis or listing of all potential tax consequences of the purchase, ownership and disposal of Shares and units.

The stated benefits will be available only to the sole/ first named holder in case the units are held by joint holders.

In respect of non-residents, the tax rates and the consequent taxation mentioned above shall be further subject to any benefits available under the applicable DTAA, if any, between India and the country in which the non-resident has fiscal domicile.

BACKGROUND AND STRUCTURE OF THE TRUST

Background of the Trust

The Trust has been settled by the Sponsor as an irrevocable trust under the provisions of the Trusts Act in New Delhi, India pursuant to the Indenture of Trust dated August 27, 2019. The Indenture of Trust is registered under the Registration Act. The Trust is registered with the SEBI as an infrastructure investment trust under the InvIT Regulations.

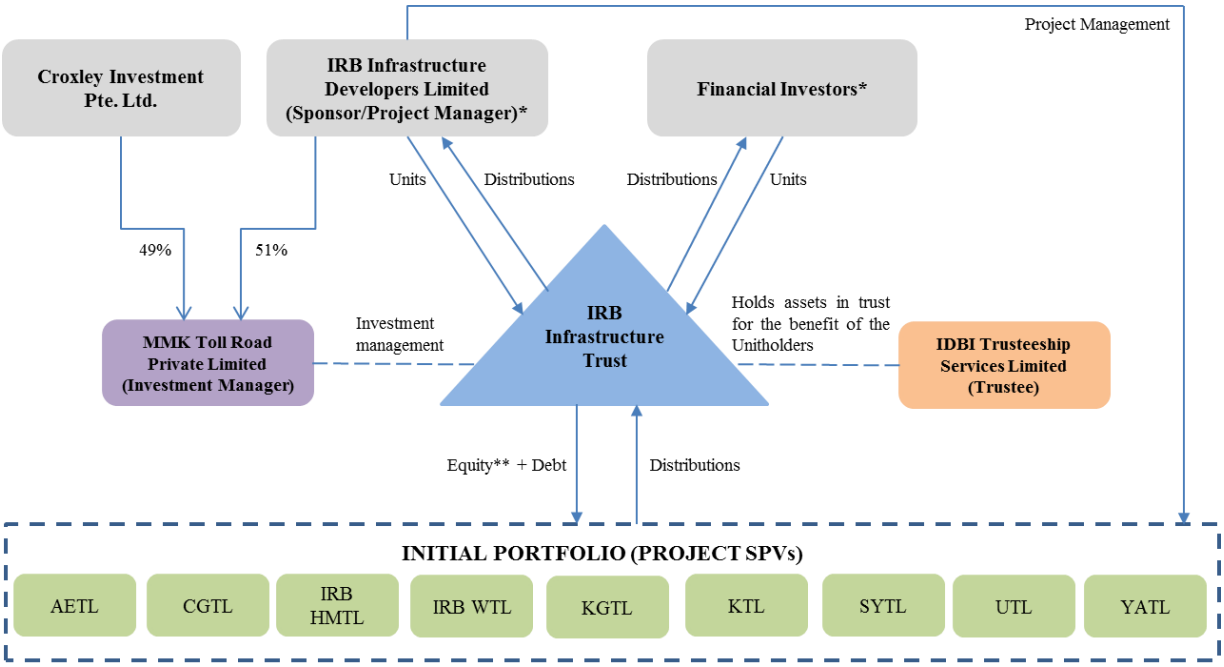
The object and purpose of the Trust, as described in the Indenture of Trust, is to carry on the activity of an infrastructure investment trust under the InvIT Regulations. Investment by the Trust shall only be in holding companies, SPVs, infrastructure projects, securities in India or other permitted investments in accordance with the InvIT Regulations, the investment strategy and the Trust Documents. The principal investment objective of the Trust is to own, operate and invest in infrastructure projects in India, directly or through holding companies or SPVs and make other investments and undertake such activities in such jurisdictions as may be permissible under the InvIT Regulations, other applicable law and the Trust Documents. For further details in relation to the business and investment strategy of the Trust, see "*Business*" on page 114.

The Trust is required to make distributions to the Unitholders in accordance with the InvIT Regulations and the Distribution Policy. For details in relation to the distribution policy of the Trust, see "*Distributions*" on page 246.

Parties to the Trust and Structure of the Trust

In accordance with the InvIT Regulations, the Parties to the Trust are (i) the Sponsor; (ii) the Investment Manager; (iii) the Trustee; and (iv) the Project Manager. For details, see "*The Sponsor and Project Manager*", "*The Investment Manager*" and "*The Trustee*" on pages 255, 258 and 264, respectively.

The following diagram illustrates the relationship among the Trust, the Project SPVs in the Initial Portfolio, the Trustee, the Investment Manager and the Unitholders (which includes the Sponsor) as on the date of this Letter of Offer:



** Unitholders of the Trust*
***100% of each Project SPV, together with nominee shareholders*

For details in relation to the PDTPL Acquisition, see "*Business*", "*Objects of the Issue*" and " – *The PDTPL Acquisition*" on pages 109, 66 and 92, respectively. For details in relation to the Target SPV, see " – *Details of the Target SPV*" on page 90.

Details of the Project SPVs

1. AETL

Corporate Information

AETL was incorporated on July 21, 2015 as a private limited company under the Companies Act, 1956, having CIN U45209MH2015PTC266741. AETL was converted into a public limited company under the Companies Act, and a fresh certificate of incorporation dated November 13, 2019 was issued, having CIN U45209MH2015PLC266741. Its registered office is situated at Off. No-11th Floor/1101 Hiranandani Knowledge Park, Technology Street, Hill Side Avenue, Powai, Mumbai 400 076, Maharashtra, India.

Main Object

The main object, as contained in the memorandum of association of AETL, is as follows:

"*To carry on the business of infrastructure development in respect of the work of Design, Build, Finance and Operation of Six Laning of Agra to Etawah Bypass section of NH-2 from km 199.660 to km 323.525 in the State of Uttar Pradesh under NHDP Phase V on Design, Build, Finance, Operate and Transfer (DBFOT) Toll basis, including collection and retention of the toll or fee and to carry out the ancillary activities, in relation of the foregoing, as specified in the Concession Agreement to be executed with National Highways Authority of India (NHAI).*"

Capital Structure

The capital structure of AETL is as follows:

Particulars	No. of equity shares of face value of ₹10 each
Authorized capital	436,500,000
Issued, subscribed and paid-up capital	436,500,000

Shareholding Pattern

The shareholding pattern of AETL is as follows:

S. No.	Name of the shareholder	No. of equity shares of face value of ₹10 each	Percentage of the issued, paid-up and subscribed capital (%)
1.	IDBI Trusteeship Services Limited*	436,499,994	100
2.	Mahesh Kavthekar**	1	Negligible
3.	Dhananjay K. Joshi**	1	Negligible
4.	Arati Taskar**	1	Negligible
5.	Shailesh Joshi**	1	Negligible
6.	Nikhil Maniar**	1	Negligible
7.	Anushree Joshi**	1	Negligible
Total		**436,500,000**	**100**

** On behalf of the Trust*
*** As a nominee of the Trust*

2. CGTL

Corporate Information

CGTL was incorporated on October 18, 2016 as a private limited company under the Companies Act, having CIN U45200MH2016PTC286895. CGTL was converted into a public limited company under the Companies Act, and a fresh certificate of incorporation dated November 13, 2019 was issued, having CIN U45200MH2016PLC286895. Its registered office is situated at Off. No-11th Floor/1101 Hiranandani Knowledge Park, Technology Street, Hill Side Avenue, Powai, Mumbai 400 076, Maharashtra, India.

Main Object

The main object, as contained in the memorandum of association of CGTL, is as follows:

"*To carry on the business of infrastructure development in respect of the work of Design, Build, Finance, and Operation of Six Laning of Kishangarh Udaipur Ahmedabad Section from km 90.000 (near Gulabpura) to km 214.870 (end of Chittorgarh Bypass) of NH-79 in the State of Rajasthan Package-2 under NHDP Phase – V on BOT(Toll) mode, including collection and retention of the toll or fee and to carry out the ancillary activities, in relation of the foregoing, as specified in the Concession Agreement to be executed with National Highways Authority of India (NHAI).*"

Capital Structure

The capital structure of CGTL is as follows:

Particulars	No. of equity shares of face value of ₹10 each
Authorized capital	203,500,000
Issued, subscribed and paid-up capital	203,500,000

Shareholding Pattern

The shareholding pattern of CGTL is as follows:

S. No.	Name of the shareholder	No. of equity shares of face value of ₹10 each	Percentage of the issued, paid-up and subscribed capital (%)
1.	IDBI Trusteeship Services Limited*	203,499,994	100
2.	Mahesh Kavthekar**	1	Negligible
3.	Dhananjay K. Joshi**	1	Negligible
4.	Arati Taskar**	1	Negligible
5.	Shailesh Joshi**	1	Negligible
6.	Nikhil Maniar**	1	Negligible
7.	Vinod Kumar Menon**	1	Negligible
Total		**203,500,000**	**100**

** On behalf of the Trust*
*** As a nominee of the Trust*

3. IRB HMTL

Corporate Information

IRB HMTL was incorporated on April 18, 2018 as a private limited company under the Companies Act, having CIN U45400MH2018PTC308187. IRB HMTL was converted into a public limited company under the Companies Act, and a fresh certificate of incorporation dated November 13, 2019 was issued, having CIN U45400MH2018PLC308187. Its registered office is situated at Off. No-11th Floor/1101 Hiranandani Knowledge Park, Technology Street, Hill Side Avenue, Powai, Mumbai 400 076, Maharashtra, India.

Main Object

The main object, as contained in the memorandum of association of IRB HMTL, is as follows:

"*To carry on the business of infrastructure development in respect of Six Laning of Hapur bypass to Moradabad Section including Hapur bypass from Km 50.000 (Design Chainage 50.000) to Km 148.277 (Design Chainage 149.867) of NH-24 (New NH-9) in the State of Uttar Pradesh under NHDP Phase V (Bharatmala Pariyojna) on DBFOT (Toll) mode, including collection and retention of the toll of fee and to carry out the ancillary activities, in relation of the foregoing, as specified in the Concession Agreement to be executed with National Highways Authority of India (NHAI).*"

Capital Structure

The capital structure of IRB HMTL is as follows:

Particulars	No. of equity shares of face value of ₹10 each
Authorized capital	375,000,000
Issued, subscribed and paid-up capital	371,500,000

Shareholding Pattern

The shareholding pattern of IRB HMTL is as follows:

S. No.	Name of the shareholder	No. of equity shares of face value of ₹10 each	Percentage of the issued, paid-up and subscribed capital (%)
1.	IDBI Trusteeship Services Limited*	371,499,994	100
2.	Mahesh Kavthekar**	1	Negligible
3.	Dhananjay K. Joshi**	1	Negligible
4.	Arati Taskar**	1	Negligible
5.	Shailesh Joshi**	1	Negligible
6.	Nikhil Maniar**	1	Negligible
7.	Vinod Kumar Menon**	1	Negligible
Total		**371,500,000**	**100**

** On behalf of the Trust*
*** As a nominee of the Trust*

4. IRB WTL

Corporate Information

IRB WTL was incorporated on August 22, 2012 as a private limited company under the Companies Act, 1956, having CIN U45400MH2012PTC234786. IRB WTL was converted into a public limited company under the Companies Act, and a fresh certificate of incorporation dated November 13, 2019 was issued, having CIN U45400MH2012PLC234786. Its registered office is situated at Off. No-11th Floor/1101 Hiranandani Knowledge Park, Technology Street, Hill Side Avenue, Powai, Mumbai 400 076, Maharashtra, India.

Main Object

The main object, as contained in the memorandum of association of IRB WTL, is as follows:

"*To carry on the business of infrastructure development in respect of the work of Design, Build, Finance, and Operation of Four Laning of Goa/Karnataka border to Kundapur section of NH-17 from existing km 93.700 to km 283.300 in the State of Karnataka under NHDP Phase IV on Design, Build, Finance, Operate and Transfer (DBFOT) Toll basis, inclduing collection and retention of toll or fee and to carry out the ancillary activities, in relation of the foregoing, as specified in the Concession Agreement to be executed with National Highways Authority of India (NHAI).*"

Capital Structure

The capital structure of IRB WTL is as follows:

Particulars	No. of equity shares of face value of ₹10 each
Authorized capital	174,194,303
Issued, subscribed and paid-up capital	174,194,303

Shareholding Pattern

The shareholding pattern of IRB WTL is as follows:

S No.	Name of the shareholder	No. of equity shares of face value of ₹10 each	Percentage of the issued, paid-up and subscribed capital (%)
1.	IDBI Trusteeship Services Limited*	174,194,297	100
2.	Mahesh Kavthekar**	1	Negligible
3.	Dhananjay K. Joshi**	1	Negligible
4.	Shailesh Joshi**	1	Negligible
5.	Nikhil Maniar**	1	Negligible
6.	Arati Taskar**	1	Negligible
7.	Anushree Joshi**	1	Negligible
Total		**174,194,303**	**100**

** On behalf of the Trust*
*** As a nominee of the Trust*

5. KGTL

Corporate Information

KGTL was incorporated on January 12, 2017 as a private limited company under the Companies Act, having CIN U45203MH2017PTC289501. KGTL was converted into a public limited company under the Companies Act, and a fresh certificate of incorporation dated November 14, 2019 was issued, having CIN U45203MH2017PLC289501. Its registered office is situated at Off. No-11th Floor/1101 Hiranandani Knowledge Park, Technology Street, Hill Side Avenue, Powai, Mumbai 400 076, Maharashtra, India.

Main Object

The main object, as contained in the memorandum of association of KGTL, is as follows:

"*To carry on the business of infrastructure development in respect of the work of Design, Build, Finance and Operation of Six Laning of Kishangarh to Gulabpura Section of NH 79A and NH 79 in the state of Rajasthan (length 90.000 km) under NHDP Phase V package – I on DBFOT (Toll) mode, including collection and retention of the toll or fee and to carry out the ancillary activities, in relation of the foregoing, as specified in the Concession Agreement to be executed with National Highways Authority of India (NHAI).*"

Capital Structure

The capital structure of KGTL is as follows:

Particulars	No. of equity shares of face value of ₹10 each
Authorized capital	155,500,000
Issued, subscribed and paid-up capital	155,500,000

Shareholding Pattern

The shareholding pattern of KGTL is as follows:

S. No.	Name of the shareholder	No. of equity shares of face value of ₹10 each	Percentage of the issued, paid-up and subscribed capital (%)
1.	IDBI Trusteeship Services Limited*	155,499,994	100
2.	Mahesh Kavthekar**	1	Negligible
3.	Dhananjay K. Joshi**	1	Negligible
4.	Arati Taskar **	1	Negligible
5.	Shailesh Joshi**	1	Negligible
6.	Nikhil Maniar**	1	Negligible
7.	Vinod Kumar Menon**	1	Negligible

S. No.	Name of the shareholder	No. of equity shares of face value of ₹10 each	Percentage of the issued, paid-up and subscribed capital (%)
Total		155,500,000	**100**

** On behalf of the Trust*
*** As a nominee of the Trust*

6. KTL

Corporate Information

KTL was incorporated on June 11, 2014 as a private limited company under the Companies Act, having CIN U45201MH2014PTC255454. KTL was converted into a public limited company under the Companies Act, and a fresh certificate of incorporation dated November 14, 2019 was issued, having CIN U45201MH2014PLC255454. Its registered office is situated at Off. No-11th Floor/1101 Hiranandani Knowledge Park, Technology Street, Hill Side Avenue, Powai, Mumbai 400 076, Maharashtra, India.

Main Object

The main object, as contained in the memorandum of association of KTL, is as follows:

"*To carry on the business of infrastructure development in respect of the work of Design, Build, Finance and Operation of Four Laning of Kaithal to Rajasthan Border section of NH-152/65 from km 33+250 (Design Km – 0.500) to km 241+580 (Design Km 165.759) in the State of Haryana under NHDP Phase IV on Design, Build, Finance, Operate and Transfer (DBFOT) Toll basis, including collection and retention of the toll or fee and to carry out the ancillary activities, in relation of the foregoing, as specified in the Concession Agreement to be executed with National Highways Authority of India (NHAI).*"

Capital Structure

The capital structure of KTL is as follows:

Particulars	No. of equity shares of face value of ₹10 each
Authorized capital	328,000,000
Issued, subscribed and paid-up capital	328,000,000

Shareholding Pattern

The shareholding pattern of KTL is as follows:

S. No.	Name of the shareholder	No. of equity shares of face value of ₹10 each	Percentage of the issued, paid-up and subscribed capital (%)
1.	IDBI Trusteeship Services Limited*	327,999,994	100
2.	Mahesh Kavthekar**	1	Negligible
3.	Dhananjay K. Joshi**	1	Negligible
4.	Arati Taskar**	1	Negligible
5.	Shailesh Joshi**	1	Negligible
6.	Nikhil Maniar**	1	Negligible
7.	Anushree Joshi*	1	Negligible
Total		**328,000,000**	**100**

** On behalf of the Trust*
*** As a nominee of the Trust*

7. SYTL

Corporate Information

SYTL was incorporated on January 10, 2014 as a private limited company under the Companies Act, 1956, having CIN U45400MH2014PTC251983. SYTL was converted into a public limited company under the Companies Act, and a fresh certificate of incorporation dated November 13, 2019 was issued, having CIN U45400MH2014PLC251983. Its registered office is situated at Off. No-11th Floor/1101 Hiranandani Knowledge Park, Technology Street, Hill Side Avenue, Powai, Mumbai 400 076, Maharashtra, India.

Main Object

The main object, as contained in the memorandum of association of SYTL, is as follows:

"*To carry on the business of infrastructure development in respect of the work of Design, Build, Finance and Operation of Four Laning of Solapur to Yedeshi section of NH-211 from km 0.000 to km 100.000 (Design Length 98.717 km) in the State of Maharashtra under NHDP Phase IV on Design, Build, Finance, Operate and Transfer (DBFOT) Toll basis, including collection and retention of the toll or fee and to carry out the ancillary activities, in relation of the foregoing, as specified in the Concession Agreement to be executed with National Highways Authority of India (NHAI).*"

Capital Structure

The capital structure of SYTL is as follows:

Particulars	No. of equity shares of face value of ₹10 each
Authorized capital	98,250,000
Issued, subscribed and paid-up capital	98,250,000

Shareholding Pattern

The shareholding pattern of SYTL is as follows:

S. No.	Name of the shareholder	No. of equity shares of face value of ₹10 each	Percentage of the issued, paid-up and subscribed capital (%)
1.	IDBI Trusteeship Services Limited*	98,249,994	100
2.	Dhananjay K. Joshi**	1	Negligible
3.	Mahesh Kavthekar**	1	Negligible
4.	Shailesh Joshi**	1	Negligible
5.	Nikhil Maniar**	1	Negligible
6.	Arati Taskar**	1	Negligible
7.	Anushree Joshi**	1	Negligible
Total		**98,250,000**	**100**

** On behalf of the Trust*
*** As a nominee of the Trust*

8. UTL

Corporate Information

UTL was incorporated on October 6, 2016 as a private limited company under the Companies Act, having CIN U45203MH2016PTC286600. UTL was converted into a public limited company under the Companies Act, and a fresh certificate of incorporation dated November 13, 2019 was issued, having CIN U45203MH2016PLC286600. Its registered office is situated at Off. No-11th Floor/1101 Hiranandani Knowledge Park, Technology Street, Hill Side Avenue, Powai, Mumbai 400 076, Maharashtra, India.

Main Object

The main object, as contained in the memorandum of association of UTL, is as follows:

"*To carry on the business of infrastructure development in respect of the work of Design, Build, Finance and Operation of Six Lanning from km 287.400 to km 401.200 section of NH-8 in the States of Rajasthan and Gujarat*

(approx. length 113.800 km) on Design, Build, Finance, Operate and Transfer (DBFOT) Toll basis under NHDP Phase V (package – V), including collection and retention of the toll or fee and to carry out the ancillary activities, in relation of the foregoing, as specified in the Concession Agreement to be executed with National Highways Authority of India (NHAI)."

Capital Structure

The capital structure of UTL is as follows:

Particulars	No. of equity shares of face value of ₹10 each
Authorized capital	116,800,000
Issued, subscribed and paid-up capital	116,800,000

Shareholding Pattern

The shareholding pattern of UTL is as follows:

S. No.	Name of the shareholder	No. of equity shares of face value of ₹10 each	Percentage of the issued, paid-up and subscribed capital (%)
1.	IDBI Trusteeship Services Limited*	116,799,994	100
2.	Mahesh Kavthekar**	1	Negligible
3.	Shailesh Joshi**	1	Negligible
4.	Arati Taskar**	1	Negligible
5.	Dhananjay K. Joshi**	1	Negligible
6.	Vinod Kumar Menon**	1	Negligible
7.	Nikhil Maniar**	1	Negligible
Total		**116,800,000**	**100**

** On behalf of the Trust*
*** As a nominee of the Trust*

9. YATL

Corporate Information

YATL was incorporated on May 17, 2014, as a private limited company under the Companies Act, 2013, having CIN U45300MH2014PTC255280. YATL was converted into a public limited company under the Companies Act, and a fresh certificate of incorporation dated November 13, 2019 was issued, having CIN U45300MH2014PLC255280. Its registered office is situated at Off. No-11th Floor/1101 Hiranandani Knowledge Park, Technology Street, Hill Side Avenue, Powai, Mumbai 400 076, Maharashtra, India.

Main Object

The main object, as contained in the memorandum of association of YATL, is as follows:

"*To carry on the business of infrastructure development in respect of the work of Design, Build, Finance and Operation of Four Laning of Yedeshi to Aurangabad section of NH-211 from km 100.000 to km 290.200 in the State of Maharashtra under NHDP Phase IVB on Design, Build, Finance, Operate and Transfer (DBFOT) Toll basis, including collection and retention of the toll or free and to carry out the ancillary activities, in relation of the foregoing, as specified in the Concession Agreement to be excuted with National Highways Authority of India (NHAI).*"

Capital Structure

The capital structure of YATL is as follows:

Particulars	No. of equity shares of face value of ₹10 each

Authorized capital	216,000,000
Issued, subscribed and paid-up capital	215,757,001

Shareholding Pattern

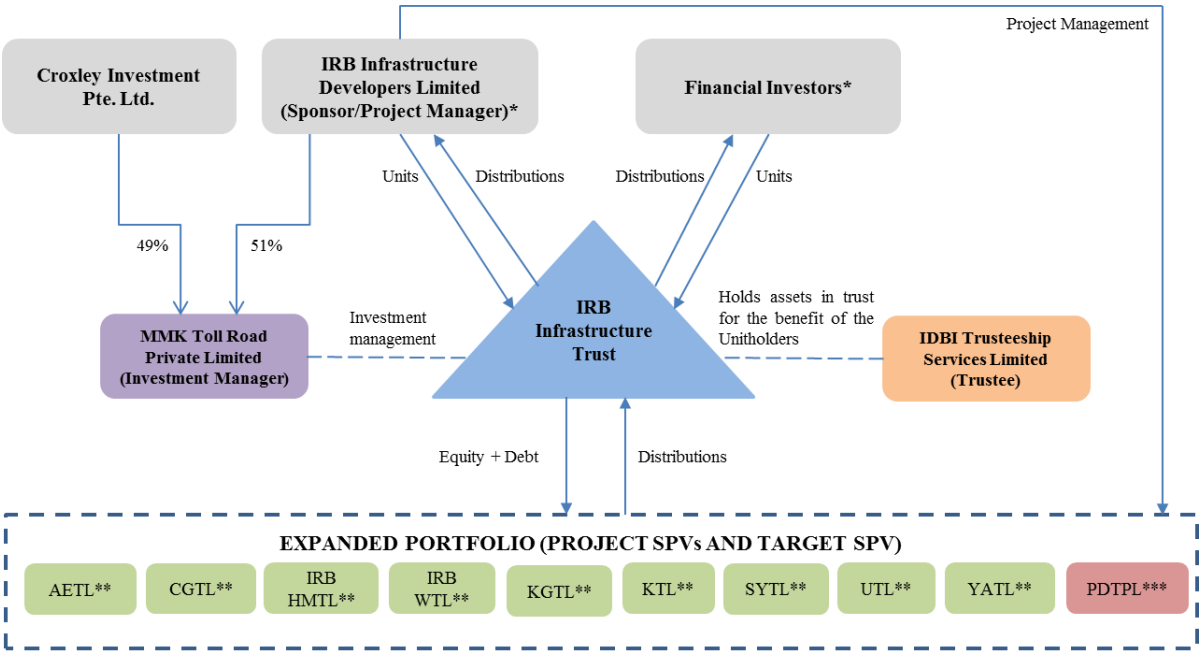
The shareholding pattern of YATL is as follows:

S. No.	Name of the shareholder	No. of equity shares of face value of ₹10 each	Percentage of the issued, paid-up and subscribed capital (%)
1.	IDBI Trusteeship Services Limited*	215,756,995	100
2.	Mahesh Kavthekar**	1	Negligible
3.	Shailesh Joshi**	1	Negligible
4.	Arati Taskar**	1	Negligible
5.	Dhananjay K. Joshi**	1	Negligible
6.	Anushree Joshi**	1	Negligible
7.	Nikhil Maniar**	1	Negligible
Total		**215,757,001**	**100**

** On behalf of the Trust*
*** As a nominee of the Trust*

Details of the Target SPV

The following diagram illustrates the relationship among the Trust, the Project SPVs and the Target SPV constituting the Expanded Portfolio, the Trustee, the Investment Manager and the Unitholders (which includes the Sponsor) pursuant to the completion of the PDTPL Acquisition after the completion of the Issue. For details of the PDTPL Acquisition, see "*Business*", "*Objects of the Issue*" and " – *The PDTPL Acquisition*" on pages 109, 66, and 92, respectively. Also see "*Risk Factors – We are in the process of acquiring the Target SPV (pursuant to definitive acquisition agreements), which if not completed in a timely manner or at all, or any failure to realize the anticipated benefits of the PDTPL Acquisition, may adversely affect us.*" on page 21.



** Unitholders of the Trust*
***100% of each Project SPV held by the Trust, together with nominee shareholders*
****99.96% of PDTPL held by the Trust, with the Sponsor and the Sponsor's nominee shareholders holding the remaining 0.04%*

PDTPL

Corporate Information

PDTPL was incorporated on April 15, 2021, as a private limited company under the Companies Act, 2013, having CIN U45201MH2021PTC359020. Its registered office is situated at Off. No-11th Floor/1101 Hiranandani Knowledge Park, Technology Street, Powai, Mumbai 400 076, Maharashtra, India.

Main Object

The main object, as contained in the memorandum of association of PDTPL, is as follows:

"To carry on the business of infrastructure development in respect of 6 Laning of National Corridor NH-19 from Palsit to Dankuni (up to NH-6 Connector) from km. 588.870 to km. 652.700 (total design length 63.830 km) in the State of West Bengal under Bharatmala Pariyojana to be executed on BOT (Toll) basis Project including collection and retention of the toll or fee and to carry out the ancillary activities, in relation of the foregoing, as specified in the Concession Agreement to be executed with National Highways Authority of India (NHAI)."

Capital Structure

The capital structure of PDTPL is as follows:

Particulars	No. of equity shares of face value of ₹10 each
Authorized capital	121,250,000
Issued, subscribed and paid-up capital	50,000

Upon completion of the PDTPL Acquisition, the issued, subscribed and paid-up capital of PDTPL is proposed to increase to 121,250,000 equity shares of face value of ₹10 each.

Shareholding Pattern

The shareholding pattern of PDTPL as on the date of this Letter of Offer is as follows:

S. No.	Name of the shareholder	No. of equity shares of face value of ₹10 each	Percentage of the issued, paid-up and subscribed capital (%)
1.	IRB Infrastructure Developers Limited	49,994	99.99
2.	Rajpaul Sharma*	1	Negligible
3.	Vinod Kumar Menon*	1	Negligible
4.	Amitabh Murarka*	1	Negligible
5.	Dhananjay K. Joshi*	1	Negligible
6.	Arati Taskar*	1	Negligible
7.	Anushree Joshi*	1	Negligible
Total		**50,000**	**100**

** As a nominee of IRB Infrastructure Developers Limited*

The shareholding pattern of PDTPL upon completion of the PDTPL Acquisition is as follows:

S. No.	Name of the shareholder	No. of equity shares of face value of ₹10 each	Percentage of the issued, paid-up and subscribed capital (%)
1.	IDBI Trusteeship Services Limited*	121,200,000	99.96
2.	IRB Infrastructure Developers Limited	49,994	0.04
3.	Rajpaul Sharma**	1	Negligible
4.	Vinod Kumar Menon**	1	Negligible
5.	Amitabh Murarka**	1	Negligible
6.	Dhananjay K. Joshi**	1	Negligible
7.	Arati Taskar**	1	Negligible
8.	Anushree Joshi**	1	Negligible
Total		**121,250,000**	**100**

** On behalf of the Trust*
*** As a nominee of IRB Infrastructure Developers Limited*

The PDTPL Acquisition

The Trust intends to acquire 99.96% of the equity shares of PDTPL through subscription to 121,200,000 equity shares of PDTPL after the date of allotment in the Issue. A portion of the proceeds of the Issue will be utilized to pay the subscription amount for the acquisition of equity shares of PDTPL. The Sponsor (together with its nominee shareholders) will continue to hold 50,000 equity shares or 0.04% of the post-acquisition equity share capital of PDTPL. The Trustee (on behalf of the Trust), the Investment Manager, the Sponsor and PDTPL have entered into the PDTPL Share Subscription Agreement dated April 7, 2022 for the acquisition of PDTPL by the Trust. For a summary of the key terms of the PDTPL Share Subscription Agreement, see "*Objects of the Issue – Details of Utilization of Issue Proceeds*" on page 66.

In connection with the PDTPL Acquisition, the Sponsor, the Investment Manager, the Financial Investors and Croxley have entered into an amendment to the Framework Agreement to record the terms and conditions in relation to, *inter-alia*, investment into the Trust for funding the acquisition of PDTPL and further funding for the completion of the project. For details, see " – *Certain Agreements in relation to the Trust – Framework Agreement*" below.

The Sponsor, the Investment Manager and Croxley have also entered into an amendment dated April 7, 2022 to the IM SHA, for *inter-alia*, including of certain definitions relating to PDTPL in the IM SHA and updating the list of Identified SPVs to include PDTPL.

The Trustee (on behalf of the Trust) and the Investment Manager have also entered into a Shareholder Loan Agreement with PDTPL to provide shareholder loans to PDTPL. For details, see "*Objects of the Issue – Details of Utilization of Issue Proceeds*" on page 69.

Further, the Trustee (on behalf of the Trust), the Investment Manager, PDTPL and the Sponsor will enter into a Project Implementation Agreement to appoint the Sponsor as the Project Manager with respect to PDTPL's project. For details, see "*The Sponsor and Project Manager – Functions, Duties and Responsibilities of the Project Manager*" on page 256.

The Trustee (on behalf of the Trust), the Investment Manager, the Sponsor, the Project SPVs and PDTPL have also entered into an amendment dated February 7, 2022 to the Name Licensing Arrangement. For details, see "*Business – Intellectual Property*" on page 136.

Certain Agreements in relation to the Trust

Framework Agreement

The Sponsor, the Investment Manager, the Financial Investors and Croxley have entered into the Framework Agreement to record the terms and conditions in relation to, *inter-alia*, subsequent investment into the Trust by the Sponsor and further funding for completion of the projects of the Project SPVs. The promoter of the Sponsor has also provided undertakings in relation to his shareholding in the Sponsor and other matters.

Pursuant to the terms of the Framework Agreement and the Share Purchase Agreements, the Initial Portfolio was sold to the Trust by the Sponsor and its affiliates. Further, Croxley and the Investment Manager entered into the IM SHA in connection with Croxley's investment in the Investment Manager. See "*Corporate Governance*" and "*The Investment Manager*" on pages 138 and 258, respectively, for details of the arrangements under these agreements.

The Sponsor, the Investment Manager, the Financial Investors and Croxley have entered into an amendment dated April 7, 2022 to the Framework Agreement to record the terms and conditions in relation to, *inter-alia*, investment into the Trust for funding the acquisition of PDTPL and further funding for the completion of the project. Pursuant to the terms of such amendment: (i) the Trust (acting through the Trustee), the Investment Manager, the Sponsor and PDTPL have entered into the PDTPL Share Subscription Agreement; (ii) the Trust (acting through the Trustee), the Investment Manager and PDTPL have entered into the PDTPL Shareholder Loan Agreement; (iii) the Sponsor, Croxley and the Investment Manager have entered into an amendment dated April 7, 2022 to the IM SHA; and (iv) the the Trust (acting through the Trustee), the Investment Manager, PDTPL and the Sponsor/Project Manager will enter into the PDTPL Project Implementation Agreement.

A summary of the key provisions of the Framework Agreement is set out below.

Covenants

The Sponsor has provided covenants and undertakings to the Financial Investors in relation to certain matters under the Framework Agreement. These include, *inter-alia*:

- *Correspondence and regulatory filings:* other than routine or annual filings made by the Manager Group Member with the SEBI or the RBI, regulatory correspondence and filings between the Trustee or Manager Group Member and the SEBI or RBI as specified in the Framework Agreement require the prior written consent of the Financial Investors;

- *Project management works*: the Sponsor will act as the Project Manager in accordance with the terms of the Project Implementation Agreements and provide operation and maintenance services for a period of at least 10 years under the Project Implementation Agreements. For further details, see "*Background and Structure of the Trust – Fees and Expenses – Fees and expenses of the Project Manager*" and "*The Sponsor and Project Manager*" on pages 102 and 255, respectively;

- *Listing:* Under certain circumstances and subject to the conditions specified in the Framework Agreement, the Sponsor is required to ensure that the Units of the Trust are listed on the BSE Limited and/ or National Stock Exchange of India Limited and/or such other agreed stock exchanges on or prior to a mutually agreed date in accordance with the InvIT Regulations and other applicable law;

- *Sponsor categorization*: Unless otherwise agreed by the parties, the Sponsor will continue to act as a sponsor of the Trust so long as the Sponsor and/or its affiliates hold Units and shall fulfil the obligations of a sponsor under the InvIT Regulations; and

- *Right of first offer in relation to the IRB InvIT Fund:* the Sponsor has agreed to provide the Financial Investors a right of first offer over any units of the IRB InvIT Fund held by the Sponsor and its affiliates and proposed to be transferred by them to any person (other than the entities controlled by the Sponsor or its subsidiaries) at any time after the closing date.

In addition, the Sponsor has also undertaken to comply with provisions in relation to material contracts, business plans, policies and initial tax orders and ensure certain information rights. Upon the Project SPVs achieving completion of the projects as required under the relevant concession agreements, the Sponsor has undertaken to ensure that no more than 51% of the equity shares (on a fully diluted basis) of all the Project SPVs will be encumbered in favor of the lenders and/or a debenture trustee.

Additional covenants in relation to the PDTPL Acquisition

The Sponsor has provided certain additional covenants and undertakings to the Financial Investors in relation to PDTPL under the Framework Agreement. These include, *inter-alia*:

- *Conduct of business of PDTPL:* the Sponsor will ensure that the business of PDTPL is conducted in the ordinary course and in accordance with applicable law and the relevant project documentation between execution and the PDTPL closing date.

- *Standstill obligations*: The Sponsor has also agreed to certain standstill obligations in relation to PDTPL between execution and the PDTPL closing date.

- *Post-closing obligations*: The Sponsor is also required to ensure compliance with certain post-closing obligations including provision of valuation reports under the Income-tax Act.

PDTPL is not permitted to engage any employees, consultants, contract laborers or workers (howsoever categorized, except external professional advisors) without the prior written consent of the Financial Investors.

All claims (other than construction related claims) made or intended to be made by PDTPL against the NHAI or other Governmental Authority shall be considered Future Claims and shall be treated similar to Future Claims for the Project SPVs.

Conditions precedent in relation to the PDTPL Acquisition

The obligation of the relevant parties to complete the PDTPL Acquisition is subject to the fulfillment of certain conditions by the Sponsor to the satisfaction of the Financial Investors (or waiver of the conditions, at the sole discretion of the Financial Investors), including, among others:

- the PDTPL transaction documents, in agreed form, shall have been duly executed by the parties thereunder (through their respective authorized representatives), and delivered to the other parties thereunder;
- no Governmental Authority of competent jurisdiction shall have enacted, issued, promulgated or enforced any applicable law that prohibits or makes illegal the consummation of the PDTPL Acquisition or any of the PDTPL transaction documents;
- there shall be no legal proceeding pending against, or (to the knowledge of the Sponsor) threatened against, any Trust Group Member, the Sponsor or its promoters wherein an unfavorable judgment, decree, injunction or order could reasonably result in any of the transactions contemplated herein being declared unlawful or rescinded, and no such judgment, decree, injunction or order shall be in effect;
- the Sponsor, its affilicates and PDTPL shall have obtained all necessary consents in connection with the execution of the PDTPL transaction documents and the completion of the transactions contemplated thereunder;
- the representations and warranties provided by the Sponsor under the PDTPL transaction agreements are true, accurate and complete as of the execution date and the PDTPL closing date (except those representations and warranties that address matters only as of a specified date, which shall be true and correct as of that specified date);
- the Business Plan and the Annual Budget with respect to PDTPL shall be in agreed form;
- no PDTPL Material Adverse Change shall be subsisting as on the closing date;
- the conditions precedent under all other PDTPL transaction documents shall be completed in a manner acceptable to the relevant parties thereunder;
- PDTPL, the Investment Manager and the Sponsor shall have duly performed and complied in all respects with all agreements, covenants and conditions required by the PDTPL transaction documents to be performed or complied with by them prior to or on the PDTPL closing date; and
- the Financial Investors shall have received a certificate, dated the PDTPL closing date and signed by a duly authorized officer of the Sponsor, that each of the conditions set forth above have been satisfied.

For purposes of the conditions precedent and representations and warranties in relation to PDTPL, "**PDTPL Material Adverse Change**" shall mean any fact, circumstance, or condition that, individually or in the aggregate, has a material adverse effect on or material adverse change in: (i) the business, assets (whether tangible or intangible), liabilities, financial condition or regulatory status of PDTPL, the Sponsor or the Investment Manager; or (ii) the ability of the Sponsor, PDTPL or the Investment Manager to perform its obligations under any PDTPL transaction document, or to complete any of the transactions contemplated thereunder; or (iii) the validity, legality or enforceability of the rights or remedies of the Financial Investors or their Affiliates under any PDTPL transaction document.

Representations and Warranties in relation to the PDTPL Acquisition

The Sponsor has provided representations and warranties in relation to, *inter-alia*, the organization, status and authority of PDTPL, no conflict with other obligations, the capital structure and shareholding of PDTPL, no conduct of business by PDTPL until the closing date, filing of the PDTPL transaction documents with any Governmental Authority in India, obtaining of all material consents required for carrying out business activities by PDTPL and no material breach of any of the conditions of such consents, material contracts, powers of attorney and proceedings, financial close and financial statements, anti-bribery and anti-corruption laws, anti-money-laundering and sanctions laws, no immunity and the absence of any personnel other than external professional advisors.

The Financial Investors and Croxley have provided representations and warranties in relation to their incorporation, existence, authority to enter into the agreement, eligbility to undertake the transactions under the agreement and no conflicts.

Reserved Matters

For details of Reserved Matters, see "*Rights of Unitholders – Approval of Unitholders – Reserved Matters*" on page 250.

Further funding in relation to the Initial Portfolio

The Financial Investors have agreed to contribute a portion of the total equity commitment required for completion of the project of each Project SPV (the "**Project SPV Commitment**") in accordance with the business plan and the annual budget as set out in the Framework Agreement. Such contribution is proposed to be through subscription to additional Units on a periodic basis. In the first instance, the internal accruals of the relevant Project SPVs for the relevant period will be applied towards the Project SPV Commitment in such period, and any shortfall or excess as per the forecasts in the business plan will be adjusted towards the Project SPV Commitment requirements in the subsequent period. The Sponsor and the Financial Investors will together invest the required funding into the Trust in an agreed proportion.

Further funding in relation to PDTPL

The Financial Investors have agreed to contribute a portion of the total equity commitment required for completion of the project of PDTPL (the "**PDTPL Commitment**") in accordance with the terms agreed among the parties to the Framework Agreement. Such contribution is proposed to be through subscription to additional Units at such intervals as agreed among the parties to the Framework Agreement. In the first instance, the internal accruals of PDTPL for the relevant period will be applied towards the PDTPL Commitment in such period, and any shortfall or excess as per the forecasts in the business plan will be adjusted towards the PDTPL Commitment requirements in the subsequent period. The Sponsor and the Financial Investors will together invest the required funding into the Trust in an agreed proportion.

Potential Projects

For details in relation to Potential Projects, see "*Related Party Transactions – Details of Related Party Transactions proposed to be undertaken*" on page 239.

Further issue of Units, transfer of Units and rights in relation to Unitholding

For details of arrangements agreed in relation to further issue of Units, transfer of Units and rights in relation to Unitholding, see "*Rights of Unitholders – Arrangements between the Sponsor and the Financial Investors*" on page 250.

Event of Default

For details of events of default and consequences, see "*Rights of Unitholders – Arrangements between the Sponsor and the Financial Investors – Events of Default and Consequences*" on page 250.

Indemnification in relation to the Formation Transactions

In relation to the Formation Transactions, the Sponsor has agreed to indemnify the Indemnified Parties (i.e., (a) the Financial Investors, their respective affiliates, their respective directors, officers, employees; and (b) at the option of the Financial Investors, any Manager Group Member, provided the Sponsor agrees to indemnify the relevant Manager Group Member of the entire loss suffered/ incurred by such Manager Group Member in relation to an indemnity event) against, any losses incurred or sustained by, or imposed upon, the Indemnified Parties based upon, arising out of, with respect to or relating to: (i) breach or inaccuracy of any of the Sponsor's warranties; (ii) any non-fulfilment, non-performance or other breach of any covenant or obligation of the Sponsor, its affiliates and/or any Manager Group Member contained in the transaction documents; (iii) any matter involving fraud, gross negligence or wilful misconduct by the Sponsor or any Manager Group Member; and (iv) certain specific indemnity matters.

The Sponsor's indemnification obligations are subject to certain limitations as to time and quantum as specified in the Framework Agreement. Further, the indemnified parties will not be entitled to claim any losses with respect to a particular indemnity event unless the losses exceed a particular amount. Payments by the Sponsor in respect of any loss will be limited to the amount of any liability or damage that remains after deducting any insurance proceeds received by the indemnified party in respect of any such claim. Subject to the limitations set out in the Framework Agreement, the Sponsor's liability for all monetary claims for breach of warranties, including claims for damages, will not exceed a specified amount agreed under the Framework Agreement.

Indemnification in relation to the PDTPL Acquisition

In relation to the PDTPL Acquisition, the Sponsor has agreed to indemnify the Indemnified Parties against, any losses incurred or sustained by, or imposed upon, the Indemnified Parties based upon, arising out of, with respect to or relating to: (i) any claim against PDTPL that has occurred prior to the PDTPL closing date; (ii) breach or inaccuracy of any of the Sponsor's warranties in relation to PDTPL; (iii) any non-fulfilment, non-performance or other breach of any covenant or obligation of the Sponsor, its affiliates and/or any Manager Group Member contained in the PDTPL transaction documents; and (iv) any matter involving fraud, gross negligence or wilful misconduct by the Sponsor, the Investment Manager or PDTPL.

The Sponsor's indemnification obligations are subject to certain limitations as to quantum as specified in the Framework Agreement. Further, the indemnified parties will not be entitled to claim any losses with respect to a particular indemnity event unless the losses exceed a particular amount. Payments by the Sponsor in respect of any loss will be limited to the amount of any liability or damage that remains after deducting any insurance proceeds received by the indemnified party in respect of any such claim. Subject to the limitations set out in the Framework Agreement, the Sponsor's liability for all monetary claims for breach of warranties, in relation to the PDTPL Acquisition, including claims for damages, will not exceed a specified amount agreed under the Framework Agreement.

Governing Law, Dispute Resolution and Termination

The Framework Agreement is governed by the laws of India. Any dispute shall be referred to and finally resolved by arbitration administered by the Singapore International Arbitration Centre in accordance with the SIAC Rules for the time being in force. The arbitration panel will consist of three arbitrators, each of which shall be appointed by SIAC in accordance with the SIAC Rules. The seat and venue of the arbitration proceedings will be London, United Kingdom.

The Framework Agreement will stand automatically terminated without any further action (i) as against the Financial Investors, when the entire Unitholding of the Financial Investors is sold and the entire shareholding of Croxley in the Investment Manager is sold, in accordance with the terms of the transaction documents; or (ii) as against the Sponsor, when the entire Unitholding of the Sponsor is sold or transferred in accordance with the terms of the Framework Agreement.

The amendment to the Framework Agreement in relation to the PDTPL Acquisition may be terminated prior to the PDTPL closing date (i) at any time by the mutual written agreement of the parties; or (ii) by the Sponsor or the Financial Investors, if the PDTPL closing date has not occurred on or before October 6, 2022, or (iii) by the Financial Investors, due to non-fulfilment of the conditions precedent in relation to the PDTPL Acquisition.

Debt Novation Agreements

In connection with the initial offer of Units by the Trust, the Investment Manager and the Trust (acting through the Trustee) entered into Debt Novation Agreements dated February 19, 2020 for the novation of subordinated debt and unsecured loans from the Sponsor and its Associates in consideration for the issue of Units to the Sponsor and the payment of certain amounts to the Sponsor and its Associates. The Debt Novation Agreements also provide for the treatment of Sponsor Claims and Future Claims and repayment of such debt by the Project SPVs to the Trust on an ongoing basis.

Certain definitions in the Debt Novation Agreements are set out below:

"**Debt**" shall mean the Subordinated Debt and the Unsecured Loans;

"**Future Claims**" shall mean, with respect to a Project SPV, the claims (including any administrative, legal or other similar proceedings) made or intended to be made by such Project SPV against any Governmental Authority for events pertaining to the period after the Reference Date, including any claims for events pertaining to the period prior to the Closing Date (defined below) but which would likely adversely impact the toll revenue of the Identified SPV during periods subsequent to the Closing Date;

"**Governmental Authority**" shall include the SEBI, the NHAI, the Ministry of Road Transport and Highways of the Government of India or any state or union territory of India, the Reserve Bank of India, and any national, state, regional or local government or governmental, regulatory, statutory, administrative, fiscal, taxation, judicial, or

government-owned body, department, commission, authority, court, arbitrator, tribunal, agency or entity, in India or outside India, in each case, having jurisdiction over any of the parties, their operations, or the transactions contemplated in the Debt Novation Agreement and the transaction documents;

"**Lenders**" shall mean the Sponsor and its associates that have provided Subordinated Debt and Unsecured Loans to the Project SPV in connection with its project;

"**Reference Date**" shall mean, with respect to a Project SPV, the later of the (i) the Closing Date; and (ii) the project completion date under the Concession Agreement, provided that if a provisional completion certificate is issued under the terms of the Concession Agreement and additional construction is required to be undertaken after the date of such certificate, this date shall be the date of issue of the final completion certificate;

"**Sponsor Claims**" shall mean, with respect to a Project SPV: (a) any kind of claim made by such Project SPV for events pertaining to the period prior to the Reference Date and the impact of which also solely pertains to the period prior to the Reference Date; and/or (b) all construction related claims (including any administrative, legal or other similar proceedings in relation to utilities shifting, change of scope, construction, delays in construction, idling of resources, interest during construction or other matters) made or intended to be made by such Project SPV against any Governmental Authority for events pertaining to the period prior or after to the Reference Date;

"Subordinated Debt" shall mean, with respect to a Project SPV, the outstanding interest-free subordinated debt provided by the Lenders to such Project SPV; and

"**Unsecured Loans**" shall mean, with respect to a Project SPV, the outstanding interest-free unsecured loans provided by the Lenders to such Project SPV.

Treatment of Sponsor Claims and Future Claims

In consideration for the transfer and release of a portion of Subordinated Debt and Unsecured Loans by the Lenders, and all rights and obligations in relation to such Debt, the Trust and the Investment Manager have agreed that the Amounts (defined below) will be paid by the Trust to the Lenders to the extent that any such amounts are received by the Project SPV in a settlement or adjudication (including arbitration) of Sponsor Claims.

The payment of Amounts to the Lenders shall constitute full, final and complete discharge of the obligation of the Trust with respect to payment of consideration for such Subordinated Debt and Unsecured Loans.

Any payments received by the Project SPV in a settlement or adjudication (including arbitration) of Sponsor Claims will be transferred by the Project SPV to the Trust immediately upon receipt (the "**Amounts**"). The Trust may also pay up to specified amount, in case of IRB WTL, to the Lenders towards the Amounts, including out of its cash flows, and any such amounts paid will be reduced from the aggregate Amounts. If a bank guarantee is required to be submitted to the relevant Governmental Authority in lieu of such Amounts (or any part thereof), the Lenders will provide the bank guarantee. Upon the receipt of the Amounts by the Trust, the Amounts will forthwith be paid by the Trust to the Lenders. All taxes in relation to such payments will be solely borne by the Lenders.

If the final settlement or adjudication in relation to the relevant Sponsor Claim is unsuccessful, the Trust will promptly inform the Lenders, as applicable, and the Sponsor and the Financial Investors will mutually agree on treatment of any outstanding amounts in relation to such Sponsor Claims based on tax considerations in a manner mutually agreed between the Financial Investors and the Sponsor. Any tax impact on the Trust or the Project SPVs on account of such outstanding debt and/ or write-off such debt (whether pertaining to the period prior to the Closing Date or after) will only be to the account of the Lenders, and no Manager Group Member (as defined in the Debt Novation Agreements) and/or any other Unitholder should suffer/ incur a loss in connection with such debt.

The Project SPV, the Investment Manager and the Trust will render all reasonable assistance necessary to enable the payment of the Amounts to the Lenders, as applicable, including to obtain any required approval and authorization required from the NHAI or other Governmental Authority or any of the senior lenders of the Project SPV.

Any amounts received by the Identified SPV or the Trust pursuant to the settlement or adjudication of Future Claims shall be distributed among the Unitholders in the proportion of their respective Unitholding percentages

in the Trust in such manner as may be permitted under applicable law. In the event of any restructuring as set out above, any amounts received pursuant to Future Claims for periods prior to such restructuring shall be distributed among the Unitholders in the proportion of their respective Unitholding percentages.

Repayment of the Debt by the Project SPVs

The Project SPVs will repay the Subordinated Debt and Unsecured Loans to the Trust as may be mutually agreed between the Parties based on availability of cash flows. Interest at rate of 14% p.a. will be chargeable on the above Debt with effect from the earlier of (i) the project completion date under the relevant concession agreement and (ii) the date of listing of the Units on one or more Stock Exchanges.

The above Debt shall, at all times be subordinate to the debt provided by the senior lenders. Subject to the terms of the financing agreements and the relevant escrow agreement, payments towards such Debt (including interest) will be made out of balance available in the escrow account for utilization in accordance with the instructions of the Project SPV, on the relevant interest payment date or repayment date, after meeting all payments due to the senior lenders as of such date.

Governing Law, Dispute Resolution and Termination

The Debt Novation Agreements will be governed by the laws of India. Any dispute shall be referred to and finally resolved by arbitration administered by the Singapore International Arbitration Centre in accordance with the SIAC Rules for the time being in force. The arbitration panel will consist of three arbitrators, each of which shall be appointed by SIAC in accordance with the SIAC Rules. The seat and venue of the arbitration proceedings will be Delhi, India.

The Debt Novation Agreements will stand terminated and fall away automatically without any further act by the parties (i) upon the repayment or settlement of all amounts (including interests and other charges) in relation to the Debt and (ii) there are no Amounts remaining due to the Lenders.

Shareholder Loan Agreements

The Trust has provided Shareholder Loans in the form of unsecured loans to the Project SPVs under the shareholder loan agreements dated February 19, 2020 with each Project SPV (collectively, the "**Project SPV Shareholder Loan Agreements**"). Additional debt is proposed to be provided by the Trust to the Project SPVs through disbursements under the Project SPV Shareholder Loan Agreements from time to time towards, *inter-alia*, funding of total project cost and working capital requirements of the Project SPVs.

A summary of the key terms of the Project SPV Shareholder Loan Agreements is set forth below.

Purpose	***AETL, IRB WTL, KTL, SYTL and YATL*** The Project SPV shall utilize the loan amounts solely for (i) the purpose of partial refinancing of certain secured loans provided to the Project SPV by the senior lenders; (ii) funding of total project cost; and (iii) working capital requirements or general corporate purposes of the Project SPV. ***CGTL, IRB HMTL, KGTL and UTL*** The Project SPV shall utilize the loan amounts solely for (i) funding of total project cost; and (ii) working capital requirements or general corporate purposes of the Project SPV.
Term	The Project SPV shall repay the loan at the end of the concession period under the relevant concession agreement as mutually agreed between the parties to the Project SPV Shareholder Loan Agreement.
Interest	• The Project SPV shall pay accrued interest (subject to withholding of applicable taxes) at the rate of 14% p.a., or or such other rate as may be decided mutually by the parties to the Project SPV Shareholder Loan Agreement from time to time. Interest will accrue from the date of disbursement of the loan. • Interest will be chargeable from the earlier of the (i) project completion date under the relevant concession agreement and (ii) the date of listing of the Units on one or more Stock Exchanges.

	• Interest will be payable in arrears on a quarterly basis, on or before the expiry of the calendar month immediately succeeding the completion of each quarter, provided that the Project SPV may, at its discretion, elect to pay interest on a monthly basis, and such interest shall be payable on the first day of the subsequent month for which the interest is being paid.
Repayment	• The Trust may call on the Project SPV to prepay the loan, in full or part, or permit the Project SPV to make payments of the outstanding loan, in full or part, after the date such payment is due, at any time during the term of the Project SPV Shareholder Loan Agreement until the final settlement date (as defined in the Project SPV Shareholder Loan Agreement). • The Project SPV may prepay the whole or part of the loan together with interest on that amount accrued up to the date of prepayment, by giving a prior written notice of not less than 30 days to the Trust, specifying the amount to be prepaid and the date of proposed prepayment. • The loan (in one or more tranches) provided under the Project Shareholder Loan Agreement shall, at all times be subordinate to the debt provided by the senior lenders. Subject to the terms of the financing agreements and the escrow agreements, payments towards the loan amounts (including interest) shall be made out of balance available in the escrow account for utilization in accordance with the instructions of the Project SPV on the relevant interest payment date or repayment date, after meeting all payments due to the senior lenders as of such date.
Security	Unsecured
Events of Default	The occurrence of any of the events or circumstances set out below shall constitute an "**Event of Default**", if not remedied within 180 days (or such extended period as may be provided by the Trust at its sole discretion) from the date of receiving notice of such default from the Trust. The Project SPV shall promptly give written notice to the Trust of any Event of Default and of any other event which, with the giving of notice or lapse of time or otherwise could constitute an Event of Default, and inform the Trust of any action taken or proposed to be taken by the Project SPV in connection therewith. • **Non-Payment:** The Project SPV fails to pay any amount due under the Project SPV Shareholder Loan Agreement or any other finance documents within a period of 180 days from the relevant due date. If debt due to senior lenders is outstanding, the Trust may declare a non-payment Event of Default only if one or more of the senior lenders declares an Event of Default in relation to amounts due to such senior lenders. • **Breach of Covenants and Undertakings:** The Project SPV breaches any provision of the Project SPV Shareholder Loan Agreement or any other finance documents. • **Misrepresentation:** Any representation or statement made by the Project SPV in any finance document or any other document delivered by or on behalf of the Project SPV under or in connection with any transaction document is or proves to have been incorrect or misleading in any material respect when made or results in a material adverse effect on the Project SPV or the relevant project. • **Cessation of Business**: The Project SPV ceasing or threatening or likely to cease, to carry on all or substantially all of its business or operations. • **Insolvency:** The Project SPV is unable to, or presumed or deemed to be unable to, or admits its inability to, pay its debts as they fall due, suspends making payments on any of its debts or, by reason of actual or anticipated financial difficulties, commences negotiations with one or more of its creditors with a view to rescheduling any of its indebtedness. • **Insolvency proceedings:** Any corporate action, legal proceedings or other procedure is taken in relation to: (a) the suspension of payments, a moratorium of any indebtedness, winding-up, dissolution, administration, provisional supervision or reorganization (by way of voluntary arrangement, scheme of arrangement or otherwise) of the Project SPV other than a solvent liquidation or reorganization of the Project SPV; (b) a composition or arrangement with any creditor of the Project SPV, or an assignment for the benefit of creditors generally of the Project SPV, or a class of such creditors; (c) the appointment of a liquidator, receiver, and manager, administrator, administrative receiver, compulsory manager, provisional supervisor or other similar officer in respect of the Project SPV or any of its assets; or (d) or any analogous procedure is taken in any jurisdiction.

	• **Unlawfulness and Invalidity:** (a) It is or becomes unlawful for the Project SPV to perform its obligations under the Project SPV Shareholder Loan Agreement or any other finance documents; or (b) any finance document is not or ceases to be legal, valid, binding or enforceable. • **Nationalization or Expropriation**: Any governmental authority has taken or has threatened to take any action to expropriate, condemn, nationalize or seize the relevant project or whole or part of the assets of the Project SPV, or the whole or substantially whole or part of the relevant project, resulting in the Project SPV being deprived or threatened to deprive to carry on its business or which will have a material adverse effect on the Project SPV or the relevant project on the operation of the business of the Project SPV. • **Cross Default**: The Project SPV defaults in the payment of any principal, interest, premium or other amount due (whether by scheduled maturity, mandatory prepayment, acceleration or demand) under any loan or credit agreement and/or defaults in the payments due under any existing facility agreement or the occurrence of an event of default under the existing facility agreements of the Project SPV. On and at any time after the occurrence of an Event of Default which has not been waived or cured and which is continuing, the Trust may, upon the delivery of seven business days' notice to the Project SPV of the occurrence of an Event of Default: (i) require all or part of the outstanding amounts to be payable immediately; and (ii) exercise such other rights as may be available to the Trust under the Project SPV Shareholder Loan Agreement, the finance documents or under applicable law. No further disbursement shall be made after the occurrence of an Event of Default.
Dispute Resolution	Any dispute shall be referred to and finally resolved by arbitration administered by the Singapore International Arbitration Centre in accordance with the Arbitration Rules of the Singapore International Arbitration Centre ("**SIAC Rules**") for the time being in force. The arbitration panel will consist of three arbitrators, each of which shall be appointed by SIAC in accordance with the SIAC Rules. The seat and venue of the arbitration proceedings shall be Delhi, India.
Governing Law	Laws of India

Unitholding pattern of the Trust

The table below provides details of the Unitholding pattern of the Trust:

S. No.	Name of Unitholder	Pre-Issue Unitholding[1]		Post-Issue Unitholding[2]	
		No. of Units	As a % of the total outstanding Units	No. of Units	As a % of the total outstanding Units[3]
1.	IRB Infrastructure Developers Limited	436,072,332[4]	51.00	448,531,541	51.00
2.	Anahera Investment Pte. Ltd.	213,760,685	25.00	219,868,133	25.00
3.	Bricklayers Investment Pte. Ltd.	51,302,562	6.00	52,768,349	6.00
4.	Chiswick Investment Pte. Ltd.	51,302,562	6.00	52,768,349	6.00
5.	Stretford End Investment Pte. Ltd.	51,302,562	6.00	52,768,349	6.00
6.	Dagenham Investment Pte. Ltd.	51,302,562	6.00	52,768,349	6.00
	TOTAL	**855,043,265**	**100.00**	**879,473,070**	**100.00**

[1] *As at the date of this Letter of Offer*
[2] *Assuming full subscription by all Eligible Unitholders to the extent of their respective Rights Entitlements in this Issue*
[3] *On a post-Issue basis*
[4] *The Sponsor has pledged a certain percentage of its Units in favor of banks/financial institutions.*

Fees and Expenses

1. *Fees and expenses of the Investment Manager*

Pursuant to the terms of the Investment Management Agreement, the fees will be paid to the Investment Manager for the services provided by it ("**Management Fees**"). The Management Fees will be an annual amount of ₹36.00 million per annum. The Management Fees may be revised for every Financial Year with the approval of the Unitholders, where the votes cast by Unitholders so entitled and voting in favor of a resolution are not less than one-and-a-half times the votes cast against such resolution.

2. *Fees and expenses of the Trustee ("Trusteeship Fee")*

The fee payable to the Trustee for acting as the trustee to the Trust pursuant to an engagement letter dated June 27, 2019 is set out below. Any amendment to trusteeship fees will require the approval of the Unitholders, where the votes cast by Unitholders so entitled and voting in favor of a resolution are not less than one-and-a-half times the votes cast against such resolution.

Particulars	Description
Service charges	Service charges are payable on a quarterly basis, i.e., ₹0.28 million plus applicable taxes payable quarterly in advance on April 1 for April to June, July 1 for July to September, October 1 for October to December and January 1 for January to March each year until full and final repayment of funds to Unitholders, winding up of the Trust and termination of the Indenture of Trust.
Delayed payment charges	In case the payment of service charges is not received within a period of 30 days from the date of the bill, the Trustee reserves the right to charge delayed payment charges at the rate of 12% p.a. on the outstanding amount.
Reset clause	The Trustee has the right to reset the service charges after expiry of two years from the date of execution of the Indenture of Trust as mutually agreed with the Investment Manager.
Out-of-pocket expenses	To be claimed by the Trustee on an actual basis within intimation to the Sponsor/Investment Manager
Invocation and enforcement	Any other work relating to invocation and enforcement of the Trust Assets in case of default would attract separate expenses and fees

In case of late payment of the above fees, penal interest on the outstanding amount would be payable in accordance with the terms of the Indenture of Trust (if applicable).

The above fee structure is subject to certain conditions specified in the engagement letter.

3. *Fees and expenses of the Project Manager*

Pursuant to the Project Implementation Agreements, the Project SPVs which operate road assets that have not been completed will make payments to the Project Manager for the remaining engineering, procurement and construction works in relation to the relevant project ("**EPC Payments**") on a monthly basis, or as otherwise agreed among the parties to the Project Implementation Agreements based on invoices raised by the Project Manager. The agreed EPC Payments are set forth in the relevant Project Implementation Agreements, copies of which will be available for inspection to Eligible Unitholders from the date of this Letter of Offer until the Issue Closing Date. See "*Material Contracts and Material Documents for Inspection*" on page 405.

Pursuant to the Project Implementation Agreements, the Project SPVs will also make payments to the Project Manager for the operation and maintenance works in relation to the relevant project ("**O&M Payments**", and together with the EPC Payments, the "**Project Management Payments**") on a monthly basis, or as otherwise agreed among the parties to the Project Implementation Agreements based on invoices raised by the Project Manager. The agreed O&M Payments applicable for the initial term of the Project Implementation Agreements (i.e., 10 years from the date of the relevant agreement) are set forth in the relevant Project Implementation Agreements, copies of which will be available for inspection by the Eligible Unitholders from the date of this Letter of Offer until the Issue Closing Date. See "*Material Contracts and Material Documents for Inspection*" on page 405.

No additional payments, including those on account of out of pocket expenses, delay in construction timeline, payment of taxes, any statutory liabilities, any actual losses or damages incurred on any account whatsoever, will

be made to the Project Manager over and above the Project Management Payments, except for any payments related to change of scope (as defined in the relevant concession agreement) or utility shifting as required by the NHAI, which will be paid by the relevant Project SPV to the Project Manager as and when such payments are received from the NHAI. If a Project SPV has made any payments to NHAI related to change of scope, such amount will be reduced from the EPC Payments. If any payment due to a Project SPV by the NHAI in respect of the EPC works or the O&M works is delayed in terms of the relevant concession agreement, the payment obligations of the Project SPV to the Project Manager will be correspondingly delayed until the Project SPV receives payment from the NHAI.

Pursuant to addenda dated May 6, 2021 (the "**Addenda**") to the Project Implementation Agreements for CGTL, IRB HMTL, KGTL, IRB WTL and UTL, such Project SPVs have agreed to pay the Project Manager additional costs in relation to certain delays by NHAI and the lockdowns implemented due COVID-19 in the manner and subject to the conditions set out in the Addenda.

The PDTPL Project Implementation Agreement in relation to the Target SPV has not been executed as of the date of this Letter of Offer and will be executed after the completion of the Issue. The agreement will be effective from the Closing Date under the PDTPL Share Subscription Agreement. Similar to the Project SPVs, PDTPL will make Project Management Payments to the Project Manager under the terms of the PDTPL Project Implementation Agreement on a monthly basis, or as otherwise agreed among the parties to such agreement based on invoices raised by the Project Manager. The agreed EPC Payments and O&M Payments applicable for the initial term of the PDTPL Project Implementation Agreement (i.e., 10 years from the date of the relevant agreement) are set forth in the agreement. PDTPL will be entitled to retain a certain percentage of the total EPC Payments for the project which will be released to the Project Manager upon the completion of the project or as may be mutually agreed among the parties. Certain arrangements in relation to a mobilization advance will also be agreed under the PDTPL Project Implementation Agreement.

4. *Fees and expenses of the Auditor and Valuer*

The fees and expenses paid or payable by the Investment Manager to the Valuer and the Auditor is approximately ₹0.6 million and approximately ₹0.5 million, respectively.

Set-up costs

In connection with the establishment and registration of the Trust, the Sponsor has incurred ₹1.1 million in expenses.

INDUSTRY OVERVIEW

The information contained in this section is derived from various government and other industry sources. The Investment Manager, the Trustee, the Sponsor or any other person connected with this Issue have not independently verified this information. Industry sources and publications generally state that the information contained therein has been obtained from sources generally believed to be reliable, but that their accuracy, completeness and underlying assumptions are not guaranteed and their reliability cannot be assured. Industry publications are also prepared on information as of specific dates and may no longer be current or reflect current trends. Accordingly, investment decisions should not be based on such information. All references to years refer to calendar years except as otherwise stated.

Overview of the Global and Indian Economies

India is the fastest-growing trillion-dollar economy in the world and the fifth-largest overall, with a nominal GDP of $2.59 trillion in 2020. India became the fifth-largest economy in 2019, overtaking the United Kingdom and France. The country ranked third when GDP was compared in terms of purchasing power parity at $9.65 trillion. India's nominal GDP per capita is $2,030. (*Source: IMF World Economic Outlook Database: October 2020; World Bank GDP ranking 2020*)

According to the World Bank's Ease of Doing Business 2020 report, India moved up 14 places to rank 63 due to positive developments in the areas of starting a business, dealing with construction permits, trading across borders and resolving insolvency. (*Source: Doing Business 2020 – Comparing Business Regulation in 190 Economies prepared by the World Bank*)

According to data from the Department of Economic Affairs, as of August 27, 2021, foreign exchange reserves in India reached US$ 633.5 billion mark. According to the Department for Promotion of Industry and Internal Trade (DPIIT), FDI equity inflow in India stood at US$ 547.2 billion between April 2000 and June 2021.

India was among the fastest-growing economies in the world in the decade before the pandemic, lifting millions out of poverty. While the economy was moderating prior to the COVID-19 shock, the pandemic implied unprecedented challenges. Two COVID-19 waves caused a health and economic crisis however, the economy is gradually recovering. Following the first wave, GDP contracted an unprecedented 7.3 percent in FY2020/21. The second wave resulted in another sharp fall in activity, albeit smaller and shorter, and recent high frequency indicators suggest an ongoing recovery. Inflation pressures have been elevated, yet inflation eased to 5.6 percent in July, returning to within the RBI's inflation target of 4±2 percent, driven by softer food prices and base effects. The authorities' economic response, which was swift and substantial, has included fiscal support, including scaled-up support to vulnerable groups, monetary policy easing, liquidity provision, and accommodative financial sector and regulatory policies. Despite the pandemic, the authorities have continued to introduce structural reforms, including labor reforms and a privatization plan. (*Source: IMF Country Report No. 21/230*)

Growth is projected at 9.5 percent in FY2021/22 and 8.5 percent in FY2022/23. Headline inflation is projected at 5.6 percent in FY2021/22, amid elevated price pressures. The contraction in economic activity, lower revenue, and pandemic-related support measures are estimated to have led to a widening of the fiscal deficit to 8.6 and 12.8 percent of GDP in FY2020/21 for the central and general governments, respectively. Fiscal policy continues to support the economy in FY2021/22. Despite policy support, bank credit growth has remained subdued, while large corporates have benefited from easier conditions in capital markets. Net inflows and improvement in the current account have supported an increase in foreign exchange reserves. The current account balance is projected to return to a deficit of about 1 percent of GDP in FY2021/22, due to a gradual recovery in domestic demand and higher oil prices. The economic outlook remains clouded due to pandemic-related uncertainties contributing to both downside and upside risks. A persistent negative impact of COVID-19 on investment, human capital, and other growth drivers could prolong the recovery and impact medium-term growth. While India benefits from favorable demographics, disruption to access to education and training due to the pandemic could weigh on improvements in human capital. At the same time, the recovery could also be faster than expected. Faster vaccination and better therapeutics could help contain the spread and limit the impact of the pandemic. In addition, successful implementation of the announced wide-ranging structural reforms could increase India's growth potential. (*Source: IMF Country Report No. 21/230*)

India's Infrastructure Opportunity

Infrastructure sector is a key driver for the Indian economy. Growing urbanization, demand for energy and financing needs for sustainable living pose a challenge for the infrastructural setup in the country. Infrastructure,

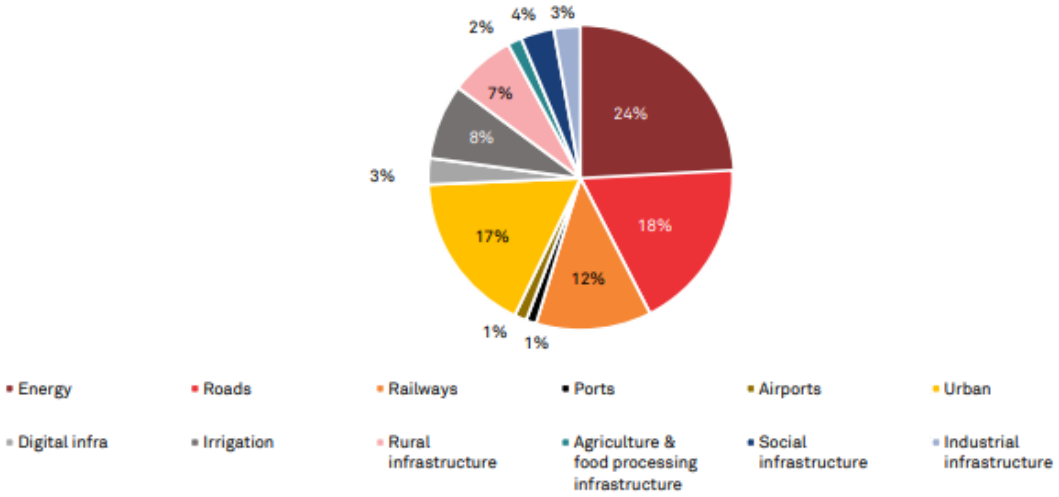
and the lack of it, is envisaged as the primary growth constraint, while good infrastructure is widely recognized as an enabler of growth. In the coming era of supply chain disruptions, new technologies and reversal of financial deleveraging, infrastructure growth must keep pace with the need created for it. The opportunities in the infrastructure sector have seen an incremental curve over previous years and are growing to establish the sector as a key driver in India's development story at a high rate. The Government of India has given a massive push to the capital expenditure for key infrastructure sectors, especially highways, has got a big boost in Budget 2022-2023. The total allocation for the highways sector has increased to Rs.1.99 lakh crore from Rs.1.18 lakh crore in FY 2021-2022. *(Source: Government of India, Ministry of Finance, Union Budget 2022-2023)*

National Infrastructure Pipeline

In December 2019, the Government launched the National Infrastructure Pipeline (the "NIP"), an investment plan for enhancing infrastructure in identified sectors, which is a first-of-its-kind exercise to provide world-class infrastructure across the country and improve the quality of life for all citizens. NIP is expected to enable a forward outlook on infrastructure projects to create jobs, improve ease of living and provide equitable access to infrastructure for all, thereby making growth more inclusive. NIP includes economic and social infrastructure projects.

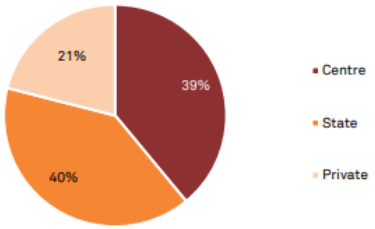
During the Financial Years 2020 to 2025, sectors such as energy (24%), roads (18%), urban (17%) and railways (12%) are expected to amount to approximately 71% of the projected infrastructure investments in India, with a total capital expenditure projected at ₹111 lakh crore. (*Source: National Infrastructure Pipeline – Report of the Task Force, Department of Economic Affairs, Ministry of Finance, Government of India – Volume I (the "Task Force Report – Volume I")*)

Figure 11 Sector-wise break-up of capital expenditure of Rs 111 lakh crore during fiscals 2020-2025



Source: Ministries/ departments/state governments/private sector

The Government of India (39%) and state governments (40%) are expected to have an almost equal share in implementing the NIP in India, followed by the private sector (21%). (*Source: The Task Force Report – Volume I*)



Source: PIRF submitted by ministries/ departments/state governments/private sector

Out of the total expected capital expenditure of ₹111 lakh crore, projects worth ₹44 lakh crore (40% of NIP) are under implementation, projects worth ₹33 lakh crore (30%) are at conceptual stage and projects worth ₹22 lakh crore (20%) are under development. Information regarding project stage are unavailable for projects worth ₹11 lakh crore (10%). (*Source: The Task Force Report – Volume I*)

Roads and Highways

According to the MoRTH, Financial Year 2020 was the year of consolidation of the gains that accrued from major policy decisions taken in the previous five years, a time for monitoring of ongoing projects, tackling road blocks and adding to the already impressive pace of work achieved during the past years. During the year, the MoRTH and its associated organizations have expanded the national highways network in the country, taking various steps to make these highways safe for the commuters and making best efforts to minimize adverse impact on the environment. As a result, over the last 7 years, length of National Highways has gone up by 50% from 91,287 km (as of April 2014) to 1,37,625 km (as on March 20, 2021). *(Source: MoRTH press release titled "MoRTH Achieves Record-breaking Milestone of Constructing 37 kilometres per day of Highways in FY 2020-21" dated April 2, 2021)*

Details of National Highway length constructed per day during last five Financial Years are as follows:

Year	Length in km	Pace (km per day)
2016-17	8,231	22.55
2017-18	9,829	26.93
2018-19	10,855	29.74
2019-20	10,237	27.97
2020-21	13,327	36.51

(Source: MoRTH Annual Report 2021-22)

The MoRTH achieved the record-breaking milestone of constructing 37 km highways per day in the Financial Year 2020-2021 *(Source: MoRTH press release titled "Year End Review 2021: Ministry of Road Transport and Highways" dated December 31, 2021)*. Despite COVID-19 related impact, the annual project award by MoRTH has increased by 38% in the past three years from 5,494 km in Financial Year 2018-2019 to 10,467 km in Financial Year 2020-2021. Further, the cumulative cost of ongoing project works has increased by 54% at the end of Financial Year 2021 compared to Financial Year 2020 *(Source: MoRTH Media Brief dated April 2021)*.

Schemes

Bharatmala Pariyojana: This is the umbrella program for the highways sector started in 2017-18, that aims to optimize the efficiency of road traffic movement across the country by bridging critical infrastructure gaps. 34,800 km of National Highways are to be constructed under the Phase-I of the programme between 2017-2018 to 2021-2022 in a phased manner at a cost of ₹5,350,000 million. This includes 5,000 km of the national corridors, 9,000 km of economic corridors, 6,000 km of feeder corridors and inter-corridors, 2,000 km of border roads, 2,000 km of coastal roads and port connectivity roads and 800 km of green-field expressways.

Phase I will also subsume 10,000 km of balance roadworks under the NHDP. The estimated cost of Phase I is ₹5,350,000 million, spread over five years.

Components of phase I of Bharatmala Pariyojana as per the Financing Plan until 2021-2022 are as follows:

S No.	Components	Length (in km)	Outlay (in ₹ Crore)
1.	Economic corridors development	9,000	120,000
2.	Inter-corridor and feeder roads	6,000	80,000
3.	National Corridors Efficiency improvements	5,000	100,000
4.	Border and International connectivity roads	2,000	25,000
5.	Coastal and port connectivity roads	2,000	20,000
6.	Expressways	800	40,000
7.	Total	24,800	385,000
8.	Balance road works under NHDP	10,000	150,000
9.	**Total**		**535,000**

(Source: Ministry of Road Transport and Highways; and Demand for Grants 2018-19: Road Transport and Highways)

According to the MoRTH Annual Report 2021-22, total of 604 numbers of road projects with an aggregate length of 20,965 km have been approved and awarded under Bharatmala Pariyojana including 131 numbers of residual NHDP works of aggregate length of 5,529 km) with a total capital cost of Rs. 6,41,713 cr (upto 31.12.2021). (*Source: MoRTH Annual Report 2021-22)*

Pradhan Mantri (PM) Gati Shkati National Master Plan (NMP): The seven engines that drive PM Gati Shakti are Roads, Railways, Airports, Ports, Mass Transport, Waterways and Logistics Infrastructure. The scope of PM Gati Shakti National Master Plan will encompass the seven engines for economic transformation, seamless multimodal connectivity and logistics efficiency. The projects pertaining to these 7 engines in the National Infrastructure Pipeline will be aligned with PM Gati Shakti framework. PM Gati Shakti master plan for expressways will be formulated in 2022-23 to facilitate faster movement of people and goods. The National Highways network will be expanded by 25,000 km in 2022-23. *(Source: Highlights of the Union Budget 2022-23, February 01, 2022, https://static.pib.gov.in/WriteReadData/userfiles/highlight2022.pdf)*

Outlook

Bharatmala Pariyojana is an umbrella program for the highways sector that focuses on optimizing efficiency of freight and passenger movement across the country by bridging critical infrastructure gaps through effective interventions like development of economic corridors, inter-corridors and feeder routes, national corridor

efficiency improvement, border and international connectivity roads, coastal and port connectivity roads and green-field expressways. *(Source: MoRTH press release titled "2921 km roads constructed under Bharatmala Pariyojana; 322 projects of 12,413 km awarded" dated October 11, 2020)*

Out of 860 identified nodes of economic importance across country under PM Gati Shakti National Master Plan (NMP), it is targeted to connect 783 nodes under Bharatmala Pariyojana Phase-I (BMP-I). The government has announce to take up projects for establishing the connectivity over identified economic nodes including augmentation of National Highway Network in synergy with PM Gati Shakti National Master Plan.

BUSINESS

Some of the information in this section, including information with respect to our plans and strategies, contains forward-looking statements that involve risks and uncertainties. Please see "Forward-Looking Statements" and "Risk Factors" on pages 13 and 15, respectively, for a discussion of certain factors that may affect our business, results of operations or financial condition. Our actual results may differ materially from those expressed in or implied by these forward-looking statements.

Prospective investors should read this section together with the sections "Industry Overview", "Financial Statements" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Summary of the Concession Agreements" on pages 104, 271, 355 and 144, respectively, as well as the other information contained in this Letter of Offer.

This Letter of Offer includes Special Purpose Consolidated / Combined Financial Information for the Trust and the Project SPVs for the nine-month periods ended December 31, 2021 and December 31, 2020 and the Financial Years 2021, 2020 and 2019. The Project SPVs were transferred to the Trust on February 25, 2020 by the Sponsor pursuant to the Formation Transactions undertaken as part of the initial offer through private placement of Units. The effective date for consolidation was March 1, 2020. Consolidated financial information has been included for the nine-month periods ended December 31, 2021 and December 31, 2020 and the Financial Year 2021. The financial information for Financial Year 2020 includes consolidated financial information for the one-month period ended March 31, 2020 and combined financial information for the 11 month period from April 1, 2019 to February 29, 2020. Combined financial information has been included for the Financial Year 2019. The combined financial information has been prepared as if the Trust structure was in place and 100% interest of the Project SPVs was part of the Trust since April 1, 2018.

PDTPL, the Target SPV proposed to be acquired by the Trust, was incorporated on April 15, 2021. This Letter of Offer includes the audited financial statements of PDTPL as of and for the period from April 15, 2021 to December 31, 2021. This Letter of Offer also contains Pro Forma Financial Information of the Trust and PDTPL as at and for the Financial Year 2021 and the nine-month period ended December 31, 2021 prepared in accordance with the requirements of the SEBI Rights Issue Guidelines and the InvIT Regulations.

In this section, unless the context otherwise requires, a reference to "we", "us" and "our" refers collectively to the Trust and the Project SPVs. References herein to the "Initial Portfolio" are to the pre-PDTPL Acquisition portfolio of the Trust and to the "Expanded Portfolio" are to the post-PDTPL Acquisition portfolio of the Trust.

Overview

The Trust is a registered infrastructure investment trust under the InvIT Regulations. The Initial Portfolio of the Trust comprises nine toll-road assets in the states of Haryana, Uttar Pradesh, Rajasthan, Gujarat, Goa, Maharashtra and Karnataka in India. These toll roads are operated and maintained pursuant to concessions awarded by the NHAI. The Trust is the first unlisted infrastructure investment trust focused on toll-road assets in India.

The Trust has acquired the Initial Portfolio comprised of the Project SPVs from the Sponsor. Each of the Project SPVs is an eligible infrastructure project as defined under the InvIT Regulations. As of December 31, 2021, the Project SPVs owned the following toll road assets comprising 5,892 Lane Kilometers of highway:

- The Agra - Etawah NH-2 Project: A 124.52 km section of NH-2 between Agra and Etawah Bypass in Uttar Pradesh which is held by AETL;
- The Gulabpura - Chittorgarh NH-79 Project: A 124.87 km section of NH-79 between Gulabpura and Chittorgarh Bypass in Rajasthan which is held by CGTL;
- The Hapur - Moradabad NH-9 Project: A 99.867 km section of NH-9 between Hapur and Moradabad in Uttar Pradesh which is held by IRB HMTL;
- The Goa - Kundapur NH-17Project: A 187.28 km section of NH-17 between Goa/Karnataka border and Kundapur in Karnataka which is held by IRB WTL;
- The Kishangarh - Gulabpura NH-79/79A Project: A 90.00 km section of NH-79/79A between Kishangarh and Gulabpura in Rajasthan which is held by KGTL;

- The Kaithal - Rajasthan Border NH-152/65 Project: A 166.259 km section of NH-152/65 between Kaithal and Rajasthan Border in Haryana which is held by KTL;

- The Solapur - Yedeshi NH-211 Project: A 98.717 km section of NH-211 between Solapur and Yedeshi in Maharashtra which is held by SYTL;

- The Udaipur - Rajasthan Border NH-8 Project: A 113.80 km section of NH-8 between Udaipur and Rajasthan Border in Rajasthan and Gujarat which is held by UTL; and

- The Yedeshi - Aurangabad NH-211 Project: A 189.09 km section of NH-211 between Yedeshi and Aurangabad in Maharashtra which is held by YATL.

The map set out below depicts the location of the Initial Portfolio:

The Sponsor of the Trust is IRB Infrastructure Developers Limited, one of the largest infrastructure development and construction companies in India in terms of net worth in the roads and highways sector according to the NHAI's annual prequalification for public private partnerships in national highway projects report for 2016. The Sponsor has been listed on the Stock Exchanges since 2008. As at December 31, 2021, the Sponsor had eight road projects of which two were operational and six were under-construction or awaiting appointed date. The Sponsor also acts as the Project Manager. For further details, see "*The Sponsor and Project Manager*" on page 255.

The Investment Manager of the Trust is MMK Toll Road Private Limited. The Investment Manager has experience in operating a road project for a period of 13 years. 51% of the equity share capital in the Investment Manager is held by the Sponsor and 49% of the equity share capital of the Investment Manager is held by Croxley. For further details, see "*The Investment Manager*" and "*Corporate Governance*" on pages 258 and 138, respectively.

The Trustee of the Trust is IDBI Trusteeship Services Limited. The Trustee is registered with the SEBI as a debenture trustee under the Debenture Trustees Regulations. For further details, see "*The Trustee*" on page 264.

PDTPL or the Target SPV is currently a wholly-owned subsidiary of the Sponsor. PDTPL has entered into a concession agreement with the NHAI for the six-laning of National Corridor NH-19 from Palsit to Dankuni (upto NH-6 Connector) from KM 588.870 to KM 652.700 (total design length 63.830 km) in the state of West Bengal under Bharatmala Pariyojana. The Target SPV is an eligible infrastructure project under the InvIT Regulations.

A portion of the proceeds of the Issue is proposed to be utilized for the acquisition of PDTPL, subject to the terms of the PDTPL Share Subscription Agreement. The Trust proposes to acquire PDTPL pursuant to the PDTPL Acquisition by subscribing to 99.96% of the equity share capital of PDTPL, with the Sponsor (and its nominee shareholders) holding the remaining equity share capital of PDTPL. For further details, see "*Objects of the Issue*" and "*Background and Structure of the Trust – The PDTPL Acquisition*" on pages 66 and 92, respectively.

Update in relation to COVID-19

The outbreak and continuing spread of the COVID-19 pandemic globally and in India is causing significant disturbance and slowdown of economic activity. Operations at all toll plazas of the Project SPVs had been closed down with effect from March 26, 2020 until midnight on April 19, 2020. This was done as per the directives issued by MoRTH / NHAI, in accordance with the MHA guidelines about commercial and private establishment in the wake of COVID-19 pandemic. The Project SPVs commenced collection of user fee at all toll plazas on National Highways with effect from April 20, 2020 as per the directives issued by NHAI and by ensuring compliance with preventive measures in terms of guidelines/ instructions issued by the Government of India to contain spread of COVID-19. Further, construction activities were also resumed gradually in the phased manner. For further details in relation to extension of concession period and payment of concession fee / premium, see the section "*Regulations and Policies*" on page 224.

There was a second wave of the pandemic in India April 2021 onwards. From the second fortnight of April 2021, various State Governments imposed restrictions on travel, which has led to a decline in our toll collections since such period. Please note that under the concession agreements, the Project SPVs are entitled to an extension of the concession period if actual average traffic falls below the target traffic set out in the agreements. For details, see " – *Details of the Project SPVs and the Initial Portfolio*" and "*Summary of the Concession Agreements*" on pages 114 and 144, respectively.

The NHAI has offered an extension of concession period by three to six months to compensate for reduced revenue due to the COVID-19 lockdown. Certain Project SPVs have applied to the NHAI for appropriate relief (including extension of the concession period) and compensation as per the respective concession agreements for the time period during which the relevant projects have been impacted by COVID-19.

Considering the uncertainties and continuously evolving nature of this pandemic, the impact of this pandemic may be different from that currently estimated, and this will continue to be monitored in future periods.

Also see "*Risk Factors – The outbreak and continuing spread of COVID-19 has had, and could further have, a material adverse effect on our business, financial condition and results of operations.*" on page 15.

Competitive Strengths

We believe that our key competitive strengths are as follows:

Portfolio of assets in key growth markets

The Trust owns 100% of the nine Project SPVs. Each of these Project SPVs is the concessionaire of a toll-road project in India.

The Project SPVs' gross toll revenues and gross toll revenue growth rates are set out below:

(₹ in million)

Project SPV	Project	Gross toll revenue in the nine-month period ended December 31, 2021*	Gross toll revenue in the nine-month period ended December 31, 2020*	Gross toll revenue in the Financial Year 2021*	Gross toll revenue in the Financial Year 2020*	Gross toll revenue in the Financial Year 2019
KTL	Kaithal - Rajasthan Board NH-152/65 Project	73.39**	701.34**	701.85	954.18	795.41
SYTL	Solapur - Yedeshi NH-211 Project	580.34	468.32	693.07	664.06	689.78

Project SPV	Project	Gross toll revenue in the nine-month period ended December 31, 2021*	Gross toll revenue in the nine-month period ended December 31, 2020*	Gross toll revenue in the Financial Year 2021*	Gross toll revenue in the Financial Year 2020*	Gross toll revenue in the Financial Year 2019
YATL	Yedeshi - Aurangabad NH-211 Project	1,123.42	870.68	1,315.15	1,071.61	48.65
IRB WTL	Goa - Kundapur NH-17 Project	602.42	466.12	697.90	92.21	-
AETL	Agra - Etawah NH-2 Project	1,398.82	777.67	1,230.06	835.39	879.70
UTL	Udaipur - Rajasthan NH-8 Project	1,432.90	814.49	1,177.94	1,327.67	1,453.86
CGTL	Gulabpura - Chittorgarh NH-79 Project	1,535.53	997.65	1,402.25	1,594.43	1,969.99
KGTL	Kishangarh - Gulabpura NH-79/79A Project	749.04	667.56	935.71	1,116.43	1,341.74
IRB HMTL	Hapur - Moradabad NH-9 Project	1,047.98	900.74	1,270.85	1,076.81	-
Total		**8,543.84**	**6,664.57**	**9,424.78**	**8,732.79**	**7,179.13**

** Operations at all toll plazas of the Project SPVs were suspended from March 26, 2020 until midnight on April 19, 2020. This was done as per the directives issued by MoRTH / NHAI, in accordance with the Government of India guidelines in relation to the COVID-19 pandemic.*

*** Due to a protest against certain agricultural laws in India, tolling for the Kaithal – Rajasthan project operated by KTL was halted from December 25, 2020. The protest was called off on December 15, 2021 and toll collection resumed from December 16, 2021.*

For further information, see *"Financial Statements*" on page 271.

Upon completion of the PDTPL Acquisition, the Trust is expected to own 99.96% of PDTPL. PDTPL is also the concessionaire of a toll-road project in India. PDTPL began collecting toll with respect to its project on April 2, 2022.

We believe that the Initial Portfolio and the Expanded Portfolio have growth potential due to expected growth in traffic volumes as a result of regional growth and expected increases in toll fees as a result of inflation adjustments.

Diversified road project portfolio and revenue base

The Initial Portfolio and the Expanded Portfolio consist of a mix of eligible infrastructure toll road projects spread across several states in India. We believe that the geographic diversity of the Initial Portfolio and the Expanded Portfolio will play a significant role in developing our experience and expertise, including our ability to evaluate, acquire, operate and maintain new projects.

The Initial Portfolio assets and the Expanded Portfolio assets are primarily located along economic corridors and across tourist hubs in India.

The Project SPVs' concession agreements are also temporally diverse in that they commenced and are expected to expire at different times. The concession agreements' residual terms range between approximately 15 years, 10 months and three days to approximately 22 years and 19 days as at December 31, 2021. Further, the term of PDTPL's concession agreement recently commenced on April 2, 2022 and is expected to expire on April 1, 2039.

We believe that our geographically and temporally diverse project portfolio provides us with an advantage in capitalizing on new opportunities available in the roads and highways sector. We believe that this diversification strengthens our business by reducing our reliance on any specific region or project and reducing the potential impact on our business of any economic slowdown or force majeure event in any particular region or with respect to any particular project.

Experienced Sponsor/Project Manager and Investment Manager with consistent track record in operating and maintaining projects in the roads and highways sector in India

The Sponsor is one of the largest infrastructure development and construction companies in India in terms of net worth in the roads and highways sector according to the NHAI's annual prequalification for public private partnerships in national highway projects report for 2016. As at December 31, 2021, the Sponsor had eight road projects of which two were operational and six were under-construction or awaiting appointed date.

The Sponsor also acts as the Project Manager. The Sponsor's BOT project portfolio includes the Ahmedabad Vadodara section of NH 8 and the Ahmedabad Vadodara Expressway and the Meerut Budaun (Group-I) section of Ganga Expressway. The Sponsor's HAM project portfolio includes the under construction Padra to Vadodara Section of Vadodara-Mumbai Expressway, the Gandeva to Ena project on the Vadodara-Mumbai eight lane expressway, four-laning of Punjab/Himachal Border to Mo Section of NH-154 and the recently awarded six-laning of Chittoor Thachur road. The Sponsor's TOT project includes the Yashwantrao Chavan Expressway (Mumbai Pune Expressway) and Mumbai – Pune section of NH-48 (old NH-4). The Sponsor has experience in developing road and highway infrastructure and has received various industry awards and recognitions.

The Sponsor/Project Manager has experience in the execution of construction work for roads, highways, and other relevant structures and had a track record of constructing over 10,809 Lane Kilometres of roads and highways as of December 31, 2021.

The Investment Manager has experience in operating a road project for a period of 13 years. 51% of the equity share capital of the Investment Manager is held by the Sponsor and 49% of the equity share capital of the Investment Manager is held by Croxley.

Experienced management team with industry experience

We are managed by qualified personnel of the Investment Manager who have management and operational experience in the roads and highways sector. For further details, see "*The Investment Manager*" on page 258. We believe that the experience and leadership of these teams contribute to our growth and success and position the Initial Portfolio (and will position the Expanded Portfolio) to be operated and managed in an efficient manner.

Attractive sector with strong underlying fundamentals

India has one of the largest road networks in the world, with approximately 6,371,847 km of roads comprising national highways, state highways, other public works department roads, district roads, rural roads, urban roads and project roads. (*Source: MoRTH Annual Report 2021-2022)*

India's national highways carry 40% of the total road-based traffic despite constituting less than 2% of the total road network. State highways together with major district roads constitute a secondary system of road transportation and contribute significantly to the development of India's rural economy and industrial growth. The secondary road system also carries about 40% of the total road traffic, despite constituting only 13% of the total road network. At the tertiary level are the rural roads. *(Source: Twelfth Five Year Plan (2012-2017), Economic Sectors, Volume II)*

The Government of India has emphasised on all forms of physical connectivity through Pradhan Mantri Gram Sadak Yojana, industrial corridors, dedicated freight corridors, Bharatmala and Sagarmala projects, Jal Marg Vikas and Ude Desh ke Aam Nagrik - UDAN schemes. According to the Union Budget 2019-20, the Pradhan Mantri Gram Sadak Yojana is envisaged to upgrade 125,000 km of road length over the next five years, with an estimated cost of ₹802,500 million under Pradhan Mantri Gram Sadak Yojana-III. 30,000 km of such roads have been built using green technology, waste plastic and cold mix technology.

MoRTH has planned to execute infrastructure projects worth Rs. 7 lakh crore over the next two to three years. In August 2021, the Government announced its plan to monetize assets worth Rs. 6 trillion between 2021-2022 and 2024-2025 under the National Monetisation Pipeline scheme. Roads have been included as a priority sector and the Government is expected to monetize assets worth Rs 1.6 trillion from the roads sector. The total length of road assets being considered for monetisation over four years is 26,700 km, which is around 22 percent of the total National Highways (with an approximate value of 121,155 km) excluding the network operated by private sector under build-operate-transfer (BOT) (Toll) based public private partnership (PPP) concessions.

Investment Strategy and Risk and Capital Management Strategy

Our principal business strategies which are proposed to be implemented by the Investment Manager are set out below:

Organic growth through proactive management

Our principal investment strategy is to proactively manage the Initial Portfolio and the Expanded Portfolio to support growth. In particular, the Investment Manager will seek to maintain or improve the SPVs' net incomes by, among other initiatives, curbing leakages, conducting proper due diligence, formulating and adopting policies and procedures and structuring investments to address tax or regulatory considerations. The Project Manager will assist the Investment Manager by carrying out the construction, operations, management and maintenance of the project in accordance with the relevant concession agreement and the Project Implementation Agreements and by procuring, operating and maintaining the project's toll management systems, including but not limited to, employing staff for toll collection, monitoring toll collection and providing security arrangements at toll plazas.

The Investment Manager will also focus on minimizing project operating expenses. The roads and highways sector is a highly competitive sector that is capital intensive and requires significant expenditure. Our ability to efficiently manage the costs associated with the Initial Portfolio and the Expanded Portfolio is critical to maintaining the SPVs' profit margins. The Investment Manager intends to focus on increasing the margins of the SPVs by strengthening internal processes and systems so as to improve utilization of resources and reduce costs. As part of our operations and maintenance systems and processes, the Investment Manager intends to work closely with the Project Manager to promote best practices, to minimize downtime or defects with respect to the Initial Portfolio and the Expanded Portfolio and to monitor performance of toll booth operators and maintenance contractors. The Investment Manager also intends to work with the Project Manager and the SPVs to upgrade technology as needed, to manage any leakages in toll collections and to streamline collection, route and maintenance operations. With this focus on proactive asset management and operating expense minimization, the Investment Manager hopes to increase our profit margins and achieve long-term growth.

Acquisition and divestment of toll road projects

The Investment Manager intends to expand our portfolio by identifying and selectively bidding for and acquiring additional toll road projects in accordance with the Procurement and Divestment Policy. Pursuant to the Framework Agreement, the Sponsor has agreed to certain arrangements in relation to submission of bids for (i) any new concession by the Sponsor and/or its affiliates involving the development or operation of roads and highways; or (ii) over any extensions of the concession period of road projects held by the Sponsor and/or its affiliates (other than the Project SPVs) with the Financial Investors. For details, see "*Related Party Transactions – Details of Related Party Transactions proposed to be undertaken*" on page 239. The Investment Manager may also consider divestment of certain toll road assets, depending on the maturity and profile of the relevant asset and subject to the Procurement and Divestment Policy. For details of the Procurement and Divestment Policy, see "*Corporate Governance – Policies of the Manager Group*" on page 140.

Optimization of capital structure

The Investment Manager will seek to employ appropriate financing policies and diversify its sources of financing with the objective of minimizing our overall cost of capital. The Investment Manager will ensure compliance with the provisions of the Indenture of Trust and the InvIT Regulations for borrowing. The Investment Manager may also pursue growth opportunities that require raising additional capital through the issuance of new Units.

Details of the Project SPVs and the Initial Portfolio

The Initial Portfolio comprises nine toll-roads in the Indian states of Haryana, Uttar Pradesh, Rajasthan, Gujarat, Goa, Maharashtra and Karnataka that the Project SPVs operate and maintain pursuant to concessions granted by the NHAI. In relation to the projects for which construction has not been completed, see *"Government and Other Approvals*" on page 394 for information about the status of approvals and "*Risk Factors*" on page 15 for a discussion of risks in relation to delay of completion of the projects.

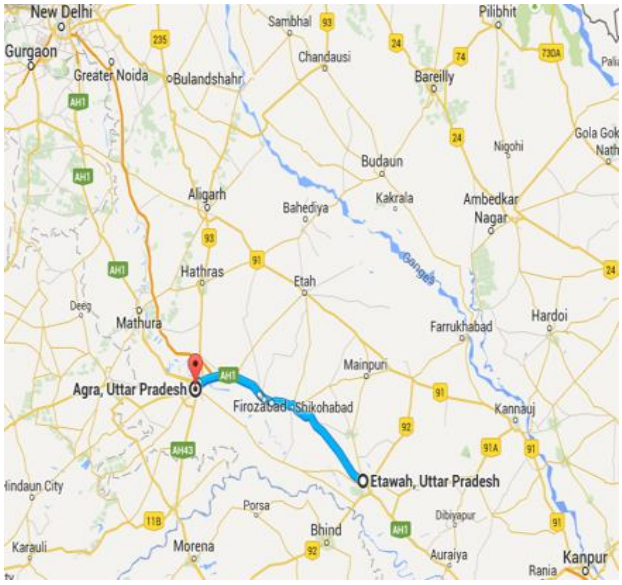
See "*Summary of the Concession Agreements*" on page 144 for a summary of the key terms of the concession agreements entered into by the Project SPVs with the NHAI.

Details of the Project SPVs are set out below:

Project SPV	Project	Ownership of Project by the Trust	Lane km	Commencement of Concession Period	Commencement of Toll Collection	End of Concession Period	Concession Period (years)	Percentage of construction completion as at December 31, 2021 (in %)	Expected Completion
AETL	Agra - Etawah NH-2 Project	100%	747	August 1, 2016	August 1, 2016	July 31, 2040	24	N.A.	Received completion certificate dated November 24, 2020
CGTL	Gulabpura - Chittorgarh NH-79 Project	100%	749	November 4, 2017	November 4, 2017	November 3, 2037	20	N.A.	Received completion certificate dated August 14, 2021
IRB HMTL	Hapur - Moradabad NH-9 Project	100%	599	May 28, 2019	May 28, 2019	May 26, 2041	22	90	During Financial Year 2023
IRB WTL	Goa - Kundapur NH-17 Project	100%	758	March 3, 2014	February 11, 2020	March 2, 2042	28	96	During Financial Year 2023
KGTL	Kishangarh - Gulabpura NH-79/79A Project	100%	540	February 21, 2018	February 21, 2018	February 20, 2038	20	96	During Financial Year 2023
KTL	Kaithal - Rajasthan Board NH-152/65 Project	100%	665	July 15, 2015	September 6, 2017	July 14, 2042	27	N.A.	Received completion certificate dated March 29, 2019
SYTL	Solapur - Yedeshi NH-211 Project	100%	395	January 21, 2015	March 7, 2018	January 20, 2044	29	N.A.	Received completion certificate dated October 15, 2019
UTL	Udaipur - Rajasthan NH-8 Project	100%	683	September 3, 2017	September 3, 2017	September 2, 2038	21	N.A.	Received completion certificate dated May 31, 2021
YATL	Yedeshi - Aurangabad NH-211 Project	100%	756	July 1, 2015	March 17, 2019	June 30, 2041	26	N.A.	Received completion certificate dated September 24, 2020

A summary of the key features of each Initial Portfolio asset is discussed below.

1. *Agra – Etawah NH-2 Project*



Map of the Agra – Etawah NH-2 Project

On September 1, 2015, the NHAI and AETL entered into a concession agreement in respect of the Agra - Etawah NH-2 Project. AETL was engaged to augment a 124.52 km section of NH-2 between Agra and Etawah in Uttar Pradesh by six-laning on a DBFOT basis. Being a four-laning to six-laning project, the concession period and the collection of toll commenced on August 1, 2016. As per the relevant concession agreement, the Agra - Etawah NH-2 Project comprises the section of NH-2 from km 199.660 to km 323.525. The completion certificate in relation to the project was issued on November 24, 2020.

Corridor description

The Agra - Etawah NH-2 Project is a 124.52 km six-lane road, forming part of the section between Agra and Etawah in Uttar Pradesh. The Agra - Etawah NH-2 Project passes through the cities of Agra, Firozabad, and Etawah in the state of Uttar Pradesh and settlements *en-route* include Agra, Tundla, Firozabad, Shikohabad, Sirsaganj, and Jaswantnagar.

The Agra - Etawah NH-2 Project is a part of the Golden Quadrilateral, that connects Delhi in the north to Kolkata in the east on the NH19 (Old NH2) corridor. The Golden Quadrilateral is the longest road project in India and the fifth-longest highway in the world, connecting four major cities: Delhi, Mumbai, Chennai, and Kolkata. The Agra - Etawah NH-2 Project also connects large industrial and urban clusters of Kanpur and Lucknow to Delhi and Mathura.

The Agra - Etawah NH-2 Project facilitates east-west movement primarily between the eastern states and southern parts of Delhi NCR and Rajasthan. The Delhi-Lucknow corridor is an important traffic contributor. The corridor has a mix of both industrial and agricultural activities. Industries like leather and textile are located Agra and Kanpur, brass manufacturing in Moradabad, special economic zones based industrial development Rudrapur/Rampur area (in the state of Uttarakhand) and glass based manufacturing located in Firozabad are some of industrial settlements in the region. According to the Traffic Reports, as a result, the Agra - Etawah NH-2 Project has a distinct industrial character with a large share of traffic movements being goods vehicles serving many of these industries.

Concession period and revenue sharing arrangement

The NHAI granted AETL a concession for a period of 24 years for this project. The concession period commenced on August 1, 2016 and is expected to expire on July 31, 2040. AETL began collecting toll with respect to this project on August 1, 2016.

The concession agreement provides that if the actual traffic volume falls short of or exceeds the target traffic volume on the target date, the concession period will be extended or reduced, respectively. As per the concession agreement, in the event the actual average traffic on the target date exceeds the target traffic volume by more than

2.5%, the concession period may be reduced by 0.75% for every 1.00% excess in actual average traffic as compared to the target traffic volume, provided that such reduction in the concession period does not exceed 10% of the original concession period. In the event that the actual average traffic on the target date falls short of the target traffic volume by more than 2.5%, the concession period may be extended by 1.5% for every 1.00%, provided that such extension in the concession period does not exceed 20% of the original concession period. The concession agreement, however, also stipulates that, if the actual average traffic exceeds the design capacity in any accounting year, the NHAI may, at its discretion, cause AETL to undertake suitable capacity augmentation of the project. If capacity augmentation is required, the concession period would be for a period of up to five years so as to yield a post-tax return on equity of 16% per annum. The concession agreement also states that in the event that the NHAI requires AETL to undertake capacity augmentation, there will be no reduction in the concession period pursuant to any other provision of the concession agreement.

For this project, the target date and target traffic volume in the concession agreement is April 1, 2025 and 52,995 PCUs, respectively.

In consideration of the grant of concession, AETL pays the NHAI a concession fee of ₹1 per annum. Additionally, AETL was required to pay on the appointed date a premium in the form of an additional concession fee equal to ₹810 million as due to the NHAI during that year, due and payable for the period remaining in that year; and for each subsequent year of the concession period, the premium is determined by increasing the amount of premium in the respective year by an additional 5% as compared to the immediately preceding year.

Monthly toll revenue

The following table sets out the gross monthly toll revenues received from the project for the periods indicated:

Period	Toll revenue (₹ in millions)
January 2022	160.11
February 2022	158.33
March 2022	179.04

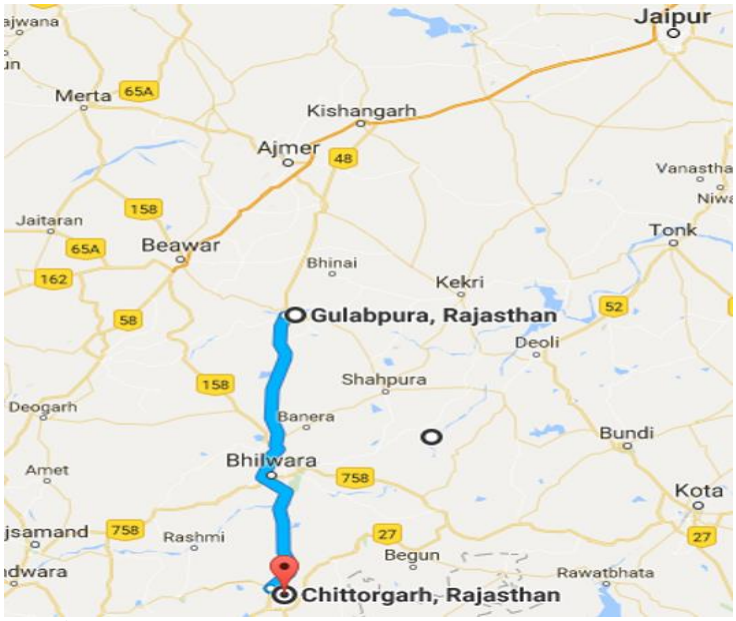
Land

The NHAI owns the land that underlies the Agra - Etawah NH-2 Project.

Structure of ownership of the project

For information about the structure of ownership of the project by the Trust, see "*Background and Structure of the Trust*" on page 83.

2. *Gulabpura – Chittorgarh NH-79 Project*



Map of the Gulabpura – Chittorgarh NH-79 Project

On December 9, 2016, the NHAI and CGTL entered into a concession agreement in respect of the Gulabpura - Chittorgarh NH-79 Project. CGTL was engaged to augment a 124.87 km section of NH-79 between Gulabpura and Chittorgarh in Rajasthan by six-laning on a DBFOT basis. Being a four-to-six-laning project, the concession period and the collection of toll commenced on November 4, 2017. As per the relevant concession agreement, the Gulabpura - Chittorgarh NH-79 Project comprises the section of NH-79 from km 90.00 to km 214.870. The completion certificate in relation to the project was issued on August 14, 2021.

Corridor description

The Gulabpura - Chittorgarh NH-79 Project is an approximately 125 km six-lane toll road on NH48 located in Rajasthan and forms part of the Delhi-Mumbai arm of the Golden Quadrilateral. It is also a part of the direct link between Kishangarh-Bhilwara and Chittorgarh.

The Gulabpura - Chittorgarh NH-79 Project forms part of the Golden Quadrilateral NH48 corridor. The key cities of Delhi, Ahmedabad, Vadodara, and Mumbai are connected by NH48. According to the Traffic Reports, the local town of Kishangarh, Bhilwara and Chittorgarh which lie near the Gulabpura - Chittorgarh NH-79 Project contribute significantly to the traffic volumes. According to the Traffic Reports, each of these towns have industrial and tourism influence and provide captive traffic on the Gulabpura - Chittorgarh NH-79 Project.

The Gulabpura - Chittorgarh NH-79 Project serves long-distance traffic travelling between Delhi and Ahmedabad (and the south). The Gulabpura - Chittorgarh NH-79 Project also caters to the demand of local movements between Bhilwara, Chittorgarh and Udaipur in addition to medium distance movements between Bhilwara, Ahmedabad, industrial towns in Gujarat (such as Morbi, Kandla and Mundra). The presence of various tourism centres such as Chittorgarh also contributes to tourism activity.

Concession period and revenue sharing arrangement

The NHAI granted CGTL a concession for a period of 20 years for this project. The concession period commenced on November 4, 2017 and is expected to expire on November 3, 2037. Being a four-to-six-laning project, CGTL began collecting toll with respect to this project on November 4, 2017. The completion certificate in relation to the project was issued on August 14, 2021.

The concession agreement provides that if the actual traffic volume falls short of or exceeds the target traffic volume on the target date, the concession period will be extended or reduced, respectively. As per the concession agreement, in the event the actual average traffic on the target date exceeds the target traffic volume by more than 2.5%, the concession period may be reduced by 0.75% for every 1.00% excess in actual average traffic as

compared to the target traffic volume, provided that such reduction in the concession period does not exceed 10% of the original concession period. In the event that the actual average traffic on the target date falls short of the target traffic volume by more than 2.5%, the concession period may be extended by 1.5% for every 1.00%, provided that such extension in the concession period does not exceed 20% of the original concession period. The concession agreement, however, also stipulates that, if the actual average traffic exceeds the design capacity in any accounting year, the NHAI may, at its discretion, cause CGTL to undertake suitable capacity augmentation of the project. If capacity augmentation is required, the concession period would be for a period of up to five years so as to yield a post-tax return on equity of 16% per annum. The concession agreement also states that in the event that the NHAI requires CGTL to undertake capacity augmentation, there will be no reduction in the concession period pursuant to any other provision of the concession agreement.

For this project, the target date and target traffic volume in the concession agreement is June 1, 2026 and 76,316 PCUs, respectively.

In consideration of the grant of concession, CGTL pays the NHAI a concession fee of ₹1 per annum. Additionally, after the third anniversary of the COD, CGTL is required to pay a premium in the form of an additional concession fee equal to ₹2,286.00 million as due to the NHAI during that year, due and payable for the period remaining in that year; and for each subsequent year until the ninth anniversary of the COD, the premium will be determined by increasing the amount of premium in the respective year by an additional 3% as compared to the immediately preceding year, and for each subsequent year of the concession period, the premium will be determined by increasing the amount of premium in the respective year by an additional 8% as compared to the immediately preceding year.

The following table sets out the gross monthly toll revenues received from the project for the periods indicated:

Period	Toll revenue (₹ in millions)
January 2022	237.16
February 2022	238.55
March 2022	265.20

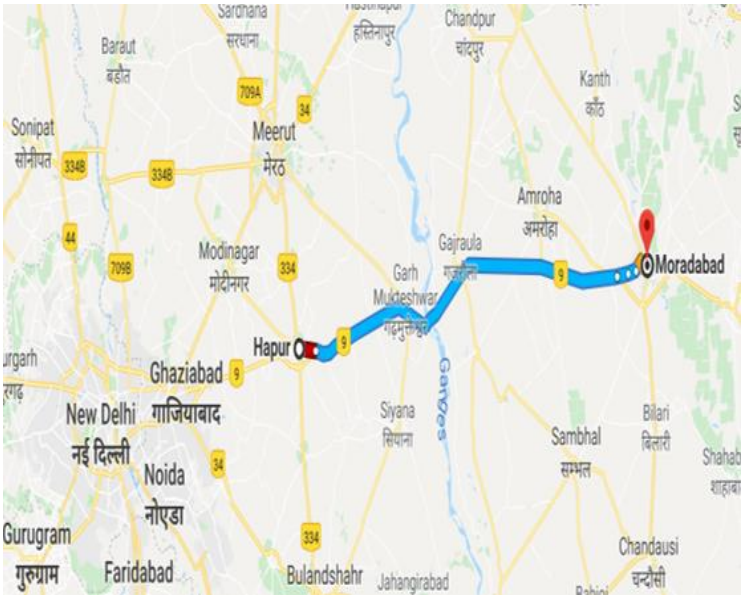
Land

The NHAI owns the land that underlies the Gulabpura - Chittorgarh NH-79 Project.

Structure of ownership of the project

For information about the structure of ownership of the project by the Trust, see "*Background and Structure of the Trust*" on page 83.

3. *Hapur – Moradabad NH-9 Project*



Map of the Hapur - Moradabad NH-9 Project

On May 29, 2018, the NHAI and IRB HMTL entered into a concession agreement in respect of the Hapur – Moradabad NH-9 Project. IRB HMTL was engaged to augment a 99.867 km section of NH-9 between Hapur and Moradabad in Uttar Pradesh by six laning on a DBFOT basis. The concession period and the collection of tolls commenced on May 28, 2019. As per the relevant concession agreement, the Hapur – Moradabad NH-9 Project comprises the section of NH-9 from km 50.00 to km 148.277.

Corridor description

The Hapur-Moradabad NH-9 Project is an approximately 100 km six-lane highway currently under capacity expansion from four lanes to six lanes located in Uttar Pradesh. The Hapur-Moradabad NH-9 Project is part of the NH9 corridor that connects Delhi to Moradabad and lies on the Delhi-Lucknow corridor. It is also part of the direct link between the northern states and east India and Nepal. It also connects Delhi to the state of Uttarakhand, which is a key tourism and industrial cluster in the country, and to Lucknow which further connects to NH27 for east-west movements.

The section has one end in Moradabad which houses industries including the metal and export business. The west-end of the Hapur-Moradabad NH-9 Project, Hapur, has medium and small-scale industries including paper, textiles, and steel tube production. Hapur is an important commercial centre for grains, jiggery and potato. Apart from catering to the Agra-Lucknow corridor and the long-distance movement between the northern and eastern states, the Hapur-Moradabad NH-9 Project is a key route for the tourist movements towards Uttarakhand from Delhi and Western Uttar Pradesh. Religious places along the route such as Brijghat and Garh Mukteshwar also attract tourist traffic.

The Hapur-Moradabad NH-9 Project facilitates east-west movement primarily between the eastern states/Uttarakhand/Nepal and Haryana/Punjab/ northern Rajasthan. The Delhi-Lucknow corridor is an important traffic contributor. The corridor has a mix of both industrial and agricultural activities. Industries like leather and textile are located Agra and Kanpur, brass manufacturing in Moradabad, special economic zones based industrial development Rudrapur/Rampur area (in the state of Uttarakhand), and glass based manufacturing located in Firozabad as some of industrial settlements in the region. According to the Traffic Reports, as a result, the Hapur-Moradabad NH-9 Project has a distinct industrial character with a large share of traffic movements being goods vehicles serving many of these industries.

Concession period and revenue sharing arrangement

The NHAI granted IRB HMTL a concession for a period of 22 years for this project. The concession period commenced on May 28, 2019 and is expected to expire on May 26, 2041. Being a four-to-six-laning project, IRB HMTL began collecting toll with respect to this project on May 28, 2019.

The concession agreement provides that if the actual traffic volume falls short of or exceeds the target traffic volume on the target date, the concession period will be extended or reduced, respectively. As per the concession agreement, in the event the actual average traffic on the target date exceeds the target traffic volume by more than 2.5%, the concession period may be reduced by 0.75% for every 1.00% excess in actual average traffic as compared to the target traffic volume, provided that such reduction in the concession period does not exceed 10% of the original concession period. In the event that the actual average traffic on the target date falls short of the target traffic volume by more than 2.5%, the concession period may be extended by 1.5% for every 1.00%, provided that such extension in the concession period does not exceed 20% of the original concession period. The concession agreement, however, also stipulates that, if the actual average traffic exceeds the design capacity in any accounting year, the NHAI may, at its discretion, cause IRB HMTL to undertake suitable capacity augmentation of the project. If capacity augmentation is required, the concession period would be for a period of up to five years so as to yield a post-tax return on equity of 16% per annum. The concession agreement also states that in the event that the NHAI requires IRB HMTL to undertake capacity augmentation, there will be no reduction in the concession period pursuant to any other provision of the concession agreement.

For this project, the target date and target traffic volume in the concession agreement is April 1, 2028 and 67,413 PCUs, respectively.

In consideration of the grant of concession, IRB HMTL pays the NHAI a concession fee of ₹1 per annum. Additionally, after the third anniversary year of the COD, IRB HMTL is required to pay a premium in the form of an additional concession fee equal to ₹315.00 million as due to the NHAI during that year, due and payable for the period remaining in that year; and for each subsequent year till the ninth anniversary of the COD, the premium will be determined by increasing the amount of premium in the respective year by an additional 3% as compared to the immediately preceding year and for each subsequent year of the concession period, the premium will be determined by increasing the amount of premium in the respective year by an additional 8% as compared to the immediately preceding year.

Monthly toll revenue

The following table sets out the gross monthly toll revenues received from the project for the periods indicated:

Period	Toll revenue (₹ in millions)
January 2022	110.09
February 2022	114.65
March 2022	132.88

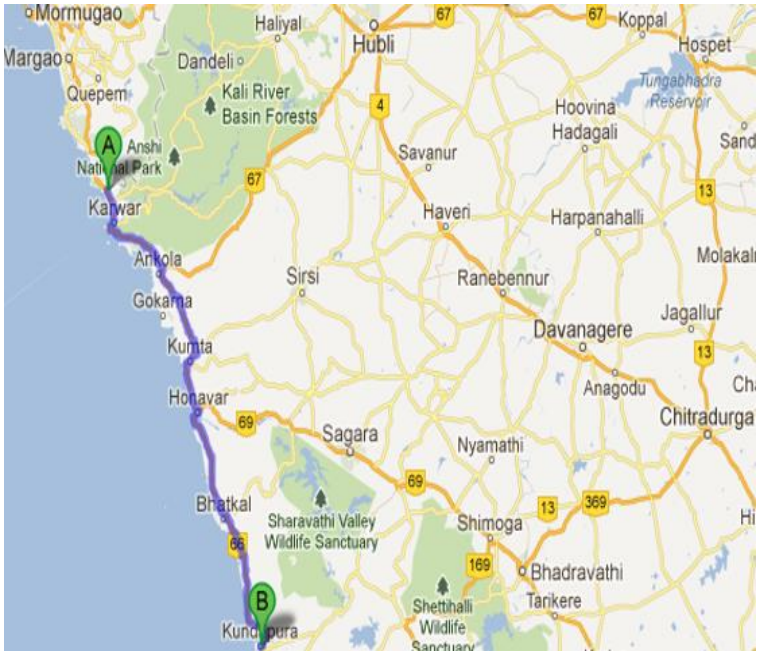
Land

The NHAI owns the land that underlies the Hapur – Moradabad NH-9 Project.

Structure of ownership of the project

For information about the structure of ownership of the project by the Trust, see "*Background and Structure of the Trust*" on page 84.

4. *Goa – Kundapur NH-17 Project*



Map of the Goa – Kundapur NH-17 Project

On March 25, 3013, the NHAI and IRB WTL entered into a concession agreement in respect of the Goa – Kundapur NH-17 Project. IRB WTL was engaged to augment a 187.28 km section of NH-17 between Goa and Kundapur in Karnataka by four-laning on a DBFOT basis. The concession period commenced on March 3, 2014. As per the relevant concession agreement, the Goa – Kundapur NH-17 Project comprises the section of NH-17 from km 93.700 to km 283.300. A provisional completion certificate was issued on January 31, 2020.

Corridor description

The Goa – Kundapur NH-17 Project is situated in the state of Karnataka, connecting Goa-Karnataka border to Kundapur in the south. The Goa – Kundapur NH-17 Project forms part of Panvel-Kochi-Kanyakumari Highway (NH66) on the west coast of India.

Some of the key urban centers along the Goa – Kundapur NH-17 Project are Ankola, Bhatkal, Kumta and Karwar. The highway facilitates the north-south movement as it connects Maharashtra in the north to Kerala in the south.

Kumta, Murdeshwar and Shivamogga are major religious and recreational tourism centres in the region and contribute to tourism traffic. Apart from these tourism-related cities, the Goa – Kundapur NH-17 Project generates tourism on its own as the highway runs parallel to the Arabian Sea. The port of Mangalore which is located 90 km south of Kundapur is a major commercial traffic generator. Coal traffic also moves from Mangalore port to Bagalkotti, Bijapur and Gulbarga. The Belekeri plaza to the north of the Goa – Kundapur NH-17 Project has agricultural activity and hosts a naval base.

Concession period and revenue sharing arrangement

The NHAI granted IRB WTL a concession for a period of 28 years for this project. The concession period commenced on March 3, 2014 and is expected to expire on March 2, 2042. IRB WTL commenced tolling on February 11, 2020.

The concession agreement provides that if the actual traffic volume falls short of or exceeds the target traffic volume on the target date, the concession period will be extended or reduced, respectively. As per the concession agreement, in the event the actual average traffic on the target date exceeds the target traffic volume by more than 2.5%, the concession period may be reduced by 0.75% for every 1.00% excess in actual average traffic as compared to the target traffic volume, provided that such reduction in the concession period does not exceed 10% of the original concession period. In the event that the actual average traffic on the target date falls short of the target traffic volume by more than 2.5%, the concession period may be extended by 1.5% for every 1.00%,

provided that such extension in the concession period does not exceed 20% of the original concession period. The concession agreement, however, also stipulates that, if the actual average traffic exceeds the design capacity in any accounting year, the NHAI may, at its discretion, cause IRB WTL to undertake suitable capacity augmentation of the project. If capacity augmentation is required, the concession period would be for a period of up to five years so as to yield a post-tax return on equity of 16% per annum. The concession agreement also states that in the event that the NHAI requires IRB WTL to undertake capacity augmentation, there will be no reduction in the concession period pursuant to any other provision of the concession agreement.

For this project, the target date and target traffic volume in the concession agreement is April 1, 2022 and 21,307 PCUs, respectively.

In consideration of the grant of concession, IRB WTL pays the NHAI a concession fee of ₹1 per annum.

Monthly toll revenue

The following table sets out the gross monthly toll revenues received from the project for the periods indicated:

Period	Toll revenue (₹ in millions)
January 2022	79.47
February 2022	75.73
March 2022	94.26

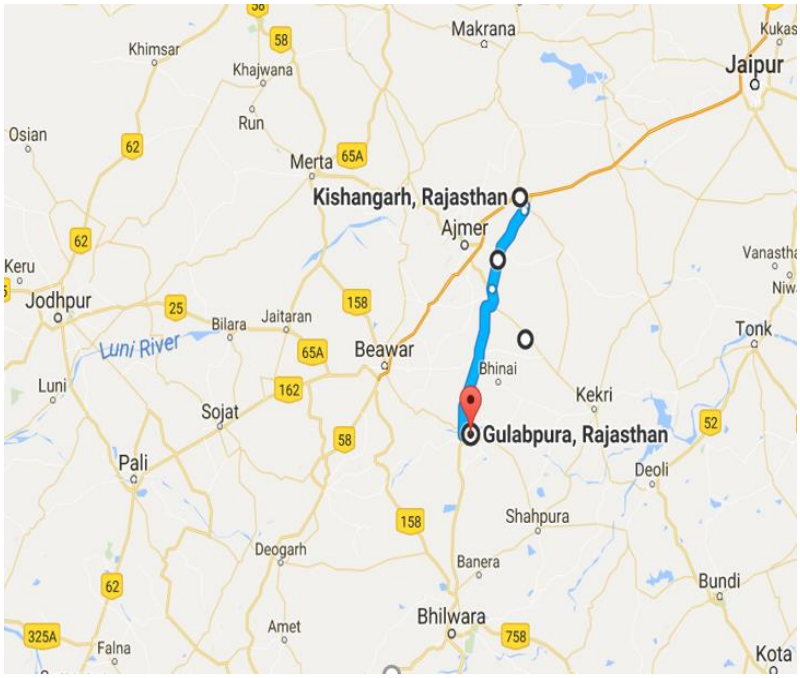
Land

The NHAI owns the land that underlies the Goa – Kundapur NH-17 Project.

Structure of ownership of the project

For information about the structure of ownership of the project by the Trust, see "*Background and Structure of the Trust*" on page 85.

5. *Kishangarh – Gulabpura NH-79/79A Project*



Map of the Kishangarh – Gulabpura NH-79/79A Project

On February 22, 2017, the NHAI and KGTL entered into a concession agreement in respect of the Kishangarh – Gulabpura NH-79/79A Project. KGTL was engaged to augment a 90.00 km section of NH-79/79A between Kishangarh and Gulabpura in Rajasthan by six-laning on a DBFOT basis. Being a four-to-six-laning project, the

concession period and the collection of toll commenced on February 21, 2018. As per the relevant concession agreement, the Kishangarh – Gulabpura NH-79/79A Project comprises the section of NH-79/79A from km 0.000 to km 90.000.

Corridor description

The Kishangarh – Gulabpura NH-79/79A Project is a 90 km stretch on NH48 between Kishangarh and Gulabpura in Rajasthan. The project is located in Rajasthan and forms part of the Delhi-Mumbai arm of the Golden Quadrilateral. It is also part of the direct link between Kishangarh-Bhilwara and Chittorgarh.

The Kishangarh – Gulabpura NH-79/79A Project connects Ajmer to Gulabpura, traversing through major settlement stretches such as Gulabpura, Bhilwara, Chittorgarh, Mangalwad, and finally Udaipur. The Kishangarh – Gulabpura NH-79/79A Project primarily serves traffic travelling between Delhi, Rajasthan, Gujarat, Maharashtra and Southern states (Kerala, Tamil Nadu, Karnataka). There are also several textile industries and marble/granite industries bordering the Kishangarh – Gulabpura NH-79/79A Project. According to the Traffic Reports, commercial vehicles dominate the traffic movement on the Kishangarh – Gulabpura NH-79/79A Project.

Concession period and revenue sharing arrangement

The NHAI granted KGTL a concession for a period of 20 years for this project. The concession period commenced on February 21, 2018 and is expected to expire on February 20, 2038. KGTL began collecting toll with respect to this project on February 21, 2018.

The concession agreement provides that if the actual traffic volume falls short of or exceeds the target traffic volume on the target date, the concession period will be extended or reduced, respectively. As per the concession agreement, in the event the actual average traffic on the target date exceeds the target traffic volume by more than 2.5%, the concession period may be reduced by 0.75% for every 1.00% excess in actual average traffic as compared to the target traffic volume, provided that such reduction in the concession period does not exceed 10% of the original concession period. In the event that the actual average traffic on the target date falls short of the target traffic volume by more than 2.5%, the concession period may be extended by 1.5% for every 1.00%, provided that such extension in the concession period does not exceed 20% of the original concession period. The concession agreement, however, also stipulates that, if the actual average traffic exceeds the design capacity in any accounting year, the NHAI may, at its discretion, cause KGTL to undertake suitable capacity augmentation of the project. If capacity augmentation is required, the concession period would be for a period of up to five years so as to yield a post-tax return on equity of 16% per annum. The concession agreement also states that in the event that the NHAI requires KGTL to undertake capacity augmentation, there will be no reduction in the concession period pursuant to any other provision of the concession agreement.

For this project, the target date and target traffic volume in the concession agreement is May 1, 2026 and 76,236 PCUs, respectively.

In consideration of the grant of concession, KGTL pays the NHAI a concession fee of ₹1 per annum. Additionally, after the third anniversary year of the COD, KGTL is required to pay a premium in the form of an additional concession fee equal to ₹1,863.00 million as due to the NHAI during that year, due and payable for the period remaining in that year; and for each subsequent year till the ninth anniversary of the COD, the premium will be determined by increasing the amount of premium in the respective year by an additional 3% as compared to the immediately preceding year and for each subsequent year of the concession period, the premium will be determined by increasing the amount of premium in the respective year by an additional 8% as compared to the immediately preceding year.

Monthly toll revenue

The following table sets out the gross monthly toll revenues received from the project for the periods indicated:

Period	Toll revenue (₹ in millions)
January 2022	95.57
February 2022	96.27
March 2022	109.70

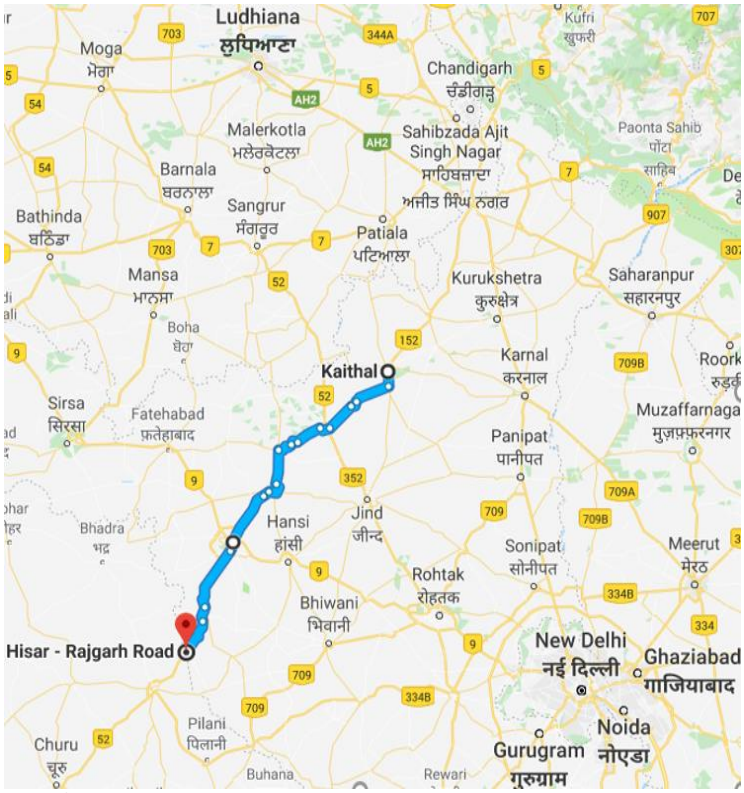
Land

The NHAI owns the land that underlies the Kishangarh – Gulabpura NH-79/79A Project.

Structure of ownership of the project

For information about the structure of ownership of the project by the Trust, see "*Background and Structure of the Trust*" on page 86.

6. *Kaithal – Rajasthan Border NH-152/65 Project*



Map of the Kaithal – Rajasthan Border NH-152/65 Project

On June 23, 2014, the NHAI and KTL entered into a concession agreement in respect of the Kaithal – Rajasthan Border NH-152/65 Project. KTL was engaged to augment a 166.259 km section of NH-152/65 between Kaithal and Rajasthan Border in Haryana by four-laning on a DBFOT basis. The concession period commenced on July 15, 2015 and the collection of toll commenced on September 6, 2017. As per the relevant concession agreement, the Kaithal - Rajasthan Border NH-152/65 Project comprises the section of NH-152/65 from km 33.250 to km 241.580. Provisional completion certificates dated September 6, 2017 and July 9, 2018 and a completion certificate dated March 29, 2019 have been issued in relation to the project.

Corridor description

The Kaithal - Rajasthan Border NH-152/65 Project is an approximately 166 km long four-lane section connecting Kaithal and Haryana-Rajasthan border in the state of Haryana. The Kaithal - Rajasthan Border NH-152/65 Project is part of the NH-52 corridor connecting northern states including Haryana, Punjab, and Himachal Pradesh with Rajasthan and Gujarat in the west.

The areas surrounding the Kaithal - Rajasthan Border NH-152/65 Project is predominantly agricultural along with dairy related activities. According to the Traffic Reports, the Kaithal - Rajasthan Border NH-152/65 Project benefits from captive nature of local traffic movement between Haryana and Rajasthan as well as industrial activity from the steel, textile and automobile manufacturing industries in neighbouring areas. The Kaithal - Rajasthan Border NH-152/65 Project also connects the northern states with Rajasthan and the Salasar Balaji temple is located in the south-west of the asset contributes to tourism traffic.

Concession period and revenue sharing arrangement

The NHAI granted KTL a concession for a period of 27 years for this project. The concession period commenced on July 15, 2015 and is expected to expire on July 14, 2042. KTL began collecting toll with respect to this project on September 6, 2017.

The concession agreement provides that if the actual traffic volume falls short of or exceeds the target traffic volume on the target date, the concession period will be extended or reduced, respectively. As per the concession agreement, in the event the actual average traffic on the target date exceeds the target traffic volume by more than 2.5%, the concession period may be reduced by 0.75% for every 1.00% excess in actual average traffic as compared to the target traffic volume, provided that such reduction in the concession period does not exceed 10% of the original concession period. In the event that the actual average traffic on the target date falls short of the target traffic volume by more than 2.5%, the concession period may be extended by 1.5% for every 1.00%, provided that such extension in the concession period does not exceed 20% of the original concession period. The concession agreement, however, also stipulates that, if the actual average traffic exceeds the design capacity in any accounting year, the NHAI may, at its discretion, cause KTL to undertake suitable capacity augmentation of the project. If capacity augmentation is required, the concession period would be for a period of up to five years so as to yield a post-tax return on equity of 16% per annum. The concession agreement also states that in the event that the NHAI requires KTL to undertake capacity augmentation, there will be no reduction in the concession period pursuant to any other provision of the concession agreement.

For this project, the target date and target traffic volume set out in the concession agreement is April 1, 2023 and 21,919 PCUs, respectively.

In consideration of the grant of concession, KTL pays the NHAI a concession fee of ₹1 per annum.

Monthly toll revenue

The following table sets out the gross monthly toll revenues received from the project for the periods indicated:

Period	Toll revenue (₹ in millions)*
January 2022	116.55
February 2022	118.30
March 2022	132.86

** Due to a protest against certain agricultural laws in India, tolling for the Kaithal – Rajasthan project operated by KTL was halted from December 25, 2020. The protest was called off on December 15, 2021 and toll collection resumed from December 16, 2021.*

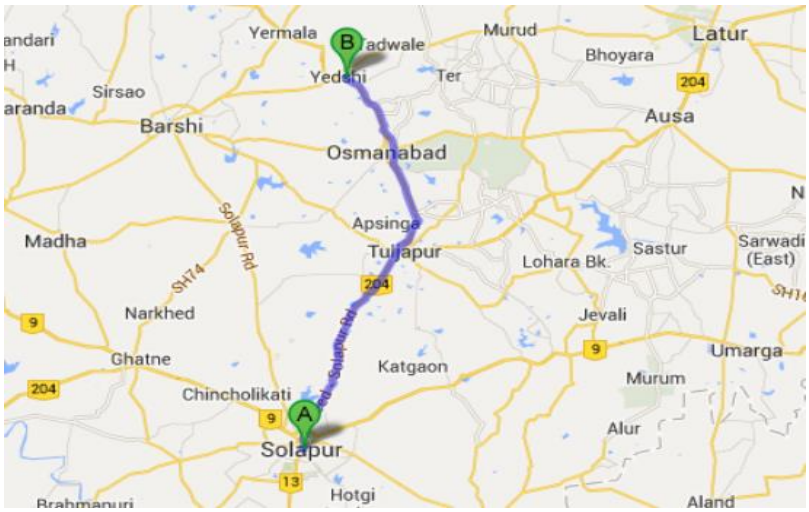
Land

The NHAI owns the land that underlies the Kaithal – Rajasthan Border NH-152/65 Project.

Structure of ownership of the project

For information about the structure of ownership of the project by the Trust, see "*Background and Structure of the Trust*" on page 87.

7. *Solapur – Yedeshi NH-211 Project*



Map of the Solapur - Yedeshi NH-211 Project

On March 3, 2014, the NHAI and SYTL entered into a concession agreement in respect of the Solapur – Yedeshi NH-211 Project. SYTL was engaged to augment a 98.717 km section of NH-211 between Solapur and Yedeshi in Maharashtra by four-laning on a DBFOT basis. The concession period commenced on January 21, 2015 and the collection of toll commenced on March 7, 2018. As per the relevant concession agreement, the Solapur – Yedeshi NH-211 Project comprises the section of NH-211 from km 0.000 to km 100.000. A provisional completion certificate was issued on March 5, 2018. The completion certificate for the project was issued on October 15, 2019.

Corridor description

The Solapur – Yedeshi NH-211 Project is a 98.717 km stretch that forms part of the NH52 north-south corridor. The Solapur – Yedeshi NH-211 Project connects Delhi and northern parts of India with major cities such as Bengaluru, Chennai, Hyderabad in the south. The Solapur – Yedeshi NH-211 Project also caters to east-west movement between Gujarat and eastern states such as Telangana (Hyderabad), Andhra Pradesh (Vijaywada) and parts of Tamil Nadu (Chennai). The Solapur – Yedeshi NH-211 Project has significant areas of industrial influence and tourism influence.

According to the Traffic Reports, the completion of construction of the Solapur – Yedeshi NH-211 Project resulted in a significant increase in traffic volumes on the completed corridor, primarily because of increase in local movement on the project corridor (until the Financial Year 2019) and a shift in long-distance movements destined towards Hyderabad and other destination in Telangana, Andhra Pradesh, Tamil Nadu region. The original route for these east west movements was via the Dhule-Manmad-Ahmadnagar-Tembhurni route. As the route via the Solapur – Yedeshi NH-211 Project is shorter and faster, some traffic has shifted to the Solapur – Yedeshi NH-211 Project.

Concession period and revenue sharing arrangement

The NHAI granted SYTL a concession for a period of 29 years for this project. The concession period commenced on January 21, 2015 and is expected to expire on January 20, 2044. SYTL began collecting toll with respect to this project on March 7, 2018.

The concession agreement provides that if the actual traffic volume falls short of or exceeds the target traffic volume on the target date, the concession period will be extended or reduced, respectively. As per the concession agreement, in the event the actual average traffic on the target date exceeds the target traffic volume by more than 2.5%, the concession period may be reduced by 0.75% for every 1.00% excess in actual average traffic as compared to the target traffic volume, provided that such reduction in the concession period does not exceed 10% of the original concession period. In the event that the actual average traffic on the target date falls short of the target traffic volume by more than 2.5%, the concession period may be extended by 1.5% for every 1.00%, provided that such extension in the concession period does not exceed 20% of the original concession period. The concession agreement, however, also stipulates that, if the actual average traffic exceeds the design capacity in

any accounting year, the NHAI may, at its discretion, cause SYTL to undertake suitable capacity augmentation of the project. If capacity augmentation is required, the concession period would be for a period of up to five years so as to yield a post-tax return on equity of 16% per annum. The concession agreement also states that in the event that the NHAI requires SYTL to undertake capacity augmentation, there will be no reduction in the concession period pursuant to any other provision of the concession agreement.

For this project, the target date and target traffic volume in the concession agreement is October 1, 2023 and 22,210 PCUs, respectively.

In consideration of the grant of concession, SYTL pays the NHAI a concession fee of ₹1 per annum.

Monthly toll revenue

The following table sets out the gross monthly toll revenues received from the project for the periods indicated:

Period	Toll revenue (₹ in millions)
January 2022	81.82
February 2022	84.56
March 2022	92.86

Land

The NHAI owns the land that underlies the Solapur - Yedeshi NH-211 Project.

Structure of ownership of the project

For information about the structure of ownership of the project by the Trust, see "*Background and Structure of the Trust*" on page 88.

8. *Udaipur - Rajasthan Border NH-8 Project*

Map of the Udaipur – Rajasthan Border NH-8 Project

On December 9, 2016, the NHAI and UTL entered into a concession agreement in respect of the Udaipur - Rajasthan Border NH-8 Project. UTL was engaged to augment a 113.80 km section of NH-8 between Udaipur and Rajasthan Border in Rajasthan and Gujarat by six-laning on a DBFOT basis. Being a four-to-six-laning project, the concession period and the collection of toll commenced on September 3, 2017. As per the relevant concession agreement, the Udaipur - Rajasthan Border NH-8 Project comprises the section of NH-8 from km 287.400 to km 401.200. The completion certificate in relation to the project was issued on May 31, 2021.

Corridor description

The 114 km four-lane toll road (NH-48) is located in Rajasthan and forms part of the Delhi-Mumbai arm of the Golden Quadrilateral. It is also part of the direct link between Ahmedabad and Udaipur.

The Udaipur - Rajasthan Border NH-8 Project acts as a funnel for traffic using the northern sections of NH48 section, NH58 (Bhilwara-Rajsamand-Udaipur) section for trips between areas north of Udaipur and Udaipur/Ahmedabad/Mumbai and the south. According to the Traffic Reports, the traffic on the roads directly feeds into the key regions of Gujarat, therefore attracts significant traffic volumes.

The Udaipur - Rajasthan Border NH-8 Project has a few rural and semi-urban settlements along its alignment. According to the Traffic Reports, there is noticeable passenger movement due to the presence of a few religious centers in the area. Economic centers including Udaipur, Shamalji and Mathdwara are also located along the Udaipur - Rajasthan Border NH-8 Project.

Concession period and revenue sharing arrangement

The NHAI granted UTL a concession for a period of 21 years for this project. The concession period commenced on September 3, 2017 and is expected to expire on September 2, 2038. UTL began collecting toll with respect to this project on September 3, 2017.

The concession agreement provides that if the actual traffic volume falls short of or exceeds the target traffic volume on the target date, the concession period will be extended or reduced, respectively. As per the concession agreement, in the event the actual average traffic on the target date exceeds the target traffic volume by more than 2.5%, the concession period may be reduced by 0.75% for every 1.00% excess in actual average traffic as compared to the target traffic volume, provided that such reduction in the concession period does not exceed 10% of the original concession period. In the event that the actual average traffic on the target date falls short of the target traffic volume by more than 2.5%, the concession period may be extended by 1.5% for every 1.00%, provided that such extension in the concession period does not exceed 20% of the original concession period. The concession agreement, however, also stipulates that, if the actual average traffic exceeds the design capacity in any accounting year, the NHAI may, at its discretion, cause UTL to undertake suitable capacity augmentation of the project. If capacity augmentation is required, the concession period would be for a period of up to five years so as to yield a post-tax return on equity of 16% per annum. The concession agreement also states that in the event that the NHAI requires UTL to undertake capacity augmentation, there will be no reduction in the concession period pursuant to any other provision of the concession agreement.

For this project, the target date and target traffic volume in the concession agreement is September 21, 2026 and 61,435 PCUs, respectively.

In consideration of the grant of concession, UTL pays the NHAI a concession fee of ₹1 per annum. Additionally, immediately after the third anniversary year of the COD, a premium in the form of an additional concession fee equal to ₹1,638.00 million is required to be paid by UTL as due to the NHAI during that year, due and payable for the period remaining in that year; and for each subsequent year till the ninth anniversary of the COD, the premium will be determined by increasing the amount of premium in the respective year by an additional 3% as compared to the immediately preceding year and for each subsequent year of the concession period, the premium will be determined by increasing the amount of premium in the respective year by an additional 8% as compared to the immediately preceding year.

Monthly toll revenue

The following table sets out the gross monthly toll revenues received from the project for the periods indicated:

Period	Toll revenue (₹ in millions)
January 2022	186.38
February 2022	185.40
March 2022	198.56

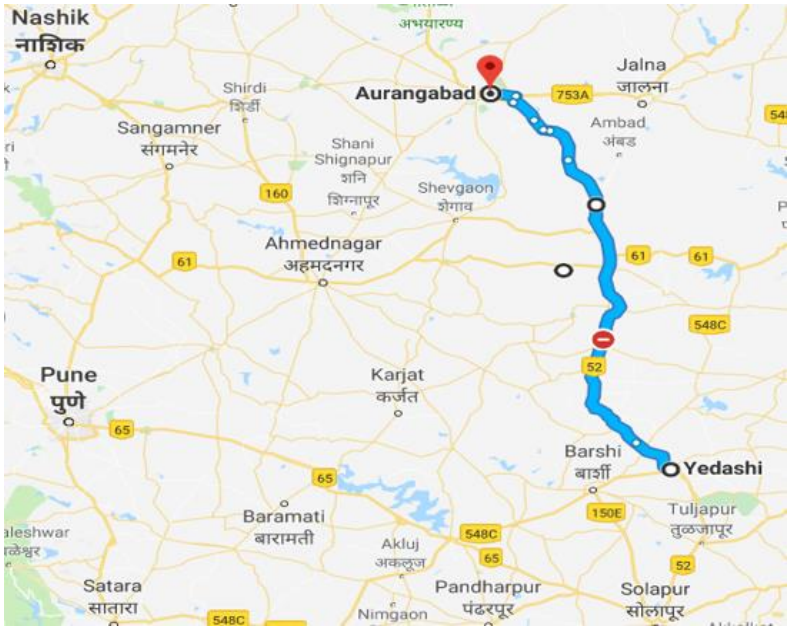
Land

The NHAI owns the land that underlies the Udaipur - Rajasthan Border NH-8 Project.

Structure of ownership of the project

For information about the structure of ownership of the project by the Trust, see "*Background and Structure of the Trust*" on page 88.

9. *Yedeshi – Aurangabad NH-211 Project*



Map of the Yedeshi - Aurangabad NH-211 Project

On May 30, 2014, the NHAI and YATL entered into a concession agreement in respect of the Yedeshi - Aurangabad NH-211 Project. YATL was engaged to augment a 189.09 km section of NH-211 between Yedeshi and Aurangabad in Maharashtra by four-laning on a DBFOT basis. The concession period commenced on July 1, 2015 and the collection of toll commenced on March 17, 2019. As per the relevant concession agreement, the Yedeshi – Aurangabad NH-211 Project comprises the section of NH-211 from km 100.00 to km 290.200. A provisional completion certificate was issued on March 15, 2019. The completion certificate was issued on September 24, 2020.

Corridor description

The Yedeshi – Aurangabad NH-211 Project forms part of the NH52 north-south corridor. The Yedeshi – Aurangabad NH-211 Project connects Delhi and northern parts of India with major cities such as Bengaluru, Chennai, Hyderabad in the south. The Yedeshi – Aurangabad NH-211 Project also caters to east-west movement between Gujarat and eastern states such as Telangana (Hyderabad), Andhra Pradesh (Vijaywada) and parts of Tamil Nadu (Chennai). The Yedeshi – Aurangabad NH-211 Project has significant areas of industrial influence and tourism influence.

According to the Traffic Reports, the completion of construction of the Yedeshi – Aurangabad NH-211 Project resulted in a significant increase in traffic volumes on the completed corridor, primarily because of increase in local movement on the project corridor (during the Financial Years 2021 and 2020) and a shift in long-distance movements destined towards Hyderabad and other destination in Telangana, Andhra Pradesh, Tamil Nadu region. The original route for these east west movements was via the Dhule-Manmad-Ahmadnagar-Tembhurni route. As the route via the Yedeshi – Aurangabad NH-211 Project is shorter and faster, some traffic has shifted to the Yedeshi – Aurangabad NH-211 Project.

Concession period and revenue sharing arrangement

The NHAI granted YATL a concession for a period of 26 years for this project. The concession period commenced on July 1, 2015 and is expected to expire on June 30, 2041. YATL began collecting toll with respect to this project on March 17, 2017.

The concession agreement provides that if the actual traffic volume falls short of or exceeds the target traffic volume on the target date, the concession period will be extended or reduced, respectively. As per the concession agreement, in the event the actual average traffic on the target date exceeds the target traffic volume by more than 2.5%, the concession period may be reduced by 0.75% for every 1.00% excess in actual average traffic as compared to the target traffic volume, provided that such reduction in the concession period does not exceed 10% of the original concession period. In the event that the actual average traffic on the target date falls short of the target traffic volume by more than 2.5%, the concession period may be extended by 1.5% for every 1.00%, provided that such extension in the concession period does not exceed 20% of the original concession period. The concession agreement, however, also stipulates that, if the actual average traffic exceeds the design capacity in any accounting year, the NHAI may, at its discretion, cause YATL to undertake suitable capacity augmentation of the project. If capacity augmentation is required, the concession period would be for a period of up to five years so as to yield a post-tax return on equity of 16% per annum. The concession agreement also states that in the event that the NHAI requires YATL to undertake capacity augmentation, there will be no reduction in the concession period pursuant to any other provision of the concession agreement.

For this project, the target date and target traffic volume in the concession agreement is October 1, 2023 and 24,407 PCUs, respectively.

In consideration of the grant of concession, YATL pays the NHAI a concession fee of ₹1 per annum.

Monthly toll revenue

The following table sets out the gross monthly toll revenues received from the project for the periods indicated:

Period	Toll revenue (₹ in millions)
January 2022	156.26
February 2022	159.81
March 2022	173.23

Land

The NHAI owns the land that underlies the Yedeshi – Aurangabad NH-211 Project.

Structure of ownership of the project

For information about the structure of ownership of the project by the Trust, see "*Background and Structure of the Trust*" on page 89.

Details of the Target SPV

PDTPL operates and maintains a four-to-six-laning project in the Indian state of West Bengal. See "*Government and Other Approvals*" on page 394 for information about the status of approvals and "*Risk Factors*" on page 15 for a discussion of risks in relation to, *inter-alia*, the proposed acquisition and delay of completion of the project.

See "*Summary of the Concession Agreements*" on page 216 for a summary of the key terms of the concession agreement entered into by PDTPL with the NHAI.

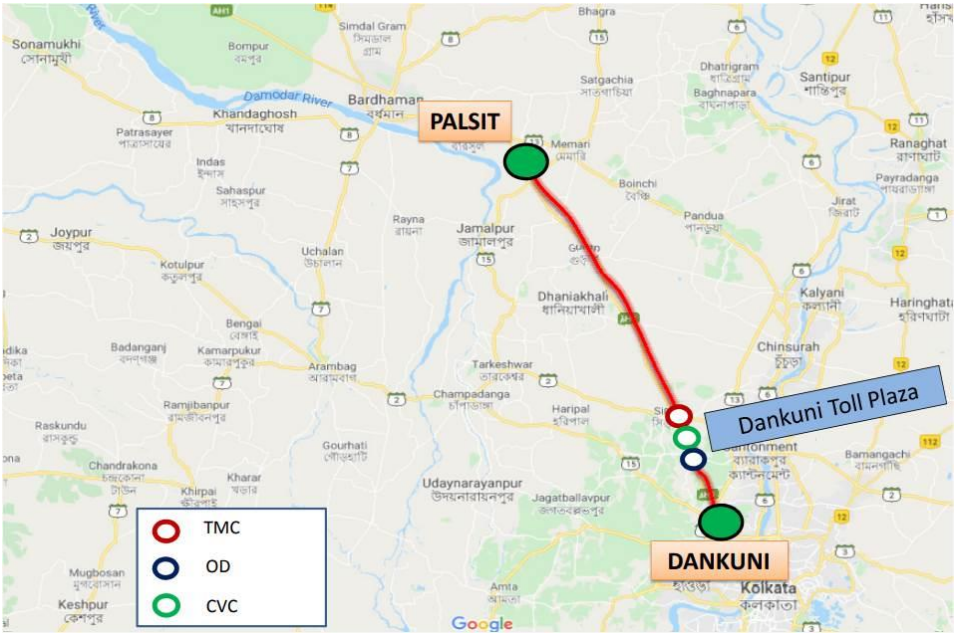
PDTPL was incorporated on April 15, 2021 and the audited financial statements of PDTPL for the period from April 15, 2021 to December 31, 2021, together with the auditor's report thereon, are included in "*Financial Statements*" on page 312. The Pro Forma Financial Information is also included in "*Financial Statements*" on page 340.

Certain details of PDTPL are set out below:

Target SPV	Project	Proposed ownership of Project by the Trust	Lane km	Commencement of Concession Period	Commencement of Toll Collection	End of Concession Period	Concession Period (years)	Percentage of construction completion as at December 31, 2021 (in %)	Expected Completion
PDTPL	Palsit – Dankuni NH-19 Project	99.96%	363	April 2, 2022	April 2, 2022	April 1, 2039	17	N.A.	Financial Year 2025

A summary of the key features of the road asset is discussed below.

Palsit – Dankuni NH-19 Project



Map of the Palsit – Dankuni NH-19 Project

On June 14, 2021, the NHAI and PDTPL entered into a concession agreement in respect of the Palsit – Dankuni NH-19 Project. PDTPL was engaged to augment a section of NH-19 Palsit to Dankuni (upto NH-6 Connector) from KM 588.870 to KM 652.700 (total design length 63.830 km) in West Bengal by six-laning on a BOT (toll) basis. Being a four-laning to six-laning project, the concession period and the collection of toll commenced on April 2, 2022. As per the relevant concession agreement, the Palsit – Dankuni NH-19 Project comprises the section of NH-19 from km 521.120 to km 588.870.

Corridor description

The asset is located on National Highway 19 (NH2). NH2 runs over 1,465 km and connects some of the major states of Delhi, Haryana, Uttar Pradesh with the eastern states of Bihar, Jharkhand and West Bengal. The highway also connects Delhi with cities like, Mathura, Agra, Kanpur, Allahabad, Durgapur and later stretches to connect to Kolkata. All these cities have major industrial centres. The asset becomes a key link in connecting Haldia port, in south of the asset, to the rest of West Bengal, Uttar Pradesh, Bihar, Jharkhand, Assam, Arunachal Pradesh, and Nepal. The asset lies in close proximity to state capital, Kolkata, which is one of the key distribution centres and has good connectivity with several parts of the country and generates a significant volume of traffic on the asset. The areas along the asset are agricultural along with industries and warehouse concentrated around urban areas. The key industrial areas include Durgapur, Asansol, Panagarh and Dankuni.

Currently, there is one alternate road connecting Palsit and Dankuni via SH31. The alternate road, also known as the Old Delhi Road, is around 17 km longer than the asset. It is getting upgraded between Saktigarh and Dankuni

and has one toll plaza proposed. Therefore, according to the Traffic Reports, it is unlikely to result in any material traffic diversion.

Concession period and revenue sharing arrangement

The NHAI granted PDTPL a concession for a period of 17 years for this project. The concession period commenced on April 2, 2022 and is expected to expire on April 1, 2039. PDTPL began collecting toll with respect to this project on April 2, 2022.

The concession agreement provides that if the actual average traffic falls short of or exceeds the target traffic on the target date, the concession period will be extended or reduced, respectively. As per the concession agreement, in the event the actual average traffic on the target date exceeds the target traffic by more than 5%, the concession period may be reduced by 1.00% for every 1.00% excess in actual average traffic as compared to the target traffic, provided that such reduction in the concession period does not exceed 20% of the original concession period. In the event that the actual average traffic on the target date falls short of the target traffic by more than 5%, the concession period may be extended by 1.00% for every 1.00%, provided that such extension in the concession period does not exceed 20% of the original concession period. The concession agreement, however, also stipulates that if the average daily traffic exceeds the design capacity in any accounting year, an indirect political event under the concession agreement will be deemed to have occurred and the NHAI may, at its discretion, terminate the concession agreement. If PDTPL has completed the construction works necessary for augmenting the capacity of the project such that its capacity has increased sufficiently for carrying the then current traffic, prior to the issue of a termination notice by the NHAI, the indirect political event will deemed to have been cured.

For this project, the target dates are expected to be May 1, 2026, May 1, 2031 and May 1, 2036. The target traffic on these dates is expected to be 65,830 PCUs, 84,018 PCUs and 107,270 PCUs, respectively, and the actual average traffic will be derived based on the procedures prescribed by the NHAI in accordance with the concession agreement.

In consideration of the grant of concession, PDTPL pays the NHAI a concession fee of ₹1 per annum. Additionally, immediately after the first anniversary of the project completion date, a premium in the form of an additional concession fee for every year of the remaining concession period is payable by PDTPL. The premium to be paid for the second year after the project completion date is equal to 10.8% of the realisable fee and is required to be paid by PDTPL as due to the NHAI during that year. For subsequent years, the premium will be determined based on the total realisable fee in the respective year at the percentage to be arrived at by increasing the percentage of premium in the respective year by an additional 1% as compared to the immediately preceding year.

Monthly toll revenue

PDTPL commenced collection of toll on April 2, 2022. Accordingly, the toll revenue of PDTPL prior to such date was nil.

Land

The NHAI owns the land that underlies the Palsit – Dankuni NH-19 Project.

Structure of ownership of the project

For information about the proposed structure of ownership of the project by the Trust, see "*Background and Structure of the Trust – Details of the Target SPV*" and "*Objects of the Issue*" on pages 90 and 66, respectively.

Operation and Maintenance Services

Our key business activity is the development, operation and maintenance of the Initial Portfolio (and upon completion of the PDTPL Acquisition, the Expanded Portfolio) pursuant to, and in accordance with, the provisions of the concession and other road project related agreements (as applicable). The Project SPVs and the Target SPV are required to operate and maintain their respective assets in accordance with the relevant concession agreement, including by modifying, repairing or otherwise making improvements to the road. In particular, each of the concession agreements requires the Project SPV and the Target SPV to maintain their respective assets to certain

standards during the concession period. The NHAI has used, and will likely continue to use, independent engineers to carry out periodic tests to assess the quality of the roads or bridges and their related maintenance.

The Project Manager manages the critical day-to-day operation and maintenance of the Initial Portfolio (and will be responsible for the operation and maintenance of the Expanded Portfolio). The Project Manager, through the relevant Project Implementation Agreement, provides project and contract management support, such as liaising with and supervising sub-contractors, managing design and planning and obtaining necessary licenses and approvals for the projects.

A Project SPV or the Target SPV is generally responsible for carrying out operation and maintenance activities at its toll road during its concession period. The scope of a Project SPV's or the Target SPV's operation and maintenance activities is usually defined in the relevant concession agreement. Within the scope of such operation and maintenance obligations, the Project SPV or the Target SPV may be required to undertake routine and periodic maintenance of project roads, maintain and comply with safety standards to ensure smooth and safe traffic movement, deploy adequate human resources for incident management, maintain proper medical and sanitary arrangements for personnel deployed at the site, prevent any unauthorized entry to and exit from the project as may be required. The activities of the Project SPVs are undertaken, and the activities of the Target SPV will be undertaken, by the Project Manager pursuant to the Project Implementation Agreements.

A computerised maintenance management system is used to ensure that all maintenance is systematically and correctly scheduled, carried out and recorded. In addition, it is used to assure planning, control and monitoring of each maintenance activity. Maintenance methodologies and system performance are regularly reviewed and examined for optimisation of resource deployment.

Operations

Toll collection system

Toll is collected for each journey through each of the toll plazas. Signs setting out the toll rates are displayed at the toll booths and tolls can be paid or tendered by the driver of any vehicle in the following manner:

Cash

Tolls paid by means of cash are collected by toll collectors at the manual toll booths.

Electronic toll collection

The Project SPVs and the Target SPV make use of technology for the operation of the projects which helps in improving operational efficiency and ensuring transparency in the process of toll collection, including through electronic toll collection system based on radio-frequency identification technology, which was implemented in the projects. Further, the Project SPVs and the Target SPV also use weight based tolling systems with the help of devices that are designed to capture and record axle weights and gross vehicle weights as vehicles drive over a measurement device fitted in each lane.

Monitoring

Toll collection

Payments at the toll plazas, both electronic as well as cash payments are processed through a semi-automated or a fully-automated toll collection system, depending on complexity of the project. Both these systems collect and store traffic and payment data, thereby reducing the need for manual operation. A semi-automated system consists of revenue collection software desktop, barrier gate, smart cards and monitoring cameras and a fully automated system includes equipment such as vehicle counting classifier, vehicle audit system, communication channels and traffic control equipment in addition to all the components of a semi-automated system.

For the purpose of identifying categories of vehicles and to charge an appropriate toll rate, the automatic vehicle identification based in-road/infrared sensors are also used. The Project SPVs and the Target SPV also use weigh-in-motion technology for projects where weight based toll collection is mandated. The weight based tolling systems are integrated with the fully automatic toll collection system for enhanced revenue controls.

There are cameras installed particularly for capturing and recording any toll evasion incidents by vehicles. There is also a back-up power supply system to ensure that there is no interruption to power supply at the toll plazas in order to maintain a stable power supply for the sub-systems and equipment. Servers used in the toll collection systems at the toll plazas are capable of real time uploading of transaction data from toll lane equipment and performing an automatic daily backup to prevent any toll data loss and to enable quick system recovery, which allows the Project SPVs and the Target SPV to collect variable amounts of tolls depending on the class of motor vehicles and serves as a traffic information system.

Only certain authorized persons have access to the toll collection systems and the activities are recorded for security purposes. The Project Manager is responsible for operating the toll collection system at the toll plazas of the Project SPVs and the Target SPV and taking regular preventive and corrective measures to maintain such systems at the highest levels of security and reliability.

We have set up a centralized control room ("**Control Room**") at our office in Mumbai that consolidates cameras at the toll plazas to enable video based monitoring of the toll operations throughout the day.

Traffic control

There is an emergency telephone system to provide a reliable communication channel for the drivers in cases of emergency where they need to communicate with staff at the Control Room. Emergency telephone systems and emergency helpline numbers are provided at all projects where such systems and numbers are required by the relevant concession agreement. There are also patrol vehicles that patrol an assigned section of the relevant project for regulating traffic and undertaking surveillance activities.

Safety Measures

Under the terms of the concession agreements, concessionaires are required to ensure certain safety requirements, which include measures such as road signs, pavement marking, traffic control devices, roadside furniture, highway design elements, enforcement and emergency response. The concessionaires are bound by, *inter-alia*, applicable law and applicable permits, the Manual for Safety in Road Design as issued by MoRTH, relevant standards and guidelines of the Indian Roads Congress and good industry practice. The concessionaires also carry out safety audits of the projects from time to time, by appointing a safety consultant, which is comprised of, among others, one road safety expert and one traffic planner. These safety requirements apply to all phases of construction, operation and maintenance with emphasis on identification of factors associated with accidents and implementation of appropriate remedial measures.

Management

We are managed by qualified personnel of the Investment Manager, all of whom have management and operational experience in the roads and highways sector.

The Investment Manager, in consultation with the Trustee, has appointed the directors on the board of each Project SPV in accordance with the InvIT Regulations. Each Project SPV's board of directors has also formed committees as may be required under the Companies Act, 2013 and rules made thereunder.

Upon completion of the PDTPL Acquisition, the Investment Manager, in consultation with the Trustee, will appoint the directors on the board of the Target SPV in accordance with the InvIT Regulations.

For further details about the Investment Manager, see "*The Investment Manager*" on page 258.

Various financing agreements that the Project SPVs and the Target SPV have entered into with certain banks and financial institutions contain certain restrictive covenants, including, but not limited to, requirements that they obtain consent from the lenders prior to changing the composition of any board of directors of any Project SPV or the Target SPV. For more details, see "*Risk Factors – The Project SPVs and the Target SPV are subject to restrictive covenants under their financing agreements that could limit our flexibility in managing our business or to use cash or other assets*" on page 33.

Seasonality

Traffic volume tends to decrease during the monsoon season and conversely tends to increase during holiday seasons. While the northern parts of India experience monsoon rains during the period from June or July until September or October every year, the southern parts of India, especially Tamil Nadu and some parts of coastal Andhra Pradesh, experience monsoon rains even during the months of October to December. The monsoon season may also restrict the ability to carry on activities related to operation and maintenance of toll roads. For further details on risk associated with seasonality, see "*Risk Factors – Our business will be subject to seasonal fluctuations that may affect our cash flows*" on page 27. Conversely, traffic volume tends to increase during holiday seasons.

Health, Safety and Environment

The Investment Manager and Project Manager believe that the Trust, the Project SPVs and the Target SPV are in compliance, in all material respects, with applicable health, safety and environmental regulations and other requirements in their operations. The Project Manager believes that accidents and occupational health hazards can be significantly reduced through a systematic analysis and control of risks and by providing appropriate training to management, employees and sub-contractors. Project managers appointed by the Project SPVs or the Target SPV, as applicable, for a project are principally responsible for ensuring that safety standards are met at the relevant project sites.

Intellectual Property

We do not own the "IRB" trademark and "IRB" logo, which are registered in the name of, and owned by, the Sponsor. However, pursuant to a separate name licensing agreement, the Sponsor has granted to the Trust, each of the Project SPVs and the Investment Manager, the non-transferable and non-assignable right to use the "IRB" trademark as part of their respective corporate names, if applicable, as well as the "IRB" logo in connection with their respective businesses, on a non-exclusive basis. The license may be terminated under certain circumstances, including (i) if the Sponsor or any of its subsidiaries ceases to be the sponsor of the Trust for any reason whatsoever; or (ii) if the Sponsor or any of its subsidiaries ceases to hold at least 51% of the equity share capital of the Investment Manager, or an entity which is not a subsidiary of the Sponsor is appointed as the investment manager of the Trust. Upon the termination of the license, the Trust or the relevant Project SPV, as the case may be, will be required to cease the use of the IRB trademark and change its name to remove IRB from its name within three months from the date of termination, which may have a material adverse effect on the operations of the Project SPVs and require management's time and attention. Pursuant to an amendment agreement dated April 7, 2022, which will be effective from the date of closing under the PDTPL Share Subscription Agreement, PDTPL has been made a party to the Name Licensing Agreement.

See also "*Risk Factors – We do not own the 'IRB' trademark and logo. Our license to use the 'IRB' trademark and logo may be terminated under certain circumstances and our ability to use the trademark and logo may be impaired*" on page 31.

Property

The Investment Manager's registered office is located in Mumbai from which all its administrative and reporting activities are conducted. The principal place of business of the Trust is located in Mumbai. The Investment Manager and the Trust also have an office located in New Delhi. The Project SPVs and the Target SPV typically lease various premises across India to facilitate their work at their project sites. These leases usually expire upon completion of the relevant project.

Insurance

The Project SPVs' and the Target SPV's operations are subject to hazards inherent in providing operation and maintenance services, such as risk of equipment failure, work accidents, fire, earthquake, flood and other force majeure events. This includes hazards that may cause injury and loss of life, damage and destruction of property, equipment and environmental damage. The principal types of insurance coverage for the Expanded Portfolio include standard fire and special perils insurance, contractor all-risk insurance and money insurance. The Investment Manager also maintains management liability insurance. The Investment Manager and the Trustee confirm that the amount of insurance that we presently maintain represents an adequate and appropriate level of coverage required to insure the Project SPVs' business and operations and all the infrastructure assets held by the Project SPVs, and is in accordance with the concession agreements and industry standards in India and will perform regular assessment on the adequacy of its insurance coverage on a yearly basis. The Investment Manager

and the Trustee also confirm that the insurance coverage presently maintained by PDTPL represents an adequate and appropriate level of coverage required to insure the PDTPL's business and operations and the infrastructure assets held by PDTPL, and is in accordance with the concession agreements and industry standards in India.

Legal Proceedings

The Project SPVs, the Target SPV, the Sponsor, the Investment Manager, the Project Manager and the Trustee are or may be involved in legal proceedings or claims from time to time. Certain proceedings or claims are currently pending at different levels of adjudication before various courts, tribunals and regulatory authorities. For a description of the material legal proceedings that are outstanding, see "*Material Litigation and Regulatory Action*" on page 379.

CORPORATE GOVERNANCE

Set out below is a summary of the corporate governance framework which is applicable in relation to the Trust, the Investment Manager, the Project SPVs and upon completion of the PDTPL Acquisition, will also be applicable to PDTPL.

Composition of the Board of Directors of the Investment Manager

As at the date of this Letter of Offer, the Sponsor holds 51% of the equity share capital of the Investment Manager and Croxley Investment Pte. Ltd. ("**Croxley**") holds 49% of the equity share capital of the Investment Manager. For details of the current board of directors of the Investment Manager (the "**Board**"), see "*The Investment Manager*" on page 258.

The Sponsor, Croxley and the Investment Manager have entered into a shareholders agreement dated August 6, 2019, as amended (the "**IM SHA**"). For details of the rights in relation to shareholding and certain other rights of Croxley in the Investment Manager, see "*The Investment Manager*" on page 258.

The Board may consist of five directors in accordance with the terms of the IM SHA. The composition of the Board is as follows:

(a) the Sponsor is entitled to nominate one director on the Board (the "**Sponsor Director**");

(b) Croxley is entitled to nominate one director on the Board (the "**Investor Director**"); and

(c) three independent directors are to be appointed in accordance with the Companies Act, of which: (i) the Sponsor and Croxley are entitled to recommend the appointment one independent director each; and (ii) the Sponsor and Croxley are entitled to jointly recommend the appointment of one independent director.

Under the IM SHA, an alternate director may be appointed to act as an alternate to the Sponsor Director or Investor Director during such director's absence for a period of at least three months from India, in accordance with the Companies Act.

The Investment Manager will reimburse the Board for all actual travel and accommodation expenses incurred by them or their alternate directors in connection with the performance of their duties as directors of the Investment Manager in accordance with the IM SHA. The directors will be entitled to sitting fees or any other remuneration for attending meetings as mutually agreed in writing by the parties.

In addition to the right to nominate directors on the Board, the Sponsor and Croxley are entitled to appoint one observer on the Board and/or the committees of the Board.

Chairperson

The chairperson of the Board will be the Sponsor Director unless an Event of Default has occurred.

Quorum

Subject to the provisions of the Companies Act, the Sponsor Director and the Investor Director will constitute a quorum in meetings of the Board (including any meetings held by video-conferencing).

If quorum is not present within 30 (thirty) minutes of the scheduled time for any meeting of the Board or ceases to exist at any time during such meeting, the meeting of the Board will be automatically adjourned and be reconvened on the same day in the following week, time and place and if such day is not a Business Day, then the immediately following Business Day. At any such adjourned meeting, the presence of at least three Directors shall be required to constitute the quorum; provided that no Reserved Matters will be taken up for discussion or voted upon at any adjourned Board Meeting unless the Investor Director and the IRB Director are present in such meeting, or if prior written consent in respect of such Reserved Matters has been obtained in accordance with the IM SHA. No matters which were not part of the agenda for the original Board meeting will be discussed at such adjourned meeting. Subject to the terms of the IM SHA, the Investor Director and the IRB Director may at any time waive their respective right to form part of the quorum for a particular Board Meeting, in writing, and at any such Board Meeting, no new matters other than those forming part of the agenda for such Board Meeting will be discussed or taken up.

Frequency of meetings

Subject to the provisions of the Companies Act, the Board will meet at least four times a year and once every 120 days, at any location mutually agreed between the Sponsor Director and the Investor Director.

Committees

The Investment Manager has constituted (i) an audit committee; (ii) a capex monitoring committee; (iii) a health and safety monitoring committee; and (iv) an internal complaints committee under the Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013 in accordance with the terms of the IM SHA.

The Investment Manager has also constituted a nomination and remuneration committee and a refinance committee.

The Sponsor and Croxley have the right to nominate the Sponsor Director or the Investor Director, as applicable, as a member of any committee or sub-committee of the Board. In addition to the committees of the Board set out above, the Board may constitute committees for various functions from time to time.

Reserved Matters

In accordance with the terms of the IM SHA, the Sponsor and Croxley have agreed that no resolution will be passed or decision or action be taken by the Investment Manager in relation to any Manager Group Member, in any manner, including by: the Board, the shareholders or otherwise in respect of any of the Reserved Matters, unless the written consent of the Sponsor and Croxley has been obtained through the Sponsor Director and the Investor Director in the manner specified in the IM SHA, prior to any decisions on Reserved Matters being taken in any other manner. Subject to applicable law, the Sponsor, Croxley, the Sponsor Director and/or the Investor Director will have the right to require that any Reserved Matter be decided at a shareholder meeting instead of at a Board meeting and/or with the prior written consent of Croxley or of the Sponsor in accordance with the terms of the IM SHA.

Under the IM SHA, any obligation on any Manager Group Member is deemed to be a simultaneous and corresponding obligation on the Sponsor to exercise its voting rights in relation to the Investment Manager to perform such obligation.

For details of the Reserved Matters, see "*Rights of Unitholders – Approval of Unitholders*" on page 252.

Directors of the SPVs

The Investment Manager, in consultation with the Trustee, has appointed the directors on the board of each Project SPV in accordance with the InvIT Regulations. Upon the completion of the PDTPL Acquisition, the Investment Manager, in consultation with the Trustee, will appoint the directors on the board of the Target SPV in accordance with the InvIT Regulations. Further, pursuant to the terms of the IM SHA, each of the Sponsor and the Croxley have the right to require a director or observer on the board of directors of any SPV as a representative of the Investment Manager.

Fall-Away

The rights of the Sponsor and Croxley in relation to the board of directors of the Investment Manager, shareholders meetings and voting and reserved matters under the IM SHA will terminate with respect to such party upon such party's (together its affiliates') shareholding in the Investment Manager (calculated on a fully diluted basis) falling below 20% of the share capital of the Investment Manager.

All rights of the Sponsor or Croxley under the IM SHA other than the economic and voting rights attached to the securities held by them shall terminate with respect to such party upon such party's (together with its affiliates') shareholding in the Investment Manager (calculated on a fully diluted basis) falling below 10% of the share capital of the Investment Manager.

Policies of the Manager Group

Pursuant to the terms of the IMA SHA, the Investment Manager (on behalf of itself and the Trust), each of the Project SPVs and the Target SPV are required to adopt certain policies for corporate governance, key terms of which are set out below. Each Manager Group Member is required to ensure that these policies remain in full force and effect and consider amendments in accordance with the terms of the Framework Agreement. Mr. Kaustubh Shevade has been designated by the Investment Manager as the Compliance Officer with respect to the Trust.

Code of Conduct

The Code of Conduct serves as a basis for maintaining the standards of honest and ethical business conduct including the ethical handling of actual or apparent conflicts of interest between personal and professional relationships, and ensuring confidentiality of corporate information and data for the Manager Group, the Sponsor/Project Manager, and the Trustee (together the "**Trust Entities**") and compliance with the applicable laws and the InvIT Regulations. The key terms of the Code of Conduct include *inter-alia*:

(i) Duties must be carried out in an honest, fair, diligent and ethical manner within the scope of the authority conferred and in accordance with applicable laws, rules, regulations, agreements, guidelines, standards, and internal policies and procedures.

(ii) Assets, properties, and human resources of the Manager Group Members are to be used only for the official business of the Trust Entities, and the security of all confidential information must be ensured.

(iii) The Trust Entities must not, and ensure that their employees do not engage in any business activity that conflicts with the interest of a Manager Group Member.

(iv) The Trust and the parties to the Trust must conduct all affairs in the interest of the unitholders of the InvIT, and they shall make adequate, accurate, explicit and timely disclosure of relevant material information to all unit holders, exchanges and the Securities and Exchange Board of India in accordance with the InvIT Regulations.

(v) The Trust, the parties to the Trust and any third party appointed by the Investment Manager shall not use any unethical means to sell, market or induce any person to buy units of the Trust and where a third party appointed by the Investment Manager fails to comply with this condition, the Investment Manager shall be held liable for the same. The Trust and the parties to the Trust shall render at all times high standards of service, exercise due diligence, ensure proper care and exercise independent professional judgment.

Disclosure of Information Policy

This policy sets out the process and procedure for determining materiality of information in relation to periodic disclosures required under applicable law, including the InvIT Regulations. The key terms of the Disclosure of Information Policy include *inter-alia*:

(i) The following information in relation to the Manager Group shall be provided to the Unitholders:
   a. quarterly management accounts within 20 days from the end of each calendar month;
   b. unaudited quarterly financial statements (including profit and loss accounts and a balance sheet) and management accounts for each financial quarter within 45 days from the end of such financial quarter;
   c. audited annual financial statements (including profit and loss accounts and a balance sheet) for every Financial Year within 60 days of the end of such Financial Year;
   d. notices, agenda and minutes of meetings of board of directors, committees of the board and shareholders of the Manager Group Member as may be requested by the unitholders;
   e. copies of all agreements, business projections, reports, certificates and any material information regularly provided to any other security holder or lender (in their capacity as security holders or lenders), including any management or audit or investigative reports provided to any security holder or lender, simultaneously with such security holder or lender;
   f. proposed Annual Budget for the upcoming Financial Year by March 15 of the preceding Financial Year;
   g. toll collection MIS data and lenders' independent engineers' reports for each SPV on monthly basis;

h. prior intimation, to the extent practicable, regarding initiation of any criminal litigation to which the Manager Group Member is a party; and
i. prior intimation regarding initiation of any civil or administrative litigation, arbitration or other legal proceedings to which the Manager Group Member is a party and which relate to a claim amount exceeding INR 25 million.

(ii) Disclosure of information to regulators:
a. The Manager Group Member shall submit the information required to be submitted to the SEBI, the NHAI, MoRTH, the RBI, the Stock Exchanges or any other governmental, regulatory, statutory, administrative, or judicial body under applicable law, including or such further information or clarification required by any of them; and
b. The Manager Group Member shall inform the SEBI, in writing, if any information or particulars previously submitted to SEBI are found to be false or misleading in any material particular or if there is any material change in the information already submitted, in accordance with InvIT Regulations.

Distribution Policy

For details of the Distribution Policy, see "*Distributions*" on page 246.

Procurement and Divestment Policy

This policy sets out the guidelines for procurement and divestment of the Trust Assets and the assets of any Manager Group Member (collectively, the "**Manager Group Assets**"). The key terms of the Procurement and Divestment Policy include, *inter-alia*:

(i) The Investment Manager is empowered to make all investment decisions with respect to the underlying assets or projects of the Trust, including, without limitation, investigation, selection, development, negotiation, structuring, restructuring, commitment to or monitoring and any further investment or divestment of the underlying assets or projects of the Trust.

(ii) The Investment Manager shall focus on addition of new assets to the existing portfolio of the Manager Group Assets. The projects acquired shall be in the under-construction phase in order to utilize and leverage the experience and technical expertise of the Manager Group Members.

(iii) Any decision for procurement and divestment of the Manager Group Assets must be made in accordance with the Annual Budget, the Business Plan and the terms of the Framework Agreement and the IM SHA. Any procurement or divestment that is not in accordance with such documents will require the written consent of the shareholders of the Investment Manager and the Unitholders of the Trust. It is clarified that this shall be treated as a matter which is not in the ordinary course of business and will require the approval of the unitholders under Regulation 22(5)(d) of the InvIT Regulations.

Leverage Policy

For details of the Leverage Policy, see "*Leverage*" on page 236.

Nomination and Remuneration Policy

This policy sets out the guidelines regarding the nomination, remuneration and removal of directors, key managerial personnel and employees of the Manager Group. The key terms of the Nomination and Remuneration Policy include, *inter-alia*:

(i) The board of directors of the Manager Group Members shall, as applicable, have the required number of independent directors in terms of the applicable law, including the Companies Act.

(ii) The board of directors of each of the Manager Group Members, is, as applicable, expected to possess the required expertise, skill and experience to effectively manage and direct the Manager Group Members to attain its organizational and business goals. They are expected to be persons with vision, leadership qualities, and proven competence and integrity.

(iii) Each member of the board of directors of the Manager Group Members, as applicable, shall ensure that their

personal interest does not run in conflict with the any of the Manager Group Member's interests.

(iv) The annual performance and remuneration review of the employees of the Manager Group Members shall be done once every year. The review of remuneration will be undertaken on the basis of the following criteria:
   a. Performance of the employee;
   b. Performance of the team to which such employee belongs;
   c. Overall performance of the Manager Group Member; and
   d. Prevailing business environment and requirement of manpower for future projects.

Additionally, the following terms will be applicable to the Investment Manager:

a. The board of directors shall constitute a capex monitoring committee, a health and safety monitoring committee, an audit committee and all such other committees of the board of directors as are required to be constituted by the Investment Manager under applicable law.
b. The board of directors shall appoint and designate such key managerial personnel as are required under applicable law, including a Chief Executive Officer, a Chief Financial Officer and a Company Secretary of the Investment Manager. These key managerial persons shall be jointly nominated by the Sponsor and Croxley, and appointed by the board of directors.

Record Retention Policy

The policy sets out the guidelines for the identification of documents and records which are required to be preserved, storage, maintenance and preservation of documents and records of the Manager Group and protection and preservation of all the necessary documents and records as per the statutory requirements. The key terms of the Record Retention Policy include, *inter-alia*:

(i) The policy applies to all the documents required to be maintained in terms of the InvIT Regulations, the applicable secretarial standards, and any other applicable law which shall be preserved under the custody of the compliance officer of the respective Manager Group Members. It also applies to all financial records required to be maintained in terms of the InvIT Regulations, the prescribed accounting standards, the Income Tax Act, 1961, and any other applicable law which shall be maintained under the custody of the chief financial officer of the respective Manager Group Member.

(ii) All documents which are required to be preserved by virtue of applicable laws shall be preserved either permanently or for such periods as may be mandated by applicable laws from time to time.

(iii) Documents which are required to be preserved for a period of not less than eight years after the completion of the relevant transaction shall be determined by the relevant heads of departments of the Manager Group Member from time to time.

(iv) Documents shall be preserved in a chronological manner for each financial year.

(v) The Manager Group Members shall maintain back-up of all documents maintained in electronic form. Documents which are confidential in nature shall, wherever possible, be kept under lock and key and shall be shared on a 'need to know' basis only, with persons directly involved in the transaction involving such documents and records.

(vi) Certain documents may be required to be kept open by the Manager Group Member for inspection in the manner specified under such applicable law. Regulatory authorities, including the SEBI, have the right of access to all registers and records.

(vii) Documents which are statutorily required to be hosted on the website of any Manager Group Member shall be hosted within the prescribed timeline from the occurrence of the event.

(viii) Where documents are no longer required to be preserved, or on the expiration of the specified period of time for which they were required to be preserved, they may be discarded or disposed off in accordance with the procedure specified under the applicable law, and where no procedure has been specified, they may be discarded or disposed off in accordance with the standard operating procedures applicable to the respective departments.

In addition, the Investment Manager (on behalf of itself and the Trust) and each of the Project SPVs have also adopted, and upon completion of the PDTPL Acquisition, the Target SPV will adopt, policies on corporate social responsibility, environment, health and safety, maternity benefits, equal opportunities, procurement, prohibited practices and anti-trust practices, anti-corruption practices, prevention of sexual harassment and anti-harassment, personal data protection and whistle-blowing.

SUMMARY OF THE CONCESSION AGREEMENTS

Set out below are summaries of the concession agreements entered into by the Project SPVs and the Target SPV in relation to their respective business. The descriptions and summaries of the agreements below are not and nor do they purport to be complete descriptions or summaries of all terms of such agreements. Certain terms used in this section have the meanings assigned to such terms in the respective concession agreements. Copies of these concession agreements will be made available for inspection at the office of the Trust in New Delhi. See "Material Contracts and Documents for Inspection" on page 405.

1. Concession Agreement between AETL and the NHAI dated September 1, 2015

AETL has entered into a concession agreement for six-laning of km 199.660 to km 323.525, Agra to Etawah Bypass section of NH-2 in Uttar Pradesh on build, operate and transfer ("**BOT**") basis (the "**AETL Concession Agreement**"), for a period of 24 years, from August 1, 2016 ("**AETL Appointed Date**") or until such date on which the AETL Concession Agreement is terminated by a termination notice ("**AETL Termination Date**", and the period between the AETL Appointed Date and the AETL Termination Date, the "**AETL Concession Period**").

Certain Definitions

"**AETL Debt Due**" shall mean the aggregate of the following sums expressed in Indian Rupees outstanding on the transfer date:

a) the principal amount of the debt provided by the senior lenders under the financing agreements for financing the total project cost (the "**Principal**") but excluding any part of the Principal that had fallen due for repayment two years prior to the transfer date;

b) all accrued interest, financing fees and charges payable under the financing agreements on, or in respect of, the debt referred to in the sub-clause above until the transfer date but excluding (i) any interest, fees or charges that had fallen due one year prior to the transfer date, (ii) any penal interest or charges payable under the financing agreements to any senior lender, and (iii) any pre-payment charges in relation to accelerated repayment of debt except where such charges have arisen due to an NHAI Default (as defined below); and

c) any subordinated debt which is included in the financing package and disbursed by lenders for financing the total project cost;

If all, or any part of the AETL Debt Due is convertible into equity at the option of the senior lenders and/or AETL, it shall, for the purposes of the AETL Concession Agreement, be deemed to be AETL Debt Due even after the conversion and the Principal thereof shall be dealt with as if such conversion had not been undertaken;

"**AETL Debt Service**" shall mean the sum of all payments on account of Principal, interest, financing fees and charges due and payable in an accounting year to the senior lenders under the financing agreements;

"**AETL Project Assets**" shall mean all physical and other assets relating to and forming part of the site including (a) rights over the site in the form of licence, right of way or otherwise; (b) tangible assets such as civil works and equipment including foundations, embankments, pavements, road surface, interchanges, bridges, culverts, road overbridges, drainage works, traffic signals, sign boards, kilometre-stones, toll plazas, electrical systems, communication systems, rest areas, relief centres, maintenance depots and administrative offices; (c) project facilities situated on the site; (d) all rights of AETL under the project agreements; (e) financial assets, such as receivables, security deposits etc.; (f) insurance proceeds; and (g) applicable permits and authorizations relating to or in respect of the AETL Project Highway (as defined below), but does not include additional facilities;

"**AETL Project Highway**" shall mean the site comprising the existing road comprising section of six-laning of Agra-Etawah Bypass section of NH-2 from km 199.660 to km 323.525 in the State of Uttar Pradesh under NHDP Phase-V on BOT(Toll) mode and all AETL Project Assets, and its subsequent development and augmentation in accordance with the AETL Concession Agreement;

"**AETL Project**" shall mean the construction, operation, and maintenance of the AETL Project Highway in accordance with the provisions of the AETL Concession Agreement, and includes all works, services, and equipment relating to and in respect of the scope of the project; and

"**Premium**" shall mean an amount paid to the NHAI by AETL in the form of an additional concession fee, as set forth in the bid for each year of the AETL Concession Period.

Grant of Concession

Subject to, and in accordance with the provisions set out in the AETL Concession Agreement, the applicable laws and the applicable permits, the NHAI has granted to AETL, and AETL has accepted the concession, including the exclusive right, license, and authority during the subsistence of the AETL Concession Agreement, to construct, operate and maintain the AETL Project for a period of 24 years from the AETL Appointed Date.

Subject to, and in accordance with the provisions of the AETL Concession Agreement, the concession granted shall oblige or entitle, as the case may be, AETL to:

a) right of way, access and license to the site for the purpose of, and to the extent conferred by the provisions of the AETL Concession Agreement;

b) finance and construct the AETL Project Highway;

c) manage, operate, and maintain the AETL Project Highway and regulate the use thereof by third parties;

d) demand, collect, and appropriate fee from vehicles and persons liable for payment of fee for using the AETL Project Highway or any part thereof and refuse entry of any vehicle if the fee due is not paid;

e) perform and fulfil all of AETL's obligations under and in accordance with the AETL Concession Agreement;

f) bear and pay all costs, expenses, and charges in connection with or incidental to the performance of the obligations of AETL under the AETL Concession Agreement; and

g) neither assign, transfer or sublet, or create any lien or encumbrance on the AETL Concession Agreement, or the concession granted, or on the whole or any part of the AETL Project Highway, nor transfer, lease, or part possession thereof, save and except as expressly permitted by the AETL Concession Agreement or the agreement for the substitution of AETL entered into by AETL, the NHAI, and the lenders' representative on behalf of the senior lenders (the "**Substitution Agreement**").

Fees

On and from the commercial operation date ("**COD**") till the transfer date, AETL shall have the sole and exclusive right to demand, collect, and appropriate fee from the users subject to, and in accordance with the AETL Concession Agreement and the applicable rules and regulations, provided that for ease of payment, such fee shall be rounded off to the nearest five rupees in accordance with the applicable fee rules, as updated from time to time. Further, AETL may determine and collect fee at such lower rates as it may, by public notice to the users, specify in respect of all or any category of users or vehicles. In accordance with the AETL Concession Agreement, AETL shall not collect any fees in relation to exempted vehicles.

AETL shall not collect any fee from a local user for non-commercial use of the AETL Project Highway, and shall issue a pass in respect thereof for commuting on a section of the AETL Project Highway as specified in the pass and for crossing the toll plaza specified therein. For carrying out these provisions, AETL shall formulate, publish and implement an appropriate scheme, and make such modifications to the scheme as may reasonably be suggested by the NHAI or by local users from time to time. For defraying its expenses on issuing of passes and handling of local users, AETL shall be entitled to charge a monthly fee of ₹150, with reference to the base year 2007-08, to be revised annually in accordance with the fee rules to reflect the variation in WPI, and then rounded off to the nearest five rupees; provided that no passes will be required or fee collected from a vehicle that uses part of the AETL Project Highway and does not cross a toll plaza.

Concession Fee

In consideration of the grant of concession, AETL shall pay to the NHAI by way of concession fee a sum of ₹1 per annum.

Additionally, AETL was required to pay to the NHAI on the AETL Appointed Date, a Premium in the form of an additional concession fee equal to ₹810 million as due to the NHAI during that year, due and payable for the period remaining in that year; and for each subsequent year of the AETL Concession Period, the Premium shall be determined by increasing the amount of Premium in the respective year by an additional 5% as compared to the immediately preceding year. The Premium is deemed to be a part of the concession fee.

The concession fee payable under the provisions of the AETL Concession Agreement shall be due and payable in monthly instalments within seven days of the close of each month.

Escrow Account

AETL was required to, prior to the AETL Appointed Date, open and establish an escrow account (the "**Escrow Account**") with a bank (the "**Escrow Bank**") in accordance with the AETL Concession Agreement read with the escrow agreement entered into amongst AETL, the NHAI, the Escrow Bank and the senior lenders through the lenders' representative (the "**Escrow Agreement**").

AETL shall deposit, or cause to be deposited the following inflows and receipts into the Escrow Account:

a) all funds constituting the financial package;

b) all fee and any other revenues from or in respect of the AETL Project Highway, including the proceeds of any deposits, capital receipts or insurance claims; and

c) all payments by the NHAI, after deducting any outstanding concession fee.

The senior lenders may make direct disbursements to the EPC contractor in accordance with the express provisions contained in this behalf in the financing agreements.

Withdrawals during Concession Period

AETL was required to, at the time of opening the Escrow Account, give irrevocable instructions, by way of the Escrow Agreement, to the Escrow Bank instructing, inter alia, that deposits in the Escrow Account shall be appropriated in the following order every month, or at shorter intervals as necessary, and if not due in a month, then appropriated proportionately in such month and retained in the Escrow Account and paid out therefrom in a month when due:

a) all taxes due and payable by AETL for and in respect of the AETL Project Highway;

b) all payments relating to construction of the AETL Project Highway, subject to and in accordance with the conditions, if any, set forth in the financing agreements;

c) Operation and Management ("**O&M**") expenses, subject to the ceiling, if any, set forth in the financing agreements;

d) O&M expenses and other costs and expenses incurred by the NHAI in accordance with the provisions of the AETL Concession Agreement, and certified by the NHAI as due and payable to it;

e) concession fee due and payable to the NHAI;
f) monthly proportionate provision of AETL Debt Service due in an accounting year;

g) premium due and payable to the NHAI;

h) all payments and damages certified by the NHAI as due and payable to it by AETL, including repayment of revenue shortfall loan;

i) monthly proportionate provision of AETL Debt Service payments due in an accounting year in respect of subordinated debt;

j) any reserve requirements set forth in the financing agreements; and

k) balance, if any, in accordance with the instructions of AETL.

AETL shall not, in any manner, modify the order of payment specified except with prior written approval from the NHAI.

Withdrawals upon Termination

Notwithstanding anything to the contrary contained in the AETL Concession Agreement, all amounts standing to the credit of the Escrow Account shall, upon termination, be appropriated in the following order:

a) all taxes due and payable by AETL for and in respect of the AETL Project Highway;

b) 90% of the AETL Debt Due excluding the subordinated debt;

c) outstanding concession fee;

d) all payments and damages certified by the NHAI as due and payable to it by AETL, including the Premium and the repayment of the revenue shortfall loan;

e) retention and payments relating to the liability for defects and deficiencies set forth in the AETL Concession Agreement;

f) outstanding AETL Debt Service including balance of AETL Debt Due;

g) outstanding subordinated debt;

h) incurred or accrued O&M expenses;

i) any other payments required to be made under the AETL Concession Agreement; and

j) balance, if any, in accordance with the instructions of AETL.

No appropriations shall be made until a vesting certificate has been issued by the NHAI.

Change of Scope

The NHAI may, notwithstanding anything to the contrary contained in the AETL Concession Agreement, require the provision of additional works and services which are not included in the scope of the project as contemplated by the AETL Concession Agreement. Any such change of scope shall be made in accordance with the provisions of the AETL Concession Agreement and the costs thereof shall be expended by AETL and reimbursed by the NHAI.

If AETL determines at any time that a change in scope is necessary for providing safer and improved services to the users, it shall, by notice in writing, require the NHAI to consider such change of scope. The NHAI shall, within 15 days of receipt of such notice, either accept the change of scope with modifications, if any, and initiate proceedings thereof in accordance with the provisions of the AETL Concession Agreement, or inform AETL in writing of its reasons for not accepting such change of scope.

Compensation for Breach of Agreement

In the event of AETL being in material default or breach of the AETL Concession Agreement, it shall pay to the NHAI by way of compensation, all direct costs suffered or incurred by the NHAI as a consequence of the material default or breach, within 30 days of the receipt of the demand supported by the necessary particulars thereof. No compensation shall be payable for any material breach or default in respect of which damages are expressly specified and payable under the AETL Concession Agreement.

In the event of the NHAI being in material default of the AETL Concession Agreement at any time after the AETL Appointed Date, it shall pay to AETL by way of compensation, all direct costs suffered or incurred by AETL as a consequence of the material default or breach within 30 days of receipt of the demand supported by necessary

particulars thereof. No compensation shall be payable for any material breach or default in respect of which damages have been expressly specified in the AETL Concession Agreement.

In the event that a material default or breach of the AETL Concession Agreement causes a delay in achieving COD or leads to suspension of, or reduction in collection of fee, as the case may be, the NHAI shall, in addition to the payment of compensation, extend the AETL Concession Period as provided in the AETL Concession Agreement. In the event that an additional toll way or a competing road, as the case may be, is opened to traffic in breach of the AETL Concession Agreement, the NHAI shall pay to AETL, for each day of the breach, compensation as provided in the AETL Concession Agreement, until the breach is cured. The payment of compensation by the NHAI shall be deemed to cure the breach of the AETL Concession Agreement so long as the NHAI continues to pay the compensation.

The compensation payable shall be in addition to, and not in substitution for, or derogation of, termination payment, if any.

Effects of Variation in Traffic Growth

Subject to the provisions of the AETL Concession Agreement, in the event actual average traffic shall have fallen short of the target traffic, then for every 1% (one percent) shortfall as compared to the target traffic, the AETL Concession Period shall, subject to payment of concession fee in accordance with the AETL Concession Agreement, be increased by 1.5% (one point five percent) thereof; provided that such increase in AETL Concession Period shall not in any case exceed 20% (twenty percent) of the AETL Concession Period.

Subject to the provisions of the AETL Concession Agreement, in the event actual average traffic shall have exceeded the target traffic, then for every 1% (one percent) excess as compared to the target traffic, the AETL Concession Period shall be reduced by 0.75% (zero point seven five percent) thereof; provided that such reduction in AETL Concession Period shall not in any case exceed 10% (ten percent) thereof.

Provided further that in lieu of a reduction in AETL Concession Period under the AETL Concession Agreement, AETL may elect to pay, in addition to the concession fee that would be due and payable if the AETL Concession Period were not reduced hereunder, a further premium equal to 25% (twenty five percent) of the realizable fee, and upon notice given to this effect by AETL no later than two years prior to the AETL Termination Date contemplated by the AETL Concession Agreement, NHAI shall waive the reduction in AETL Concession Period hereunder forthwith.

Notwithstanding anything to the contrary contained in AETL Concession Agreement, if the average daily traffic of PCUs in any accounting year shall exceed the designed capacity of the AETL Project Highway, the NHAI at its option may cause preparation of detailed project report which will assess the cost that may have to be incurred for augmenting the capacity of the AETL Project Highway so that its capacity is sufficiently increased for carrying the then current traffic in accordance with the corresponding provisions of the Indian Roads Congress publication no. IRC -64, 1990 or any substitute thereof. The AETL Concession Period, may be extended so that it yields for AETL a post-tax return on equity of 16% per annum. This assessment will be made at an assumed debt to equity ratio of 70:30. The extension of the AETL Concession Period shall be however limited to five years. The NHAI may thereafter, at their sole option, issue a notice to AETL, to undertake within six months of such notice, the augmentation so determined by the NHAI. The refusal, non-acceptance, or failure by AETL to undertake such augmentation on the due date so intimated by the NHAI, will be considered an indirect political event and the NHAI may at its discretion terminate this AETL Concession Agreement by issuing a termination notice and making a termination payment in accordance with the provisions of the AETL Concession Agreement without the NHAI being liable to issue any further notice under it.

Termination of the AETL Concession Agreement

Termination by the NHAI

Save as otherwise provided in the AETL Concession Agreement, in the event that any of the defaults specified below shall have occurred, and AETL fails to cure the default within the cure period, or where no cure period is specified, then within a cure period of 60 days, AETL shall be deemed to be in default of the AETL Concession Agreement ("**AETL Default**"), unless the default has occurred solely as a result of any breach of the AETL Concession Agreement by the NHAI or due to force majeure. The defaults referred to herein shall include:

a) the performance security has been encashed and appropriated in accordance with the AETL Concession Agreement and AETL fails to replenish or provide fresh performance security within a cure period of 30 days;

b) subsequent to the replenishment or furnishing of fresh performance security in accordance with the AETL Concession Agreement, AETL fails to cure, within a cure period of 90 days, the AETL Default for which whole or part of the performance security was appropriated;

c) AETL does not achieve the latest outstanding project milestone due in accordance with the AETL Concession Agreement and continues to be in default for 90 days;

d) AETL abandons or manifests intention to abandon the construction or operation of the AETL Project Highway without the prior written consent of the NHAI;

e) project completion date does not occur within the period specified in the AETL Concession Agreement;

f) the punch list items have not been completed within the period set forth in the AETL Concession Agreement;

g) AETL is in breach of the maintenance requirements or the safety requirements as the case may be;

h) AETL has failed to make any payment to the NHAI within the period specified in the AETL Concession Agreement;

i) an escrow default has occurred and AETL fails to cure the default within a cure period of 15 days;

j) upon occurrence of a financial default, the lenders' representative has, by notice, required the NHAI to undertake suspension or termination, as the case may be, in accordance with the Substitution Agreement and AETL fails to cure the default within the cure period specified hereinabove;

k) a breach of the project agreements by AETL has caused a material adverse effect;

l) AETL creates an encumbrance in breach of the AETL Concession Agreement;

m) AETL repudiates the AETL Concession Agreement or otherwise takes any action or evidences or conveys an intention not to be bound by the AETL Concession Agreement;

n) a change in ownership has occurred in breach of the AETL Concession Agreement;

o) there is a transfer, pursuant to law either of (i) the rights and/or obligations of AETL under any of the project agreements, or of (ii) all or part of the assets or undertaking of AETL, and such transfer causes a material adverse effect;

p) an execution levied on any of the assets of AETL has caused a material adverse effect;

q) AETL is adjudged bankrupt or insolvent, or if a trustee or receiver is appointed for AETL or for the whole or material part of its assets that has a material bearing on the AETL Project;

r) AETL has been, or is in the process of being liquidated, dissolved, wound-up, amalgamated or reconstituted in a manner that would cause, in the reasonable opinion of the NHAI, a material adverse effect;

s) a resolution for winding up of AETL is passed, or any petition for winding up of AETL is admitted by a court of competent jurisdiction and a provisional liquidator or receiver is appointed and such order has not been set aside within 90 days of the date thereof, or AETL is ordered to be wound up by Court except for the purpose of amalgamation or reconstruction, provided that, as part of such amalgamation or reconstruction, the entire property, assets and undertaking of AETL are transferred to the amalgamated or reconstructed entity and that the amalgamated or reconstructed entity has unconditionally assumed the obligations of AETL under the AETL Concession Agreement and the project agreements; provided that:

    i) the amalgamated or reconstructed entity has the capability and operating experience necessary for the performance of its obligations under the AETL Concession Agreement and the project agreements;

ii) the amalgamated or reconstructed entity has the financial standing to perform its obligations under the AETL Concession Agreement and the project agreements and has a creditworthiness at least as good as that of AETL as at the AETL Appointed Date; and

iii) each of the project agreements remains in full force and effect;

t) any representation or warranty of AETL which is, as of the date hereof, found to be materially false, incorrect or misleading or AETL is at any time hereafter found to be in breach thereof;

u) AETL submits to the NHAI any statement, notice or other document, in written or electronic form, which has a material effect on the NHAI's rights, obligations or interests and which is false in material particulars;

v) AETL has failed to fulfil any obligation, for which failure termination has been specified in the AETL Concession Agreement; or

w) AETL commits a default in complying with any other provision of the AETL Concession Agreement if such default causes a material adverse effect on the NHAI.

Without prejudice to any other rights or remedies which the NHAI may have under the AETL Concession Agreement, upon the occurrence of an AETL Default, the NHAI shall be entitled to terminate the AETL Concession Agreement by issuing a termination notice to AETL. Before issuing the termination notice, the NHAI shall, by notice, inform AETL of its intention to issue a termination notice and grant 15 days to AETL to make a representation, and may, after the expiry of the 15 days, whether or not it is in receipt of such representation, issue the termination notice subject to the provisions of the AETL Concession Agreement.

If there are senior lenders, the NHAI shall send a copy of its notice of intention to issue a termination notice to inform the lenders' representative and grant 15 days to the lenders' representative for making a representation on behalf of the senior lenders stating the intention to substitute AETL in accordance with the Substitution Agreement. If the NHAI receives a representation on behalf of the senior lenders, it shall, in its discretion, either withhold termination for a period not exceeding 180 days from the date of the representation, or exercise its right of suspension, as the case may be, to enable the lenders' representative to exercise the senior lenders' right of substitution in accordance with the Substitution Agreement. The lenders' representative may, instead of exercising the senior lenders' right of substitution, procure that the default specified in the notice is cured within the aforesaid 180 days, and upon the curing, the NHAI shall withdraw its notice and restore the rights of AETL. On a written request from the lenders' representative and AETL, the NHAI shall extend the period of 180 days by a further period not exceeding 90 days as it may deem appropriate.

Termination by AETL

In the event that any of the defaults specified below shall have occurred, and the NHAI fails to cure the default within a cure period of 90 days or such longer period as provided in the AETL Concession Agreement, the NHAI shall be deemed to be in default of the AETL Concession Agreement ("**NHAI Default**"), unless the default has occurred as a result of a breach of the AETL Concession Agreement by AETL, or due to force majeure. The default referred to herein shall include:

a) the NHAI commits a material default in complying with any of the provisions of the AETL Concession Agreement and such default has a material adverse effect on AETL;

b) the NHAI has failed to make any payment to AETL within the period specified in the AETL Concession Agreement;

c) the NHAI repudiates the AETL Concession Agreement or otherwise takes any action that amounts to or manifests an irrevocable intention not to be bound by the AETL Concession Agreement; or

d) the State of Uttar Pradesh commits a material default in complying with the provisions of the state support agreement if such default has a material adverse effect on AETL and the breach continues for a period of 90 days from the date of notice given in this behalf by AETL to the NHAI.

Without prejudice to any other rights or remedies which AETL may have under the AETL Concession Agreement, upon the occurrence of an NHAI Default, AETL shall be entitled to terminate the AETL Concession Agreement by issuing a termination notice to the NHAI. Before issuing the termination notice, AETL shall, by notice, inform the NHAI of its intention to issue a termination notice and grant 15 days to the NHAI to make a representation, and may, after the expiry of the 15 days, whether or not it is in receipt of such representation, issue the termination notice.

Termination Payment

Upon termination on account of an AETL Default during the operation period, the NHAI shall pay to AETL, by way of termination payment, an amount equal to 90% of the AETL Debt Due less insurance cover. If any insurance claims forming part of the insurance cover are not admitted and paid, then 80% of such unpaid claims shall be included in the computation of AETL Debt Due.

Upon termination on account of an NHAI Default, the NHAI shall pay to AETL, by way of termination payment, an amount equal to:

a) AETL Debt Due; and
b) 150% of the adjusted equity.

Termination payment shall become due and payable to AETL within 15 days of a demand being made by AETL to the NHAI with the necessary particulars, and in the event of any delay, the NHAI shall pay interest at a rate equal to 3% above the bank rate on the amount of termination payment remaining unpaid. The delay shall not exceed 90 days. The termination payment under the AETL Concession Agreement shall constitute a full and final settlement of all claims of AETL on account of termination of the AETL Concession Agreement for any reason whatsoever and AETL shall not have any further right or claim under any law, treaty, convention, contract or otherwise.

Defects Liability after Termination

AETL shall be responsible for all defects and deficiencies in the AETL Project Highway for a period of 120 days after termination. AETL shall have the obligation to repair or rectify, at its own cost, all defects and deficiencies in the AETL Project Highway as observed by the independent engineer. The repair or rectification of the defect or deficiency shall be done within a period of 15 days from the date of notice issued by the NHAI in this behalf. A sum as specified in the AETL Concession Agreement shall be retained in the Escrow Account for a period of 120 days after termination for meeting the liabilities, if any, arising out of, or in connection with this provision.

1.1. Supplementary Agreement between AETL and the NHAI dated April 7, 2018

AETL has entered into a supplementary agreement (the "**Supplementary Agreement**") to amend the concession agreement dated September 1, 2015 (the "**Concession Agreement**") to provide for the installation of a new electronic toll collection system (the "**Hybrid ETC System**") for electronic payment of user fee using RFID tags or any other such device.

Change of Scope

The NHAI shall provide a change in the scope of work order at prices discovered by the NHAI to AETL to provide for, as per the defined technical specifications, installation, testing, commissioning, operations and maintenance of the Hybrid ETC System in all lanes of the toll plaza. AETL shall ensure that the requisite civil work is completed prior to the installation, integration, testing and commissioning of the Hybrid ETC System. It shall also ensure the smooth flow of traffic during installation, integration, testing and commissioning of the Hybrid ETC System. AETL will have no claim against the NHAI on account of any lane closure, if any, on account of any third party claims.

Scope of Work

AETL shall install, integrate, test, commission, operate and maintain the Hybrid ETC System in all the lanes of the toll plazas. The Hybrid ETC System shall be installed, commissioned, operated and maintained for a period of five years or the end of the Concession Agreement, whichever is earlier, beyond which it will be replaced or

renewed, as the case may be, by AETL or the NHAI, at the cost of the NHAI. The cycle shall be maintained till the end of the concession period in accordance with the Concession Agreement.

The provisions of the Concession Agreement relating to change of scope shall not apply to the Supplementary Agreement.

Any permission required by AETL under the applicable laws for the installation of the Hybrid ETC System shall be procured and maintained by AETL. The NHAI shall provide reasonable assistance in this regard.

Timeline

AETL shall complete all responsibilities, obligations and works as described in the Supplementary Agreement within a period of 120 days from the date of issuance of the change of scope work order by the NHAI and the release of advance payment.

Damages for Delay

In case of delay in installation, testing, or commissioning of the Hybrid ETC System at the toll plazas as per the time schedule prescribed on account of reasons attributable to AETL, damages at 0.1% of the cost of installation, testing, or commissioning of the Hybrid ETC System for each day of the delay, subject to a maximum of 10% of the cost of installation, testing, or commissioning of the Hybrid ETC System shall be levied on AETL. Damages for delay will not be applicable in case of a delay in implementation due to delayed payment release by the NHAI.

AETL shall not be entitled to any additional benefit either in monetary terms or on any other account including, but not limited to any extension of time, save on account of and NHAI Default or force majeure.

Compensation

In case of any damage to the Hybrid ETC System due to any act or omission of AETL, the NHAI shall not be liable for any compensation to AETL, and AETL shall bear the cost of repair, replacement or renewal of the damaged Hybrid ETC System equipment or hardware itself.

In case of any damage to the Hybrid ETC System due to the occurrence of any force majeure event, the compensation to AETL shall be derived as per the provisions of the Concession Agreement.

End of the Concession Period

AETL shall hand over all the Hybrid ETC equipment or hardware in an operational condition to the NHAI or a third party as directed by the NHAI at the end of the concession period, beyond which no O&M payment shall be made to AETL. If any Hybrid ETC System equipment or hardware is found to be non-operational, then AETL shall be liable to replace or pay for the replacement of the Hybrid ETC System equipment or hardware required to make the Hybrid ETC System operational on all lanes of the toll plazas to the NHAI promptly.
Upon termination, AETL shall assign warranties received from the original equipment manufacturer and for the components or equipment, and provide the respective warranty assignment agreements and necessary documents. AETL shall ensure that all the warranties are duly assigned in favor of the NHAI and AETL shall bear the cost and expenses towards the assignment.

1.2. Supplementary Agreement between AETL and the NHAI dated May 1, 2017

AETL has entered into a supplementary agreement with the NHAI to amend the concession agreement dated September 1, 2015 (the "**Concession Agreement**") to provide for dispute resolution through the Society for Affordable Redressal of Disputes ("**SAROD**").

Any dispute arising out of the Concession Agreement which is not resolved amicably shall be finally settled by arbitration. The dispute shall be referred to SAROD for resolution by arbitration in accordance with the rules of SAROD and the Arbitration and Conciliation Act, 1996. AETL and the NHAI shall choose the arbitrators from a panel of arbitrators empanelled by SAROD. The arbitral tribunal shall consist of a sole arbitrator in case the total claim of the dispute is ₹30 million or less, and in case the claim is more than ₹30 million, the tribunal shall consist of an odd number of arbitrators to be nominated by the parties.

The arbitral proceedings shall be held at Delhi (India) and the language of the arbitral proceedings, and that of all the correspondence between the parties shall be English. The dispute shall be governed by the substantive law of India.

2. Concession Agreement between CGTL and the NHAI dated December 9, 2016

CGTL has entered into a concession agreement for six-laning of Kishangarh Udaipur Ahmedabad section from km 90.000 (near Gulabpura) to km 214.870 (end of Chittorgarh bypass), of NH-79 in Rajasthan on build, operate and transfer ("**BOT**") basis (the "**CGTL Concession Agreement**"), for a period of 20 years, from November 4, 2017 ("**CGTL Appointed Date**") or until such date on which the CGTL Concession Agreement is terminated by a termination notice ("**CGTL Termination Date**", and the period between the CGTL Appointed Date and the CGTL Termination Date, the "**CGTL Concession Period**").

Certain Definitions

"**CGTL Debt Due**" shall mean the aggregate of the following sums expressed in Indian Rupees outstanding on the transfer date:

a) the principal amount of the debt provided by the senior lenders under the financing agreements for financing the total project cost (the "**Principal**") but excluding any part of the Principal that had fallen due for repayment two years prior to the transfer date;

b) all accrued interest, financing fees and charges payable under the financing agreements on, or in respect of, the debt referred to in the sub-clause above until the transfer date but excluding (i) any interest, fees or charges that had fallen due one year prior to the transfer date, (ii) any penal interest or charges payable under the financing agreements to any senior lender, and (iii) any pre-payment charges in relation to accelerated repayment of debt except where such charges have arisen due to an NHAI Default (as defined below); and

c) any subordinated debt which is included in the financing package and disbursed by lenders for financing the total project cost;

If all, or any part of the CGTL Debt Due is convertible into equity at the option of the senior lenders and/or CGTL, it shall, for the purposes of the CGTL Concession Agreement, be deemed to be CGTL Debt Due even after the conversion and the Principal thereof shall be dealt with as if such conversion had not been undertaken;

"**CGTL Debt Service**" shall mean the sum of all payments on account of Principal, interest, financing fees and charges due and payable in an accounting year to the senior lenders under the financing agreements;

"**CGTL Project Assets**" shall mean all physical and other assets relating to and forming part of the site including (a) rights over the site in the form of licence, right of way or otherwise; (b) tangible assets such as civil works and equipment including foundations, embankments, pavements, road surface, interchanges, bridges, culverts, road overbridges, drainage works, traffic signals, sign boards, kilometre-stones, toll plazas, electrical systems, communication systems, rest areas, relief centres, maintenance depots and administrative offices; (c) project facilities situated on the site; (d) all rights of CGTL under the project agreements; (e) financial assets, such as receivables, security deposits etc.; (f) insurance proceeds; and (g) applicable permits and authorizations relating to or in respect of the CGTL Project Highway (as defined below), but does not include additional facilities;

"**CGTL Project Highway**" shall mean the site comprising the existing road comprising NH-79 from km 90.000 to km 214.870 and all CGTL Project Assets, and its subsequent development and augmentation in accordance with the CGTL Concession Agreement;

"**CGTL Project**" shall mean the construction, operation, and maintenance of the CGTL Project Highway in accordance with the provisions of the CGTL Concession Agreement, and includes all works, services, and equipment relating to and in respect of the scope of the project; and

"**Premium**" shall mean an amount paid to the NHAI by CGTL in the form of an additional concession fee, as set forth in the bid for each year of the CGTL Concession Period.

Grant of Concession

Subject to, and in accordance with the provisions set out in the CGTL Concession Agreement, the applicable laws and the applicable permits, the NHAI has granted to CGTL, and CGTL has accepted the concession, including the exclusive right, license, and authority during the subsistence of the CGTL Concession Agreement, to construct, operate and maintain the CGTL Project for a period of 20 years from the CGTL Appointed Date.

Subject to, and in accordance with the provisions of the CGTL Concession Agreement, the concession granted shall oblige or entitle, as the case may be, CGTL to:

a) right of way, access and license to the site for the purpose of, and to the extent conferred by the provisions of the CGTL Concession Agreement;

b) finance and construct the CGTL Project Highway;

c) manage, operate, and maintain the CGTL Project Highway and regulate the use thereof by third parties;

d) demand, collect, and appropriate fee from vehicles and persons liable for payment of fee for using the CGTL Project Highway or any part thereof and refuse entry of any vehicle if the fee due is not paid;

e) perform and fulfil all of CGTL's obligations under and in accordance with the CGTL Concession Agreement;

f) bear and pay all costs, expenses, and charges in connection with or incidental to the performance of the obligations of CGTL under the CGTL Concession Agreement; and

g) neither assign, transfer or sublet, or create any lien or encumbrance on the CGTL Concession Agreement, or the concession granted, or on the whole or any part of the CGTL Project Highway, nor transfer, lease, or part possession thereof, save and except as expressly permitted by the CGTL Concession Agreement or the agreement for the substitution of CGTL entered into by CGTL, the NHAI, and the lenders' representative on behalf of the senior lenders (the "**Substitution Agreement**").

Fees

On and from the commercial operation date ("**COD**") till the transfer date, CGTL shall have the sole and exclusive right to demand, collect, and appropriate fee from the users subject to, and in accordance with the CGTL Concession Agreement and the applicable rules and regulations, provided that for ease of payment and collection, such fee shall be rounded off to the nearest five rupees in accordance with the applicable fee rules, as updated from time to time. Further, CGTL may determine and collect fee at such lower rates as it may, by public notice to the users, specify in respect of all or any category of users or vehicles. In accordance with the CGTL Concession Agreement, CGTL shall not collect any fees in relation to exempted vehicles.

CGTL shall not collect any fee from a local user for non-commercial use of the CGTL Project Highway, and shall issue a pass in respect thereof for commuting on a section of the CGTL Project Highway as specified in the pass and for crossing the toll plaza specified therein. For carrying out these provisions, CGTL shall formulate, publish and implement an appropriate scheme, and make such modifications to the scheme as may reasonably be suggested by the NHAI or by local users from time to time. For defraying its expenses on issuing of passes and handling of local users, CGTL shall be entitled to charge a monthly fee of ₹150, with reference to the base year 2007-08, to be revised annually in accordance with the fee rules to reflect the variation in WPI, and then rounded off to the nearest five rupees; provided that no passes will be required or fee collected from a vehicle that uses part of the CGTL Project Highway and does not cross a toll plaza.

Concession Fee

In consideration of the grant of concession, CGTL shall pay to the NHAI by way of concession fee a sum of ₹1 per annum.

Additionally, CGTL was required to pay to the NHAI, immediately after the third anniversary year of the COD, a Premium in the form of an additional concession fee equal to ₹2,286,000,000 as due to the NHAI during that year, due and payable for the period remaining in that year; and for each subsequent year till the ninth anniversary of the COD, the Premium shall be determined by increasing the amount of Premium in the respective year by an additional 3% as compared to the immediately preceding year, and for each subsequent year of the CGTL Concession Period, the Premium shall be determined by increasing the amount of Premium in the respective year

by an additional 8% as compared to the immediately preceding year. The Premium is deemed to be a part of the concession fee.

The concession fee payable under the provisions of the CGTL Concession Agreement shall be due and payable in monthly instalments within seven days of the close of each month.

Escrow Account

CGTL was required to, prior to the CGTL Appointed Date, open and establish an escrow account (the "**Escrow Account**") with a bank (the "**Escrow Bank**") in accordance with the CGTL Concession Agreement read with the escrow agreement entered into amongst CGTL, the NHAI, the Escrow Bank and the senior lenders through the lenders' representative (the "**Escrow Agreement**").

CGTL shall deposit, or cause to be deposited the following inflows and receipts into the Escrow Account:

a) all funds constituting the financial package;

b) all fee and any other revenues from or in respect of the CGTL Project Highway, including the proceeds of any deposits, capital receipts or insurance claims; and

c) all payments by the NHAI, after deducting any outstanding concession fee.

The senior lenders may make direct disbursements to the EPC contractor in accordance with the express provisions contained in this behalf in the financing agreements.

Withdrawals during Concession Period

CGTL was required to, at the time of opening the Escrow Account, give irrevocable instructions, by way of the Escrow Agreement, to the Escrow Bank instructing, inter alia, that deposits in the Escrow Account shall be appropriated in the following order every month, or at shorter intervals as necessary, and if not due in a month, then appropriated proportionately in such month and retained in the Escrow Account and paid out therefrom in a month when due:

a) all taxes due and payable by CGTL for and in respect of the CGTL Project Highway;

b) all payments relating to construction of the CGTL Project Highway, subject to and in accordance with the conditions, if any, set forth in the financing agreements;

c) Operation and Management ("**O&M**") expenses, subject to the ceiling, if any, set forth in the financing agreements;

d) O&M expenses and other costs and expenses incurred by the NHAI in accordance with the provisions of the CGTL Concession Agreement, and certified by the NHAI as due and payable to it;

e) concession fee due and payable to the NHAI;

f) monthly proportionate provision of CGTL Debt Service due in an accounting year;

g) premium due and payable to the NHAI;

h) all payments and damages certified by the NHAI as due and payable to it by CGTL, including repayment of revenue shortfall loan. CGTL has agreed to give irrevocable instructions to the Escrow Bank to make payments from the Escrow Account in accordance with the instructions of the NHAI under the CGTL Concession Agreement and debit the payment to O&M expenses;

i) monthly proportionate provision of CGTL Debt Service payments due in an accounting year in respect of subordinated debt;

j) any reserve requirements set forth in the financing agreements; and

k) balance, if any, in accordance with the instructions of CGTL.

CGTL shall not, in any manner, modify the order of payment specified except with prior written approval from the NHAI.

Withdrawals upon Termination

Notwithstanding anything to the contrary contained in the CGTL Concession Agreement, all amounts standing to the credit of the Escrow Account shall, upon termination, be appropriated in the following order:

a) all taxes due and payable by CGTL for and in respect of the CGTL Project Highway;

b) 90% of the CGTL Debt Due excluding the subordinated debt;

c) outstanding concession fee;

d) all payments and damages certified by the NHAI as due and payable to it by CGTL, including the repayment of the revenue shortfall loan. CGTL has agreed to give irrevocable instruction to the Escrow Bank to make payment from the Escrow Account in accordance with the instructions of the NHAI under the CGTL Concession Agreement and debit the payment to O&M expenses.

e) retention and payments relating to the liability for defects and deficiencies set forth in the CGTL Concession Agreement;

f) outstanding CGTL Debt Service including balance of CGTL Debt Due;

g) outstanding subordinated debt;

h) incurred or accrued O&M expenses;

i) any other payments required to be made under the CGTL Concession Agreement; and

j) balance, if any, in accordance with the instructions of CGTL.

No appropriations shall be made until a vesting certificate has been issued by the NHAI.

Change of Scope

The NHAI may, notwithstanding anything to the contrary contained in the CGTL Concession Agreement, require the provision of additional works and services which are not included in the scope of the project as contemplated by the CGTL Concession Agreement. Any such change of scope shall be made in accordance with the provisions of the CGTL Concession Agreement and the costs thereof shall be expended by CGTL and reimbursed by the NHAI.

If CGTL determines at any time that a change in scope is necessary for providing safer and improved services to the users, it shall, by notice in writing, require the NHAI to consider such change of scope. The NHAI shall, within 60 days of receipt of such notice, either accept the change of scope with modifications, if any, and initiate proceedings thereof in accordance with the provisions of the CGTL Concession Agreement, or inform CGTL in writing of its reasons for not accepting such change of scope.

Compensation for Breach of Agreement

In the event of CGTL being in material default or breach of the CGTL Concession Agreement, it shall pay to the NHAI by way of compensation, all direct costs suffered or incurred by the NHAI as a consequence of the material default or breach, within 30 days of the receipt of the demand supported by the necessary particulars thereof. No compensation shall be payable for any material breach or default in respect of which damages are expressly specified and payable under the CGTL Concession Agreement.

In the event of the NHAI being in material default of the CGTL Concession Agreement at any time after the CGTL Appointed Date, it shall pay to CGTL by way of compensation, all direct costs suffered or incurred by

CGTL as a consequence of the material default or breach within 30 days of receipt of the demand supported by necessary particulars thereof. No compensation shall be payable for any material breach or default in respect of which damages have been expressly specified in the CGTL Concession Agreement.

In the event that a material default or breach of the CGTL Concession Agreement causes a delay in achieving COD or leads to suspension of, or reduction in collection of fee, as the case may be, the NHAI shall, in addition to the payment of compensation, extend the CGTL Concession Period as provided in the CGTL Concession Agreement. In the event that an additional toll way or a competing road, as the case may be, is opened to traffic in breach of the CGTL Concession Agreement, the NHAI shall pay to CGTL, for each day of the breach, compensation as provided in the CGTL Concession Agreement, until the breach is cured. The payment of compensation by the NHAI shall be deemed to cure the breach of the CGTL Concession Agreement so long as the NHAI continues to pay the compensation.

The compensation payable shall be in addition to, and not in substitution for, or derogation of, termination payment, if any.

Effects of Variation in Traffic Growth

Subject to the provisions of the CGTL Concession Agreement, in the event actual average traffic shall have fallen short of the target traffic, then for every 1% (one percent) shortfall as compared to the target traffic, the CGTL Concession Period shall, subject to payment of concession fee in accordance with the CGTL Concession Agreement, be increased by 1.5% (one point five percent) thereof; provided that such increase in CGTL Concession Period shall not in any case exceed 20% (twenty percent) of the CGTL Concession Period.

Subject to the provisions of the CGTL Concession Agreement, in the event actual average traffic shall have exceeded the target traffic, then for every 1% (one percent) excess as compared to the target traffic, the CGTL Concession Period shall be reduced by 0.75% (zero point seven five percent) thereof; provided that such reduction in CGTL Concession Period shall not in any case exceed 10% (ten percent) thereof.

Provided further that in lieu of a reduction in CGTL Concession Period under the CGTL Concession Agreement, CGTL may elect to pay, in addition to the concession fee that would be due and payable if the CGTL Concession Period were not reduced hereunder, a further premium equal to 25% (twenty five percent) of the realizable fee, and upon notice given to this effect by CGTL no later than two years prior to the CGTL Termination Date contemplated by the CGTL Concession Agreement, NHAI shall waive the reduction in CGTL Concession Period hereunder forthwith.

Notwithstanding anything to the contrary contained in CGTL Concession Agreement, if the average daily traffic of PCUs in any accounting year shall exceed the designed capacity of the CGTL Project Highway, the NHAI at its option may cause preparation of detailed project report which will assess the cost that may have to be incurred for augmenting the capacity of the CGTL Project Highway so that its capacity is sufficiently increased for carrying the then current traffic in accordance with the corresponding provisions of the Indian Roads Congress publication no. IRC -64, 1990 or any substitute thereof. The CGTL Concession Period, may be extended so that it yields for CGTL a post-tax return on equity of 16% per annum. This assessment will be made at an assumed debt to equity ratio of 70:30. The extension of the CGTL Concession Period shall be however limited to five years. The NHAI may thereafter, at their sole option, issue a notice to CGTL, to undertake within six months of such notice, the augmentation so determined by the NHAI. The refusal, non-acceptance, or failure by CGTL to undertake such augmentation on the due date so intimated by the NHAI, will be considered an indirect political event and the NHAI may at its discretion terminate this CGTL Concession Agreement by issuing a termination notice and making a termination payment in accordance with the provisions of the CGTL Concession Agreement without the NHAI being liable to issue any further notice under it.

Termination of the CGTL Concession Agreement

Termination by the NHAI

Save as otherwise provided in the CGTL Concession Agreement, in the event that any of the defaults specified below shall have occurred, and CGTL fails to cure the default within the cure period, or where no cure period is specified, then within a cure period of 60 days, CGTL shall be deemed to be in default of the CGTL Concession Agreement ("**CGTL Default**"), unless the default has occurred solely as a result of any breach of the CGTL Concession Agreement by the NHAI or due to force majeure. The defaults referred to herein shall include:

a) the performance security has been encashed and appropriated in accordance with the CGTL Concession Agreement and CGTL fails to replenish or provide fresh performance security within a cure period of 30 days;

b) subsequent to the replenishment or furnishing of fresh performance security in accordance with the CGTL Concession Agreement, CGTL fails to cure, within a cure period of 90 days, the CGTL Default for which whole or part of the performance security was appropriated;

c) CGTL does not achieve the latest outstanding project milestone due in accordance with the CGTL Concession Agreement and continues to be in default for 90 days;

d) CGTL abandons or manifests intention to abandon the construction or operation of the CGTL Project Highway without the prior written consent of the NHAI;

e) project completion date does not occur within the period specified in the CGTL Concession Agreement;

f) the punch list items have not been completed within the period set forth in the CGTL Concession Agreement;

g) CGTL is in breach of the maintenance requirements or the safety requirements as the case may be;

h) CGTL has failed to make any payment to the NHAI within the period specified in the CGTL Concession Agreement;

i) an escrow default has occurred and CGTL fails to cure the default within a cure period of 15 days;

j) upon occurrence of a financial default, the lenders' representative has, by notice, required the NHAI to undertake suspension or termination, as the case may be, in accordance with the Substitution Agreement and CGTL fails to cure the default within the cure period specified hereinabove;

k) a breach of the project agreements by CGTL has caused a material adverse effect;

l) CGTL creates an encumbrance in breach of the CGTL Concession Agreement;

m) CGTL repudiates the CGTL Concession Agreement or otherwise takes any action or evidences or conveys an intention not to be bound by the CGTL Concession Agreement;

n) a change in ownership has occurred in breach of the CGTL Concession Agreement;

o) there is a transfer, pursuant to law either of (i) the rights and/or obligations of CGTL under any of the project agreements, or of (ii) all or part of the assets or undertaking of CGTL, and such transfer causes a material adverse effect;

p) an execution levied on any of the assets of CGTL has caused a material adverse effect;

q) CGTL is adjudged bankrupt or insolvent, or if a trustee or receiver is appointed for CGTL or for the whole or material part of its assets that has a material bearing on the CGTL Project;

r) CGTL has been, or is in the process of being liquidated, dissolved, wound-up, amalgamated or reconstituted in a manner that would cause, in the reasonable opinion of the NHAI, a material adverse effect;

s) a resolution for winding up of CGTL is passed, or any petition for winding up of CGTL is admitted by a court of competent jurisdiction and a provisional liquidator or receiver is appointed and such order has not been set aside within 90 days of the date thereof, or CGTL is ordered to be wound up by Court except for the purpose of amalgamation or reconstruction, provided that, as part of such amalgamation or reconstruction, the entire property, assets and undertaking of CGTL are transferred to the amalgamated or reconstructed entity and that the amalgamated or reconstructed entity has unconditionally assumed the obligations of CGTL under the CGTL Concession Agreement and the project agreements; provided that:

i) the amalgamated or reconstructed entity has the capability and operating experience necessary for the performance of its obligations under the CGTL Concession Agreement and the project agreements;

ii) the amalgamated or reconstructed entity has the financial standing to perform its obligations under the CGTL Concession Agreement and the project agreements and has a creditworthiness at least as good as that of CGTL as at the CGTL Appointed Date; and

iii) each of the project agreements remains in full force and effect;

t) any representation or warranty of CGTL which is, as of the date hereof, found to be materially false, incorrect or misleading or CGTL is at any time hereafter found to be in breach thereof;

u) CGTL submits to the NHAI any statement, notice or other document, in written or electronic form, which has a material effect on the NHAI's rights, obligations or interests and which is false in material particulars;

v) CGTL has failed to fulfil any obligation, for which failure termination has been specified in the CGTL Concession Agreement; or

w) CGTL commits a default in complying with any other provision of the CGTL Concession Agreement if such default causes a material adverse effect on the NHAI.

Without prejudice to any other rights or remedies which the NHAI may have under the CGTL Concession Agreement, upon the occurrence of a CGTL Default, the NHAI shall be entitled to terminate the CGTL Concession Agreement by issuing a termination notice to CGTL. Before issuing the termination notice, the NHAI shall, by notice, inform CGTL of its intention to issue a termination notice and grant 15 days to CGTL to make a representation, and may, after the expiry of the 15 days, whether or not it is in receipt of such representation, issue the termination notice subject to the provisions of the CGTL Concession Agreement.

If there are senior lenders, the NHAI shall send a copy of its notice of intention to issue a termination notice to inform the lenders' representative and grant 30 days to the lenders' representative for making a representation on behalf of the senior lenders stating the intention to substitute CGTL in accordance with the Substitution Agreement. If the NHAI receives a representation on behalf of the senior lenders, it shall, in its discretion, either withhold termination for a period not exceeding 180 days from the date of the representation, or exercise its right of suspension, as the case may be, to enable the lenders' representative to exercise the senior lenders' right of substitution in accordance with the Substitution Agreement. The lenders' representative may, instead of exercising the senior lenders' right of substitution, procure that the default specified in the notice is cured within the aforesaid 180 days, and upon the curing, the NHAI shall withdraw its notice and restore the rights of CGTL. On a written request from the lenders' representative and CGTL, the NHAI shall extend the period of 180 days by a further period not exceeding 90 days as it may deem appropriate.

Termination by CGTL

In the event that any of the defaults specified below shall have occurred, and the NHAI fails to cure the default within a cure period of 90 days or such longer period as provided in the CGTL Concession Agreement, the NHAI shall be deemed to be in default of the CGTL Concession Agreement ("**NHAI Default**"), unless the default has occurred as a result of a breach of the CGTL Concession Agreement by CGTL, or due to force majeure. The default referred to herein shall include:

a) the NHAI commits a material default in complying with any of the provisions of the CGTL Concession Agreement and such default has a material adverse effect on CGTL;

b) the NHAI has failed to make any payment to CGTL within the period specified in the CGTL Concession Agreement;

c) the NHAI repudiates the CGTL Concession Agreement or otherwise takes any action that amounts to or manifests an irrevocable intention not to be bound by the CGTL Concession Agreement; or

d) the State of Rajasthan commits a material default in complying with the provisions of the state support agreement if such default has a material adverse effect on CGTL and the breach continues for a period of 90 days from the date of notice given in this behalf by CGTL to the NHAI.

Without prejudice to any other rights or remedies which CGTL may have under the CGTL Concession Agreement, upon the occurrence of an NHAI Default, CGTL shall be entitled to terminate the CGTL Concession Agreement by issuing a termination notice to the NHAI. Before issuing the termination notice, CGTL shall, by notice, inform the NHAI of its intention to issue a termination notice and grant 30 days to the NHAI to make a representation, and may, after the expiry of the 30 days, whether or not it is in receipt of such representation, issue the termination notice.

Termination Payment

Upon termination on account of a CGTL Default during the operation period, the NHAI shall pay to CGTL, by way of termination payment, an amount equal to 90% of the CGTL Debt Due less insurance cover. If any insurance claims forming part of the insurance cover are not admitted and paid, then 80% of such unpaid claims shall be included in the computation of CGTL Debt Due.

Upon termination on account of an NHAI Default, the NHAI shall pay to CGTL, by way of termination payment, an amount equal to:

a) CGTL Debt Due; and
b) 150% of the adjusted equity.

The termination payment shall not be less than an amount equal to the product of six and the average monthly fee actually realized 12 months prior to the transfer date.

Termination payment shall become due and payable to CGTL within 30 days of a demand being made by CGTL to the NHAI with the necessary particulars, and in the event of any delay, the NHAI shall pay interest at a rate equal to 3% above the bank rate on the amount of termination payment remaining unpaid. The delay shall not exceed 90 days. The termination payment under the CGTL Concession Agreement shall constitute a full and final settlement of all claims of CGTL on account of termination of the CGTL Concession Agreement for any reason whatsoever and CGTL shall not have any further right or claim under any law, treaty, convention, contract or otherwise.

Defects Liability after Termination

CGTL shall be responsible for all defects and deficiencies in the CGTL Project Highway for a period of 120 days after termination. CGTL shall have the obligation to repair or rectify, at its own cost, all defects and deficiencies in the CGTL Project Highway as observed by the independent engineer. The repair or rectification of the defect or deficiency shall be done within a period of 15 days from the date of notice issued by the NHAI in this behalf. A sum as specified in the CGTL Concession Agreement shall be retained in the Escrow Account for a period of 120 days after termination for meeting the liabilities, if any, arising out of, or in connection with this provision.

3. Concession Agreement between IRB HMTL and the NHAI dated May 29, 2018

IRB HMTL has entered into a concession agreement for six-laning of Hapur Bypass to Moradabad section including Hapur Bypass from km 50.000 (design chainage 50.000) to km 148.277 (design chainage 149.867) of NH-24 (new NH-9) in Uttar Pradesh on design, build, finance, operate and transfer ("**DBFOT**") basis (the "**IRB HMTL Concession Agreement**"), for a period of 22 years, from May 28, 2019 ("**IRB HMTL Appointed Date**") or until such date on which the IRB HMTL Concession Agreement is terminated by a termination notice ("**IRB HMTL Termination Date**", and the period between the IRB HMTL Appointed Date and the IRB HMTL Termination Date, the "**IRB HMTL Concession Period**").

Certain Definitions

"**IRB HMTL Debt Due**" shall mean the aggregate of the following sums expressed in Indian Rupees outstanding on the transfer date:

a) the principal amount of the debt provided by the senior lenders under the financing agreements for financing the total project cost (the "**Principal**") but excluding any part of the Principal that had fallen due for repayment two years prior to the transfer date;

b) all accrued interest, financing fees and charges payable under the financing agreements on, or in respect of, the debt referred to in the sub-clause above until the transfer date but excluding (i) any interest, fees or charges that had fallen due one year prior to the transfer date, (ii) any penal interest or charges payable under the financing agreements to any senior lender, and (iii) any pre-payment charges in relation to accelerated repayment of debt except where such charges have arisen due to an NHAI Default (as defined below); and

c) any subordinated debt which is included in the financing package and disbursed by lenders for financing the total project cost;

If all, or any part of the IRB HMTL Debt Due is convertible into equity at the option of the senior lenders and/or IRB HMTL, it shall, for the purposes of the IRB HMTL Concession Agreement, be deemed to be IRB HMTL Debt Due even after the conversion and the Principal thereof shall be dealt with as if such conversion had not been undertaken;

"**IRB HMTL Debt Service**" shall mean the sum of all payments on account of Principal, interest, financing fees and charges due and payable in an accounting year to the senior lenders under the financing agreements;

"**IRB HMTL Project Assets**" shall mean all physical and other assets relating to and forming part of the site including (a) rights over the site in the form of licence, right of way or otherwise; (b) tangible assets such as civil works and equipment including foundations, embankments, pavements, road surface, interchanges, bridges, culverts, road overbridges, drainage works, traffic signals, sign boards, kilometre-stones, toll plazas, electrical systems, communication systems, rest areas, relief centres, maintenance depots and administrative offices; (c) project facilities situated on the site; (d) all rights of IRB HMTL under the project agreements; (e) financial assets, such as receivables, security deposits etc.; (f) insurance proceeds; and (g) applicable permits and authorizations relating to or in respect of the IRB HMTL Project Highway (as defined below), but does not include additional facilities;

"**IRB HMTL Project Highway**" shall mean the site comprising the existing road comprising Hapur Bypass to Moradabad section including Hapur Bypass from km 50.000 (design chainage km 50.000) to km 148.277 (design chainage km 149.867) of NH-24 (new NH-9) and all IRB HMTL Project Assets, and its subsequent development and augmentation in accordance with the IRB HMTL Concession Agreement;

"**IRB HMTL Project**" shall mean the construction, operation, and maintenance of the IRB HMTL Project Highway in accordance with the provisions of the IRB HMTL Concession Agreement, and includes all works, services, and equipment relating to and in respect of the scope of the project; and

"**Premium**" shall mean an amount paid to the NHAI by IRB HMTL in the form of an additional concession fee, as set forth in the bid for each year of the IRB HMTL Concession Period.

Grant of Concession

Subject to, and in accordance with the provisions set out in the IRB HMTL Concession Agreement, the applicable laws and the applicable permits, the NHAI has granted to IRB HMTL, and IRB HMTL has accepted the concession, including the exclusive right, license, and authority during the subsistence of the IRB HMTL Concession Agreement, to construct, operate and maintain the IRB HMTL Project for a period of 22 years from the IRB HMTL Appointed Date.

Subject to, and in accordance with the provisions of the IRB HMTL Concession Agreement, the concession granted shall oblige or entitle, as the case may be, IRB HMTL to:

a) right of way, access and license to the site for the purpose of, and to the extent conferred by the provisions of the IRB HMTL Concession Agreement;

b) finance and construct the IRB HMTL Project Highway;

c) manage, operate, and maintain the IRB HMTL Project Highway and regulate the use thereof by third parties;

d) demand, collect, and appropriate fee from vehicles and persons liable for payment of fee for using the IRB HMTL Project Highway or any part thereof and refuse entry of any vehicle if the fee due is not paid;

e) perform and fulfil all of IRB HMTL's obligations under and in accordance with the IRB HMTL Concession Agreement;

f) bear and pay all costs, expenses, and charges in connection with or incidental to the performance of the obligations of IRB HMTL under the IRB HMTL Concession Agreement; and

g) neither assign, transfer or sublet, or create any lien or encumbrance on the IRB HMTL Concession Agreement, or the concession granted, or on the whole or any part of the IRB HMTL Project Highway, nor transfer, lease, or part possession thereof, save and except as expressly permitted by the IRB HMTL Concession Agreement or the agreement for the substitution of IRB HMTL entered into by IRB HMTL, the NHAI, and the lenders' representative on behalf of the senior lenders (the "**Substitution Agreement**").

Fees

On and from the commercial operation date ("**COD**") till the transfer date, IRB HMTL shall have the sole and exclusive right to demand, collect, and appropriate fee from the users subject to, and in accordance with the IRB HMTL Concession Agreement and the applicable rules and regulations, provided that for ease of payment and collection, such fee shall be rounded off to the nearest five rupees in accordance with the applicable fee rules, as updated from time to time. Further, IRB HMTL may determine and collect fee at such lower rates as it may, by public notice to the users, specify in respect of all or any category of users or vehicles. In accordance with the IRB HMTL Concession Agreement, IRB HMTL shall not collect any fees in relation to exempted vehicles.

IRB HMTL shall not collect any fee from a local user for non-commercial use of the IRB HMTL Project Highway, and shall issue a pass in respect thereof for commuting on a section of the IRB HMTL Project Highway as specified in the pass and for crossing the toll plaza specified therein. For carrying out these provisions, IRB HMTL shall formulate, publish and implement an appropriate scheme, and make such modifications to the scheme as may reasonably be suggested by the NHAI or by local users from time to time. For defraying its expenses on issuing of passes and handling of local users, IRB HMTL shall be entitled to charge a monthly fee of ₹150, with reference to the base year 2007-08, to be revised annually in accordance with the fee rules to reflect the variation in WPI, and then rounded off to the nearest five rupees; provided that no passes will be required or fee collected from a vehicle that uses part of the IRB HMTL Project Highway and does not cross a toll plaza.

Concession Fee

In consideration of the grant of concession, IRB HMTL shall pay to the NHAI by way of concession fee a sum of ₹1 per annum.

Additionally, IRB HMTL was required to pay to the NHAI, immediately after the third anniversary year of the COD, a Premium in the form of an additional concession fee equal to ₹315 million as due to the NHAI during that year, due and payable for the period remaining in that year; and for each subsequent year till the ninth anniversary of the COD, the Premium shall be determined by increasing the amount of Premium in the respective year by an additional 3% as compared to the immediately preceding year and for each subsequent year of the IRB HMTL Concession Period, the Premium shall be determined by increasing the amount of Premium in the respective year by an additional 8% as compared to the immediately preceding year. The Premium is deemed to be a part of the concession fee.

The concession fee payable under the provisions of the IRB HMTL Concession Agreement shall be due and payable in monthly instalments within seven days of the close of each month.

Escrow Account

IRB HMTL was required to, prior to the IRB HMTL Appointed Date, open and establish an escrow account (the "**Escrow Account**") with a bank (the "**Escrow Bank**") in accordance with the IRB HMTL Concession Agreement read with the escrow agreement entered into amongst IRB HMTL, the NHAI, the Escrow Bank and the senior lenders through the lenders' representative (the "**Escrow Agreement**").

IRB HMTL shall deposit, or cause to be deposited the following inflows and receipts into the Escrow Account:

a) all funds constituting the financial package;
b) all fee and any other revenues from or in respect of the IRB HMTL Project Highway, including the proceeds

of any deposits, capital receipts or insurance claims; and

c) all payments by the NHAI, after deducting any outstanding concession fee.

The senior lenders may make direct disbursements to the EPC contractor in accordance with the express provisions contained in this behalf in the financing agreements.

Withdrawals during Concession Period

IRB HMTL was required to, at the time of opening the Escrow Account, give irrevocable instructions, by way of the Escrow Agreement, to the Escrow Bank instructing, inter alia, that deposits in the Escrow Account shall be appropriated in the following order every month, or at shorter intervals as necessary, and if not due in a month, then appropriated proportionately in such month and retained in the Escrow Account and paid out therefrom in a month when due:

a) all taxes due and payable by IRB HMTL for and in respect of the IRB HMTL Project Highway;

b) all payments relating to construction of the IRB HMTL Project Highway, subject to and in accordance with the conditions, if any, set forth in the financing agreements;

c) Operation and Management ("**O&M**") expenses, subject to the ceiling, if any, set forth in the financing agreements;

d) O&M expenses and other costs and expenses incurred by the NHAI in accordance with the provisions of the IRB HMTL Concession Agreement, and certified by the NHAI as due and payable to it;

e) concession fee due and payable to the NHAI;

f) monthly proportionate provision of IRB HMTL Debt Service due in an accounting year;

g) premium due and payable to the NHAI;

h) all payments and damages certified by the NHAI as due and payable to it by IRB HMTL, including repayment of revenue shortfall loan. IRB HMTL has agreed to give irrevocable instructions to the Escrow Bank to make payments from the Escrow Account in accordance with the instructions of the NHAI under the IRB HMTL Concession Agreement and debit the payment to O&M expenses;

i) monthly proportionate provision of IRB HMTL Debt Service payments due in an accounting year in respect of subordinated debt;

j) any reserve requirements set forth in the financing agreements; and

k) balance, if any, in accordance with the instructions of IRB HMTL.

IRB HMTL shall not, in any manner, modify the order of payment specified except with prior written approval from the NHAI.

Withdrawals upon Termination

Notwithstanding anything to the contrary contained in the IRB HMTL Concession Agreement, all amounts standing to the credit of the Escrow Account shall, upon termination, be appropriated in the following order:

a) all taxes due and payable by IRB HMTL for and in respect of the IRB HMTL Project Highway;

b) 90% of the IRB HMTL Debt Due excluding the subordinated debt;
c) outstanding concession fee;

d) all payments and damages certified by the NHAI as due and payable to it by IRB HMTL, including the repayment of the revenue shortfall loan. IRB HMTL has agreed to give irrevocable instruction to the Escrow

Bank to make payment from the Escrow Account in accordance with the instructions of the NHAI under the IRB HMTL Concession Agreement and debit the payment to O&M expenses.

e) retention and payments relating to the liability for defects and deficiencies set forth in the IRB HMTL Concession Agreement;

f) outstanding IRB HMTL Debt Service including balance of IRB HMTL Debt Due;

g) outstanding subordinated debt;

h) incurred or accrued O&M expenses;

i) any other payments required to be made under the IRB HMTL Concession Agreement; and

j) balance, if any, in accordance with the instructions of IRB HMTL.

No appropriations shall be made until a vesting certificate has been issued by the NHAI.

Change of Scope

The NHAI may, notwithstanding anything to the contrary contained in the IRB HMTL Concession Agreement, require the provision of additional works and services which are not included in the scope of the project as contemplated by the IRB HMTL Concession Agreement. Any such change of scope shall be made in accordance with the provisions of the IRB HMTL Concession Agreement and the costs thereof shall be expended by IRB HMTL and reimbursed by the NHAI.

If IRB HMTL determines at any time that a change in scope is necessary for providing safer and improved services to the users, it shall, by notice in writing, require the NHAI to consider such change of scope. The NHAI shall, within 60 days of receipt of such notice, either accept the change of scope with modifications, if any, and initiate proceedings thereof in accordance with the provisions of the IRB HMTL Concession Agreement, or inform IRB HMTL in writing of its reasons for not accepting such change of scope.

Compensation for Breach of Agreement

In the event of IRB HMTL being in material default or breach of the IRB HMTL Concession Agreement, it shall pay to the NHAI by way of compensation, all direct costs suffered or incurred by the NHAI as a consequence of the material default or breach, within 30 days of the receipt of the demand supported by the necessary particulars thereof. No compensation shall be payable for any material breach or default in respect of which damages are expressly specified and payable under the IRB HMTL Concession Agreement.

In the event of the NHAI being in material default of the IRB HMTL Concession Agreement at any time after the IRB HMTL Appointed Date, it shall pay to IRB HMTL by way of compensation, all direct costs suffered or incurred by IRB HMTL as a consequence of the material default or breach within 30 days of receipt of the demand supported by necessary particulars thereof. No compensation shall be payable for any material breach or default in respect of which damages have been expressly specified in the IRB HMTL Concession Agreement.

In the event that a material default or breach of the IRB HMTL Concession Agreement causes a delay in achieving COD or leads to suspension of, or reduction in collection of fee, as the case may be, the NHAI shall, in addition to the payment of compensation, extend the IRB HMTL Concession Period as provided in the IRB HMTL Concession Agreement. In the event that an additional toll way or a competing road, as the case may be, is opened to traffic in breach of the IRB HMTL Concession Agreement, the NHAI shall pay to IRB HMTL, for each day of the breach, compensation as provided in the IRB HMTL Concession Agreement, until the breach is cured. The payment of compensation by the NHAI shall be deemed to cure the breach of the IRB HMTL Concession Agreement so long as the NHAI continues to pay the compensation.

The compensation payable shall be in addition to, and not in substitution for, or derogation of, termination payment, if any.

Effects of Variation in Traffic Growth

Subject to the provisions of the IRB HMTL Concession Agreement, in the event actual average traffic shall have fallen short of the target traffic, then for every 1% (one percent) shortfall as compared to the target traffic, the IRB HMTL Concession Period shall, subject to payment of concession fee in accordance with the IRB HMTL Concession Agreement, be increased by 1.5% (one point five percent) thereof; provided that such increase in IRB HMTL Concession Period shall not in any case exceed 20% (twenty percent) of the IRB HMTL Concession Period.

Subject to the provisions of the IRB HMTL Concession Agreement, in the event actual average traffic shall have exceeded the target traffic, then for every 1% (one percent) excess as compared to the target traffic, the IRB HMTL Concession Period shall be reduced by 0.75% (zero point seven five percent) thereof; provided that such reduction in IRB HMTL Concession Period shall not in any case exceed 10% (ten percent) thereof.

Provided further that in lieu of a reduction in IRB HMTL Concession Period under the IRB HMTL Concession Agreement, IRB HMTL may elect to pay, in addition to the concession fee that would be due and payable if the IRB HMTL Concession Period were not reduced hereunder, a further premium equal to 25% (twenty five percent) of the realizable fee, and upon notice given to this effect by IRB HMTL no later than two years prior to the IRB HMTL Termination Date contemplated by the IRB HMTL Concession Agreement, NHAI shall waive the reduction in IRB HMTL Concession Period hereunder forthwith.

Notwithstanding anything to the contrary contained in IRB HMTL Concession Agreement, if the average daily traffic of PCUs in any accounting year shall exceed the designed capacity of the IRB HMTL Project Highway, the NHAI at its option may cause preparation of detailed project report which will assess the cost that may have to be incurred for augmenting the capacity of the IRB HMTL Project Highway so that its capacity is sufficiently increased for carrying the then current traffic in accordance with the corresponding provisions of the Indian Roads Congress publication no. IRC -64, 1990 or any substitute thereof. The IRB HMTL Concession Period, may be extended so that it yields for IRB HMTL a post-tax return on equity of 16% per annum. This assessment will be made at an assumed debt to equity ratio of 70:30. The extension of the IRB HMTL Concession Period shall be however limited to five years. The NHAI may thereafter, at their sole option, issue a notice to IRB HMTL, to undertake within six months of such notice, the augmentation so determined by the NHAI. The refusal, non-acceptance, or failure by IRB HMTL to undertake such augmentation on the due date so intimated by the NHAI, will be considered an indirect political event and the NHAI may at its discretion terminate this IRB HMTL Concession Agreement by issuing a termination notice and making a termination payment in accordance with the provisions of the IRB HMTL Concession Agreement without the NHAI being liable to issue any further notice under it.

Termination of the IRB HMTL Concession Agreement

Termination by the NHAI

Save as otherwise provided in the IRB HMTL Concession Agreement, in the event that any of the defaults specified below shall have occurred, and IRB HMTL fails to cure the default within the cure period, or where no cure period is specified, then within a cure period of 60 days, IRB HMTL shall be deemed to be in default of the IRB HMTL Concession Agreement ("**IRB HMTL Default**"), unless the default has occurred solely as a result of any breach of the IRB HMTL Concession Agreement by the NHAI or due to force majeure. The defaults referred to herein shall include:

a) the performance security has been encashed and appropriated in accordance with the IRB HMTL Concession Agreement and IRB HMTL fails to replenish or provide fresh performance security within a cure period of 30 days;

b) subsequent to the replenishment or furnishing of fresh performance security in accordance with the IRB HMTL Concession Agreement, IRB HMTL fails to cure, within a cure period of 90 days, the IRB HMTL Default for which whole or part of the performance security was appropriated;

c) IRB HMTL does not achieve the latest outstanding project milestone due in accordance with the IRB HMTL Concession Agreement and continues to be in default for 90 days;

d) IRB HMTL abandons or manifests intention to abandon the construction or operation of the IRB HMTL Project Highway without the prior written consent of the NHAI;

e) project completion date does not occur within the period specified in the IRB HMTL Concession Agreement;

f) the punch list items have not been completed within the period set forth in the IRB HMTL Concession Agreement;

g) IRB HMTL is in breach of the maintenance requirements or the safety requirements as the case may be;

h) IRB HMTL has failed to make any payment to the NHAI within the period specified in the IRB HMTL Concession Agreement;

i) an escrow default has occurred and IRB HMTL fails to cure the default within a cure period of 15 days;

j) upon occurrence of a financial default, the lenders' representative has, by notice, required the NHAI to undertake suspension or termination, as the case may be, in accordance with the Substitution Agreement and IRB HMTL fails to cure the default within the cure period specified hereinabove;

k) a breach of the project agreements by IRB HMTL has caused a material adverse effect;

l) IRB HMTL creates an encumbrance in breach of the IRB HMTL Concession Agreement;

m) IRB HMTL repudiates the IRB HMTL Concession Agreement or otherwise takes any action or evidences or conveys an intention not to be bound by the IRB HMTL Concession Agreement;

n) a change in ownership has occurred in breach of the IRB HMTL Concession Agreement;

o) there is a transfer, pursuant to law either of (i) the rights and/or obligations of IRB HMTL under any of the project agreements, or of (ii) all or part of the assets or undertaking of IRB HMTL, and such transfer causes a material adverse effect;

p) an execution levied on any of the assets of IRB HMTL has caused a material adverse effect;

q) IRB HMTL is adjudged bankrupt or insolvent, or if a trustee or receiver is appointed for IRB HMTL or for the whole or material part of its assets that has a material bearing on the IRB HMTL Project;

r) IRB HMTL has been, or is in the process of being liquidated, dissolved, wound-up, amalgamated or reconstituted in a manner that would cause, in the reasonable opinion of the NHAI, a material adverse effect;

s) a resolution for winding up of IRB HMTL is passed, or any petition for winding up of IRB HMTL is admitted by a court of competent jurisdiction and a provisional liquidator or receiver is appointed and such order has not been set aside within 90 days of the date thereof, or IRB HMTL is ordered to be wound up by Court except for the purpose of amalgamation or reconstruction, provided that, as part of such amalgamation or reconstruction, the entire property, assets and undertaking of IRB HMTL are transferred to the amalgamated or reconstructed entity and that the amalgamated or reconstructed entity has unconditionally assumed the obligations of IRB HMTL under the IRB HMTL Concession Agreement and the project agreements; provided that:

   i) the amalgamated or reconstructed entity has the capability and operating experience necessary for the performance of its obligations under the IRB HMTL Concession Agreement and the project agreements;

   ii) the amalgamated or reconstructed entity has the financial standing to perform its obligations under the IRB HMTL Concession Agreement and the project agreements and has a creditworthiness at least as good as that of IRB HMTL as at the IRB HMTL Appointed Date; and

   iii) each of the project agreements remains in full force and effect;

t) any representation or warranty of IRB HMTL which is, as of the date hereof, found to be materially false, incorrect or misleading or IRB HMTL is at any time hereafter found to be in breach thereof;

u) IRB HMTL submits to the NHAI any statement, notice or other document, in written or electronic form, which has a material effect on the NHAI's rights, obligations or interests and which is false in material particulars;

v) IRB HMTL has failed to fulfil any obligation, for which failure termination has been specified in the IRB HMTL Concession Agreement; or

w) IRB HMTL commits a default in complying with any other provision of the IRB HMTL Concession Agreement if such default causes a material adverse effect on the NHAI.

Without prejudice to any other rights or remedies which the NHAI may have under the IRB HMTL Concession Agreement, upon the occurrence of an IRB HMTL Default, the NHAI shall be entitled to terminate the IRB HMTL Concession Agreement by issuing a termination notice to IRB HMTL. Before issuing the termination notice, the NHAI shall, by notice, inform IRB HMTL of its intention to issue a termination notice and grant 15 days to IRB HMTL to make a representation, and may, after the expiry of the 15 days, whether or not it is in receipt of such representation, issue the termination notice subject to the provisions of the IRB HMTL Concession Agreement.

If there are senior lenders, the NHAI shall send a copy of its notice of intention to issue a termination notice to inform the lenders' representative and grant 30 days to the lenders' representative for making a representation on behalf of the senior lenders stating the intention to substitute IRB HMTL in accordance with the Substitution Agreement. If the NHAI receives a representation on behalf of the senior lenders, it shall, in its discretion, either withhold termination for a period not exceeding 180 days from the date of the representation, or exercise its right of suspension, as the case may be, to enable the lenders' representative to exercise the senior lenders' right of substitution in accordance with the Substitution Agreement. The lenders' representative may, instead of exercising the senior lenders' right of substitution, procure that the default specified in the notice is cured within the aforesaid 180 days, and upon the curing, the NHAI shall withdraw its notice and restore the rights of IRB HMTL. On a written request from the lenders' representative and IRB HMTL, the NHAI shall extend the period of 180 days by a further period not exceeding 90 days as it may deem appropriate.

Termination by IRB HMTL

In the event that any of the defaults specified below shall have occurred, and the NHAI fails to cure the default within a cure period of 90 days or such longer period as provided in the IRB HMTL Concession Agreement, the NHAI shall be deemed to be in default of the IRB HMTL Concession Agreement ("**NHAI Default**"), unless the default has occurred as a result of a breach of the IRB HMTL Concession Agreement by IRB HMTL, or due to force majeure. The default referred to herein shall include:

a) the NHAI commits a material default in complying with any of the provisions of the IRB HMTL Concession Agreement and such default has a material adverse effect on IRB HMTL;

b) the NHAI has failed to make any payment to IRB HMTL within the period specified in the IRB HMTL Concession Agreement;

c) the NHAI repudiates the IRB HMTL Concession Agreement or otherwise takes any action that amounts to or manifests an irrevocable intention not to be bound by the IRB HMTL Concession Agreement; or

d) the State of Uttar Pradesh commits a material default in complying with the provisions of the state support agreement if such default has a material adverse effect on IRB HMTL and the breach continues for a period of 90 days from the date of notice given in this behalf by IRB HMTL to the NHAI.

Without prejudice to any other rights or remedies which IRB HMTL may have under the IRB HMTL Concession Agreement, upon the occurrence of an NHAI Default, IRB HMTL shall be entitled to terminate the IRB HMTL Concession Agreement by issuing a termination notice to the NHAI. Before issuing the termination notice, IRB HMTL shall, by notice, inform the NHAI of its intention to issue a termination notice and grant 30 days to the NHAI to make a representation, and may, after the expiry of the 30 days, whether or not it is in receipt of such representation, issue the termination notice.

Termination Payment

Upon termination on account of an IRB HMTL Default during the operation period, the NHAI shall pay to IRB HMTL, by way of termination payment, an amount equal to 90% of the IRB HMTL Debt Due less insurance cover. If any insurance claims forming part of the insurance cover are not admitted and paid, then 80% of such unpaid claims shall be included in the computation of IRB HMTL Debt Due.

Upon termination on account of an NHAI Default, the NHAI shall pay to IRB HMTL, by way of termination payment, an amount equal to:

a) IRB HMTL Debt Due; and
b) 150% of the adjusted equity.

The termination payment shall not be less than an amount equal to the product of six and the average monthly fee actually realized 12 months prior to the transfer date.

Termination payment shall become due and payable to IRB HMTL within 30 days of a demand being made by IRB HMTL to the NHAI with the necessary particulars, and in the event of any delay, the NHAI shall pay interest at a rate equal to 3% above the bank rate on the amount of termination payment remaining unpaid. The delay shall not exceed 90 days. The termination payment under the IRB HMTL Concession Agreement shall constitute a full and final settlement of all claims of IRB HMTL on account of termination of the IRB HMTL Concession Agreement for any reason whatsoever and IRB HMTL shall not have any further right or claim under any law, treaty, convention, contract or otherwise.

Defects Liability after Termination

IRB HMTL shall be responsible for all defects and deficiencies in the IRB HMTL Project Highway for a period of 120 days after termination. IRB HMTL shall have the obligation to repair or rectify, at its own cost, all defects and deficiencies in the IRB HMTL Project Highway as observed by the independent engineer. The repair or rectification of the defect or deficiency shall be done within a period of 15 days from the date of notice issued by the NHAI in this behalf. A sum as specified in the IRB HMTL Concession Agreement shall be retained in the Escrow Account for a period of 120 days after termination for meeting the liabilities, if any, arising out of, or in connection with this provision.

4. Concession Agreement between IRB WTL and the NHAI dated March 25, 2013

IRB WTL has entered into a concession agreement for four-laning of Goa/Karnataka Border to Kundapur section from km 93.700 to km 283.300 of NH-17 in Karnataka on design, build, finance, operate and transfer ("**DBFOT**") basis (the "**IRB WTL Concession Agreement**"), for a period of 28 years, from March 3, 2014 ("**IRB WTL Appointed Date**") or until such date on which the IRB WTL Concession Agreement is terminated by a termination notice ("**IRB WTL Termination Date**", and the period between the IRB WTL Appointed Date and the IRB WTL Termination Date, the "**IRB WTL Concession Period**").

Certain Definitions

"**IRB WTL Debt Due**" shall mean the aggregate of the following sums expressed in Indian Rupees outstanding on the transfer date:

a) the principal amount of the debt provided by the senior lenders under the financing agreements for financing the total project cost (the "**Principal**") but excluding any part of the Principal that had fallen due for repayment two years prior to the transfer date;

b) all accrued interest, financing fees and charges payable under the financing agreements on, or in respect of, the debt referred to in the sub-clause above until the transfer date but excluding (i) any interest, fees or charges that had fallen due one year prior to the transfer date, (ii) any penal interest or charges payable under the financing agreements to any senior lender, and (iii) any pre-payment charges in relation to accelerated repayment of debt except where such charges have arisen due to an NHAI Default (as defined below); and

c) any subordinated debt which is included in the financing package and disbursed by lenders for financing the total project cost;

If all, or any part of the IRB WTL Debt Due is convertible into equity at the option of the senior lenders and/or IRB WTL, it shall, for the purposes of the IRB WTL Concession Agreement, be deemed to be IRB WTL Debt Due even after the conversion and the Principal thereof shall be dealt with as if such conversion had not been undertaken;

"**IRB WTL Debt Service**" shall mean the sum of all payments on account of Principal, interest, financing fees and charges due and payable in an accounting year to the senior lenders under the financing agreements;

"**IRB WTL Project Assets**" shall mean all physical and other assets relating to and forming part of the site including (a) rights over the site in the form of licence, right of way or otherwise; (b) tangible assets such as civil works and equipment including foundations, embankments, pavements, road surface, interchanges, bridges, culverts, road overbridges, drainage works, traffic signals, sign boards, kilometre-stones, toll plazas, electrical systems, communication systems, rest areas, relief centres, maintenance depots and administrative offices; (c) project facilities situated on the site; (d) all rights of IRB WTL under the project agreements; (e) financial assets, such as receivables, security deposits etc.; (f) insurance proceeds; and (g) applicable permits and authorizations relating to or in respect of the IRB WTL Project Highway (as defined below), but does not include additional facilities;

"**IRB WTL Project Highway**" shall mean the site comprising the existing road comprising NH-17 from km 93.700 to km 283.300 and all IRB WTL Project Assets, and its subsequent development and augmentation in accordance with the IRB WTL Concession Agreement;

"**IRB WTL Project**" shall mean the construction, operation, and maintenance of the IRB WTL Project Highway in accordance with the provisions of the IRB WTL Concession Agreement, and includes all works, services, and equipment relating to and in respect of the scope of the project; and

"**Grant**" shall mean the cash support provided to IRB WTL by the NHAI which is equal to the sum set forth in the bid.

Grant of Concession

Subject to, and in accordance with the provisions set out in the IRB WTL Concession Agreement, the applicable laws and the applicable permits, the NHAI has granted to IRB WTL, and IRB WTL has accepted the concession, including the exclusive right, license, and authority to construct, operate and maintain the IRB WTL Project for a period of 28 years from the IRB WTL Appointed Date.

Subject to, and in accordance with the provisions of the IRB WTL Concession Agreement, the concession granted shall oblige or entitle, as the case may be, IRB WTL to:

a) right of way, access and license to the site for the purpose of, and to the extent conferred by the provisions of the IRB WTL Concession Agreement;

b) finance and construct the IRB WTL Project Highway;

c) manage, operate, and maintain the IRB WTL Project Highway and regulate the use thereof by third parties;

d) demand, collect, and appropriate fee from vehicles and users liable for payment of fee for using the IRB WTL Project Highway or any part thereof and refuse entry of any vehicle if the fee due is not paid;

e) perform and fulfil all of IRB WTL's obligations under and in accordance with the IRB WTL Concession Agreement;

f) bear and pay all costs, expenses, and charges in connection with or incidental to the performance of the obligations of IRB WTL under the IRB WTL Concession Agreement; and

g) neither assign, transfer or sublet, or create any lien or encumbrance on the IRB WTL Concession Agreement, or the concession granted, or on the whole or any part of the IRB WTL Project Highway, nor transfer, lease, or part possession thereof, save and except as expressly permitted by the IRB WTL Concession Agreement or the agreement for the substitution of IRB WTL entered into by IRB WTL, the NHAI, and the lenders' representative on behalf of the senior lenders (the "**Substitution Agreement**").

Fees

On and from the commercial operation date ("**COD**") till the transfer date, IRB WTL shall have the sole and exclusive right to demand, collect, and appropriate fee from the users subject to, and in accordance with the IRB WTL Concession Agreement and the applicable rules and regulations, provided that for ease of payment and collection, such fee shall be rounded off to the nearest five rupees in accordance with the applicable fee rules, as updated from time to time. In accordance with the IRB WTL Concession Agreement, IRB WTL shall not collect any fees in relation to exempted vehicles.

IRB WTL shall not collect any fee from a local user for non-commercial use of the IRB WTL Project Highway, and shall issue a pass in respect thereof for commuting on a section of the IRB WTL Project Highway as specified in the pass and for crossing the toll plaza specified therein. For carrying out these provisions, IRB WTL shall formulate, publish and implement an appropriate scheme, and make such modifications to the scheme as may reasonably be suggested by the NHAI or by local users from time to time. For defraying its expenses on issuing of passes and handling of local users, IRB WTL shall be entitled to charge a monthly fee of ₹150, with reference to the base year 2007-08, to be revised annually in accordance with the fee rules to reflect the variation in WPI, and then rounded off to the nearest five rupees; provided that no passes will be required or fee collected from a vehicle that uses part of the IRB WTL Project Highway and does not cross a toll plaza.

Grant

The NHAI has agreed to pay to IRB WTL cash support by way of an outright grant equal to ₹5,362.2 million as set out in the bid. The grant shall be disbursed to IRB WTL by way of equity support. It shall be credited to the Escrow Account (as defined below) and shall be applied by IRB WTL for meeting the total project cost. The equity support shall not exceed the sum specified, but shall in no case be greater than twice the equity, and shall be further restricted to a sum not exceeding 40% of the total project cost.

The equity support shall be due and payable to IRB WTL after it has expended the equity, and shall be disbursed proportionately along with the loan funds thereafter remaining to be disbursed by the senior lenders under the financing agreements. The NHAI shall disburse each tranche of the equity support as and when due, but no later than 15 days of receiving a request from IRB WTL along with necessary particulars. In the event of the occurrence of an IRB WTL Default (as defined below), disbursement of equity support shall be suspended till the IRB WTL Default has been cured.

Concession Fee

In consideration of the grant of concession, IRB WTL shall pay to the NHAI by way of concession fee a sum of ₹1.00 per annum.

The concession fee payable under the provisions of the IRB WTL Concession Agreement shall be due and payable in monthly instalments within seven days of the close of each month.

Escrow Account

IRB WTL was required to, prior to the IRB WTL Appointed Date, open and establish an escrow account (the "**Escrow Account**") with a bank (the "**Escrow Bank**") in accordance with the IRB WTL Concession Agreement read with the escrow agreement entered into amongst IRB WTL, the NHAI, the Escrow Bank and the senior lenders through the lenders' representative (the "**Escrow Agreement**").

IRB WTL shall deposit, or cause to be deposited the following inflows and receipts into the Escrow Account:

a) all funds constituting the financial package;

b) all fee and any other revenues from or in respect of the IRB WTL Project Highway, including the proceeds of any deposits, capital receipts or insurance claims; and

c) all payments by the NHAI, after deducting any outstanding concession fee.

The senior lenders may make direct disbursements to the EPC contractor in accordance with the express provisions contained in this behalf in the financing agreements.

Withdrawals during Concession Period

IRB WTL was required to, at the time of opening the Escrow Account, give irrevocable instructions, by way of the Escrow Agreement, to the Escrow Bank instructing, inter alia, that deposits in the Escrow Account shall be appropriated in the following order every month, or at shorter intervals as necessary, and if not due in a month, then appropriated proportionately in such month and retained in the Escrow Account and paid out therefrom in a month when due:

a) all taxes due and payable by IRB WTL for and in respect of the IRB WTL Project Highway;

b) all payments relating to construction of the IRB WTL Project Highway, subject to and in accordance with the conditions, if any, set forth in the financing agreements;

c) Operation and Management ("**O&M**") expenses, subject to the ceiling, if any, set forth in the financing agreements;

d) O&M expenses and other costs and expenses incurred by the NHAI in accordance with the provisions of the IRB WTL Concession Agreement, and certified by the NHAI as due and payable to it;

e) concession fee due and payable to the NHAI;

f) monthly proportionate provision of IRB WTL Debt Service due in an accounting year;

g) all payments and damages certified by the NHAI as due and payable to it by IRB WTL, including repayment of revenue shortfall loan.

h) monthly proportionate provision of IRB WTL Debt Service payments due in an accounting year in respect of subordinated debt;

i) any reserve requirements set forth in the financing agreements; and

j) balance, if any, in accordance with the instructions of IRB WTL.

IRB WTL shall not, in any manner, modify the order of payment specified except with prior written approval from the NHAI.

Withdrawals upon Termination

Notwithstanding anything to the contrary contained in the IRB WTL Concession Agreement, all amounts standing to the credit of the Escrow Account shall, upon termination, be appropriated in the following order:

a) all taxes due and payable by IRB WTL for and in respect of the IRB WTL Project Highway;

b) 90% of the IRB WTL Debt Due excluding the subordinated debt;

c) outstanding concession fee;

d) all payments and damages certified by the NHAI as due and payable to it by IRB WTL, including the repayment of the revenue shortfall loan. retention and payments relating to the liability for defects and deficiencies set forth in the IRB WTL Concession Agreement;

e) outstanding IRB WTL Debt Service including balance of IRB WTL Debt Due;

f) outstanding subordinated debt;

g) incurred or accrued O&M expenses;

h) any other payments required to be made under the IRB WTL Concession Agreement; and

i) balance, if any, in accordance with the instructions of IRB WTL.

No appropriations shall be made until a vesting certificate has been issued by the NHAI.

Change of Scope

The NHAI may, notwithstanding anything to the contrary contained in the IRB WTL Concession Agreement, require the provision of additional works and services which are not included in the scope of the project as contemplated by the IRB WTL Concession Agreement. Any such change of scope shall be made in accordance with the provisions of the IRB WTL Concession Agreement and the costs thereof shall be expended by IRB WTL and reimbursed by the NHAI.

If IRB WTL determines at any time that a change in scope is necessary for providing safer and improved services to the users, it shall, by notice in writing, require the NHAI to consider such change of scope. The NHAI shall, within 15 days of receipt of such notice, either accept the change of scope with modifications, if any, and initiate proceedings thereof in accordance with the provisions of the IRB WTL Concession Agreement, or inform IRB WTL in writing of its reasons for not accepting such change of scope.

Compensation for Breach of Agreement

In the event of IRB WTL being in material default or breach of the IRB WTL Concession Agreement, it shall pay to the NHAI by way of compensation, all direct costs suffered or incurred by the NHAI as a consequence of the material default or breach, within 30 days of the receipt of the demand supported by the necessary particulars thereof. No compensation shall be payable for any material breach or default in respect of which damages are expressly specified and payable under the IRB WTL Concession Agreement.

In the event of the NHAI being in material default of the IRB WTL Concession Agreement at any time after the IRB WTL Appointed Date, it shall pay to IRB WTL by way of compensation, all direct costs suffered or incurred by IRB WTL as a consequence of the material default or breach within 30 days of receipt of the demand supported by necessary particulars thereof. No compensation shall be payable for any material breach or default in respect of which damages have been expressly specified in the IRB WTL Concession Agreement.

In the event that a material default or breach of the IRB WTL Concession Agreement causes a delay in achieving COD or leads to suspension of, or reduction in collection of fee, as the case may be, the NHAI shall, in addition to the payment of compensation, extend the IRB WTL Concession Period as provided in the IRB WTL Concession Agreement. In the event that an additional toll way or a competing road, as the case may be, is opened to traffic in breach of the IRB WTL Concession Agreement, the NHAI shall pay to IRB WTL, for each day of the breach, compensation as provided in the IRB WTL Concession Agreement, until the breach is cured. The payment of compensation by the NHAI shall be deemed to cure the breach of the IRB WTL Concession Agreement so long as the NHAI continues to pay the compensation.

The compensation payable shall be in addition to, and not in substitution for, or derogation of, termination payment, if any.

Effects of Variation in Traffic Growth

Subject to the provisions of the IRB WTL Concession Agreement, in the event actual average traffic shall have fallen short of the target traffic, then for every 1% (one percent) shortfall as compared to the target traffic, the IRB WTL Concession Period shall, subject to payment of concession fee in accordance with the IRB WTL Concession Agreement, be increased by 1.5% (one point five percent) thereof; provided that such increase in IRB WTL Concession Period shall not in any case exceed 20% (twenty percent) of the IRB WTL Concession Period.

Subject to the provisions of the IRB WTL Concession Agreement, in the event actual average traffic shall have exceeded the target traffic, then for every 1% (one percent) excess as compared to the target traffic, the IRB WTL Concession Period shall be reduced by 0.75% (zero point seven five percent) thereof; provided that such reduction in IRB WTL Concession Period shall not in any case exceed 10% (ten percent) thereof.

Provided further that in lieu of a reduction in IRB WTL Concession Period under the IRB WTL Concession Agreement, IRB WTL may elect to pay, in addition to the concession fee that would be due and payable if the IRB WTL Concession Period were not reduced hereunder, a further premium equal to 25% (twenty five percent) of the realizable fee, and upon notice given to this effect by IRB WTL no later than two years prior to the IRB WTL Termination Date contemplated by the IRB WTL Concession Agreement, NHAI shall waive the reduction in IRB WTL Concession Period hereunder forthwith.

Notwithstanding anything to the contrary contained in IRB WTL Concession Agreement, if the average daily traffic of PCUs in any accounting year shall exceed the designed capacity of the IRB WTL Project Highway, the NHAI at its option may cause preparation of detailed project report which will assess the cost that may have to be incurred for augmenting the capacity of the IRB WTL Project Highway so that its capacity is sufficiently increased for carrying the then current traffic in accordance with the corresponding provisions of the Indian Roads Congress publication no. IRC -64, 1990 or any substitute thereof. The IRB WTL Concession Period, may be extended so that it yields for IRB WTL a post-tax return on equity of 16% per annum. This assessment will be made at an assumed debt to equity ratio of 70:30. The extension of the IRB WTL Concession Period shall be however limited to five years. The NHAI may thereafter, at their sole option, issue a notice to IRB WTL, to undertake within six months of such notice, the augmentation so determined by the NHAI. The refusal, non-acceptance, or failure by IRB WTL to undertake such augmentation on the due date so intimated by the NHAI, will be considered an indirect political event and the NHAI may at its discretion terminate this IRB WTL Concession Agreement by issuing a termination notice and making a termination payment in accordance with the provisions of the IRB WTL Concession Agreement without the NHAI being liable to issue any further notice under it.

Termination of the IRB WTL Concession Agreement

Termination by the NHAI

Save as otherwise provided in the IRB WTL Concession Agreement, in the event that any of the defaults specified below shall have occurred, and IRB WTL fails to cure the default within the cure period, or where no cure period is specified, then within a cure period of 60 days, IRB WTL shall be deemed to be in default of the IRB WTL Concession Agreement ("**IRB WTL Default**"), unless the default has occurred solely as a result of any breach of the IRB WTL Concession Agreement by the NHAI or due to force majeure. The defaults referred to herein shall include:

a) the performance security has been encashed and appropriated in accordance with the IRB WTL Concession Agreement and IRB WTL fails to replenish or provide fresh performance security within a cure period of 30 days;

b) subsequent to the replenishment or furnishing of fresh performance security in accordance with the IRB WTL Concession Agreement, IRB WTL fails to cure, within a cure period of 90 days, the IRB WTL Default for which whole or part of the performance security was appropriated;

c) IRB WTL does not achieve the latest outstanding project milestone due in accordance with the IRB WTL Concession Agreement and continues to be in default for 120 days;

d) IRB WTL abandons or manifests intention to abandon the construction or operation of the IRB WTL Project Highway without the prior written consent of the NHAI;

e) project completion date does not occur within the period specified in the IRB WTL Concession Agreement;

f) the punch list items have not been completed within the period set forth in the IRB WTL Concession Agreement;

g) IRB WTL is in breach of the maintenance requirements or the safety requirements as the case may be;

h) IRB WTL has failed to make any payment to the NHAI within the period specified in the IRB WTL Concession Agreement;

i) an escrow default has occurred and IRB WTL fails to cure the default within a cure period of 15 days;

j) upon occurrence of a financial default, the lenders' representative has, by notice, required the NHAI to undertake suspension or termination, as the case may be, in accordance with the Substitution Agreement and IRB WTL fails to cure the default within the cure period specified hereinabove;

k) a breach of the project agreements by IRB WTL has caused a material adverse effect;

l) IRB WTL creates an encumbrance in breach of the IRB WTL Concession Agreement;

m) IRB WTL repudiates the IRB WTL Concession Agreement or otherwise takes any action or evidences or conveys an intention not to be bound by the IRB WTL Concession Agreement;

n) a change in ownership has occurred in breach of the IRB WTL Concession Agreement;

o) there is a transfer, pursuant to law either of (i) the rights and/or obligations of IRB WTL under any of the project agreements, or of (ii) all or part of the assets or undertaking of IRB WTL, and such transfer causes a material adverse effect;

p) an execution levied on any of the assets of IRB WTL has caused a material adverse effect;

q) IRB WTL is adjudged bankrupt or insolvent, or if a trustee or receiver is appointed for IRB WTL or for the whole or material part of its assets that has a material bearing on the IRB WTL Project;

r) IRB WTL has been, or is in the process of being liquidated, dissolved, wound-up, amalgamated or reconstituted in a manner that would cause, in the reasonable opinion of the NHAI, a material adverse effect;

s) a resolution for winding up of IRB WTL is passed, or any petition for winding up of IRB WTL is admitted by a court of competent jurisdiction and a provisional liquidator or receiver is appointed and such order has not been set aside within 90 days of the date thereof, or IRB WTL is ordered to be wound up by Court except for the purpose of amalgamation or reconstruction, provided that, as part of such amalgamation or reconstruction, the entire property, assets and undertaking of IRB WTL are transferred to the amalgamated or reconstructed entity and that the amalgamated or reconstructed entity has unconditionally assumed the obligations of IRB WTL under the IRB WTL Concession Agreement and the project agreements; provided that:

   i) the amalgamated or reconstructed entity has the capability and operating experience necessary for the performance of its obligations under the IRB WTL Concession Agreement and the project agreements;

   ii) the amalgamated or reconstructed entity has the financial standing to perform its obligations under the IRB WTL Concession Agreement and the project agreements and has a creditworthiness at least as good as that of IRB WTL as at the IRB WTL Appointed Date; and

   iii) each of the project agreements remains in full force and effect;

t) any representation or warranty of IRB WTL which is, as of the date hereof, found to be materially false, incorrect or misleading or IRB WTL is at any time hereafter found to be in breach thereof;

u) IRB WTL submits to the NHAI any statement, notice or other document, in written or electronic form, which has a material effect on the NHAI's rights, obligations or interests and which is false in material particulars;

v) IRB WTL has failed to fulfil any obligation, for which failure termination has been specified in the IRB WTL Concession Agreement; or

w) IRB WTL commits a default in complying with any other provision of the IRB WTL Concession Agreement if such default causes a material adverse effect on the NHAI.

Without prejudice to any other rights or remedies which the NHAI may have under the IRB WTL Concession Agreement, upon the occurrence of an IRB WTL Default, the NHAI shall be entitled to terminate the IRB WTL Concession Agreement by issuing a termination notice to IRB WTL. Before issuing the termination notice, the NHAI shall, by notice, inform IRB WTL of its intention to issue a termination notice and grant 15 days to IRB

WTL to make a representation, and may, after the expiry of the 15 days, whether or not it is in receipt of such representation, issue the termination notice subject to the provisions of the IRB WTL Concession Agreement.

If there are senior lenders, the NHAI shall send a copy of its notice of intention to issue a termination notice to inform the lenders' representative and grant 15 days to the lenders' representative for making a representation on behalf of the senior lenders stating the intention to substitute IRB WTL in accordance with the Substitution Agreement. If the NHAI receives a representation on behalf of the senior lenders, it shall, in its discretion, either withhold termination for a period not exceeding 180 days from the date of the representation, or exercise its right of suspension, as the case may be, to enable the lenders' representative to exercise the senior lenders' right of substitution in accordance with the Substitution Agreement. The lenders' representative may, instead of exercising the senior lenders' right of substitution, procure that the default specified in the notice is cured within the aforesaid 180 days, and upon the curing, the NHAI shall withdraw its notice and restore the rights of IRB WTL. On a written request from the lenders' representative and IRB WTL, the NHAI shall extend the period of 180 days by a further period not exceeding 90 days as it may deem appropriate.

Termination by IRB WTL

In the event that any of the defaults specified below shall have occurred, and the NHAI fails to cure the default within a cure period of 90 days or such longer period as provided in the IRB WTL Concession Agreement, the NHAI shall be deemed to be in default of the IRB WTL Concession Agreement ("**NHAI Default**"), unless the default has occurred as a result of a breach of the IRB WTL Concession Agreement by IRB WTL, or due to force majeure. The default referred to herein shall include:

a) the NHAI commits a material default in complying with any of the provisions of the IRB WTL Concession Agreement and such default has a material adverse effect on IRB WTL;

b) the NHAI has failed to make any payment to IRB WTL within the period specified in the IRB WTL Concession Agreement;

c) the NHAI repudiates the IRB WTL Concession Agreement or otherwise takes any action that amounts to or manifests an irrevocable intention not to be bound by the IRB WTL Concession Agreement; or

d) the State of Karnataka commits a material default in complying with the provisions of the state support agreement if such default has a material adverse effect on IRB WTL and the breach continues for a period of 90 days from the date of notice given in this behalf by IRB WTL to the NHAI.

Without prejudice to any other rights or remedies which IRB WTL may have under the IRB WTL Concession Agreement, upon the occurrence of an NHAI Default, IRB WTL shall be entitled to terminate the IRB WTL Concession Agreement by issuing a termination notice to the NHAI. Before issuing the termination notice, IRB WTL shall, by notice, inform the NHAI of its intention to issue a termination notice and grant 15 days to the NHAI to make a representation, and may, after the expiry of the 15 days, whether or not it is in receipt of such representation, issue the termination notice.

Termination Payment

Upon termination on account of an IRB WTL Default during the operation period, the NHAI shall pay to IRB WTL, by way of termination payment, an amount equal to 90% of the IRB WTL Debt Due less insurance cover. If any insurance claims forming part of the insurance cover are not admitted and paid, then 80% of such unpaid claims shall be included in the computation of IRB WTL Debt Due.

Upon termination on account of an NHAI Default, the NHAI shall pay to IRB WTL, by way of termination payment, an amount equal to:

a) IRB WTL Debt Due; and
b) 150% of the adjusted equity.

Termination payment shall become due and payable to IRB WTL within 15 days of a demand being made by IRB WTL to the NHAI with the necessary particulars, and in the event of any delay, the NHAI shall pay interest at a rate equal to 3% above the bank rate on the amount of termination payment remaining unpaid. The delay shall not exceed 90 days. The termination payment under the IRB WTL Concession Agreement shall constitute a full and

final settlement of all claims of IRB WTL on account of termination of the IRB WTL Concession Agreement for any reason whatsoever and IRB WTL, or any shareholder thereof, shall not have any further right or claim under any law, treaty, convention, contract or otherwise.

Defects Liability after Termination

IRB WTL shall be responsible for all defects and deficiencies in the IRB WTL Project Highway for a period of 120 days after termination. IRB WTL shall have the obligation to repair or rectify, at its own cost, all defects and deficiencies in the IRB WTL Project Highway as observed by the independent engineer. The repair or rectification of the defect or deficiency shall be done within a period of 15 days from the date of notice issued by the NHAI in this behalf. A sum as specified in the IRB WTL Concession Agreement shall be retained in the Escrow Account for a period of 120 days after termination for meeting the liabilities, if any, arising out of, or in connection with this provision.

5. Concession Agreement between KGTL and the NHAI dated February 22, 2017

KGTL has entered into a concession agreement for six-laning of Kishangarh to Gulabpura section of NH-79A and NH-79 in Rajasthan with a length of 90.000 km on design, build, finance, operate and transfer ("D**BFOT**") basis (the "**KGTL Concession Agreement**"), for a period of 20 years, from February 21, 2018 ("**KGTL Appointed Date**") or until such date on which the KGTL Concession Agreement is terminated by a termination notice ("**KGTL Termination Date**", and the period between the KGTL Appointed Date and the KGTL Termination Date, the "**KGTL Concession Period**").

Certain Definitions

"**KGTL Debt Due**" shall mean the aggregate of the following sums expressed in Indian Rupees outstanding on the transfer date:

a) the principal amount of the debt provided by the senior lenders under the financing agreements for financing the total project cost (the "**Principa**l") but excluding any part of the Principal that had fallen due for repayment two years prior to the transfer date;

b) all accrued interest, financing fees and charges payable under the financing agreements on, or in respect of, the debt referred to in the sub-clause above until the transfer date but excluding (i) any interest, fees or charges that had fallen due one year prior to the transfer date, (ii) any penal interest or charges payable under the financing agreements to any senior lender, and (iii) any pre-payment charges in relation to accelerated repayment of debt except where such charges have arisen due to an NHAI Default (as defined below); and

c) any subordinated debt which is included in the financing package and disbursed by lenders for financing the total project cost;

If all, or any part of the KGTL Debt Due is convertible into equity at the option of the senior lenders and/or KGTL, it shall, for the purposes of the KGTL Concession Agreement, be deemed to be KGTL Debt Due even after the conversion and the Principal thereof shall be dealt with as if such conversion had not been undertaken;

"**KGTL Debt Service**" shall mean the sum of all payments on account of Principal, interest, financing fees and charges due and payable in an accounting year to the senior lenders under the financing agreements;

"**KGTL Project Assets**" shall mean all physical and other assets relating to and forming part of the site including (a) rights over the site in the form of licence, right of way or otherwise; (b) tangible assets such as civil works and equipment including foundations, embankments, pavements, road surface, interchanges, bridges, culverts, road overbridges, drainage works, traffic signals, sign boards, kilometre-stones, toll plazas, electrical systems, communication systems, rest areas, relief centres, maintenance depots and administrative offices; (c) project facilities situated on the site; (d) all rights of KGTL under the project agreements; (e) financial assets, such as receivables, security deposits etc.; (f) insurance proceeds; and (g) applicable permits and authorizations relating to or in respect of the KGTL Project Highway (as defined below), but does not include additional facilities;

"**KGTL Project Highway**" shall mean the site comprising the existing road comprising NH-79A and 79 from km 0.000 to km 90.000 and all KGTL Project Assets, and its subsequent development and augmentation in accordance with the KGTL Concession Agreement;

"**KGTL Project**" shall mean the construction, operation, and maintenance of the KGTL Project Highway in accordance with the provisions of the KGTL Concession Agreement, and includes all works, services, and equipment relating to and in respect of the scope of the project;

"**Premium**" shall mean an amount paid to the NHAI by KGTL in the form of an additional concession fee, as set forth in the bid for each year of the KGTL Concession Period.

Grant of Concession

Subject to, and in accordance with the provisions set out in the KGTL Concession Agreement, the applicable laws and the applicable permits, the NHAI has granted to KGTL, and KGTL has accepted the concession, including the exclusive right, license, and authority during the subsistence of the KGTL Concession Agreement, to construct, operate and maintain the KGTL Project for a period of 20 years from the KGTL Appointed Date.

Subject to, and in accordance with the provisions of the KGTL Concession Agreement, the concession granted shall oblige or entitle, as the case may be, KGTL to:

a) right of way, access and license to the site for the purpose of, and to the extent conferred by the provisions of the KGTL Concession Agreement;

b) finance and construct the KGTL Project Highway;

c) manage, operate, and maintain the KGTL Project Highway and regulate the use thereof by third parties;

d) demand, collect, and appropriate fee from vehicles and persons liable for payment of fee for using the KGTL Project Highway or any part thereof and refuse entry of any vehicle if the fee due is not paid;

e) perform and fulfil all of KGTL's obligations under and in accordance with the KGTL Concession Agreement;
f) bear and pay all costs, expenses, and charges in connection with or incidental to the performance of the obligations of KGTL under the KGTL Concession Agreement; and

g) neither assign, transfer or sublet, or create any lien or encumbrance on the KGTL Concession Agreement, or the concession granted, or on the whole or any part of the KGTL Project Highway, nor transfer, lease, or part possession thereof, save and except as expressly permitted by the KGTL Concession Agreement or the agreement for the substitution of KGTL entered into by KGTL, the NHAI, and the lenders' representative on behalf of the senior lenders (the "**Substitution Agreement**").

Fees
On and from the commercial operation date ("**COD**") till the transfer date, KGTL shall have the sole and exclusive right to demand, collect, and appropriate fee from the users subject to, and in accordance with the KGTL Concession Agreement and the applicable rules and regulations, provided that for ease of payment and collection, such fee shall be rounded off to the nearest five rupees in accordance with the applicable fee rules, as updated from time to time. Further, KGTL may determine and collect fee at such lower rates as it may, by public notice to the users, specify in respect of all or any category of users or vehicles. In accordance with the KGTL Concession Agreement, KGTL shall not collect any fees in relation to exempted vehicles.

KGTL shall not collect any fee from a local user for non-commercial use of the KGTL Project Highway, and shall issue a pass in respect thereof for commuting on a section of the KGTL Project Highway as specified in the pass and for crossing the toll plaza specified therein. For carrying out these provisions, KGTL shall formulate, publish and implement an appropriate scheme, and make such modifications to the scheme as may reasonably be suggested by the NHAI or by local users from time to time. For defraying its expenses on issuing of passes and handling of local users, KGTL shall be entitled to charge a monthly fee of ₹150, with reference to the base year 2007-08, to be revised annually in accordance with the fee rules to reflect the variation in WPI, and then rounded off to the nearest five rupees; provided that no passes will be required or fee collected from a vehicle that uses part of the KGTL Project Highway and does not cross a toll plaza.

Concession Fee

In consideration of the grant of concession, KGTL shall pay to the NHAI by way of concession fee a sum of ₹1 per annum.

Additionally, KGTL was required to pay to the NHAI, immediately after the third anniversary year of the COD, a Premium in the form of an additional concession fee equal to ₹1,863 million as due to the NHAI during that year, due and payable for the period remaining in that year; and for each subsequent year till the ninth anniversary of the COD, the Premium shall be determined by increasing the amount of Premium in the respective year by an additional 3% as compared to the immediately preceding year and for each subsequent year of the KGTL Concession Period, the Premium shall be determined by increasing the amount of Premium in the respective year by an additional 8% as compared to the immediately preceding year. The Premium is deemed to be a part of the concession fee.

The concession fee payable under the provisions of the KGTL Concession Agreement shall be due and payable in monthly instalments within seven days of the close of each month.

Escrow Account

KGTL was required to, prior to the KGTL Appointed Date, open and establish an escrow account (the "**Escrow Account**") with a bank (the "**Escrow Bank**") in accordance with the KGTL Concession Agreement read with the escrow agreement entered into amongst KGTL, the NHAI, the Escrow Bank and the senior lenders through the lenders' representative (the "**Escrow Agreement**").

KGTL shall deposit, or cause to be deposited the following inflows and receipts into the Escrow Account:

a) all funds constituting the financial package;
b) all fee and any other revenues from or in respect of the KGTL Project Highway, including the proceeds of any deposits, capital receipts or insurance claims; and
c) all payments by the NHAI, after deducting any outstanding concession fee.

The senior lenders may make direct disbursements to the EPC contractor in accordance with the express provisions contained in this behalf in the financing agreements.

Withdrawals during Concession Period

KGTL was required to, at the time of opening the Escrow Account, give irrevocable instructions, by way of the Escrow Agreement, to the Escrow Bank instructing, inter alia, that deposits in the Escrow Account shall be appropriated in the following order every month, or at shorter intervals as necessary, and if not due in a month, then appropriated proportionately in such month and retained in the Escrow Account and paid out therefrom in a month when due:

a) all taxes due and payable by KGTL for and in respect of the KGTL Project Highway;

b) all payments relating to construction of the KGTL Project Highway, subject to and in accordance with the conditions, if any, set forth in the financing agreements;

c) Operation and Management ("**O&M**") expenses, subject to the ceiling, if any, set forth in the financing agreements;

d) O&M expenses and other costs and expenses incurred by the NHAI in accordance with the provisions of the KGTL Concession Agreement, and certified by the NHAI as due and payable to it;

e) concession fee due and payable to the NHAI;

f) monthly proportionate provision of KGTL Debt Service due in an accounting year;

g) premium due and payable to the NHAI;

h) all payments and damages certified by the NHAI as due and payable to it by KGTL, including repayment of revenue shortfall loan. KGTL has agreed to give irrevocable instructions to the Escrow Bank to make

payments from the Escrow Account in accordance with the instructions of the NHAI under the KGTL Concession Agreement and debit the payment to O&M expenses;

i) monthly proportionate provision of KGTL Debt Service payments due in an accounting year in respect of subordinated debt;

j) any reserve requirements set forth in the financing agreements; and

k) balance, if any, in accordance with the instructions of KGTL.

KGTL shall not, in any manner, modify the order of payment specified except with prior written approval from the NHAI.

Withdrawals upon Termination

Notwithstanding anything to the contrary contained in the KGTL Concession Agreement, all amounts standing to the credit of the Escrow Account shall, upon termination, be appropriated in the following order:

a) all taxes due and payable by KGTL for and in respect of the KGTL Project Highway;

b) 90% of the KGTL Debt Due excluding the subordinated debt;
c) outstanding concession fee;

d) all payments and damages certified by the NHAI as due and payable to it by KGTL, including the repayment of the revenue shortfall loan. KGTL has agreed to give irrevocable instruction to the Escrow Bank to make payment from the Escrow Account in accordance with the instructions of the NHAI under the KGTL Concession Agreement and debit the payment to O&M expenses.

e) retention and payments relating to the liability for defects and deficiencies set forth in the KGTL Concession Agreement;

f) outstanding KGTL Debt Service including balance of KGTL Debt Due;

g) outstanding subordinated debt;

h) incurred or accrued O&M expenses;

i) any other payments required to be made under the KGTL Concession Agreement; and

j) balance, if any, in accordance with the instructions of KGTL.

No appropriations shall be made until a vesting certificate has been issued by the NHAI.

Change of Scope

The NHAI may, notwithstanding anything to the contrary contained in the KGTL Concession Agreement, require the provision of additional works and services which are not included in the scope of the project as contemplated by the KGTL Concession Agreement. Any such change of scope shall be made in accordance with the provisions of the KGTL Concession Agreement and the costs thereof shall be expended by KGTL and reimbursed by the NHAI.

If KGTL determines at any time that a change in scope is necessary for providing safer and improved services to the users, it shall, by notice in writing, require the NHAI to consider such change of scope. The NHAI shall, within 60 days of receipt of such notice, either accept the change of scope with modifications, if any, and initiate proceedings thereof in accordance with the provisions of the KGTL Concession Agreement, or inform KGTL in writing of its reasons for not accepting such change of scope.

Compensation for Breach of Agreement

In the event of KGTL being in material default or breach of the KGTL Concession Agreement, it shall pay to the NHAI by way of compensation, all direct costs suffered or incurred by the NHAI as a consequence of the material default or breach, within 30 days of the receipt of the demand supported by the necessary particulars thereof. No compensation shall be payable for any material breach or default in respect of which damages are expressly specified and payable under the KGTL Concession Agreement.

In the event of the NHAI being in material default of the KGTL Concession Agreement at any time after the KGTL Appointed Date, it shall pay to KGTL by way of compensation, all direct costs suffered or incurred by KGTL as a consequence of the material default or breach within 30 days of receipt of the demand supported by necessary particulars thereof. No compensation shall be payable for any material breach or default in respect of which damages have been expressly specified in the KGTL Concession Agreement.

In the event that a material default or breach of the KGTL Concession Agreement causes a delay in achieving COD or leads to suspension of, or reduction in collection of fee, as the case may be, the NHAI shall, in addition to the payment of compensation, extend the KGTL Concession Period as provided in the KGTL Concession Agreement. In the event that an additional toll way or a competing road, as the case may be, is opened to traffic in breach of the KGTL Concession Agreement, the NHAI shall pay to KGTL, for each day of the breach, compensation as provided in the KGTL Concession Agreement, until the breach is cured. The payment of compensation by the NHAI shall be deemed to cure the breach of the KGTL Concession Agreement so long as the NHAI continues to pay the compensation.

The compensation payable shall be in addition to, and not in substitution for, or derogation of, termination payment, if any.

Effects of Variation in Traffic Growth

Subject to the provisions of the KGTL Concession Agreement, in the event actual average traffic shall have fallen short of the target traffic, then for every 1% (one percent) shortfall as compared to the target traffic, the KGTL Concession Period shall, subject to payment of concession fee in accordance with the KGTL Concession Agreement, be increased by 1.5% (one point five percent) thereof; provided that such increase in KGTL Concession Period shall not in any case exceed 20% (twenty percent) of the KGTL Concession Period.

Subject to the provisions of the KGTL Concession Agreement, in the event actual average traffic shall have exceeded the target traffic, then for every 1% (one percent) excess as compared to the target traffic, the KGTL Concession Period shall be reduced by 0.75% (zero point seven five percent) thereof; provided that such reduction in KGTL Concession Period shall not in any case exceed 10% (ten percent) thereof.

Provided further that in lieu of a reduction in KGTL Concession Period under the KGTL Concession Agreement, KGTL may elect to pay, in addition to the concession fee that would be due and payable if the KGTL Concession Period were not reduced hereunder, a further premium equal to 25% (twenty five percent) of the realizable fee, and upon notice given to this effect by KGTL no later than two years prior to the KGTL Termination Date contemplated by the KGTL Concession Agreement, NHAI shall waive the reduction in KGTL Concession Period hereunder forthwith.

Notwithstanding anything to the contrary contained in KGTL Concession Agreement, if the average daily traffic of PCUs in any accounting year shall exceed the designed capacity of the KGTL Project Highway, the NHAI at its option may cause preparation of detailed project report which will assess the cost that may have to be incurred for augmenting the capacity of the KGTL Project Highway so that its capacity is sufficiently increased for carrying the then current traffic in accordance with the corresponding provisions of the Indian Roads Congress publication no. IRC -64, 1990 or any substitute thereof. The KGTL Concession Period, may be extended so that it yields for KGTL a post-tax return on equity of 16% per annum. This assessment will be made at an assumed debt to equity ratio of 70:30. The extension of the KGTL Concession Period shall be however limited to five years. The NHAI may thereafter, at their sole option, issue a notice to KGTL, to undertake within six months of such notice, the augmentation so determined by the NHAI. The refusal, non-acceptance, or failure by KGTL to undertake such augmentation on the due date so intimated by the NHAI, will be considered an indirect political event and the NHAI may at its discretion terminate this KGTL Concession Agreement by issuing a termination notice and making a termination payment in accordance with the provisions of the KGTL Concession Agreement without the NHAI being liable to issue any further notice under it.

Termination of the KGTL Concession Agreement

Termination by the NHAI

Save as otherwise provided in the KGTL Concession Agreement, in the event that any of the defaults specified below shall have occurred, and KGTL fails to cure the default within the cure period, or where no cure period is specified, then within a cure period of 60 days, KGTL shall be deemed to be in default of the KGTL Concession Agreement ("**KGTL Default**"), unless the default has occurred solely as a result of any breach of the KGTL Concession Agreement by the NHAI or due to force majeure. The defaults referred to herein shall include:

a) the performance security has been encashed and appropriated in accordance with the KGTL Concession Agreement and KGTL fails to replenish or provide fresh performance security within a cure period of 30 days;

b) subsequent to the replenishment or furnishing of fresh performance security in accordance with the KGTL Concession Agreement, KGTL fails to cure, within a cure period of 90 days, the KGTL Default for which whole or part of the performance security was appropriated;

c) KGTL does not achieve the latest outstanding project milestone due in accordance with the KGTL Concession Agreement and continues to be in default for 90 days;

d) KGTL abandons or manifests intention to abandon the construction or operation of the KGTL Project Highway without the prior written consent of the NHAI;

e) project completion date does not occur within the period specified in the KGTL Concession Agreement;

f) the punch list items have not been completed within the period set forth in the KGTL Concession Agreement;

g) KGTL is in breach of the maintenance requirements or the safety requirements as the case may be;

h) KGTL has failed to make any payment to the NHAI within the period specified in the KGTL Concession Agreement;

i) an escrow default has occurred and KGTL fails to cure the default within a cure period of 15 days;

j) upon occurrence of a financial default, the lenders' representative has, by notice, required the NHAI to undertake suspension or termination, as the case may be, in accordance with the Substitution Agreement and KGTL fails to cure the default within the cure period specified hereinabove;

k) a breach of the project agreements by KGTL has caused a material adverse effect;

l) KGTL creates an encumbrance in breach of the KGTL Concession Agreement;

m) KGTL repudiates the KGTL Concession Agreement or otherwise takes any action or evidences or conveys an intention not to be bound by the KGTL Concession Agreement;

n) a change in ownership has occurred in breach of the KGTL Concession Agreement;

o) there is a transfer, pursuant to law either of (i) the rights and/or obligations of KGTL under any of the project agreements, or of (ii) all or part of the assets or undertaking of KGTL, and such transfer causes a material adverse effect;

p) an execution levied on any of the assets of KGTL has caused a material adverse effect;

q) KGTL is adjudged bankrupt or insolvent, or if a trustee or receiver is appointed for KGTL or for the whole or material part of its assets that has a material bearing on the KGTL Project;

r) KGTL has been, or is in the process of being liquidated, dissolved, wound-up, amalgamated or reconstituted in a manner that would cause, in the reasonable opinion of the NHAI, a material adverse effect;

s) a resolution for winding up of KGTL is passed, or any petition for winding up of KGTL is admitted by a court of competent jurisdiction and a provisional liquidator or receiver is appointed and such order has not

been set aside within 90 days of the date thereof, or KGTL is ordered to be wound up by Court except for the purpose of amalgamation or reconstruction, provided that, as part of such amalgamation or reconstruction, the entire property, assets and undertaking of KGTL are transferred to the amalgamated or reconstructed entity and that the amalgamated or reconstructed entity has unconditionally assumed the obligations of KGTL under the KGTL Concession Agreement and the project agreements; provided that:

i) the amalgamated or reconstructed entity has the capability and operating experience necessary for the performance of its obligations under the KGTL Concession Agreement and the project agreements;

ii) the amalgamated or reconstructed entity has the financial standing to perform its obligations under the KGTL Concession Agreement and the project agreements and has a creditworthiness at least as good as that of KGTL as at the KGTL Appointed Date; and

iii) each of the project agreements remains in full force and effect;

t) any representation or warranty of KGTL which is, as of the date hereof, found to be materially false, incorrect or misleading or KGTL is at any time hereafter found to be in breach thereof;

u) KGTL submits to the NHAI any statement, notice or other document, in written or electronic form, which has a material effect on the NHAI's rights, obligations or interests and which is false in material particulars;

v) KGTL has failed to fulfil any obligation, for which failure termination has been specified in the KGTL Concession Agreement; or

w) KGTL commits a default in complying with any other provision of the KGTL Concession Agreement if such default causes a material adverse effect on the NHAI.

Without prejudice to any other rights or remedies which the NHAI may have under the KGTL Concession Agreement, upon the occurrence of a KGTL Default, the NHAI shall be entitled to terminate the KGTL Concession Agreement by issuing a termination notice to KGTL. Before issuing the termination notice, the NHAI shall, by notice, inform KGTL of its intention to issue a termination notice and grant 15 days to KGTL to make a representation, and may, after the expiry of the 15 days, whether or not it is in receipt of such representation, issue the termination notice subject to the provisions of the KGTL Concession Agreement.

If there are senior lenders, the NHAI shall send a copy of its notice of intention to issue a termination notice to inform the lenders' representative and grant 30 days to the lenders' representative for making a representation on behalf of the senior lenders stating the intention to substitute KGTL in accordance with the Substitution Agreement. If the NHAI receives a representation on behalf of the senior lenders, it shall, in its discretion, either withhold termination for a period not exceeding 180 days from the date of the representation, or exercise its right of suspension, as the case may be, to enable the lenders' representative to exercise the senior lenders' right of substitution in accordance with the Substitution Agreement. The lenders' representative may, instead of exercising the senior lenders' right of substitution, procure that the default specified in the notice is cured within the aforesaid 180 days, and upon the curing, the NHAI shall withdraw its notice and restore the rights of KGTL. On a written request from the lenders' representative and KGTL, the NHAI shall extend the period of 180 days by a further period not exceeding 90 days as it may deem appropriate.

Termination by KGTL

In the event that any of the defaults specified below shall have occurred, and the NHAI fails to cure the default within a cure period of 90 days or such longer period as provided in the KGTL Concession Agreement, the NHAI shall be deemed to be in default of the KGTL Concession Agreement ("**NHAI Default**"), unless the default has occurred as a result of a breach of the KGTL Concession Agreement by KGTL, or due to force majeure. The default referred to herein shall include:

a) the NHAI commits a material default in complying with any of the provisions of the KGTL Concession Agreement and such default has a material adverse effect on KGTL;

b) the NHAI has failed to make any payment to KGTL within the period specified in the KGTL Concession Agreement;

c) the NHAI repudiates the KGTL Concession Agreement or otherwise takes any action that amounts to or manifests an irrevocable intention not to be bound by the KGTL Concession Agreement; or

d) the State of Rajasthan commits a material default in complying with the provisions of the state support agreement if such default has a material adverse effect on KGTL and the breach continues for a period of 90 days from the date of notice given in this behalf by KGTL to the NHAI.

Without prejudice to any other rights or remedies which KGTL may have under the KGTL Concession Agreement, upon the occurrence of an NHAI Default, KGTL shall be entitled to terminate the KGTL Concession Agreement by issuing a termination notice to the NHAI. Before issuing the termination notice, KGTL shall, by notice, inform the NHAI of its intention to issue a termination notice and grant 30 days to the NHAI to make a representation, and may, after the expiry of the 30 days, whether or not it is in receipt of such representation, issue the termination notice.

Termination Payment

Upon termination on account of a KGTL Default during the operation period, the NHAI shall pay to KGTL, by way of termination payment, an amount equal to 90% of the KGTL Debt Due less insurance cover. If any insurance claims forming part of the insurance cover are not admitted and paid, then 80% of such unpaid claims shall be included in the computation of KGTL Debt Due.

Upon termination on account of an NHAI Default, the NHAI shall pay to KGTL, by way of termination payment, an amount equal to:

a) KGTL Debt Due; and
b) 150% of the adjusted equity.

The termination payment shall not be less than an amount equal to the product of six and the average monthly fee actually realized 12 months prior to the transfer date.

Termination payment shall become due and payable to KGTL within 30 days of a demand being made by KGTL to the NHAI with the necessary particulars, and in the event of any delay, the NHAI shall pay interest at a rate equal to 3% above the bank rate on the amount of termination payment remaining unpaid. The delay shall not exceed 90 days. The termination payment under the KGTL Concession Agreement shall constitute a full and final settlement of all claims of KGTL on account of termination of the KGTL Concession Agreement for any reason whatsoever and KGTL shall not have any further right or claim under any law, treaty, convention, contract or otherwise.

Defects Liability after Termination

KGTL shall be responsible for all defects and deficiencies in the KGTL Project Highway for a period of 120 days after termination. KGTL shall have the obligation to repair or rectify, at its own cost, all defects and deficiencies in the KGTL Project Highway as observed by the independent engineer. The repair or rectification of the defect or deficiency shall be done within a period of 15 days from the date of notice issued by the NHAI in this behalf. A sum as specified in the KGTL Concession Agreement shall be retained in the Escrow Account for a period of 120 days after termination for meeting the liabilities, if any, arising out of, or in connection with this provision.

6. Concession Agreement between KTL and the NHAI dated June 23, 2014

KTL has entered into a concession agreement for four-laning of Kaithal – Rajasthan border section of NH-152/65 in Haryana from km 33+250 (design km -0.500) to km 241+580 (design km 165.759) on design, build, finance, operate and transfer ("**DBFOT**") basis (the "**KTL Concession Agreement**"), for a period of 27 years, from July 15, 2015 ("**KTL Appointed Date**") or until such date on which the KTL Concession Agreement is terminated by a termination notice ("**KTL Termination Date**", and the period between the KTL Appointed Date and the KTL Termination Date, the "**KTL Concession Period**").

Certain Definitions

"**KTL Debt Due**" shall mean the aggregate of the following sums expressed in Indian Rupees outstanding on the transfer date:

a) the principal amount of the debt provided by the senior lenders under the financing agreements for financing the total project cost (the "**Principa**l") but excluding any part of the Principal that had fallen due for repayment two years prior to the transfer date;

b) all accrued interest, financing fees and charges payable under the financing agreements on, or in respect of, the debt referred to in the sub-clause above until the transfer date but excluding (i) any interest, fees or charges that had fallen due one year prior to the transfer date, (ii) any penal interest or charges payable under the financing agreements to any senior lender, and (iii) any pre-payment charges in relation to accelerated repayment of debt except where such charges have arisen due to an NHAI Default (as defined below); and

c) any subordinated debt which is included in the financing package and disbursed by lenders for financing the total project cost;

If all, or any part of the KTL Debt Due is convertible into equity at the option of the senior lenders and/or KTL, it shall, for the purposes of the KTL Concession Agreement, be deemed to be KTL Debt Due even after the conversion and the Principal thereof shall be dealt with as if such conversion had not been undertaken;

"**KTL Debt Service**" shall mean the sum of all payments on account of Principal, interest, financing fees and charges due and payable in an accounting year to the senior lenders under the financing agreements;

"**KTL Project Assets**" shall mean all physical and other assets relating to and forming part of the site including (a) rights over the site in the form of licence, right of way or otherwise; (b) tangible assets such as civil works and equipment including foundations, embankments, pavements, road surface, interchanges, bridges, culverts, road overbridges, drainage works, traffic signals, sign boards, kilometre-stones, toll plazas, electrical systems, communication systems, rest areas, relief centres, maintenance depots and administrative offices; (c) project facilities situated on the site; (d) all rights of KTL under the project agreements; (e) financial assets, such as receivables, security deposits etc.; (f) insurance proceeds; and (g) applicable permits and authorizations relating to or in respect of the KTL Project Highway (as defined below), but does not include additional facilities;

"**KTL Project Highway**" shall mean the site comprising the existing road comprising NH-152/65 from km 33.250 to km 241.580 and all KTL Project Assets, and its subsequent development and augmentation in accordance with the KTL Concession Agreement;

"**KTL Project**" shall mean the construction, operation, and maintenance of the KTL Project Highway in accordance with the provisions of the KTL Concession Agreement, and includes all works, services, and equipment relating to and in respect of the scope of the project; and

"**Grant**" shall mean the cash support provided to KTL by the NHAI which is equal to the sum set forth in the bid.

Grant of Concession

Subject to, and in accordance with the provisions set out in the KTL Concession Agreement, the applicable laws and the applicable permits, the NHAI has granted to KTL, and KTL has accepted the concession, including the exclusive right, license, and authority to construct, operate and maintain the KTL Project for a period of 27 years from the KTL Appointed Date.

Subject to, and in accordance with the provisions of the KTL Concession Agreement, the concession granted shall oblige or entitle, as the case may be, KTL to:

a) right of way, access and license to the site for the purpose of, and to the extent conferred by the provisions of the KTL Concession Agreement;

b) finance and construct the KTL Project Highway;

c) manage, operate, and maintain the KTL Project Highway and regulate the use thereof by third parties;

d) demand, collect, and appropriate fee from vehicles and users liable for payment of fee for using the KTL Project Highway or any part thereof and refuse entry of any vehicle if the fee due is not paid;

e) perform and fulfil all of KTL's obligations under and in accordance with the KTL Concession Agreement;

f) bear and pay all costs, expenses, and charges in connection with or incidental to the performance of the obligations of KTL under the KTL Concession Agreement; and

g) neither assign, transfer or sublet, or create any lien or encumbrance on the KTL Concession Agreement, or the concession granted, or on the whole or any part of the KTL Project Highway, nor transfer, lease, or part possession thereof, save and except as expressly permitted by the KTL Concession Agreement or the agreement for the substitution of KTL entered into by KTL, the NHAI, and the lenders' representative on behalf of the senior lenders (the "**Substitution Agreement**").

Fees

On and from the commercial operation date ("**COD**") till the transfer date, KTL shall have the sole and exclusive right to demand, collect, and appropriate fee from the users subject to, and in accordance with the KTL Concession Agreement and the applicable rules and regulations, provided that for ease of payment and collection, such fee shall be rounded off to the nearest five rupees in accordance with the applicable fee rules, as updated from time to time. Further, KTL may determine and collect fee at such lower rates as it may, by public notice to the users, specify in respect of all or any category of users or vehicles. In accordance with the KTL Concession Agreement, KTL shall not collect any fees in relation to exempted vehicles.

KTL shall not collect any fee from a local user for non-commercial use of the KTL Project Highway, and shall issue a pass in respect thereof for commuting on a section of the KTL Project Highway as specified in the pass and for crossing the toll plaza specified therein. For carrying out these provisions, KTL shall formulate, publish and implement an appropriate scheme, and make such modifications to the scheme as may reasonably be suggested by the NHAI or by local users from time to time. For defraying its expenses on issuing of passes and handling of local users, KTL shall be entitled to charge a monthly fee of ₹150, with reference to the base year 2007-08, to be revised annually in accordance with the fee rules to reflect the variation in WPI, and then rounded off to the nearest five rupees; provided that no passes will be required or fee collected from a vehicle that uses part of the KTL Project Highway and does not cross a toll plaza.

Grant

The NHAI has agreed to pay to KTL cash support by way of an outright grant equal to ₹2340 million as set out in the bid. The grant shall be disbursed to KTL by way of equity support. It shall be credited to the Escrow Account (as defined below) and shall be applied by KTL for meeting the total project cost. The equity support shall not exceed the sum specified, but shall in no case be greater than twice the equity, and shall be further restricted to a sum not exceeding 40% of the total project cost.

The equity support shall be due and payable to KTL after it has expended the equity, and shall be disbursed proportionately along with the loan funds thereafter remaining to be disbursed by the senior lenders under the financing agreements. The NHAI shall disburse each tranche of the equity support as and when due, but no later than 15 days of receiving a request from KTL along with necessary particulars. In the event of the occurrence of a KTL Default (as defined below), disbursement of equity support shall be suspended till the KTL Default has been cured.

Concession Fee

In consideration of the grant of concession, KTL shall pay to the NHAI by way of concession fee a sum of ₹1 per annum.

Escrow Account

KTL was required to, prior to the KTL Appointed Date, open and establish an escrow account (the "**Escrow Account**") with a bank (the "**Escrow Bank**") in accordance with the KTL Concession Agreement read with the escrow agreement entered into amongst KTL, the NHAI, the Escrow Bank and the senior lenders through the lenders' representative (the "**Escrow Agreement**").

KTL shall deposit, or cause to be deposited the following inflows and receipts into the Escrow Account:

a) all funds constituting the financial package;

b) all fee and any other revenues from or in respect of the KTL Project Highway, including the proceeds of any deposits, capital receipts or insurance claims; and

c) all payments by the NHAI, after deducting any outstanding concession fee.

The senior lenders may make direct disbursements to the EPC contractor in accordance with the express provisions contained in this behalf in the financing agreements.

Withdrawals during Concession Period

KTL was required to, at the time of opening the Escrow Account, give irrevocable instructions, by way of the Escrow Agreement, to the Escrow Bank instructing, inter alia, that deposits in the Escrow Account shall be appropriated in the following order every month, or at shorter intervals as necessary, and if not due in a month, then appropriated proportionately in such month and retained in the Escrow Account and paid out therefrom in a month when due:

a) all taxes due and payable by KTL for and in respect of the KTL Project Highway;

b) all payments relating to construction of the KTL Project Highway, subject to and in accordance with the conditions, if any, set forth in the financing agreements;

c) Operation and Management ("**O&M**") expenses, subject to the ceiling, if any, set forth in the financing agreements;

d) O&M expenses and other costs and expenses incurred by the NHAI in accordance with the provisions of the KTL Concession Agreement, and certified by the NHAI as due and payable to it;

e) concession fee due and payable to the NHAI;

f) monthly proportionate provision of KTL Debt Service due in an accounting year;

g) all payments and damages certified by the NHAI as due and payable to it by KTL, including repayment of revenue shortfall loan.

h) monthly proportionate provision of KTL Debt Service payments due in an accounting year in respect of subordinated debt;

i) any reserve requirements set forth in the financing agreements; and

j) balance, if any, in accordance with the instructions of KTL.

KTL shall not, in any manner, modify the order of payment specified except with prior written approval from the NHAI.

Withdrawals upon Termination

Notwithstanding anything to the contrary contained in the KTL Concession Agreement, all amounts standing to the credit of the Escrow Account shall, upon termination, be appropriated in the following order:

a) all taxes due and payable by KTL for and in respect of the KTL Project Highway;

b) 90% of the KTL Debt Due excluding the subordinated debt;

c) outstanding concession fee;

d) all payments and damages certified by the NHAI as due and payable to it by KTL, including the repayment of the revenue shortfall loan.

e) retention and payments relating to the liability for defects and deficiencies set forth in the KTL Concession Agreement;

f) outstanding KTL Debt Service including balance of KTL Debt Due;

g) outstanding subordinated debt;

h) incurred or accrued O&M expenses;

i) any other payments required to be made under the KTL Concession Agreement; and

j) balance, if any, in accordance with the instructions of KTL.

No appropriations shall be made until a vesting certificate has been issued by the NHAI.

Change of Scope

The NHAI may, notwithstanding anything to the contrary contained in the KTL Concession Agreement, require the provision of additional works and services which are not included in the scope of the project as contemplated by the KTL Concession Agreement. Any such change of scope shall be made in accordance with the provisions of the KTL Concession Agreement and the costs thereof shall be expended by KTL and reimbursed by the NHAI.

If KTL determines at any time that a change in scope is necessary for providing safer and improved services to the users, it shall, by notice in writing, require the NHAI to consider such change of scope. The NHAI shall, within 15 days of receipt of such notice, either accept the change of scope with modifications, if any, and initiate proceedings thereof in accordance with the provisions of the KTL Concession Agreement, or inform KTL in writing of its reasons for not accepting such change of scope.

Compensation for Breach of Agreement

In the event of KTL being in material default or breach of the KTL Concession Agreement, it shall pay to the NHAI by way of compensation, all direct costs suffered or incurred by the NHAI as a consequence of the material default or breach, within 30 days of the receipt of the demand supported by the necessary particulars thereof. No compensation shall be payable for any material breach or default in respect of which damages are expressly specified and payable under the KTL Concession Agreement.

In the event of the NHAI being in material default of the KTL Concession Agreement at any time after the KTL Appointed Date, it shall pay to KTL by way of compensation, all direct costs suffered or incurred by KTL as a consequence of the material default or breach within 30 days of receipt of the demand supported by necessary particulars thereof. No compensation shall be payable for any material breach or default in respect of which damages have been expressly specified in the KTL Concession Agreement.

In the event that a material default or breach of the KTL Concession Agreement causes a delay in achieving COD or leads to suspension of, or reduction in collection of fee, as the case may be, the NHAI shall, in addition to the payment of compensation, extend the KTL Concession Period as provided in the KTL Concession Agreement. In the event that an additional toll way or a competing road, as the case may be, is opened to traffic in breach of the KTL Concession Agreement, the NHAI shall pay to KTL, for each day of the breach, compensation as provided in the KTL Concession Agreement, until the breach is cured. The payment of compensation by the NHAI shall be deemed to cure the breach of the KTL Concession Agreement so long as the NHAI continues to pay the compensation.

The compensation payable shall be in addition to, and not in substitution for, or derogation of, termination payment, if any.

Effects of Variation in Traffic Growth

Subject to the provisions of the KTL Concession Agreement, in the event actual average traffic shall have fallen short of the target traffic, then for every 1% (one percent) shortfall as compared to the target traffic, the KTL Concession Period shall, subject to payment of concession fee in accordance with the KTL Concession

Agreement, be increased by 1.5% (one point five percent) thereof; provided that such increase in KTL Concession Period shall not in any case exceed 20% (twenty percent) of the KTL Concession Period.

Subject to the provisions of the KTL Concession Agreement, in the event actual average traffic shall have exceeded the target traffic, then for every 1% (one percent) excess as compared to the target traffic, the KTL Concession Period shall be reduced by 0.75% (zero point seven five percent) thereof; provided that such reduction in KTL Concession Period shall not in any case exceed 10% (ten percent) thereof.

Provided further that in lieu of a reduction in KTL Concession Period under the KTL Concession Agreement, KTL may elect to pay, in addition to the concession fee that would be due and payable if the KTL Concession Period were not reduced hereunder, a further premium equal to 25% (twenty five percent) of the realizable fee, and upon notice given to this effect by KTL no later than two years prior to the KTL Termination Date contemplated by the KTL Concession Agreement, NHAI shall waive the reduction in KTL Concession Period hereunder forthwith.

Notwithstanding anything to the contrary contained in KTL Concession Agreement, if the average daily traffic of PCUs in any accounting year shall exceed the designed capacity of the KTL Project Highway, the NHAI at its option may cause preparation of detailed project report which will assess the cost that may have to be incurred for augmenting the capacity of the KTL Project Highway so that its capacity is sufficiently increased for carrying the then current traffic in accordance with the corresponding provisions of the Indian Roads Congress publication no. IRC -64, 1990 or any substitute thereof. The KTL Concession Period, may be extended so that it yields for KTL a post-tax return on equity of 16% per annum. This assessment will be made at an assumed debt to equity ratio of 70:30. The extension of the KTL Concession Period shall be however limited to five years. The NHAI may thereafter, at their sole option, issue a notice to KTL, to undertake within six months of such notice, the augmentation so determined by the NHAI. The refusal, non-acceptance, or failure by KTL to undertake such augmentation on the due date so intimated by the NHAI, will be considered an indirect political event and the NHAI may at its discretion terminate this KTL Concession Agreement by issuing a termination notice and making a termination payment in accordance with the provisions of the KTL Concession Agreement without the NHAI being liable to issue any further notice under it.

Termination of the KTL Concession Agreement

Termination by the NHAI

Save as otherwise provided in the KTL Concession Agreement, in the event that any of the defaults specified below shall have occurred, and KTL fails to cure the default within the cure period, or where no cure period is specified, then within a cure period of 60 days, KTL shall be deemed to be in default of the KTL Concession Agreement ("**KTL Default**"), unless the default has occurred solely as a result of any breach of the KTL Concession Agreement by the NHAI or due to force majeure. The defaults referred to herein shall include:

a) the performance security has been encashed and appropriated in accordance with the KTL Concession Agreement and KTL fails to replenish or provide fresh performance security within a cure period of 30 days;

b) subsequent to the replenishment or furnishing of fresh performance security in accordance with the KTL Concession Agreement, KTL fails to cure, within a cure period of 90 days, the KTL Default for which whole or part of the performance security was appropriated;

c) KTL does not achieve the latest outstanding project milestone due in accordance with the KTL Concession Agreement and continues to be in default for 120 days;

d) KTL abandons or manifests intention to abandon the construction or operation of the KTL Project Highway without the prior written consent of the NHAI;

e) project completion date does not occur within the period specified in the KTL Concession Agreement;

f) the punch list items have not been completed within the period set forth in the KTL Concession Agreement;

g) KTL is in breach of the maintenance requirements or the safety requirements as the case may be;

h) KTL has failed to make any payment to the NHAI within the period specified in the KTL Concession Agreement;

i) an escrow default has occurred and KTL fails to cure the default within a cure period of 15 days;

j) upon occurrence of a financial default, the lenders' representative has, by notice, required the NHAI to undertake suspension or termination, as the case may be, in accordance with the Substitution Agreement and KTL fails to cure the default within the cure period specified hereinabove;

k) a breach of the project agreements by KTL has caused a material adverse effect;

l) KTL creates an encumbrance in breach of the KTL Concession Agreement;

m) KTL repudiates the KTL Concession Agreement or otherwise takes any action or evidences or conveys an intention not to be bound by the KTL Concession Agreement;

n) a change in ownership has occurred in breach of the KTL Concession Agreement;

o) there is a transfer, pursuant to law either of (i) the rights and/or obligations of KTL under any of the project agreements, or of (ii) all or part of the assets or undertaking of KTL, and such transfer causes a material adverse effect;

p) an execution levied on any of the assets of KTL has caused a material adverse effect;

q) KTL is adjudged bankrupt or insolvent, or if a trustee or receiver is appointed for KTL or for the whole or material part of its assets that has a material bearing on the KTL Project;

r) KTL has been, or is in the process of being liquidated, dissolved, wound-up, amalgamated or reconstituted in a manner that would cause, in the reasonable opinion of the NHAI, a material adverse effect;

s) a resolution for winding up of KTL is passed, or any petition for winding up of KTL is admitted by a court of competent jurisdiction and a provisional liquidator or receiver is appointed and such order has not been set aside within 90 days of the date thereof, or KTL is ordered to be wound up by Court except for the purpose of amalgamation or reconstruction, provided that, as part of such amalgamation or reconstruction, the entire property, assets and undertaking of KTL are transferred to the amalgamated or reconstructed entity and that the amalgamated or reconstructed entity has unconditionally assumed the obligations of KTL under the KTL Concession Agreement and the project agreements; provided that:

   i) the amalgamated or reconstructed entity has the capability and operating experience necessary for the performance of its obligations under the KTL Concession Agreement and the project agreements;

   ii) the amalgamated or reconstructed entity has the financial standing to perform its obligations under the KTL Concession Agreement and the project agreements and has a creditworthiness at least as good as that of KTL as at the KTL Appointed Date; and

   iii) each of the project agreements remains in full force and effect;

t) any representation or warranty of KTL which is, as of the date hereof, found to be materially false, incorrect or misleading or KTL is at any time hereafter found to be in breach thereof;

u) KTL submits to the NHAI any statement, notice or other document, in written or electronic form, which has a material effect on the NHAI's rights, obligations or interests and which is false in material particulars;

v) KTL has failed to fulfil any obligation, for which failure termination has been specified in the KTL Concession Agreement; or

w) KTL commits a default in complying with any other provision of the KTL Concession Agreement if such default causes a material adverse effect on the NHAI.

Without prejudice to any other rights or remedies which the NHAI may have under the KTL Concession Agreement, upon the occurrence of a KTL Default, the NHAI shall be entitled to terminate the KTL Concession Agreement by issuing a termination notice to KTL. Before issuing the termination notice, the NHAI shall, by notice, inform KTL of its intention to issue a termination notice and grant 15 days to KTL to make a representation, and may, after the expiry of the 15 days, whether or not it is in receipt of such representation, issue the termination notice subject to the provisions of the KTL Concession Agreement.

If there are senior lenders, the NHAI shall send a copy of its notice of intention to issue a termination notice to inform the lenders' representative and grant 15 days to the lenders' representative for making a representation on behalf of the senior lenders stating the intention to substitute KTL in accordance with the Substitution Agreement. If the NHAI receives a representation on behalf of the senior lenders, it shall, in its discretion, either withhold termination for a period not exceeding 180 days from the date of the representation, or exercise its right of suspension, as the case may be, to enable the lenders' representative to exercise the senior lenders' right of substitution in accordance with the Substitution Agreement. The lenders' representative may, instead of exercising the senior lenders' right of substitution, procure that the default specified in the notice is cured within the aforesaid 180 days, and upon the curing, the NHAI shall withdraw its notice and restore the rights of KTL. On a written request from the lenders' representative and KTL, the NHAI shall extend the period of 180 days by a further period not exceeding 90 days as it may deem appropriate.

Termination by KTL

In the event that any of the defaults specified below shall have occurred, and the NHAI fails to cure the default within a cure period of 90 days or such longer period as provided in the KTL Concession Agreement, the NHAI shall be deemed to be in default of the KTL Concession Agreement ("**NHAI Default**"), unless the default has occurred as a result of a breach of the KTL Concession Agreement by KTL, or due to force majeure. The default referred to herein shall include:

a) the NHAI commits a material default in complying with any of the provisions of the KTL Concession Agreement and such default has a material adverse effect on KTL;

b) the NHAI has failed to make any payment to KTL within the period specified in the KTL Concession Agreement;

c) the NHAI repudiates the KTL Concession Agreement or otherwise takes any action that amounts to or manifests an irrevocable intention not to be bound by the KTL Concession Agreement; or

d) the State of Haryana commits a material default in complying with the provisions of the state support agreement if such default has a material adverse effect on KTL and the breach continues for a period of 90 days from the date of notice given in this behalf by KTL to the NHAI.

Without prejudice to any other rights or remedies which KTL may have under the KTL Concession Agreement, upon the occurrence of an NHAI Default, KTL shall be entitled to terminate the KTL Concession Agreement by issuing a termination notice to the NHAI. Before issuing the termination notice, KTL shall, by notice, inform the NHAI of its intention to issue a termination notice and grant 15 days to the NHAI to make a representation, and may, after the expiry of the 15 days, whether or not it is in receipt of such representation, issue the termination notice.

Termination Payment

Upon termination on account of a KTL Default during the operation period, the NHAI shall pay to KTL, by way of termination payment, an amount equal to 90% of the KTL Debt Due less insurance cover. If any insurance claims forming part of the insurance cover are not admitted and paid, then 80% of such unpaid claims shall be included in the computation of KTL Debt Due.

Upon termination on account of an NHAI Default, the NHAI shall pay to KTL, by way of termination payment, an amount equal to:

a) KTL Debt Due; and
b) 150% of the adjusted equity.

Termination payment shall become due and payable to KTL within 15 days of a demand being made by KTL to the NHAI with the necessary particulars, and in the event of any delay, the NHAI shall pay interest at a rate equal to 3% above the bank rate on the amount of termination payment remaining unpaid. The delay shall not exceed 90 days. The termination payment under the KTL Concession Agreement shall constitute a full and final settlement of all claims of KTL on account of termination of the KTL Concession Agreement for any reason whatsoever and KTL, or any shareholder thereof, shall not have any further right or claim under any law, treaty, convention, contract or otherwise.

Defects Liability after Termination

KTL shall be responsible for all defects and deficiencies in the KTL Project Highway for a period of 120 days after termination. KTL shall have the obligation to repair or rectify, at its own cost, all defects and deficiencies in the KTL Project Highway as observed by the independent engineer. The repair or rectification of the defect or deficiency shall be done within a period of 15 days from the date of notice issued by the NHAI in this behalf. A sum as specified in the KTL Concession Agreement shall be retained in the Escrow Account for a period of 120 days after termination for meeting the liabilities, if any, arising out of, or in connection with this provision.

6.1. Supplementary Agreement between KTL and the NHAI dated April 5, 2018

KTL has entered into a supplementary agreement (the "**Supplementary Agreement**") to amend the concession agreement dated June 23, 2014 (the "**Concession Agreement**") to provide for the installation of a new electronic toll collection system (the "**Hybrid ETC System**") for electronic payment of user fee using RFID tags or any other such device.

Change of Scope

The NHAI shall provide a change in the scope of work order at prices discovered by the NHAI to KTL to provide for, as per the defined technical specifications, installation, testing, commissioning, operations and maintenance of the Hybrid ETC System in all lanes of the toll plaza. KTL shall ensure that the requisite civil work is completed prior to the installation, integration, testing and commissioning of the Hybrid ETC System. It shall also ensure the smooth flow of traffic during installation, integration, testing and commissioning of the Hybrid ETC System. KTL will have no claim against the NHAI on account of any lane closure, if any, on account of any third party claims.

Scope of Work

KTL shall install, integrate, test, commission, operate and maintain the Hybrid ETC System in all the lanes of the toll plazas. The Hybrid ETC System shall be installed, commissioned, operated and maintained for a period of five years or the end of the Concession Agreement, whichever is earlier, beyond which it will be replaced or renewed, as the case may be, by KTL or the NHAI, at the cost of the NHAI. The cycle shall be maintained till the end of the concession period in accordance with the Concession Agreement.

The provisions of the Concession Agreement relating to change of scope shall not apply to the Supplementary Agreement.

Any permission required by KTL under the applicable laws for the installation of the Hybrid ETC System shall be procured and maintained by KTL. The NHAI shall provide reasonable assistance in this regard.

Timeline

KTL shall complete all responsibilities, obligations and works as described in the Supplementary Agreement within a period of 120 days from the date of signing the Supplementary Agreement.

Damages for Delay

In case of delay in installation, testing, or commissioning of the Hybrid ETC System at the toll plazas as per the time schedule prescribed on account of reasons attributable to KTL, damages at 0.1% of the cost of installation, testing, or commissioning of the Hybrid ETC System for each day of the delay, subject to a maximum of 10% of the cost of installation, testing, or commissioning of the Hybrid ETC System shall be levied on KTL. Damages for delay will not be applicable in case of a delay in implementation due to delayed payment release by the NHAI.

KTL shall not be entitled to any additional benefit either in monetary terms or on any other account including, but not limited to any extension of time, save on account of and NHAI Default or force majeure.

Compensation

In case of any damage to the Hybrid ETC System due to any act or omission of KTL, the NHAI shall not be liable for any compensation to KTL, and KTL shall bear the cost of repair, replacement or renewal of the damaged Hybrid ETC System equipment or hardware itself.

In case of any damage to the Hybrid ETC System due to the occurrence of any force majeure event, the compensation to KTL shall be derived as per the provisions of the Concession Agreement.

End of the Concession Period

KTL shall hand over all the Hybrid ETC equipment or hardware in an operational condition to the NHAI or a third party as directed by the NHAI at the end of the concession period, beyond which no O&M payment shall be made to KTL. If any Hybrid ETC System equipment or hardware is found to be non-operational, then KTL shall be liable to replace or pay for the replacement of the Hybrid ETC System equipment or hardware required to make the Hybrid ETC System operational on all lanes of the toll plazas to the NHAI promptly.

Upon termination, KTL shall assign warranties received from the original equipment manufacturer and for the components or equipment, and provide the respective warranty assignment agreements and necessary documents. KTL shall ensure that all the warranties are duly assigned in favor of the NHAI and KTL shall bear the cost and expenses towards the assignment.

7. Concession Agreement between SYTL and the NHAI dated March 3, 2014

SYTL has entered into a concession agreement for four-laning of Solapur to Yedeshi section of NH-211 in Maharashtra from km 0.000 to km 100.000 (design length – 98.717 km) on build, operate and transfer ("**BOT**") basis (the "**SYTL Concession Agreement**"), for a period of 29 years, from January 21, 2015 ("**SYTL Appointed Date**") or until such date on which the SYTL Concession Agreement is terminated by a termination notice ("**SYTL Termination Date**", and the period between the SYTL Appointed Date and the SYTL Termination Date, the "**SYTL Concession Period**").

Certain Definitions

"**SYTL Debt Due**" shall mean the aggregate of the following sums expressed in Indian Rupees outstanding on the transfer date:

a) the principal amount of the debt provided by the senior lenders under the financing agreements for financing the total project cost (the "**Principa**l") but excluding any part of the Principal that had fallen due for repayment two years prior to the transfer date;

b) all accrued interest, financing fees and charges payable under the financing agreements on, or in respect of, the debt referred to in the sub-clause above until the transfer date but excluding (i) any interest, fees or charges that had fallen due one year prior to the transfer date, (ii) any penal interest or charges payable under the financing agreements to any senior lender, and (iii) any pre-payment charges in relation to accelerated repayment of debt except where such charges have arisen due to an NHAI Default (as defined below); and

c) any subordinated debt which is included in the financing package and disbursed by lenders for financing the total project cost;

If all, or any part of the SYTL Debt Due is convertible into equity at the option of the senior lenders and/or SYTL, it shall, for the purposes of the SYTL Concession Agreement, be deemed to be SYTL Debt Due even after the conversion and the Principal thereof shall be dealt with as if such conversion had not been undertaken;

"**SYTL Debt Service**" shall mean the sum of all payments on account of Principal, interest, financing fees and charges due and payable in an accounting year to the senior lenders under the financing agreements;

"**SYTL Project Assets**" shall mean all physical and other assets relating to and forming part of the site including (a) rights over the site in the form of licence, right of way or otherwise; (b) tangible assets such as civil works and equipment including foundations, embankments, pavements, road surface, interchanges, bridges, culverts, road overbridges, drainage works, traffic signals, sign boards, kilometre-stones, toll plazas, electrical systems, communication systems, rest areas, relief centres, maintenance depots and administrative offices; (c) project facilities situated on the site; (d) all rights of SYTL under the project agreements; (e) financial assets, such as receivables, security deposits etc.; (f) insurance proceeds; and (g) applicable permits and authorizations relating to or in respect of the SYTL Project Highway (as defined below), but does not include additional facilities;

"**SYTL Project Highway**" shall mean the site comprising the existing road comprising NH-211 from km 0.000 to km 100.000 and all SYTL Project Assets, and its subsequent development and augmentation in accordance with the SYTL Concession Agreement;

"**SYTL Project**" shall mean the construction, operation, and maintenance of the SYTL Project Highway in accordance with the provisions of the SYTL Concession Agreement, and includes all works, services, and equipment relating to and in respect of the scope of the project; and

"**Grant**" shall mean the cash support provided to SYTL by the NHAI which is equal to the sum set forth in the bid.

Grant of Concession

Subject to, and in accordance with the provisions set out in the SYTL Concession Agreement, the applicable laws and the applicable permits, the NHAI has granted to SYTL, and SYTL has accepted the concession, including the exclusive right, license, and authority to construct, operate and maintain the SYTL Project for a period of 29 years from the SYTL Appointed Date.

Subject to, and in accordance with the provisions of the SYTL Concession Agreement, the concession granted shall oblige or entitle, as the case may be, SYTL to:

a) right of way, access and license to the site for the purpose of, and to the extent conferred by the provisions of the SYTL Concession Agreement;

b) finance and construct the SYTL Project Highway;

c) manage, operate, and maintain the SYTL Project Highway and regulate the use thereof by third parties;

d) demand, collect, and appropriate fee from vehicles and users liable for payment of fee for using the SYTL Project Highway or any part thereof and refuse entry of any vehicle if the fee due is not paid;

e) perform and fulfil all of SYTL's obligations under and in accordance with the SYTL Concession Agreement;

f) bear and pay all costs, expenses, and charges in connection with or incidental to the performance of the obligations of SYTL under the SYTL Concession Agreement; and

g) neither assign, transfer or sublet, or create any lien or encumbrance on the SYTL Concession Agreement, or the concession granted, or on the whole or any part of the SYTL Project Highway, nor transfer, lease, or part possession thereof, save and except as expressly permitted by the SYTL Concession Agreement or the agreement for the substitution of SYTL entered into by SYTL, the NHAI, and the lenders' representative on behalf of the senior lenders (the "**Substitution Agreement**").

Fees

On and from the commercial operation date ("**COD**") till the transfer date, SYTL shall have the sole and exclusive right to demand, collect, and appropriate fee from the users subject to, and in accordance with the SYTL Concession Agreement and the applicable rules and regulations, provided that for ease of payment and collection, such fee shall be rounded off to the nearest five rupees in accordance with the applicable fee rules, as updated from time to time. Further, SYTL may determine and collect fee at such lower rates as it may, by public notice to the users, specify in respect of all or any category of users or vehicles. In accordance with the SYTL Concession Agreement, SYTL shall not collect any fees in relation to exempted vehicles.

SYTL shall not collect any fee from a local user for non-commercial use of the SYTL Project Highway, and shall issue a pass in respect thereof for commuting on a section of the SYTL Project Highway as specified in the pass and for crossing the toll plaza specified therein. For carrying out these provisions, SYTL shall formulate, publish and implement an appropriate scheme, and make such modifications to the scheme as may reasonably be suggested by the NHAI or by local users from time to time. For defraying its expenses on issuing of passes and handling of local users, SYTL shall be entitled to charge a monthly fee of ₹150, with reference to the base year 2007-08, to be revised annually in accordance with the fee rules to reflect the variation in WPI, and then rounded off to the nearest five rupees; provided that no passes will be required or fee collected from a vehicle that uses part of the SYTL Project Highway and does not cross a toll plaza.

Grant

The NHAI has agreed to pay to SYTL cash support by way of an outright grant equal to ₹1,890 million as set out in the bid. The grant shall be disbursed to SYTL by way of equity support. It shall be credited to the Escrow Account (as defined below) and shall be applied by SYTL for meeting the total project cost. The equity support shall not exceed the sum specified, but shall in no case be greater than twice the equity, and shall be further restricted to a sum not exceeding 40% of the total project cost.

The equity support shall be due and payable to SYTL after it has expended the equity, and shall be disbursed proportionately along with the loan funds thereafter remaining to be disbursed by the senior lenders under the financing agreements. The NHAI shall disburse each tranche of the equity support as and when due, but no later than 15 days of receiving a request from SYTL along with necessary particulars. In the event of the occurrence of an SYTL Default (as defined below), disbursement of equity support shall be suspended till the SYTL Default has been cured.

Concession Fee

In consideration of the grant of concession, SYTL shall pay to the NHAI by way of concession fee a sum of ₹1 per annum.

Escrow Account

SYTL was required to, prior to the SYTL Appointed Date, open and establish an escrow account (the "**Escrow Account**") with a bank (the "**Escrow Bank**") in accordance with the SYTL Concession Agreement read with the escrow agreement entered into amongst SYTL, the NHAI, the Escrow Bank and the senior lenders through the lenders' representative (the "**Escrow Agreement**").

SYTL shall deposit, or cause to be deposited the following inflows and receipts into the Escrow Account:

a) all funds constituting the financial package;

b) all fee and any other revenues from or in respect of the SYTL Project Highway, including the proceeds of any deposits, capital receipts or insurance claims; and

c) all payments by the NHAI, after deducting any outstanding concession fee.

The senior lenders may make direct disbursements to the EPC contractor in accordance with the express provisions contained in this behalf in the financing agreements.

Withdrawals during Concession Period

SYTL was required to, at the time of opening the Escrow Account, give irrevocable instructions, by way of the Escrow Agreement, to the Escrow Bank instructing, inter alia, that deposits in the Escrow Account shall be appropriated in the following order every month, or at shorter intervals as necessary, and if not due in a month, then appropriated proportionately in such month and retained in the Escrow Account and paid out therefrom in a month when due:

a) all taxes due and payable by SYTL for and in respect of the SYTL Project Highway;

b) all payments relating to construction of the SYTL Project Highway, subject to and in accordance with the conditions, if any, set forth in the financing agreements;

c) Operation and Management ("**O&M**") expenses, subject to the ceiling, if any, set forth in the financing agreements;

d) O&M expenses and other costs and expenses incurred by the NHAI in accordance with the provisions of the SYTL Concession Agreement, and certified by the NHAI as due and payable to it;

e) concession fee due and payable to the NHAI;

f) monthly proportionate provision of SYTL Debt Service due in an accounting year;

g) all payments and damages certified by the NHAI as due and payable to it by SYTL, including repayment of revenue shortfall loan.

h) monthly proportionate provision of SYTL Debt Service payments due in an accounting year in respect of subordinated debt;

i) any reserve requirements set forth in the financing agreements; and

j) balance, if any, in accordance with the instructions of SYTL.

SYTL shall not, in any manner, modify the order of payment specified except with prior written approval from the NHAI.

Withdrawals upon Termination

Notwithstanding anything to the contrary contained in the SYTL Concession Agreement, all amounts standing to the credit of the Escrow Account shall, upon termination, be appropriated in the following order:

a) all taxes due and payable by SYTL for and in respect of the SYTL Project Highway;

b) 90% of the SYTL Debt Due excluding the subordinated debt;

c) outstanding concession fee;

d) all payments and damages certified by the NHAI as due and payable to it by SYTL, including the repayment of the revenue shortfall loan.

e) retention and payments relating to the liability for defects and deficiencies set forth in the SYTL Concession Agreement;

f) outstanding SYTL Debt Service including balance of SYTL Debt Due;

g) outstanding subordinated debt;

h) incurred or accrued O&M expenses;

i) any other payments required to be made under the SYTL Concession Agreement; and

j) balance, if any, in accordance with the instructions of SYTL.

No appropriations shall be made until a vesting certificate has been issued by the NHAI.

Change of Scope

The NHAI may, notwithstanding anything to the contrary contained in the SYTL Concession Agreement, require the provision of additional works and services which are not included in the scope of the project as contemplated by the SYTL Concession Agreement. Any such change of scope shall be made in accordance with the provisions

of the SYTL Concession Agreement and the costs thereof shall be expended by SYTL and reimbursed by the NHAI.

If SYTL determines at any time that a change in scope is necessary for providing safer and improved services to the users, it shall, by notice in writing, require the NHAI to consider such change of scope. The NHAI shall, within 15 days of receipt of such notice, either accept the change of scope with modifications, if any, and initiate proceedings thereof in accordance with the provisions of the SYTL Concession Agreement, or inform SYTL in writing of its reasons for not accepting such change of scope.

Compensation for Breach of Agreement

In the event of SYTL being in material default or breach of the SYTL Concession Agreement, it shall pay to the NHAI by way of compensation, all direct costs suffered or incurred by the NHAI as a consequence of the material default or breach, within 30 days of the receipt of the demand supported by the necessary particulars thereof. No compensation shall be payable for any material breach or default in respect of which damages are expressly specified and payable under the SYTL Concession Agreement.

In the event of the NHAI being in material default of the SYTL Concession Agreement at any time after the SYTL Appointed Date, it shall pay to SYTL by way of compensation, all direct costs suffered or incurred by SYTL as a consequence of the material default or breach within 30 days of receipt of the demand supported by necessary particulars thereof. No compensation shall be payable for any material breach or default in respect of which damages have been expressly specified in the SYTL Concession Agreement.

In the event that a material default or breach of the SYTL Concession Agreement causes a delay in achieving COD or leads to suspension of, or reduction in collection of fee, as the case may be, the NHAI shall, in addition to the payment of compensation, extend the SYTL Concession Period as provided in the SYTL Concession Agreement. In the event that an additional toll way or a competing road, as the case may be, is opened to traffic in breach of the SYTL Concession Agreement, the NHAI shall pay to SYTL, for each day of the breach, compensation as provided in the SYTL Concession Agreement, until the breach is cured. The payment of compensation by the NHAI shall be deemed to cure the breach of the SYTL Concession Agreement so long as the NHAI continues to pay the compensation.

The compensation payable shall be in addition to, and not in substitution for, or derogation of, termination payment, if any.

Effects of Variation in Traffic Growth

Subject to the provisions of the SYTL Concession Agreement, in the event actual average traffic shall have fallen short of the target traffic, then for every 1% (one percent) shortfall as compared to the target traffic, the SYTL Concession Period shall, subject to payment of concession fee in accordance with the SYTL Concession Agreement, be increased by 1.5% (one point five percent) thereof; provided that such increase in SYTL Concession Period shall not in any case exceed 20% (twenty percent) of the SYTL Concession Period.

Subject to the provisions of the SYTL Concession Agreement, in the event actual average traffic shall have exceeded the target traffic, then for every 1% (one percent) excess as compared to the target traffic, the SYTL Concession Period shall be reduced by 0.75% (zero point seven five percent) thereof; provided that such reduction in SYTL Concession Period shall not in any case exceed 10% (ten percent) thereof.

Provided further that in lieu of a reduction in SYTL Concession Period under the SYTL Concession Agreement, SYTL may elect to pay, in addition to the concession fee that would be due and payable if the SYTL Concession Period were not reduced hereunder, a further premium equal to 25% (twenty five percent) of the realizable fee, and upon notice given to this effect by SYTL no later than two years prior to the SYTL Termination Date contemplated by the SYTL Concession Agreement, NHAI shall waive the reduction in SYTL Concession Period hereunder forthwith.

Notwithstanding anything to the contrary contained in SYTL Concession Agreement, if the average daily traffic of PCUs in any accounting year shall exceed the designed capacity of the SYTL Project Highway, the NHAI at its option may cause preparation of detailed project report which will assess the cost that may have to be incurred for augmenting the capacity of the SYTL Project Highway so that its capacity is sufficiently increased for carrying the then current traffic in accordance with the corresponding provisions of the Indian Roads Congress publication

no. IRC -64, 1990 or any substitute thereof. The SYTL Concession Period, may be extended so that it yields for SYTL a post-tax return on equity of 16% per annum. This assessment will be made at an assumed debt to equity ratio of 70:30. The extension of the SYTL Concession Period shall be however limited to five years. The NHAI may thereafter, at their sole option, issue a notice to SYTL, to undertake within six months of such notice, the augmentation so determined by the NHAI. The refusal, non-acceptance, or failure by SYTL to undertake such augmentation on the due date so intimated by the NHAI, will be considered an indirect political event and the NHAI may at its discretion terminate this SYTL Concession Agreement by issuing a termination notice and making a termination payment in accordance with the provisions of the SYTL Concession Agreement without the NHAI being liable to issue any further notice under it.

Termination of the SYTL Concession Agreement

Termination by the NHAI

Save as otherwise provided in the SYTL Concession Agreement, in the event that any of the defaults specified below shall have occurred, and SYTL fails to cure the default within the cure period, or where no cure period is specified, then within a cure period of 60 days, SYTL shall be deemed to be in default of the SYTL Concession Agreement ("**SYTL Default**"), unless the default has occurred solely as a result of any breach of the SYTL Concession Agreement by the NHAI or due to force majeure. The defaults referred to herein shall include:

a) the performance security has been encashed and appropriated in accordance with the SYTL Concession Agreement and SYTL fails to replenish or provide fresh performance security within a cure period of 30 days;

b) subsequent to the replenishment or furnishing of fresh performance security in accordance with the SYTL Concession Agreement, SYTL fails to cure, within a cure period of 90 days, the SYTL Default for which whole or part of the performance security was appropriated;

c) SYTL does not achieve the latest outstanding project milestone due in accordance with the SYTL Concession Agreement and continues to be in default for 120 days;

d) SYTL abandons or manifests intention to abandon the construction or operation of the SYTL Project Highway without the prior written consent of the NHAI;

e) project completion date does not occur within the period specified in the SYTL Concession Agreement;

f) the punch list items have not been completed within the period set forth in the SYTL Concession Agreement;

g) SYTL is in breach of the maintenance requirements or the safety requirements as the case may be;

h) SYTL has failed to make any payment to the NHAI within the period specified in the SYTL Concession Agreement;

i) an escrow default has occurred and SYTL fails to cure the default within a cure period of 15 days;

j) upon occurrence of a financial default, the lenders' representative has, by notice, required the NHAI to undertake suspension or termination, as the case may be, in accordance with the Substitution Agreement and SYTL fails to cure the default within the cure period specified hereinabove;

k) a breach of the project agreements by SYTL has caused a material adverse effect;

l) SYTL creates an encumbrance in breach of the SYTL Concession Agreement;

m) SYTL repudiates the SYTL Concession Agreement or otherwise takes any action or evidences or conveys an intention not to be bound by the SYTL Concession Agreement;

n) a change in ownership has occurred in breach of the SYTL Concession Agreement;

o) there is a transfer, pursuant to law either of (i) the rights and/or obligations of SYTL under any of the project agreements, or of (ii) all or part of the assets or undertaking of SYTL, and such transfer causes a material adverse effect;

p) an execution levied on any of the assets of SYTL has caused a material adverse effect;

q) SYTL is adjudged bankrupt or insolvent, or if a trustee or receiver is appointed for SYTL or for the whole or material part of its assets that has a material bearing on the SYTL Project;

r) SYTL has been, or is in the process of being liquidated, dissolved, wound-up, amalgamated or reconstituted in a manner that would cause, in the reasonable opinion of the NHAI, a material adverse effect;

s) a resolution for winding up of SYTL is passed, or any petition for winding up of SYTL is admitted by a court of competent jurisdiction and a provisional liquidator or receiver is appointed and such order has not been set aside within 90 days of the date thereof, or SYTL is ordered to be wound up by Court except for the purpose of amalgamation or reconstruction, provided that, as part of such amalgamation or reconstruction, the entire property, assets and undertaking of SYTL are transferred to the amalgamated or reconstructed entity and that the amalgamated or reconstructed entity has unconditionally assumed the obligations of SYTL under the SYTL Concession Agreement and the project agreements; provided that:

   i) the amalgamated or reconstructed entity has the capability and operating experience necessary for the performance of its obligations under the SYTL Concession Agreement and the project agreements;

   ii) the amalgamated or reconstructed entity has the financial standing to perform its obligations under the SYTL Concession Agreement and the project agreements and has a creditworthiness at least as good as that of SYTL as at the SYTL Appointed Date; and

   iii) each of the project agreements remains in full force and effect;

t) any representation or warranty of SYTL which is, as of the date hereof, found to be materially false, incorrect or misleading or SYTL is at any time hereafter found to be in breach thereof;

u) SYTL submits to the NHAI any statement, notice or other document, in written or electronic form, which has a material effect on the NHAI's rights, obligations or interests and which is false in material particulars;

v) SYTL has failed to fulfil any obligation, for which failure termination has been specified in the SYTL Concession Agreement; or

w) SYTL commits a default in complying with any other provision of the SYTL Concession Agreement if such default causes a material adverse effect on the NHAI.

Without prejudice to any other rights or remedies which the NHAI may have under the SYTL Concession Agreement, upon the occurrence of an SYTL Default, the NHAI shall be entitled to terminate the SYTL Concession Agreement by issuing a termination notice to SYTL. Before issuing the termination notice, the NHAI shall, by notice, inform SYTL of its intention to issue a termination notice and grant 15 days to SYTL to make a representation, and may, after the expiry of the 15 days, whether or not it is in receipt of such representation, issue the termination notice subject to the provisions of the SYTL Concession Agreement.

If there are senior lenders, the NHAI shall send a copy of its notice of intention to issue a termination notice to inform the lenders' representative and grant 15 days to the lenders' representative for making a representation on behalf of the senior lenders stating the intention to substitute SYTL in accordance with the Substitution Agreement. If the NHAI receives a representation on behalf of the senior lenders, it shall, in its discretion, either withhold termination for a period not exceeding 180 days from the date of the representation, or exercise its right of suspension, as the case may be, to enable the lenders' representative to exercise the senior lenders' right of substitution in accordance with the Substitution Agreement. The lenders' representative may, instead of exercising the senior lenders' right of substitution, procure that the default specified in the notice is cured within the aforesaid 180 days, and upon the curing, the NHAI shall withdraw its notice and restore the rights of SYTL. On a written request from the lenders' representative and SYTL, the NHAI shall extend the period of 180 days by a further period not exceeding 90 days as it may deem appropriate.

Termination by SYTL

In the event that any of the defaults specified below shall have occurred, and the NHAI fails to cure the default within a cure period of 90 days or such longer period as provided in the SYTL Concession Agreement, the NHAI shall be deemed to be in default of the SYTL Concession Agreement ("**NHAI Default**"), unless the default has occurred as a result of a breach of the SYTL Concession Agreement by SYTL, or due to force majeure. The default referred to herein shall include:

a) the NHAI commits a material default in complying with any of the provisions of the SYTL Concession Agreement and such default has a material adverse effect on SYTL;

b) the NHAI has failed to make any payment to SYTL within the period specified in the SYTL Concession Agreement;

c) the NHAI repudiates the SYTL Concession Agreement or otherwise takes any action that amounts to or manifests an irrevocable intention not to be bound by the SYTL Concession Agreement; or

d) the State of Maharashtra commits a material default in complying with the provisions of the state support agreement if such default has a material adverse effect on SYTL and the breach continues for a period of 90 days from the date of notice given in this behalf by SYTL to the NHAI.

Without prejudice to any other rights or remedies which SYTL may have under the SYTL Concession Agreement, upon the occurrence of an NHAI Default, SYTL shall be entitled to terminate the SYTL Concession Agreement by issuing a termination notice to the NHAI. Before issuing the termination notice, SYTL shall, by notice, inform the NHAI of its intention to issue a termination notice and grant 15 days to the NHAI to make a representation, and may, after the expiry of the 15 days, whether or not it is in receipt of such representation, issue the termination notice.

Termination Payment

Upon termination on account of an SYTL Default during the operation period, the NHAI shall pay to SYTL, by way of termination payment, an amount equal to 90% of the SYTL Debt Due less insurance cover. If any insurance claims forming part of the insurance cover are not admitted and paid, then 80% of such unpaid claims shall be included in the computation of SYTL Debt Due.

Upon termination on account of an NHAI Default, the NHAI shall pay to SYTL, by way of termination payment, an amount equal to:

a) SYTL Debt Due; and
b) 150% of the adjusted equity.

Termination payment shall become due and payable to SYTL within 15 days of a demand being made by SYTL to the NHAI with the necessary particulars, and in the event of any delay, the NHAI shall pay interest at a rate equal to 3% above the bank rate on the amount of termination payment remaining unpaid. The delay shall not exceed 90 days. The termination payment under the SYTL Concession Agreement shall constitute a full and final settlement of all claims of SYTL on account of termination of the SYTL Concession Agreement for any reason whatsoever and SYTL, or any shareholder thereof, shall not have any further right or claim under any law, treaty, convention, contract or otherwise.

Defects Liability after Termination

SYTL shall be responsible for all defects and deficiencies in the SYTL Project Highway for a period of 120 days after termination. SYTL shall have the obligation to repair or rectify, at its own cost, all defects and deficiencies in the SYTL Project Highway as observed by the independent engineer. The repair or rectification of the defect or deficiency shall be done within a period of 15 days from the date of notice issued by the NHAI in this behalf. A sum as specified in the SYTL Concession Agreement shall be retained in the Escrow Account for a period of 120 days after termination for meeting the liabilities, if any, arising out of, or in connection with this provision.

7.1. Supplementary Agreement between SYTL and the NHAI dated April 12, 2018

SYTL has entered into a supplementary agreement (the "**Supplementary Agreement**") to amend the concession agreement dated March 3, 2014 (the "**Concession Agreement**") to provide for the installation of a new electronic

toll collection system (the "**Hybrid ETC System**") for electronic payment of user fee using RFID tags or any other such device.

Change of Scope

The NHAI shall provide a change in the scope of work order at prices discovered by the NHAI to SYTL to provide for, as per the defined technical specifications, installation, testing, commissioning, operations and maintenance of the Hybrid ETC System in all lanes of the toll plaza. SYTL shall ensure that the requisite civil work is completed prior to the installation, integration, testing and commissioning of the Hybrid ETC System. It shall also ensure the smooth flow of traffic during installation, integration, testing and commissioning of the Hybrid ETC System. SYTL will have no claim against the NHAI on account of any lane closure, if any, on account of any third party claims.

Scope of Work

SYTL shall install, integrate, test, commission, operate and maintain the Hybrid ETC System in all the lanes of the toll plazas. The Hybrid ETC System shall be installed, commissioned, operated and maintained for a period of five years or the end of the Concession Agreement, whichever is earlier, beyond which it will be replaced or renewed, as the case may be, by SYTL or the NHAI, at the cost of the NHAI. The cycle shall be maintained till the end of the concession period in accordance with the Concession Agreement.

The provisions of the Concession Agreement relating to change of scope shall not apply to the Supplementary Agreement.

Any permission required by SYTL under the applicable laws for the installation of the Hybrid ETC System shall be procured and maintained by SYTL. The NHAI shall provide reasonable assistance in this regard.

Timeline

SYTL shall complete all responsibilities, obligations and works as described in the Supplementary Agreement within a period of 120 days from the date of signing the Supplementary Agreement.

Damages for Delay

In case of delay in installation, testing, or commissioning of the Hybrid ETC System at the toll plazas as per the time schedule prescribed on account of reasons attributable to SYTL, damages at 0.1% of the cost of installation, testing, or commissioning of the Hybrid ETC System for each day of the delay, subject to a maximum of 10% of the cost of installation, testing, or commissioning of the Hybrid ETC System shall be levied on SYTL. Damages for delay will not be applicable in case of a delay in implementation due to delayed payment release by the NHAI.

SYTL shall not be entitled to any additional benefit either in monetary terms or on any other account including, but not limited to any extension of time, save on account of and NHAI Default or force majeure.

Compensation

In case of any damage to the Hybrid ETC System due to any act or omission of SYTL, the NHAI shall not be liable for any compensation to SYTL, and SYTL shall bear the cost of repair, replacement or renewal of the damaged Hybrid ETC System equipment or hardware itself.

In case of any damage to the Hybrid ETC System due to the occurrence of any force majeure event, the compensation to SYTL shall be derived as per the provisions of the Concession Agreement.

End of the Concession Period

SYTL shall hand over all the Hybrid ETC equipment or hardware in an operational condition to the NHAI or a third party as directed by the NHAI at the end of the concession period, beyond which no O&M payment shall be made to SYTL. If any Hybrid ETC System equipment or hardware is found to be non-operational, then SYTL shall be liable to replace or pay for the replacement of the Hybrid ETC System equipment or hardware required to make the Hybrid ETC System operational on all lanes of the toll plazas to the NHAI promptly.

Upon termination, SYTL shall assign warranties received from the original equipment manufacturer and for the components or equipment, and provide the respective warranty assignment agreements and necessary documents. SYTL shall ensure that all the warranties are duly assigned in favor of the NHAI and SYTL shall bear the cost and expenses towards the assignment.

8. Concession Agreement between UTL and the NHAI dated December 9, 2016

UTL has entered into a concession agreement for six-laning of NH-8 in Rajasthan and Gujarat from km 287.400 to km 401.200 (approx. length 113.800 km) on design, build, finance, operate and transfer ("D**BFOT**") basis (the "**UTL Concession Agreement**"), for a period of 21 years, from September 3, 2017 ("**UTL Appointed Date**") or until such date on which the UTL Concession Agreement is terminated by a termination notice ("**UTL Termination Date**", and the period between the UTL Appointed Date and the UTL Termination Date, the "**UTL Concession Period**").

Certain Definitions

"**UTL Debt Due**" shall mean the aggregate of the following sums expressed in Indian Rupees outstanding on the transfer date:

a) the principal amount of the debt provided by the senior lenders under the financing agreements for financing the total project cost (the "**Principa**l") but excluding any part of the Principal that had fallen due for repayment two years prior to the transfer date;

b) all accrued interest, financing fees and charges payable under the financing agreements on, or in respect of, the debt referred to in the sub-clause above until the transfer date but excluding (i) any interest, fees or charges that had fallen due one year prior to the transfer date, (ii) any penal interest or charges payable under the financing agreements to any senior lender, and (iii) any pre-payment charges in relation to accelerated repayment of debt except where such charges have arisen due to an NHAI Default (as defined below); and

c) any subordinated debt which is included in the financing package and disbursed by lenders for financing the total project cost;

If all, or any part of the UTL Debt Due is convertible into equity at the option of the senior lenders and/or UTL, it shall, for the purposes of the UTL Concession Agreement, be deemed to be UTL Debt Due even after the conversion and the Principal thereof shall be dealt with as if such conversion had not been undertaken;

"**UTL Debt Service**" shall mean the sum of all payments on account of Principal, interest, financing fees and charges due and payable in an accounting year to the senior lenders under the financing agreements;

"**UTL Project Assets**" shall mean all physical and other assets relating to and forming part of the site including (a) rights over the site in the form of licence, right of way or otherwise; (b) tangible assets such as civil works and equipment including foundations, embankments, pavements, road surface, interchanges, bridges, culverts, road overbridges, drainage works, traffic signals, sign boards, kilometre-stones, toll plazas, electrical systems, communication systems, rest areas, relief centres, maintenance depots and administrative offices; (c) project facilities situated on the site; (d) all rights of UTL under the project agreements; (e) financial assets, such as receivables, security deposits etc.; (f) insurance proceeds; and (g) applicable permits and authorizations relating to or in respect of the UTL Project Highway (as defined below), but does not include additional facilities;

"**UTL Project Highway**" shall mean the site comprising the existing road comprising NH-8 from km 287.400 to km 401.200 and all UTL Project Assets, and its subsequent development and augmentation in accordance with the UTL Concession Agreement;

"**UTL Project**" shall mean the construction, operation, and maintenance of the UTL Project Highway in accordance with the provisions of the UTL Concession Agreement, and includes all works, services, and equipment relating to and in respect of the scope of the project;

"**Premium**" shall mean an amount paid to the NHAI by UTL in the form of an additional concession fee, as set forth in the bid for each year of the UTL Concession Period.

Grant of Concession

Subject to, and in accordance with the provisions set out in the UTL Concession Agreement, the applicable laws and the applicable permits, the NHAI has granted to UTL, and UTL has accepted the concession, including the exclusive right, license, and authority during the subsistence of the UTL Concession Agreement, to construct, operate and maintain the UTL Project for a period of 21 years from the UTL Appointed Date.

Subject to, and in accordance with the provisions of the UTL Concession Agreement, the concession granted shall oblige or entitle, as the case may be, UTL to:

a) right of way, access and license to the site for the purpose of, and to the extent conferred by the provisions of the UTL Concession Agreement;

b) finance and construct the UTL Project Highway;

c) manage, operate, and maintain the UTL Project Highway and regulate the use thereof by third parties;

d) demand, collect, and appropriate fee from vehicles and persons liable for payment of fee for using the UTL Project Highway or any part thereof and refuse entry of any vehicle if the fee due is not paid;

e) perform and fulfil all of UTL's obligations under and in accordance with the UTL Concession Agreement;

f) bear and pay all costs, expenses, and charges in connection with or incidental to the performance of the obligations of UTL under the UTL Concession Agreement; and

g) neither assign, transfer or sublet, or create any lien or encumbrance on the UTL Concession Agreement, or the concession granted, or on the whole or any part of the UTL Project Highway, nor transfer, lease, or part possession thereof, save and except as expressly permitted by the UTL Concession Agreement or the agreement for the substitution of UTL entered into by UTL, the NHAI, and the lenders' representative on behalf of the senior lenders (the "**Substitution Agreement**").

Fees

On and from the commercial operation date ("**COD**") till the transfer date, UTL shall have the sole and exclusive right to demand, collect, and appropriate fee from the users subject to, and in accordance with the UTL Concession Agreement and the applicable rules and regulations, provided that for ease of payment and collection, such fee shall be rounded off to the nearest five rupees in accordance with the applicable fee rules, as updated from time to time. Further, UTL may determine and collect fee at such lower rates as it may, by public notice to the users, specify in respect of all or any category of users or vehicles. In accordance with the UTL Concession Agreement, UTL shall not collect any fees in relation to exempted vehicles.

UTL shall not collect any fee from a local user for non-commercial use of the UTL Project Highway, and shall issue a pass in respect thereof for commuting on a section of the UTL Project Highway as specified in the pass and for crossing the toll plaza specified therein. For carrying out these provisions, UTL shall formulate, publish and implement an appropriate scheme, and make such modifications to the scheme as may reasonably be suggested by the NHAI or by local users from time to time. For defraying its expenses on issuing of passes and handling of local users, UTL shall be entitled to charge a monthly fee of ₹150, with reference to the base year 2007-08, to be revised annually in accordance with the fee rules to reflect the variation in WPI, and then rounded off to the nearest five rupees; provided that no passes will be required or fee collected from a vehicle that uses part of the UTL Project Highway and does not cross a toll plaza.

Concession Fee

In consideration of the grant of concession, UTL shall pay to the NHAI by way of concession fee a sum of ₹1 per annum.

Additionally, UTL was required to pay to the NHAI, immediately after the third anniversary year of the COD, a Premium in the form of an additional concession fee equal to ₹1,638,000,000 as due to the NHAI during that year, due and payable for the period remaining in that year; and for each subsequent year till the ninth anniversary of the COD, the Premium shall be determined by increasing the amount of Premium in the respective year by an additional 3% as compared to the immediately preceding year and for each subsequent year of the UTL

Concession Period, the Premium shall be determined by increasing the amount of Premium in the respective year by an additional 8% as compared to the immediately preceding year. The Premium is deemed to be a part of the concession fee.

The concession fee payable under the provisions of the UTL Concession Agreement shall be due and payable in monthly instalments within seven days of the close of each month.

Escrow Account

UTL was required to, prior to the UTL Appointed Date, open and establish an escrow account (the "**Escrow Account**") with a bank (the "**Escrow Bank**") in accordance with the UTL Concession Agreement read with the escrow agreement entered into amongst UTL, the NHAI, the Escrow Bank and the senior lenders through the lenders' representative (the "**Escrow Agreement**").

UTL shall deposit, or cause to be deposited the following inflows and receipts into the Escrow Account:

a) all funds constituting the financial package;

b) all fee and any other revenues from or in respect of the UTL Project Highway, including the proceeds of any deposits, capital receipts or insurance claims; and

c) all payments by the NHAI, after deducting any outstanding concession fee.

The senior lenders may make direct disbursements to the EPC contractor in accordance with the express provisions contained in this behalf in the financing agreements.

Withdrawals during Concession Period

UTL was required to, at the time of opening the Escrow Account, give irrevocable instructions, by way of the Escrow Agreement, to the Escrow Bank instructing, inter alia, that deposits in the Escrow Account shall be appropriated in the following order every month, or at shorter intervals as necessary, and if not due in a month, then appropriated proportionately in such month and retained in the Escrow Account and paid out therefrom in a month when due:

a) all taxes due and payable by UTL for and in respect of the UTL Project Highway;

b) all payments relating to construction of the UTL Project Highway, subject to and in accordance with the conditions, if any, set forth in the financing agreements;

c) Operation and Management ("**O&M**") expenses, subject to the ceiling, if any, set forth in the financing agreements;

d) O&M expenses and other costs and expenses incurred by the NHAI in accordance with the provisions of the UTL Concession Agreement, and certified by the NHAI as due and payable to it;

e) concession fee due and payable to the NHAI;

f) monthly proportionate provision of UTL Debt Service due in an accounting year;

g) premium due and payable to the NHAI;

h) all payments and damages certified by the NHAI as due and payable to it by UTL, including repayment of revenue shortfall loan. UTL has agreed to give irrevocable instructions to the Escrow Bank to make payments from the Escrow Account in accordance with the instructions of the NHAI under the UTL Concession Agreement and debit the payment to O&M expenses;

i) monthly proportionate provision of UTL Debt Service payments due in an accounting year in respect of subordinated debt;

j) any reserve requirements set forth in the financing agreements; and

k) balance, if any, in accordance with the instructions of UTL.

UTL shall not, in any manner, modify the order of payment specified except with prior written approval from the NHAI.

Withdrawals upon Termination

Notwithstanding anything to the contrary contained in the UTL Concession Agreement, all amounts standing to the credit of the Escrow Account shall, upon termination, be appropriated in the following order:

a) all taxes due and payable by UTL for and in respect of the UTL Project Highway;

b) 90% of the UTL Debt Due excluding the subordinated debt;

c) outstanding concession fee;

d) all payments and damages certified by the NHAI as due and payable to it by UTL, including the repayment of the revenue shortfall loan. UTL has agreed to give irrevocable instruction to the Escrow Bank to make payment from the Escrow Account in accordance with the instructions of the NHAI under the UTL Concession Agreement and debit the payment to O&M expenses.

e) retention and payments relating to the liability for defects and deficiencies set forth in the UTL Concession Agreement;

f) outstanding UTL Debt Service including balance of UTL Debt Due;

g) outstanding subordinated debt;

h) incurred or accrued O&M expenses;

i) any other payments required to be made under the UTL Concession Agreement; and

j) balance, if any, in accordance with the instructions of UTL.

No appropriations shall be made until a vesting certificate has been issued by the NHAI.

Change of Scope

The NHAI may, notwithstanding anything to the contrary contained in the UTL Concession Agreement, require the provision of additional works and services which are not included in the scope of the project as contemplated by the UTL Concession Agreement. Any such change of scope shall be made in accordance with the provisions of the UTL Concession Agreement and the costs thereof shall be expended by UTL and reimbursed by the NHAI.

If UTL determines at any time that a change in scope is necessary for providing safer and improved services to the users, it shall, by notice in writing, require the NHAI to consider such change of scope. The NHAI shall, within 60 days of receipt of such notice, either accept the change of scope with modifications, if any, and initiate proceedings thereof in accordance with the provisions of the UTL Concession Agreement, or inform UTL in writing of its reasons for not accepting such change of scope.

Compensation for Breach of Agreement

In the event of UTL being in material default or breach of the UTL Concession Agreement, it shall pay to the NHAI by way of compensation, all direct costs suffered or incurred by the NHAI as a consequence of the material default or breach, within 30 days of the receipt of the demand supported by the necessary particulars thereof. No compensation shall be payable for any material breach or default in respect of which damages are expressly specified and payable under the UTL Concession Agreement.

In the event of the NHAI being in material default of the UTL Concession Agreement at any time after the UTL Appointed Date, it shall pay to UTL by way of compensation, all direct costs suffered or incurred by UTL as a consequence of the material default or breach within 30 days of receipt of the demand supported by necessary

particulars thereof. No compensation shall be payable for any material breach or default in respect of which damages have been expressly specified in the UTL Concession Agreement.

In the event that a material default or breach of the UTL Concession Agreement causes a delay in achieving COD or leads to suspension of, or reduction in collection of fee, as the case may be, the NHAI shall, in addition to the payment of compensation, extend the UTL Concession Period as provided in the UTL Concession Agreement. In the event that an additional toll way or a competing road, as the case may be, is opened to traffic in breach of the UTL Concession Agreement, the NHAI shall pay to UTL, for each day of the breach, compensation as provided in the UTL Concession Agreement, until the breach is cured. The payment of compensation by the NHAI shall be deemed to cure the breach of the UTL Concession Agreement so long as the NHAI continues to pay the compensation.

The compensation payable shall be in addition to, and not in substitution for, or derogation of, termination payment, if any.

Effects of Variation in Traffic Growth

Subject to the provisions of the UTL Concession Agreement, in the event actual average traffic shall have fallen short of the target traffic, then for every 1% (one percent) shortfall as compared to the target traffic, the UTL Concession Period shall, subject to payment of concession fee in accordance with the UTL Concession Agreement, be increased by 1.5% (one point five percent) thereof; provided that such increase in UTL Concession Period shall not in any case exceed 20% (twenty percent) of the UTL Concession Period.

Subject to the provisions of the UTL Concession Agreement, in the event actual average traffic shall have exceeded the target traffic, then for every 1% (one percent) excess as compared to the target traffic, the UTL Concession Period shall be reduced by 0.75% (zero point seven five percent) thereof; provided that such reduction in UTL Concession Period shall not in any case exceed 10% (ten percent) thereof.

Provided further that in lieu of a reduction in UTL Concession Period under the UTL Concession Agreement, UTL may elect to pay, in addition to the concession fee that would be due and payable if the UTL Concession Period were not reduced hereunder, a further premium equal to 25% (twenty five percent) of the realizable fee, and upon notice given to this effect by UTL no later than two years prior to the UTL Termination Date contemplated by the UTL Concession Agreement, NHAI shall waive the reduction in UTL Concession Period hereunder forthwith.

Notwithstanding anything to the contrary contained in UTL Concession Agreement, if the average daily traffic of PCUs in any accounting year shall exceed the designed capacity of the UTL Project Highway, the NHAI at its option may cause preparation of detailed project report which will assess the cost that may have to be incurred for augmenting the capacity of the UTL Project Highway so that its capacity is sufficiently increased for carrying the then current traffic in accordance with the corresponding provisions of the Indian Roads Congress publication no. IRC -64, 1990 or any substitute thereof. The UTL Concession Period, may be extended so that it yields for UTL a post-tax return on equity of 16% per annum. This assessment will be made at an assumed debt to equity ratio of 70:30. The extension of the UTL Concession Period shall be however limited to five years. The NHAI may thereafter, at their sole option, issue a notice to UTL, to undertake within six months of such notice, the augmentation so determined by the NHAI. The refusal, non-acceptance, or failure by UTL to undertake such augmentation on the due date so intimated by the NHAI, will be considered an indirect political event and the NHAI may at its discretion terminate this UTL Concession Agreement by issuing a termination notice and making a termination payment in accordance with the provisions of the UTL Concession Agreement without the NHAI being liable to issue any further notice under it.

Termination of the UTL Concession Agreement

Termination by the NHAI

Save as otherwise provided in the UTL Concession Agreement, in the event that any of the defaults specified below shall have occurred, and UTL fails to cure the default within the cure period, or where no cure period is specified, then within a cure period of 60 days, UTL shall be deemed to be in default of the UTL Concession Agreement ("**UTL Default**"), unless the default has occurred solely as a result of any breach of the UTL Concession Agreement by the NHAI or due to force majeure. The defaults referred to herein shall include:

a) the performance security has been encashed and appropriated in accordance with the UTL Concession Agreement and UTL fails to replenish or provide fresh performance security within a cure period of 30 days;

b) subsequent to the replenishment or furnishing of fresh performance security in accordance with the UTL Concession Agreement, UTL fails to cure, within a cure period of 90 days, the UTL Default for which whole or part of the performance security was appropriated;

c) UTL does not achieve the latest outstanding project milestone due in accordance with the UTL Concession Agreement and continues to be in default for 90 days;

d) UTL abandons or manifests intention to abandon the construction or operation of the UTL Project Highway without the prior written consent of the NHAI;

e) project completion date does not occur within the period specified in the UTL Concession Agreement;

f) the punch list items have not been completed within the period set forth in the UTL Concession Agreement;

g) UTL is in breach of the maintenance requirements or the safety requirements as the case may be;

h) UTL has failed to make any payment to the NHAI within the period specified in the UTL Concession Agreement;

i) an escrow default has occurred and UTL fails to cure the default within a cure period of 15 days;

j) upon occurrence of a financial default, the lenders' representative has, by notice, required the NHAI to undertake suspension or termination, as the case may be, in accordance with the Substitution Agreement and UTL fails to cure the default within the cure period specified hereinabove;

k) a breach of the project agreements by UTL has caused a material adverse effect;

l) UTL creates an encumbrance in breach of the UTL Concession Agreement;

m) UTL repudiates the UTL Concession Agreement or otherwise takes any action or evidences or conveys an intention not to be bound by the UTL Concession Agreement;

n) a change in ownership has occurred in breach of the UTL Concession Agreement;

o) there is a transfer, pursuant to law either of (i) the rights and/or obligations of UTL under any of the project agreements, or of (ii) all or part of the assets or undertaking of UTL, and such transfer causes a material adverse effect;

p) an execution levied on any of the assets of UTL has caused a material adverse effect;

q) UTL is adjudged bankrupt or insolvent, or if a trustee or receiver is appointed for UTL or for the whole or material part of its assets that has a material bearing on the UTL Project;

r) UTL has been, or is in the process of being liquidated, dissolved, wound-up, amalgamated or reconstituted in a manner that would cause, in the reasonable opinion of the NHAI, a material adverse effect;

s) a resolution for winding up of UTL is passed, or any petition for winding up of UTL is admitted by a court of competent jurisdiction and a provisional liquidator or receiver is appointed and such order has not been set aside within 90 days of the date thereof, or UTL is ordered to be wound up by Court except for the purpose of amalgamation or reconstruction, provided that, as part of such amalgamation or reconstruction, the entire property, assets and undertaking of UTL are transferred to the amalgamated or reconstructed entity and that the amalgamated or reconstructed entity has unconditionally assumed the obligations of UTL under the UTL Concession Agreement and the project agreements; provided that:

    i) the amalgamated or reconstructed entity has the capability and operating experience necessary for the performance of its obligations under the UTL Concession Agreement and the project agreements;

ii) the amalgamated or reconstructed entity has the financial standing to perform its obligations under the UTL Concession Agreement and the project agreements and has a creditworthiness at least as good as that of UTL as at the UTL Appointed Date; and

iii) each of the project agreements remains in full force and effect;

t) any representation or warranty of UTL which is, as of the date hereof, found to be materially false, incorrect or misleading or UTL is at any time hereafter found to be in breach thereof;

u) UTL submits to the NHAI any statement, notice or other document, in written or electronic form, which has a material effect on the NHAI's rights, obligations or interests and which is false in material particulars;

v) UTL has failed to fulfil any obligation, for which failure termination has been specified in the UTL Concession Agreement; or

w) UTL commits a default in complying with any other provision of the UTL Concession Agreement if such default causes a material adverse effect on the NHAI.

Without prejudice to any other rights or remedies which the NHAI may have under the UTL Concession Agreement, upon the occurrence of a UTL Default, the NHAI shall be entitled to terminate the UTL Concession Agreement by issuing a termination notice to UTL. Before issuing the termination notice, the NHAI shall, by notice, inform UTL of its intention to issue a termination notice and grant 15 days to UTL to make a representation, and may, after the expiry of the 15 days, whether or not it is in receipt of such representation, issue the termination notice subject to the provisions of the UTL Concession Agreement.

If there are senior lenders, the NHAI shall send a copy of its notice of intention to issue a termination notice to inform the lenders' representative and grant 30 days to the lenders' representative for making a representation on behalf of the senior lenders stating the intention to substitute UTL in accordance with the Substitution Agreement. If the NHAI receives a representation on behalf of the senior lenders, it shall, in its discretion, either withhold termination for a period not exceeding 180 days from the date of the representation, or exercise its right of suspension, as the case may be, to enable the lenders' representative to exercise the senior lenders' right of substitution in accordance with the Substitution Agreement. The lenders' representative may, instead of exercising the senior lenders' right of substitution, procure that the default specified in the notice is cured within the aforesaid 180 days, and upon the curing, the NHAI shall withdraw its notice and restore the rights of UTL. On a written request from the lenders' representative and UTL, the NHAI shall extend the period of 180 days by a further period not exceeding 90 days as it may deem appropriate.

Termination by UTL

In the event that any of the defaults specified below shall have occurred, and the NHAI fails to cure the default within a cure period of 90 days or such longer period as provided in the UTL Concession Agreement, the NHAI shall be deemed to be in default of the UTL Concession Agreement ("**NHAI Default**"), unless the default has occurred as a result of a breach of the UTL Concession Agreement by UTL, or due to force majeure. The default referred to herein shall include:

a) the NHAI commits a material default in complying with any of the provisions of the UTL Concession Agreement and such default has a material adverse effect on UTL;

b) the NHAI has failed to make any payment to UTL within the period specified in the UTL Concession Agreement;

c) the NHAI repudiates the UTL Concession Agreement or otherwise takes any action that amounts to or manifests an irrevocable intention not to be bound by the UTL Concession Agreement; or

d) the State of Rajasthan or Gujarat commits a material default in complying with the provisions of the state support agreement if such default has a material adverse effect on UTL and the breach continues for a period of 90 days from the date of notice given in this behalf by UTL to the NHAI.

Without prejudice to any other rights or remedies which UTL may have under the UTL Concession Agreement, upon the occurrence of an NHAI Default, UTL shall be entitled to terminate the UTL Concession Agreement by

issuing a termination notice to the NHAI. Before issuing the termination notice, UTL shall, by notice, inform the NHAI of its intention to issue a termination notice and grant 30 days to the NHAI to make a representation, and may, after the expiry of the 30 days, whether or not it is in receipt of such representation, issue the termination notice.

Termination Payment

Upon termination on account of a UTL Default during the operation period, the NHAI shall pay to UTL, by way of termination payment, an amount equal to 90% of the UTL Debt Due less insurance cover. If any insurance claims forming part of the insurance cover are not admitted and paid, then 80% of such unpaid claims shall be included in the computation of UTL Debt Due.

Upon termination on account of an NHAI Default, the NHAI shall pay to UTL, by way of termination payment, an amount equal to:

a) UTL Debt Due; and
b) 150% of the adjusted equity.

The termination payment shall not be less than an amount equal to the product of six and the average monthly fee actually realized 12 months prior to the transfer date.

Termination payment shall become due and payable to UTL within 30 days of a demand being made by UTL to the NHAI with the necessary particulars, and in the event of any delay, the NHAI shall pay interest at a rate equal to 3% above the bank rate on the amount of termination payment remaining unpaid. The delay shall not exceed 90 days. The termination payment under the UTL Concession Agreement shall constitute a full and final settlement of all claims of UTL on account of termination of the UTL Concession Agreement for any reason whatsoever and UTL shall not have any further right or claim under any law, treaty, convention, contract or otherwise.

Defects Liability after Termination

UTL shall be responsible for all defects and deficiencies in the UTL Project Highway for a period of 120 days after termination. UTL shall have the obligation to repair or rectify, at its own cost, all defects and deficiencies in the UTL Project Highway as observed by the independent engineer. The repair or rectification of the defect or deficiency shall be done within a period of 15 days from the date of notice issued by the NHAI in this behalf. A sum as specified in the UTL Concession Agreement shall be retained in the Escrow Account for a period of 120 days after termination for meeting the liabilities, if any, arising out of, or in connection with this provision.

9. Concession Agreement between YATL and the NHAI dated May 30, 2014

YATL has entered into a concession agreement for four-laning of Yedeshi-Aurangabad section of NH-211 in Maharashtra from km 100.000 to km 290.200 on design, build, finance, operate and transfer ("**DBFOT**") basis (the "**YATL Concession Agreement**"), for a period of 26 years, from July 1, 2015 ("**YATL Appointed Date**") or until such date on which the YATL Concession Agreement is terminated by a termination notice ("**YATL Termination Date**", and the period between the YATL Appointed Date and the YATL Termination Date, the "**YATL Concession Period**").

Certain Definitions

"**YATL Debt Due**" shall mean the aggregate of the following sums expressed in Indian Rupees outstanding on the transfer date:

a) the principal amount of the debt provided by the senior lenders under the financing agreements for financing the total project cost (the "**Principa**l") but excluding any part of the Principal that had fallen due for repayment two years prior to the transfer date;

b) all accrued interest, financing fees and charges payable under the financing agreements on, or in respect of, the debt referred to in the sub-clause above until the transfer date but excluding (i) any interest, fees or charges that had fallen due one year prior to the transfer date, (ii) any penal interest or charges payable under the

financing agreements to any senior lender, and (iii) any pre-payment charges in relation to accelerated repayment of debt except where such charges have arisen due to an NHAI Default (as defined below); and

c) any subordinated debt which is included in the financing package and disbursed by lenders for financing the total project cost;

If all, or any part of the YATL Debt Due is convertible into equity at the option of the senior lenders and/or YATL, it shall, for the purposes of the YATL Concession Agreement, be deemed to be YATL Debt Due even after the conversion and the Principal thereof shall be dealt with as if such conversion had not been undertaken;

"**YATL Debt Service**" shall mean the sum of all payments on account of Principal, interest, financing fees and charges due and payable in an accounting year to the senior lenders under the financing agreements;

"**YATL Project Assets**" shall mean all physical and other assets relating to and forming part of the site including (a) rights over the site in the form of licence, right of way or otherwise; (b) tangible assets such as civil works and equipment including foundations, embankments, pavements, road surface, interchanges, bridges, culverts, road overbridges, drainage works, traffic signals, sign boards, kilometre-stones, toll plazas, electrical systems, communication systems, rest areas, relief centres, maintenance depots and administrative offices; (c) project facilities situated on the site; (d) all rights of YATL under the project agreements; (e) financial assets, such as receivables, security deposits etc.; (f) insurance proceeds; and (g) applicable permits and authorizations relating to or in respect of the YATL Project Highway (as defined below), but does not include additional facilities;

"**YATL Project Highway**" shall mean the site comprising the existing road comprising NH-211 from km 100.000 to km 290.200 and all YATL Project Assets, and its subsequent development and augmentation in accordance with the YATL Concession Agreement;

"**YATL Project**" shall mean the construction, operation, and maintenance of the YATL Project Highway in accordance with the provisions of the YATL Concession Agreement, and includes all works, services, and equipment relating to and in respect of the scope of the project; and

"**Grant**" shall mean the cash support provided to YATL by the NHAI which is equal to the sum set forth in the bid.

Grant of Concession

Subject to, and in accordance with the provisions set out in the YATL Concession Agreement, the applicable laws and the applicable permits, the NHAI has granted to YATL, and YATL has accepted the concession, including the exclusive right, license, and authority to construct, operate and maintain the YATL Project for a period of 26 years from the YATL Appointed Date.

Subject to, and in accordance with the provisions of the YATL Concession Agreement, the concession granted shall oblige or entitle, as the case may be, YATL to:

a) right of way, access and license to the site for the purpose of, and to the extent conferred by the provisions of the YATL Concession Agreement;

b) finance and construct the YATL Project Highway;

c) manage, operate, and maintain the YATL Project Highway and regulate the use thereof by third parties;

d) demand, collect, and appropriate fee from vehicles and users liable for payment of fee for using the YATL Project Highway or any part thereof and refuse entry of any vehicle if the fee due is not paid;

e) perform and fulfil all of YATL's obligations under and in accordance with the YATL Concession Agreement;
f) bear and pay all costs, expenses, and charges in connection with or incidental to the performance of the obligations of YATL under the YATL Concession Agreement; and

g) neither assign, transfer or sublet, or create any lien or encumbrance on the YATL Concession Agreement, or the concession granted, or on the whole or any part of the YATL Project Highway, nor transfer, lease, or part possession thereof, save and except as expressly permitted by the YATL Concession Agreement or the

agreement for the substitution of YATL entered into by YATL, the NHAI, and the lenders' representative on behalf of the senior lenders (the "**Substitution Agreement**").

Fees

On and from the commercial operation date ("**COD**") till the transfer date, YATL shall have the sole and exclusive right to demand, collect, and appropriate fee from the users subject to, and in accordance with the YATL Concession Agreement and the applicable rules and regulations, provided that for ease of payment and collection, such fee shall be rounded off to the nearest five rupees in accordance with the applicable fee rules, as updated from time to time. Further, YATL may determine and collect fee at such lower rates as it may, by public notice to the users, specify in respect of all or any category of users or vehicles. In accordance with the YATL Concession Agreement, YATL shall not collect any fees in relation to exempted vehicles.

YATL shall not collect any fee from a local user for non-commercial use of the YATL Project Highway, and shall issue a pass in respect thereof for commuting on a section of the YATL Project Highway as specified in the pass and for crossing the toll plaza specified therein. For carrying out these provisions, YATL shall formulate, publish and implement an appropriate scheme, and make such modifications to the scheme as may reasonably be suggested by the NHAI or by local users from time to time. For defraying its expenses on issuing of passes and handling of local users, YATL shall be entitled to charge a monthly fee of ₹150, with reference to the base year 2007-08, to be revised annually in accordance with the fee rules to reflect the variation in WPI, and then rounded off to the nearest five rupees; provided that no passes will be required or fee collected from a vehicle that uses part of the YATL Project Highway and does not cross a toll plaza.

Grant

The NHAI has agreed to pay to YATL cash support by way of an outright grant equal to ₹5,580 million as set out in the bid. The grant shall be disbursed to YATL by way of equity support. It shall be credited to the Escrow Account (as defined below) and shall be applied by YATL for meeting the total project cost. The equity support shall not exceed the sum specified, but shall in no case be greater than twice the equity, and shall be further restricted to a sum not exceeding 40% of the total project cost.

The equity support shall be due and payable to YATL after it has expended the equity, and shall be disbursed proportionately along with the loan funds thereafter remaining to be disbursed by the senior lenders under the financing agreements. The NHAI shall disburse each tranche of the equity support as and when due, but no later than 15 days of receiving a request from YATL along with necessary particulars. In the event of the occurrence of a YATL Default (as defined below), disbursement of equity support shall be suspended till the YATL Default has been cured.

Concession Fee

In consideration of the grant of concession, YATL shall pay to the NHAI by way of concession fee a sum of ₹1 per annum.

Escrow Account

YATL was required to, prior to the YATL Appointed Date, open and establish an escrow account (the "**Escrow Account**") with a bank (the "**Escrow Bank**") in accordance with the YATL Concession Agreement read with the escrow agreement entered into amongst YATL, the NHAI, the Escrow Bank and the senior lenders through the lenders' representative (the "**Escrow Agreement**").

YATL shall deposit, or cause to be deposited the following inflows and receipts into the Escrow Account:

a) all funds constituting the financial package;

b) all fee and any other revenues from or in respect of the YATL Project Highway, including the proceeds of any deposits, capital receipts or insurance claims; and

c) all payments by the NHAI, after deducting any outstanding concession fee.

The senior lenders may make direct disbursements to the EPC contractor in accordance with the express provisions contained in this behalf in the financing agreements.

Withdrawals during Concession Period

YATL was required to, at the time of opening the Escrow Account, give irrevocable instructions, by way of the Escrow Agreement, to the Escrow Bank instructing, inter alia, that deposits in the Escrow Account shall be appropriated in the following order every month, or at shorter intervals as necessary, and if not due in a month, then appropriated proportionately in such month and retained in the Escrow Account and paid out therefrom in a month when due:

a) all taxes due and payable by YATL for and in respect of the YATL Project Highway;

b) all payments relating to construction of the YATL Project Highway, subject to and in accordance with the conditions, if any, set forth in the financing agreements;

c) Operation and Management ("**O&M**") expenses, subject to the ceiling, if any, set forth in the financing agreements;

d) O&M expenses and other costs and expenses incurred by the NHAI in accordance with the provisions of the YATL Concession Agreement, and certified by the NHAI as due and payable to it;

e) concession fee due and payable to the NHAI;

f) monthly proportionate provision of YATL Debt Service due in an accounting year;

g) all payments and damages certified by the NHAI as due and payable to it by YATL, including repayment of revenue shortfall loan.

h) monthly proportionate provision of YATL Debt Service payments due in an accounting year in respect of subordinated debt;

i) any reserve requirements set forth in the financing agreements; and

j) balance, if any, in accordance with the instructions of YATL.

YATL shall not, in any manner, modify the order of payment specified except with prior written approval from the NHAI.

Withdrawals upon Termination

Notwithstanding anything to the contrary contained in the YATL Concession Agreement, all amounts standing to the credit of the Escrow Account shall, upon termination, be appropriated in the following order:

a) all taxes due and payable by YATL for and in respect of the YATL Project Highway;

b) 90% of the YATL Debt Due excluding the subordinated debt;

c) outstanding concession fee;

d) all payments and damages certified by the NHAI as due and payable to it by YATL, including the repayment of the revenue shortfall loan.

e) retention and payments relating to the liability for defects and deficiencies set forth in the YATL Concession Agreement;

f) outstanding YATL Debt Service including balance of YATL Debt Due;

g) outstanding subordinated debt;

h) incurred or accrued O&M expenses;

i) any other payments required to be made under the YATL Concession Agreement; and

j) balance, if any, in accordance with the instructions of YATL.

No appropriations shall be made until a vesting certificate has been issued by the NHAI.

Change of Scope

The NHAI may, notwithstanding anything to the contrary contained in the YATL Concession Agreement, require the provision of additional works and services which are not included in the scope of the project as contemplated by the YATL Concession Agreement. Any such change of scope shall be made in accordance with the provisions of the YATL Concession Agreement and the costs thereof shall be expended by YATL and reimbursed by the NHAI.

If YATL determines at any time that a change in scope is necessary for providing safer and improved services to the users, it shall, by notice in writing, require the NHAI to consider such change of scope. The NHAI shall, within 15 days of receipt of such notice, either accept the change of scope with modifications, if any, and initiate proceedings thereof in accordance with the provisions of the YATL Concession Agreement, or inform YATL in writing of its reasons for not accepting such change of scope.

Compensation for Breach of Agreement

In the event of YATL being in material default or breach of the YATL Concession Agreement, it shall pay to the NHAI by way of compensation, all direct costs suffered or incurred by the NHAI as a consequence of the material default or breach, within 30 days of the receipt of the demand supported by the necessary particulars thereof. No compensation shall be payable for any material breach or default in respect of which damages are expressly specified and payable under the YATL Concession Agreement.

In the event of the NHAI being in material default of the YATL Concession Agreement at any time after the YATL Appointed Date, it shall pay to YATL by way of compensation, all direct costs suffered or incurred by YATL as a consequence of the material default or breach within 30 days of receipt of the demand supported by necessary particulars thereof. No compensation shall be payable for any material breach or default in respect of which damages have been expressly specified in the YATL Concession Agreement.

In the event that a material default or breach of the YATL Concession Agreement causes a delay in achieving COD or leads to suspension of, or reduction in collection of fee, as the case may be, the NHAI shall, in addition to the payment of compensation, extend the YATL Concession Period as provided in the YATL Concession Agreement. In the event that an additional toll way or a competing road, as the case may be, is opened to traffic in breach of the YATL Concession Agreement, the NHAI shall pay to YATL, for each day of the breach, compensation as provided in the YATL Concession Agreement, until the breach is cured. The payment of compensation by the NHAI shall be deemed to cure the breach of the YATL Concession Agreement so long as the NHAI continues to pay the compensation.

The compensation payable shall be in addition to, and not in substitution for, or derogation of, termination payment, if any.

Effects of Variation in Traffic Growth

Subject to the provisions of the YATL Concession Agreement, in the event actual average traffic shall have fallen short of the target traffic, then for every 1% (one percent) shortfall as compared to the target traffic, the YATL Concession Period shall, subject to payment of concession fee in accordance with the YATL Concession Agreement, be increased by 1.5% (one point five percent) thereof; provided that such increase in YATL Concession Period shall not in any case exceed 20% (twenty percent) of the YATL Concession Period.

Subject to the provisions of the YATL Concession Agreement, in the event actual average traffic shall have exceeded the target traffic, then for every 1% (one percent) excess as compared to the target traffic, the YATL Concession Period shall be reduced by 0.75% (zero point seven five percent) thereof; provided that such reduction in YATL Concession Period shall not in any case exceed 10% (ten percent) thereof.

Provided further that in lieu of a reduction in YATL Concession Period under the YATL Concession Agreement, YATL may elect to pay, in addition to the concession fee that would be due and payable if the YATL Concession Period were not reduced hereunder, a further premium equal to 25% (twenty five percent) of the realizable fee, and upon notice given to this effect by YATL no later than two years prior to the YATL Termination Date contemplated by the YATL Concession Agreement, NHAI shall waive the reduction in YATL Concession Period hereunder forthwith.

Notwithstanding anything to the contrary contained in YATL Concession Agreement, if the average daily traffic of PCUs in any accounting year shall exceed the designed capacity of the YATL Project Highway, the NHAI at its option may cause preparation of detailed project report which will assess the cost that may have to be incurred for augmenting the capacity of the YATL Project Highway so that its capacity is sufficiently increased for carrying the then current traffic in accordance with the corresponding provisions of the Indian Roads Congress publication no. IRC -64, 1990 or any substitute thereof. The YATL Concession Period, may be extended so that it yields for YATL a post-tax return on equity of 16% per annum. This assessment will be made at an assumed debt to equity ratio of 70:30. The extension of the YATL Concession Period shall be however limited to five years. The NHAI may thereafter, at their sole option, issue a notice to YATL, to undertake within six months of such notice, the augmentation so determined by the NHAI. The refusal, non-acceptance, or failure by YATL to undertake such augmentation on the due date so intimated by the NHAI, will be considered an indirect political event and the NHAI may at its discretion terminate this YATL Concession Agreement by issuing a termination notice and making a termination payment in accordance with the provisions of the YATL Concession Agreement without the NHAI being liable to issue any further notice under it.

Termination of the YATL Concession Agreement

Termination by the NHAI

Save as otherwise provided in the YATL Concession Agreement, in the event that any of the defaults specified below shall have occurred, and YATL fails to cure the default within the cure period, or where no cure period is specified, then within a cure period of 60 days, YATL shall be deemed to be in default of the YATL Concession Agreement ("**YATL Default**"), unless the default has occurred solely as a result of any breach of the YATL Concession Agreement by the NHAI or due to force majeure. The defaults referred to herein shall include:

a) the performance security has been encashed and appropriated in accordance with the YATL Concession Agreement and YATL fails to replenish or provide fresh performance security within a cure period of 30 days;

b) subsequent to the replenishment or furnishing of fresh performance security in accordance with the YATL Concession Agreement, YATL fails to cure, within a cure period of 90 days, the YATL Default for which whole or part of the performance security was appropriated;

c) YATL does not achieve the latest outstanding project milestone due in accordance with the YATL Concession Agreement and continues to be in default for 120 days;

d) YATL abandons or manifests intention to abandon the construction or operation of the YATL Project Highway without the prior written consent of the NHAI;

e) project completion date does not occur within the period specified in the YATL Concession Agreement;

f) the punch list items have not been completed within the period set forth in the YATL Concession Agreement;

g) YATL is in breach of the maintenance requirements or the safety requirements as the case may be;

h) YATL has failed to make any payment to the NHAI within the period specified in the YATL Concession Agreement;

i) an escrow default has occurred and YATL fails to cure the default within a cure period of 15 days;

j) upon occurrence of a financial default, the lenders' representative has, by notice, required the NHAI to undertake suspension or termination, as the case may be, in accordance with the Substitution Agreement and YATL fails to cure the default within the cure period specified hereinabove;

k) a breach of the project agreements by YATL has caused a material adverse effect;

l) YATL creates an encumbrance in breach of the YATL Concession Agreement;

m) YATL repudiates the YATL Concession Agreement or otherwise takes any action or evidences or conveys an intention not to be bound by the YATL Concession Agreement;

n) a change in ownership has occurred in breach of the YATL Concession Agreement;

o) there is a transfer, pursuant to law either of (i) the rights and/or obligations of YATL under any of the project agreements, or of (ii) all or part of the assets or undertaking of YATL, and such transfer causes a material adverse effect;

p) an execution levied on any of the assets of YATL has caused a material adverse effect;

q) YATL is adjudged bankrupt or insolvent, or if a trustee or receiver is appointed for YATL or for the whole or material part of its assets that has a material bearing on the YATL Project;

r) YATL has been, or is in the process of being liquidated, dissolved, wound-up, amalgamated or reconstituted in a manner that would cause, in the reasonable opinion of the NHAI, a material adverse effect;

s) a resolution for winding up of YATL is passed, or any petition for winding up of YATL is admitted by a court of competent jurisdiction and a provisional liquidator or receiver is appointed and such order has not been set aside within 90 days of the date thereof, or YATL is ordered to be wound up by Court except for the purpose of amalgamation or reconstruction, provided that, as part of such amalgamation or reconstruction, the entire property, assets and undertaking of YATL are transferred to the amalgamated or reconstructed entity and that the amalgamated or reconstructed entity has unconditionally assumed the obligations of YATL under the YATL Concession Agreement and the project agreements; provided that:

    i) the amalgamated or reconstructed entity has the capability and operating experience necessary for the performance of its obligations under the YATL Concession Agreement and the project agreements;

    ii) the amalgamated or reconstructed entity has the financial standing to perform its obligations under the YATL Concession Agreement and the project agreements and has a creditworthiness at least as good as that of YATL as at the YATL Appointed Date; and

    iii) each of the project agreements remains in full force and effect;

t) any representation or warranty of YATL which is, as of the date hereof, found to be materially false, incorrect or misleading or YATL is at any time hereafter found to be in breach thereof;

u) YATL submits to the NHAI any statement, notice or other document, in written or electronic form, which has a material effect on the NHAI's rights, obligations or interests and which is false in material particulars;

v) YATL has failed to fulfil any obligation, for which failure termination has been specified in the YATL Concession Agreement; or

w) YATL commits a default in complying with any other provision of the YATL Concession Agreement if such default causes a material adverse effect on the NHAI.

Without prejudice to any other rights or remedies which the NHAI may have under the YATL Concession Agreement, upon the occurrence of a YATL Default, the NHAI shall be entitled to terminate the YATL Concession Agreement by issuing a termination notice to YATL. Before issuing the termination notice, the NHAI shall, by notice, inform YATL of its intention to issue a termination notice and grant 15 days to YATL to make a representation, and may, after the expiry of the 15 days, whether or not it is in receipt of such representation, issue the termination notice subject to the provisions of the YATL Concession Agreement.

If there are senior lenders, the NHAI shall send a copy of its notice of intention to issue a termination notice to inform the lenders' representative and grant 15 days to the lenders' representative for making a representation on behalf of the senior lenders stating the intention to substitute YATL in accordance with the Substitution Agreement. If the NHAI receives a representation on behalf of the senior lenders, it shall, in its discretion, either withhold termination for a period not exceeding 180 days from the date of the representation, or exercise its right of suspension, as the case may be, to enable the lenders' representative to exercise the senior lenders' right of substitution in accordance with the Substitution Agreement. The lenders' representative may, instead of exercising the senior lenders' right of substitution, procure that the default specified in the notice is cured within the aforesaid 180 days, and upon the curing, the NHAI shall withdraw its notice and restore the rights of YATL. On a written request from the lenders' representative and YATL, the NHAI shall extend the period of 180 days by a further period not exceeding 90 days as it may deem appropriate.

Termination by YATL

In the event that any of the defaults specified below shall have occurred, and the NHAI fails to cure the default within a cure period of 90 days or such longer period as provided in the YATL Concession Agreement, the NHAI shall be deemed to be in default of the YATL Concession Agreement ("**NHAI Default**"), unless the default has occurred as a result of a breach of the YATL Concession Agreement by YATL, or due to force majeure. The default referred to herein shall include:

a) the NHAI commits a material default in complying with any of the provisions of the YATL Concession Agreement and such default has a material adverse effect on YATL;

b) the NHAI has failed to make any payment to YATL within the period specified in the YATL Concession Agreement;

c) the NHAI repudiates the YATL Concession Agreement or otherwise takes any action that amounts to or manifests an irrevocable intention not to be bound by the YATL Concession Agreement; or

d) the State of Maharashtra commits a material default in complying with the provisions of the state support agreement if such default has a material adverse effect on YATL and the breach continues for a period of 90 days from the date of notice given in this behalf by YATL to the NHAI.

Without prejudice to any other rights or remedies which YATL may have under the YATL Concession Agreement, upon the occurrence of an NHAI Default, YATL shall be entitled to terminate the YATL Concession Agreement by issuing a termination notice to the NHAI. Before issuing the termination notice, YATL shall, by notice, inform the NHAI of its intention to issue a termination notice and grant 15 days to the NHAI to make a representation, and may, after the expiry of the 15 days, whether or not it is in receipt of such representation, issue the termination notice.

Termination Payment

Upon termination on account of a YATL Default during the operation period, the NHAI shall pay to YATL, by way of termination payment, an amount equal to 90% of the YATL Debt Due less insurance cover. If any insurance claims forming part of the insurance cover are not admitted and paid, then 80% of such unpaid claims shall be included in the computation of YATL Debt Due.

Upon termination on account of an NHAI Default, the NHAI shall pay to YATL, by way of termination payment, an amount equal to:

a) YATL Debt Due; and
b) 150% of the adjusted equity.

Termination payment shall become due and payable to YATL within 15 days of a demand being made by YATL to the NHAI with the necessary particulars, and in the event of any delay, the NHAI shall pay interest at a rate equal to 3% above the bank rate on the amount of termination payment remaining unpaid. The delay shall not exceed 90 days. The termination payment under the YATL Concession Agreement shall constitute a full and final settlement of all claims of YATL on account of termination of the YATL Concession Agreement for any reason

whatsoever and YATL, or any shareholder thereof, shall not have any further right or claim under any law, treaty, convention, contract or otherwise.

Defects Liability after Termination

YATL shall be responsible for all defects and deficiencies in the YATL Project Highway for a period of 120 days after termination. YATL shall have the obligation to repair or rectify, at its own cost, all defects and deficiencies in the YATL Project Highway as observed by the independent engineer. The repair or rectification of the defect or deficiency shall be done within a period of 15 days from the date of notice issued by the NHAI in this behalf. A sum as specified in the YATL Concession Agreement shall be retained in the Escrow Account for a period of 120 days after termination for meeting the liabilities, if any, arising out of, or in connection with this provision.

Concession Agreement in relation to the Target SPV
Concession Agreement between PDTPL and the NHAI dated June 14, 2021

PTDTPL has entered into a concession agreement for the six-laning of National Corridor NH-19 from Palsit to Dankuni (upto NH-6 Connector) from KM 588.870 to KM 652.700 (total design length 63.830 km) in the State of West Bengal under Bharatmala Pariyojana to be executed on BOT (Toll) basis (the "**PDTPL Concession Agreement**"), for a period of 17 years, from April 2, 2022 ("**PDTPL Appointed Date**") or until such date on which the PDTPL Concession Agreement is terminated by a termination notice ("**PDTPL Termination Date**", and the period between the PDTPL Appointed Date and the PDTPL Termination Date, the "**PDTPL Concession Period**").

Certain Definitions

"**PDTPL Debt Due**" shall mean the aggregate of the following sums expressed in Indian Rupees outstanding on the transfer date:

a) the principal amount of the debt provided by the senior lenders under the financing agreements for financing the total project cost (the "**Principa**l") but excluding any part of the Principal that had fallen due for repayment two years prior to the transfer date;

b) all accrued interest, financing fees and charges payable under the financing agreements on, or in respect of, the debt referred to in the sub-clause above until the transfer date but excluding (i) any interest, fees or charges that had fallen due one year prior to the transfer date, (ii) any penal interest or charges payable under the financing agreements to any senior lender, and (iii) any pre-payment charges in relation to accelerated repayment of debt except where such charges have arisen due to an NHAI Default (as defined below); and

c) any subordinated debt which is included in the financing package and disbursed by lenders for financing the total project cost;

If all, or any part of the PDTPL Debt Due is convertible into equity at the option of the senior lenders and/or PDTPL, it shall, for the purposes of the PDTPL Concession Agreement, be deemed to be PDTPL Debt Due even after the conversion and the Principal thereof shall be dealt with as if such conversion had not been undertaken;

"**PDTPL Debt Service**" shall mean the sum of all payments on account of principal, interest, financing fees and charges due and payable in an accounting year to the senior lenders under the financing agreements;

"**PDTPL Project Assets**" shall mean all physical and other assets relating to and forming part of the site including (a) rights over the site in the form of licence, right of way or otherwise; (b) tangible assets such as civil works and equipment including foundations, embankments, pavements, road surface, interchanges, bridges, culverts, road overbridges, drainage works, traffic signals, sign boards, kilometre-stones, toll plazas, electrical systems, communication systems, rest areas, relief centres, maintenance depots and administrative offices; (c) project facilities situated on the site; (d) all rights of PDTPL under the project agreements; (e) financial assets, such as receivables, security deposits etc.; (f) insurance proceeds; and (g) applicable permits and authorizations relating to or in respect of the PDTPL Project Highway (as defined below), but does not include additional facilities;

"**PDTPL Project Highway**" shall mean the site comprising the existing road comprising NH-19 from km 588.870 to km 652.700 and all PDTPL Project Assets, and its subsequent development and augmentation in accordance with the PDTPL Concession Agreement;

"**PDTPL Project**" shall mean the construction, operation, and maintenance of the PDTPL Project Highway in accordance with the provisions of the PDTPL Concession Agreement, and includes all works, services, and equipment relating to and in respect of the scope of the project; and

"**Premium**" shall mean an amount payable to the NHAI by PDTPL in the form of an additional concession fee, as set forth in the bid for each year of the PDTPL Concession Period.

Grant of Concession

Subject to, and in accordance with the provisions set out in the PDTPL Concession Agreement, the applicable laws and the applicable permits, the NHAI has granted to PDTPL, and PDTPL has accepted the concession, including the exclusive right, license, and authority during the subsistence of the PDTPL Concession Agreement, to construct, operate and maintain the PDTPL Project for a period of 17 years from the PDTPL Appointed Date.

Subject to, and in accordance with the provisions of the PDTPL Concession Agreement, the concession granted shall oblige or entitle, as the case may be, PDTPL to:

h) right of way, access and license to the site for the purpose of, and to the extent conferred by the provisions of the PDTPL Concession Agreement;

i) finance and construct the PDTPL Project Highway;

j) manage, operate, and maintain the PDTPL Project Highway and regulate the use thereof by third parties;

k) demand, collect, and appropriate fee from vehicles and persons liable for payment of fee for using the PDTPL Project Highway or any part thereof and refuse entry of any vehicle if the fee due is not paid;

l) perform and fulfil all of PDTPL's obligations under and in accordance with the PDTPL Concession Agreement;

m) bear and pay all costs, expenses, and charges in connection with or incidental to the performance of the obligations of PDTPL under the PDTPL Concession Agreement; and

n) neither assign, transfer or sublet, or create any lien or encumbrance on the PDTPL Concession Agreement, or the concession granted, or on the whole or any part of the PDTPL Project Highway, nor transfer, lease, or part possession thereof, save and except as expressly permitted by the PDTPL Concession Agreement or the agreement for the substitution of PDTPL entered into by PDTPL, the NHAI, and the lenders' representative on behalf of the senior lenders (the "**Substitution Agreement**").

Fees

On and from the commercial operation date ("**COD**") till the transfer date, PDTPL shall have the sole and exclusive right to demand, collect, and appropriate fee from the users subject to, and in accordance with the PDTPL Concession Agreement and the applicable rules and regulations, provided that for ease of payment and collection, such fee shall be rounded off to the nearest five rupees in accordance with the applicable fee rules, as updated from time to time. Further, PDTPL may determine and collect fee at such lower rates as it may, by public notice to the users, specify in respect of all or any category of users or vehicles. In accordance with the PDTPL Concession Agreement, PDTPL shall not collect any fees in relation to exempted vehicles.

PDTPL shall not collect any fee from a local user for non-commercial use of the PDTPL Project Highway, and shall issue a pass in respect thereof for commuting on a section of the PDTPL Project Highway as specified in the pass and for crossing the toll plaza specified therein. For carrying out these provisions, PDTPL shall formulate, publish and implement an appropriate scheme, and make such modifications to the scheme as may reasonably be suggested by the NHAI or by local users from time to time. For defraying its expenses on issuing of passes and handling of local users, PDTPL shall be entitled to charge a monthly fee of ₹150, with reference to the base year 2007-08, to be revised annually in accordance with the fee rules to reflect the variation in WPI, and then rounded off to the nearest five rupees; provided that no passes will be required or fee collected from a vehicle that uses part of the PDTPL Project Highway and does not cross a toll plaza.

Concession Fee

In consideration of the grant of concession, PDTPL shall pay to the NHAI by way of concession fee a sum of ₹1 per annum.

Additionally, immediately after the first anniversary of the project completion date, a premium in the form of an additional concession fee for every year of the remaining concession period is payable by PDTPL. The premium to be paid for the second year after the project completion date is equal to 10.8% of the realisable fee and is required to be paid by PDTPL as due to the NHAI during that year. For subsequent years, the premium will be determined based on the total realisable fee in the respective year at the percentage to be arrived at by increasing the percentage of premium in the respective year by an additional 1% as compared to the immediately preceding year.

The concession fee payable under the provisions of the PDTPL Concession Agreement shall be due and payable in monthly instalments within seven days of the close of each month.

Escrow Account

PDTPL was required to, prior to the PDTPL Appointed Date, open and establish an escrow account (the "**Escrow Account**") with a bank (the "**Escrow Bank**") in accordance with the PDTPL Concession Agreement read with the escrow agreement entered into among PDTPL, the NHAI, the Escrow Bank and the senior lenders through the lenders' representative (the "**Escrow Agreement**").

PDTPL shall deposit, or cause to be deposited the following inflows and receipts into the Escrow Account:

a) all funds constituting the financial package;
b) all fee and any other revenues from or in respect of the PDTPL Project Highway, including the proceeds of any deposits, capital receipts or insurance claims; and
c) all payments by the NHAI, after deducting any outstanding concession fee.

The senior lenders may make direct disbursements to the EPC contractor in accordance with the express provisions contained in this behalf in the financing agreements.

Withdrawals during Concession Period

PDTPL was required to, at the time of opening the Escrow Account, give irrevocable instructions, by way of the Escrow Agreement, to the Escrow Bank instructing, *inter alia*, that deposits in the Escrow Account shall be appropriated in the following order every month, or at shorter intervals as necessary, and if not due in a month, then appropriated proportionately in such month and retained in the Escrow Account and paid out therefrom in a month when due:

a) all taxes due and payable by PDTPL for and in respect of the PDTPL Project Highway;

b) all payments relating to construction of the PDTPL Project Highway, subject to and in accordance with the conditions, if any, set forth in the financing agreements;

c) operation and management ("**O&M**") expenses, subject to the ceiling, if any, set forth in the financing agreements;

d) O&M expenses and other costs and expenses incurred by the NHAI in accordance with the provisions of the PDTPL Concession Agreement, and certified by the NHAI as due and payable to it;

e) concession fee and premium due and payable to the NHAI;

f) monthly proportionate provision of PDTPL Debt Service due in an accounting year;

g) premium due and payable to the NHAI;

h) all payments and damages certified by the NHAI as due and payable to it by PDTPL, including repayment of revenue shortfall loan. PDTPL has agreed to give irrevocable instructions to the Escrow Bank to make

payments from the Escrow Account in accordance with the instructions of the NHAI under the PDTPL Concession Agreement and debit the payment to O&M expenses;

i) monthly proportionate provision of PDTPL Debt Service payments due in an accounting year in respect of subordinated debt;

j) any reserve requirements set forth in the financing agreements; and

k) balance, if any, in accordance with the instructions of PDTPL.

PDTPL shall not, in any manner, modify the order of payment specified except with prior written approval from the NHAI.

Withdrawals upon Termination

Notwithstanding anything to the contrary contained in the PDTPL Concession Agreement, all amounts standing to the credit of the Escrow Account shall, upon termination, be appropriated in the following order:

a) all taxes due and payable by PDTPL for and in respect of the PDTPL Project Highway;

b) 90% of the PDTPL Debt Due excluding the subordinated debt;

c) outstanding concession fee;

d) all payments and damages certified by the NHAI as due and payable to it by PDTPL, including the repayment of the revenue shortfall loan. PDTPL has agreed to give irrevocable instruction to the Escrow Bank to make payment from the Escrow Account in accordance with the instructions of the NHAI under the PDTPL Concession Agreement and debit the payment to O&M expenses.

e) retention and payments relating to the liability for defects and deficiencies set forth in the PDTPL Concession Agreement;

f) outstanding PDTPL Debt Service including balance of PDTPL Debt Due;

g) outstanding subordinated debt;

h) incurred or accrued O&M expenses;

i) any other payments required to be made under the PDTPL Concession Agreement; and

j) balance, if any, in accordance with the instructions of PDTPL.

No appropriations shall be made until a vesting certificate has been issued by the NHAI.

Change of Scope

The NHAI may, notwithstanding anything to the contrary contained in the PDTPL Concession Agreement, require the provision of additional works and services which are not included in the scope of the project as contemplated by the PDTPL Concession Agreement. Any such change of scope shall be made in accordance with the provisions of the PDTPL Concession Agreement and the costs thereof shall be expended by PDTPL and reimbursed by the NHAI in accordance with the PDTPL Concession Agreement.

If PDTPL determines at any time that a change in scope is necessary for providing safer and improved services to the users, it shall, by notice in writing, require the NHAI to consider such change of scope. The NHAI shall, within 60 days of receipt of such notice, either accept the change of scope with modifications, if any, and initiate proceedings thereof in accordance with the provisions of the PDTPL Concession Agreement, or inform PDTPL in writing of its reasons for not accepting such change of scope.

Compensation for Breach of Agreement

In the event of PDTPL being in material default or breach of the PDTPL Concession Agreement, it shall pay to the NHAI by way of compensation, all direct costs suffered or incurred by the NHAI as a consequence of the material default or breach, within 30 days of the receipt of the demand supported by the necessary particulars thereof. No compensation shall be payable for any material breach or default in respect of which damages are expressly specified and payable under the PDTPL Concession Agreement.

In the event of the NHAI being in material default or breach of the PDTPL Concession Agreement at any time after the PDTPL Appointed Date, it shall pay to PDTPL by way of compensation, all direct costs suffered or incurred by PDTPL as a consequence of the material default or breach within 30 days of receipt of the demand supported by necessary particulars thereof. No compensation shall be payable for any material breach or default in respect of which damages have been expressly specified in the PDTPL Concession Agreement.

In the event that a material default or breach of the PDTPL Concession Agreement causes a delay in achieving COD or leads to suspension of, or reduction in collection of fee, as the case may be, the NHAI shall, in addition to the payment of compensation, extend the PDTPL Concession Period as provided in the PDTPL Concession Agreement. In the event that an additional toll way or a competing road, as the case may be, is opened to traffic in breach of the PDTPL Concession Agreement, the NHAI shall pay to PDTPL, for each day of the breach, compensation as provided in the PDTPL Concession Agreement, until the breach is cured. The payment of compensation by the NHAI shall be deemed to cure the breach of the PDTPL Concession Agreement so long as the NHAI continues to pay the compensation.

The compensation payable shall be in addition to, and not in substitution for, or derogation of, termination payment, if any.

Effects of Variation in Traffic Growth

Subject to the provisions of the PDTPL Concession Agreement, in the event actual average traffic shall have fallen short of the target traffic by more than 5% (five percent), then for every 1% (one percent) shortfall as compared to the target traffic, the PDTPL Concession Period shall, subject to payment of concession fee and additional concession fee in accordance with the PDTPL Concession Agreement, be increased by 1% (one percent) thereof; provided that such increase in PDTPL Concession Period shall not in any case exceed 20% (twenty percent) of the PDTPL Concession Period.

Subject to the provisions of the PDTPL Concession Agreement, in the event actual average traffic shall have exceeded the target traffic by more than 5% (five percent), then for every 1% (one percent) increase as compared to the target traffic, the PDTPL Concession Period shall be reduced by 1% (one percent) thereof; provided that such reduction in PDTPL Concession Period shall not in any case exceed 20% (ten percent) of the PDTPL Concession Period.

Notwithstanding anything to the contrary contained in the PDTPL Concession Agreement, if the average daily traffic of PCUs in any accounting year shall exceed the designed capacity of the PDTPL Project Highway, an indirect political event under the PDTPL Concession Agreement will be deemed to have occurred and the NHAI may, at its discretion, terminate the PDTPL Concession Agreement. If PDTPL has completed the construction works necessary for augmenting the capacity of the PDTPL Project Highway such that its capacity has increased sufficiently for carrying the then current traffic in accordance with the corresponding provisions of the relevant Indian Roads Congress publication, prior to the issue of a termination notice by the NHAI, the indirect political event will deemed to have been cured.

Termination of the PDTPL Concession Agreement

Termination by the NHAI

Save as otherwise provided in the PDTPL Concession Agreement, in the event that any of the defaults specified below shall have occurred, and PDTPL fails to cure the default within the cure period, or where no cure period is specified, then within a cure period of 60 days, PDTPL shall be deemed to be in default of the PDTPL Concession Agreement ("**PDTPL Default**"), unless the default has occurred solely as a result of any breach of the PDTPL Concession Agreement by the NHAI or due to force majeure. The defaults referred to herein shall include:

a) the performance security has been encashed and appropriated in accordance with the PDTPL Concession Agreement and PDTPL fails to replenish or provide fresh performance security within a cure period of 30 days;

b) subsequent to the replenishment or furnishing of fresh performance security in accordance with the PDTPL Concession Agreement, PDTPL fails to cure, within a cure period of 90 days, the PDTPL Default for which whole or part of the performance security was appropriated;

c) PDTPL does not achieve the latest outstanding project milestone due in accordance with the PDTPL Concession Agreement and continues to be in default for 90 days;

d) PDTPL abandons or manifests intention to abandon the construction or operation of the PDTPL Project Highway without the prior written consent of the NHAI;

e) project completion date does not occur within the period specified in the PDTPL Concession Agreement;

f) the punch list items have not been completed within the period set forth in the PDTPL Concession Agreement;

g) PDTPL is in breach of the maintenance requirements or the safety requirements as the case may be;

h) PDTPL has failed to make any payment to the NHAI within the period specified in the PDTPL Concession Agreement;

i) an escrow default has occurred and PDTPL fails to cure the default within a cure period of 15 days;

j) upon occurrence of a financial default, the lenders' representative has, by notice, required the NHAI to undertake suspension or termination, as the case may be, in accordance with the Substitution Agreement and PDTPL fails to cure the default within the cure period specified hereinabove;

k) a breach of the project agreements by PDTPL has caused a material adverse effect;

l) PDTPL creates an encumbrance in breach of the PDTPL Concession Agreement;

m) PDTPL repudiates the PDTPL Concession Agreement or otherwise takes any action or evidences or conveys an intention not to be bound by the PDTPL Concession Agreement;

n) a change in ownership has occurred in breach of the PDTPL Concession Agreement;

o) there is a transfer, pursuant to law either of (i) the rights and/or obligations of PDTPL under any of the project agreements, or of (ii) all or part of the assets or undertaking of PDTPL, and such transfer causes a material adverse effect;

p) an execution levied on any of the assets of PDTPL has caused a material adverse effect;

q) PDTPL is adjudged bankrupt or insolvent, or if a trustee or receiver is appointed for PDTPL or for the whole or material part of its assets that has a material bearing on the PDTPL Project;

r) PDTPL has been, or is in the process of being liquidated, dissolved, wound-up, amalgamated or reconstituted in a manner that would cause, in the reasonable opinion of the NHAI, a material adverse effect;

s) a resolution for winding up of PDTPL is passed, or any petition for winding up of PDTPL is admitted by a court of competent jurisdiction and a provisional liquidator or receiver is appointed and such order has not been set aside within 90 days of the date thereof, or PDTPL is ordered to be wound up by a court except for the purpose of amalgamation or reconstruction, provided that, as part of such amalgamation or reconstruction, the entire property, assets and undertaking of PDTPL are transferred to the amalgamated or reconstructed entity and that the amalgamated or reconstructed entity has unconditionally assumed the obligations of PDTPL under the PDTPL Concession Agreement and the project agreements; provided that:

    i) the amalgamated or reconstructed entity has the capability and operating experience necessary for the performance of its obligations under the PDTPL Concession Agreement and the project agreements;

ii) the amalgamated or reconstructed entity has the financial standing to perform its obligations under the PDTPL Concession Agreement and the project agreements and has a creditworthiness at least as good as that of PDTPL as at the PDTPL Appointed Date; and

iii) each of the project agreements remains in full force and effect;

t) any representation or warranty of PDTPL which is, as of the date hereof, found to be materially false, incorrect or misleading or PDTPL is at any time hereafter found to be in breach thereof;

u) PDTPL submits to the NHAI any statement, notice or other document, in written or electronic form, which has a material effect on the NHAI's rights, obligations or interests and which is false in material particulars;

v) PDTPL has failed to fulfil any obligation, for which failure termination has been specified in the PDTPL Concession Agreement; or

w) PDTPL commits a default in complying with any other provision of the PDTPL Concession Agreement if such default causes a material adverse effect on the NHAI.

Without prejudice to any other rights or remedies which the NHAI may have under the PDTPL Concession Agreement, upon the occurrence of a PDTPL Default, the NHAI shall be entitled to terminate the PDTPL Concession Agreement by issuing a termination notice to PDTPL. Before issuing the termination notice, the NHAI shall, by notice, inform PDTPL of its intention to issue a termination notice and grant 15 days to PDTPL to make a representation, and may, after the expiry of the 15 days, whether or not it is in receipt of such representation, issue the termination notice subject to the provisions of the PDTPL Concession Agreement.

If there are senior lenders, the NHAI shall send a copy of its notice of intention to issue a termination notice to inform the lenders' representative and grant 30 days to the lenders' representative for making a representation on behalf of the senior lenders stating the intention to substitute PDTPL in accordance with the Substitution Agreement. If the NHAI receives a representation on behalf of the senior lenders, it shall, in its discretion, either withhold termination for a period not exceeding 180 days from the date of the representation, or exercise its right of suspension, as the case may be, to enable the lenders' representative to exercise the senior lenders' right of substitution in accordance with the Substitution Agreement. The lenders' representative may, instead of exercising the senior lenders' right of substitution, procure that the default specified in the notice is cured within the aforesaid 180 days, and upon the curing, the NHAI shall withdraw its notice and restore the rights of PDTPL. On a written request from the lenders' representative and PDTPL, the NHAI shall extend the period of 180 days by a further period not exceeding 90 days as it may deem appropriate.

Termination by PDTPL

In the event that any of the defaults specified below shall have occurred, and the NHAI fails to cure the default within a cure period of 90 days or such longer period as provided in the PDTPL Concession Agreement, the NHAI shall be deemed to be in default of the PDTPL Concession Agreement ("**NHAI Default**"), unless the default has occurred as a result of a breach of the PDTPL Concession Agreement by PDTPL, or due to force majeure. The default referred to herein shall include:

e) the NHAI commits a material default in complying with any of the provisions of the PDTPL Concession Agreement and such default has a material adverse effect on PDTPL;

f) the NHAI has failed to make any payment to PDTPL within the period specified in the PDTPL Concession Agreement;

g) the NHAI repudiates the PDTPL Concession Agreement or otherwise takes any action that amounts to or manifests an irrevocable intention not to be bound by the PDTPL Concession Agreement; or

h) the State of West Bengal commits a material default in complying with the provisions of the state support agreement if such default has a material adverse effect on PDTPL and the breach continues for a period of 90 days from the date of notice given in this behalf by PDTPL to the NHAI.

Without prejudice to any other rights or remedies which PDTPL may have under the PDTPL Concession Agreement, upon the occurrence of an NHAI Default, PDTPL shall be entitled to terminate the PDTPL Concession Agreement by issuing a termination notice to the NHAI. Before issuing the termination notice, PDTPL shall, by notice, inform the NHAI of its intention to issue a termination notice and grant 30 days to the NHAI to make a representation, and may, after the expiry of the 30 days, whether or not it is in receipt of such representation, issue the termination notice.

Termination Payment

Upon termination on account of a PDTPL Default during the operation period, the NHAI shall pay to PDTPL, by way of termination payment, an amount equal to 90% of the PDTPL Debt Due less insurance cover. If any insurance claims forming part of the insurance cover are not admitted and paid, then 80% of such unpaid claims shall be included in the computation of PDTPL Debt Due.

Upon termination on account of an NHAI Default, the NHAI shall pay to PDTPL, by way of termination payment, an amount equal to:

a) PDTPL Debt Due; and
b) 150% of the adjusted equity.

The termination payment shall not be less than an amount equal to the product of six and the average monthly fee actually realized 12 months prior to the transfer date.

Termination payment shall become due and payable to PDTPL within 30 days of a demand being made by PDTPL to the NHAI with the necessary particulars, and in the event of any delay, the NHAI shall pay interest at a rate equal to 3% above the bank rate on the amount of termination payment remaining unpaid. The delay shall not exceed 90 days. The termination payment under the PDTPL Concession Agreement shall constitute a full and final settlement of all claims of PDTPL on account of termination of the PDTPL Concession Agreement for any reason whatsoever and PDTPL shall not have any further right or claim under any law, treaty, convention, contract or otherwise.

Defects Liability after Termination

PDTPL shall be responsible for all defects and deficiencies in the PDTPL Project Highway for a period of 120 days after termination. PDTPL shall have the obligation to repair or rectify, at its own cost, all defects and deficiencies in the PDTPL Project Highway as observed by the independent engineer. The repair or rectification of the defect or deficiency shall be done within a period of 15 days from the date of notice issued by the NHAI in this behalf. A sum as specified in the PDTPL Concession Agreement shall be retained in the Escrow Account for a period of 120 days after termination for meeting the liabilities, if any, arising out of, or in connection with this provision.

REGULATIONS AND POLICIES

The following description is a summary of certain key regulations and policies which are applicable to the operations of the Trust, the Project SPVs and the Target SPV. The information detailed in this section has been obtained from publications available in the public domain. The regulations set out below may not be exhaustive, and are only intended to provide general information to the investors and are neither designed nor intended to substitute for professional legal advice. The information in this section is based on the current provisions of applicable law that are subject to change or modification by subsequent legislative, regulatory, administrative or judicial decisions in India.

Laws Relating to the Business and Operations of the Trust, the Project SPVs and the Target SPV

The primary central legislations governing the road sector are the National Highways Act, 1956 (the "**NH Act**") and the National Highways Authority of India Act, 1988 (the "**NHAI Act**").

The NH Act

In accordance with the NH Act, the GoI is vested with the power to declare a highway as a national highway and also to acquire land for this purpose. The GoI may, by notification, declare its intention to acquire any land when it is satisfied that, for a public purpose, such land is required for the building, maintenance, management or operation of a national highway, or part thereof. The NH Act prescribes the procedure for such land acquisition. Such procedure includes, *inter-alia*, a declaration of an intention to acquire, entering and inspecting such land, hearing of objections, a declaration of the acquisition and the power to take possession. The NH Act also provides for payment of compensation to owners and any other person whose right of enjoyment in the land has been affected.

The GoI is responsible for the development and maintenance of national highways. However, it may direct that such functions may also be exercised by the government of a state in which the highway is located or by any officer or authority subordinate to the GoI or to the state government. Further, the GoI has the power to enter into an agreement with any person for the development and maintenance of a part or whole of the highway. Such person would have the right to collect and retain fees at such rates as may be notified by the GoI and will also have the powers to regulate and control the traffic, for proper management of the highway, in accordance with the provisions of the Motor Vehicles Act, 1988, as amended. The GoI also has the power to make rules for carrying out the purposes of the NH Act.

National Highways Fee (Determination of Rates and Collection) Rules, 2008

The National Highways Fee (Determination of Rates and Collection) Rules, 2008 (the "**NH Fee Rules**"), regulates the collection of fees for the use of national highways. In accordance with the NH Fee Rules, the GoI may, by a notification, levy a fee for use of any section of a national highway, permanent bridge, bypass or tunnel forming part of a national highway, as the case may be. However, the GoI may, by notification, exempt any section of a national highway, permanent bridge, bypass or tunnel constructed through a public funded project from levy of such fee.

The NH Fee Rules supersede the National Highways (Temporary Bridges) Rules, 1964, the National Highways (Collection of Fees by any Person for the Use of Section of National Highways/ Permanent Bridge/ Temporary Bridge on National Highways) Rules, 1997, the National Highways (Fees for the use of National Highways Section and Permanent Bridges – Public Funded Project) Rules, 1997 and the National Highways (Rate of Fees) Rules, 1997 other than in respect of things done or omitted to be done under such rules prior to supersession. The NH Fee Rules do not apply to agreements and contracts executed or bids invited prior to the publication of such rules, i.e., prior to December 5, 2008.

The collection of fees in case of a public funded project shall commence within 45 days from the date of completion of the project. The NH Fee Rules further provide a base rate of fees applicable for the use of a section of the national highway for different categories of vehicles and the fees collected by the executing authority shall be remitted to the GoI. However, the GoI may, by notification, allow any or all of the executing authorities to appropriate the whole, or part of such fees for purposes as may be specified.

FASTag lanes on fee plazas is a policy initiative of the GoI in which there is an exclusive lane in the fee plaza for movement of vehicles fitted with FASTag. The FASTag is a device which is fitted on the front windscreen of

vehicles to indicate online toll payment. The amended NH Fee Rules impose a penalty equivalent to two times the fee applicable if a vehicle not fitted with FASTag enters the exclusive FASTag lane. However, in case a user is unable to pay, due to malfunctioning electronic toll collection infrastructure, the user will be permitted to pass the fee plaza without payment.

The NH Fee rules were also amended to provide that the driver or owner of a mechanical vehicle which is loaded in excess of permissible load specified for its category, (i) shall not be permitted to use the national highway or cross the fee plaza until the excess load has been removed, and (ii) shall be liable to pay a fee to the toll collection agency equal to ten times of the fee applicable to such category of mechanical vehicle. However, in case no weighbridge has been installed at the toll plaza, no fee for overloading shall be levied.

The National Highways Rules, 1957

The National Highway Rules, 1957 (the "**NH Rules**") provide that in situations where the estimate cost of the execution of any original work on a national highway exceeds ₹1,000,000, a detailed estimated of the cost is to be forwarded to the GoI. An application for allotment of funds for meeting expenditure on an original work on a national highway must also be made to the GoI. The executing agency of the highway is required to furnish monthly progress reports and a completion report on the conclusion of the work. The NH Rules also give the consulting engineer of the GoI the right to inspect the work while it is in progress or after completion.

The NHAI Act

NHAI

The National Highways Authority of India (the "**NHAI**") was constituted pursuant to the NHAI Act and became operational in 1995. The NHAI Act details the functions the NHAI, which primarily are the development, maintenance and management of national highways and any other highways vested in, or entrusted to it, by the GoI, and matters connected therewith or incidental thereto. In accordance with the NHAI Act, the GoI carries out development and maintenance of the national highway system through NHAI. Subject to the provisions of the NHAI Act, the NHAI has the power to enter into and perform any contract necessary for the discharge of its functions. The NHAI has the power to acquire any land to discharge its functions, and such acquired land will be deemed to be land needed for a public purpose. The NHAI Act prescribes a limit in relation to the value of the contracts that may be entered into by NHAI. However, the NHAI may enter into contracts exceeding the specified value, on obtaining prior approval of the GoI. The NHAI Act provides that the contracts for acquisition, sale, or lease of immovable property on behalf of the NHAI cannot exceed a term of 30 years unless previously approved by the GoI.

As per the NHAI Works Manual, 2006, NHAI's mandate is the time and cost bound implementation of the National Highways Development Project (the "**NHDP**"). The sources of finance available to the NHAI include fund assistance from external funding agencies like the World Bank and the Asian Development Bank. NHDP Phase – I also strives to provide road connectivity to major ports. NHAI's role encompasses involving the private sector in provision, maintenance and operation of the national highways.

Financing of the NHDP

The GoI, under the Central Road Fund Act, 2000 created a fund which is required to be utilized for the development and maintenance of national highways (the "**Central Road Fund**"). Section 18 of the NHAI Act also provides for the creation of a separate NHAI Fund. Any capital grant or aid received, loan taken, borrowing made, or any other sum received by the NHAI is credited to the NHAI Fund. Certain sources for financing of the NHDP are through dedicated accruals under the Central Road Fund by levy of cess on fuel as well as involving the private sector and encouraging public private partnerships. The NHDP is also financed through long-term external loans from the World Bank, the Asian Development Bank and the Japan Bank for International Cooperation as well as through tolling of roads for different projects undertaken by the NHAI.

Private Participation in NHDP

In an effort to attract private sector participation in the NHDP, the NHAI has formulated model concession agreements where a private entity being the concessionaire is awarded a concession to build, operate and collect toll on a road for a specified period of time, which is usually up to 30 years.

The bidding for the projects takes place in two stages as per the process provided below:

1. in the pre-qualification stage, the NHAI selects certain bidders on the basis of technical and financial expertise, prior experience in implementing similar projects and previous track record; and

2. in the second stage, the NHAI invites commercial bids from the pre-qualified bidders on the basis of which the right to develop the project is awarded.

In accordance with the model concession agreement for projects above ₹1,000 million, the concessionaire meets the upfront cost and expenditure on annual maintenance and recovers the entire cost along with the interest from toll collections during the concession period. As per the 'Guidelines for Investment in Road Sector' issued by the Ministry of Shipping, Road Transport and Highways ("**MoRTH**") in 2009, in order to increase the viability of projects, a capital grant of up to 40% of the project cost is provided by the NHAI or the GoI. The quantum of grant is determined on a case to case basis and typically constitutes the bid parameter in Build, Operate, Transfer ("**BOT**") projects which are generally not viable based on toll revenue alone. For certain projects with high traffic volumes, concessionaire also offers a negative grant (i.e., premium) to the NHAI. The concessionaire at the end of the concession period transfers the road back to the Government (free of charge and clear of all encumbrances). The concessionaire's investment in the road is recovered directly through user fees collected by way of tolls. As per the model concession agreement for annuity based projects, the concessionaire is required to meet the entire upfront cost (no grant is paid by the NHAI or the GoI) and the expenditure on annual maintenance for annuity based projects. The concessionaire recovers the entire investment through pre-determined annuity payments to be made by the NHAI or the GoI. Furthermore, MoRTH approved certain amendments to the model concession agreement, *inter-alia*, in relation to deferment of premium payments.

Exit Policy

The CCEA in May 2015 approved a comprehensive exit policy framework with the objective to mobilize funds in the market. This policy framework now permits divestment of 100% equity by concessionaires/developers after two years of completion of construction to facilitate unlocking of funds for new projects. The equity divested is required to be invested by promoters in their new projects. This comprehensive exit policy framework is expected to harmonize certain conditions across all concessions signed prior to 2009 with the policy framework for post 2009 contracts which permit divestment of equity up to 100%, two years after completion of construction.

Rationalized Compensation

The CCEA in November 2015 approved a policy for rationalized compensation to concessionaires for languishing national highway projects in BOT mode for delays that are not attributable to the concessionaires. Under the policy, the NHAI is authorized to allow an extension of the concession period for BOT (Toll) projects while keeping the original operation period unchanged. The NHAI has also been authorised to pay compensatory annuities to the concessionaire corresponding to the actual period of delay that is not attributable to the concessionaire upon successful completion of the project. In these cases, the construction period will be enhanced but the tenure of the concession will remain unchanged.

One Time Fund Infusion

The CCEA in October 2015 gave its approval to the NHAI for a one-time infusion of funds with the purpose of reviving and physically completing stalled projects in the advanced stages of completion. As per the policy, the amount of funds required in each case shall be approved by NHAI on a case to case basis.

Bidder Information

MoRTH has developed the Bidder Information Management System ("**BIMS**") to streamline the process of pre-qualification of bidders for EPC mode of contracts for all national highway works, with enhanced transparency and objectivity. BIMS works as a data base of bidder information that covers basic details, civil works experience, cash accruals and network, and annual turnover so that bidders' pre-qualification can be assessed based on evaluation parameters like threshold capacity and bid capacity from already stored data and the technical evaluation can be carried out in a faster manner.

Land Acquisition

While land is acquired for national highway projects under the NH Act, the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 (the "**Land Acquisition Act**") must also be complied with. MoRTH has issued comprehensive guidelines on land acquisition for national highways taking into account the applicability of the Land Acquisition Act.

Arbitral Awards

CCEA on August 31, 2016 approved various measures to revive the construction sector. An office memorandum dated September 5, 2016 was issued by the National Institute for Transforming India with certain proposals. On November 20, 2019, the CCEA approved certain proposals in relation to the arbitrations by or against government entities, for the effective implementation of the CCEA's decision on August 31, 2016 on its initiatives to revive the construction sector. Initially, the CCEA had approved the proposal that government agencies will be required to pay 75% of the arbitral award to the concessionaire against a bank guarantee, in cases where the award already announced is challenged. However, pursuant to a press release dated November 20, 2019, the CCEA approved, *inter-alia*, that where a government entity has challenged an arbitral award, resultant of which the amount of the arbitral award has not been paid, 75% of such award will be paid by the government entity to the contractor or the concessionaire against a bank guarantee only for the said 75% and not for its interest component. In relation to interest payable to the government entity, if a subsequent court order required the refund of 75% of the amount, the payment of such amounts will be required to be made as per the court orders.

Policy Framework in light of COVID-19

The NHAI issued a policy titled *'Relief Measures to the BOT (Toll) Concessionaires from the impact of COVID-19."* dated May 26, 2020 (the "**Policy**"), which, *inter-alia*, included provisions for (i) extension in the concession period equal in length to the period during which the toll collection was suspended by the NHAI; (ii) extension in the concession period in the event of partial collection of fee where the daily collection is less than 90% of the average daily fee (as defined in the Policy); and (iii) exemption from payment of concession fee during which the toll collection was suspended by the NHAI. A concessionaire would be required to pay additional concession fee / premium during the extended period which would be calculated based on the provisions of the model concession agreement; and (iv) in the event that the daily collection fee was less than 90% of the average daily fee and the concessionaire was able to collect some user fee, the extension of the concession period would take into account the portion of user fee collected. The concessionaire would be required to pay proportionate additional concession fee/premium with respect to any fee collections. NHAI further extended the relief measures in view of COVID-19 pursuant to circulars dated August 31, 2021 and January 17, 2022.

Policy on forceful stoppage of toll collection due to farmers' agitation – Relief to be provided to concessionaires

The NHAI issued a circulated dated July 2, 2021 in connection with the stoppage of toll collection by protests in relation to certain agricultural laws across the country. The circular is applicable to all BOT projects of the NHAI based on the model concession agreement issued post 2009.

The impact of the farmers' agitation has been considered as an indirect political force majeure event under the concession agreement. The corresponding impact on the concession period is to be dealt as per the relevant provisions of the concession agreement in relation to extension of concession period after COD, which states, *inter-alia*, that in case the concessionaire was unable to collect fee despite making best efforts or the NHAI directed suspension of toll collection during the subsistence of a force majeure event, the concession period will be extended by a period equal in length to the period during which the concessionaire was prevented from collection of fee. Further, in the event of partial collection of fee where the daily collection is less than 90% of the average daily fee, the NHAI will extend the concession period in proportion to the loss of fee on a daily basis.

The circular also provides for reimbursement of force majeure costs by the NHAI to the concessionaire, to the extent of half of the excess amount, where force majeure costs exceed insurance cover. The circular also prescribes guidelines for reimbursement of and calculation of force majeure costs, including in relation to interest payment on debt and O&M expenses.

Indian Tolls Act, 1851

In accordance with the Indian Tolls Act, 1851 (the "**Tolls Act**"), state governments have been vested with the power to levy tolls at such rates as they deem fit, to be levied upon any road or bridge, made or repaired at the

expense of the GoI or any state government. The tolls levied under the Tolls Act, are deemed to be 'public revenue' and the collection of tolls can be placed under the management of any person the state governments' may deem fit. Such persons are instructed with the same responsibilities as if they were employed in the collection of land revenue. Further, all police officers are bound to assist the toll collectors when required in the implementation of the Tolls Act. The Tolls Act further gives power for recovery of toll and exempts certain category of people from payment of toll.

Provisions under the Constitution of India and other legislations in relation to collection of toll

Entry 59, List II of Schedule VII read with Article 246 of the Constitution of India vests state governments with the power to levy tolls. Further, in accordance with the Tolls Act, state governments have been vested with the power to levy tolls at such rates as they deem fit.

Control of National Highways (Land and Traffic) Act, 2002

The Control of National Highways (Land and Traffic) Act, 2002 (the "**Control of NH Act**") provides for control of land within national highways, right of way and traffic moving on national highways and also for removal of unauthorised occupation thereon.

In accordance with the provisions of the Control of NH Act, the GoI has established the Highway Administration which is governed by Highway Administration Rules, 2004. Its functions include maintenance of land records and issuance of permits. Under the Control of NH Act, all land that forms part of a highway which vests in the GoI, or that which does not already vest in the GoI but has been acquired for the purpose of highways shall be deemed to be the property of the GoI. The Control of NH Act prohibits any person from occupying any highway land or discharging any material through drain on such land without the permission of the Highway Administration or any officer authorised by such administration. The Control of NH Act permits the grant of lease and license for use of highway land for temporary use.

Other Laws and Regulations

In addition to the aforementioned legislations which are applicable to the Trust, the Project SPVs and the Target SPV, certain other material legislations that are applicable to the operations of the Trust, the Project SPVs and the Target SPV are set out below.

In addition to such legislations, we are also required to comply with the provisions of various tax-related legislations, intellectual-property related legislations and other applicable law for our day-to-day operations.

Indian Trusts Act, 1882

The Indian Trusts Act, 1882 ("**Trusts Act**") governs all private trusts in India.

The Trusts Act sets out the purpose for which private trusts can be established, the manner in which they may be created, executed and extinguished. The person creating a trust under the Trusts Act is the author of such trust, the person to whom the author grants the power and authority to regulate the trust is the trustee and the persons for whose benefit such trust has been created are the beneficiaries of such trust. The Trust Act sets out the rights, duties, liabilities and powers of the trustees and the beneficiaries *vis-a-vis* the trust. The Trust has been settled in accordance with the provisions of the Trusts Act.

InvIT Regulations

The InvIT Regulations set out the framework for infrastructure investment trusts and the registration and regulation thereof. An infrastructure investment trust is required to obtain a certificate of registration from the SEBI. The InvIT Regulations prescribe, *inter-alia*, the eligibility criteria and the rights and responsibilities of the parties to an infrastructure investment trust, namely its sponsor, investment manager, trustee and project manager; and the rights and responsibilities of the valuer and auditor of an infrastructure investment trust. Parties to an infrastructure investment trust are required to maintain the eligibility conditions specified under the InvIT Regulations of the InvIT Regulations on an ongoing basis. Infrastructure investment trusts and parties to infrastructure investment trusts are also required to comply with the code of conduct prescribed under the InvIT Regulations.

Environment Regulation

Infrastructure projects must also ensure compliance with environmental legislation such as the Water (Prevention and Control of Pollution) Act, 1974 ("**Water Pollution Act**"), the Air (Prevention and Control of Pollution) Act, 1981 ("**Air Pollution Act**") and the Environment Protection Act, 1986 ("**Environment Act**"). The Water Pollution Act aims to prevent and control water pollution. This legislation provides for the constitution of a Central Pollution Control Board and State Pollution Control Boards. The functions of the Central Pollution Control Board include, *inter alia*, coordination of activities of the State Pollution Control Boards, collecting data relating to water pollution and the measures devised for the prevention and control of water pollution and prescription of standards for streams or wells. The State Pollution Control Boards are responsible for, *inter alia*, the planning for programmes for prevention and control of pollution of streams and wells, collecting and disseminating information relating to water pollution and its prevention and control, inspection of sewage or trade effluents, works and plants for their treatment and to review the specifications and data relating to plants set up for treatment and purification of water, laying down or annulling the effluent standards for trade effluents and for the quality of the receiving waters, and laying down standards for treatment of trade effluents to be discharged. This legislation prohibits any person from establishing any industry, operation or process or any treatment and disposal system, which is likely to discharge trade effluent into a stream, well or sewer, or bring into use any new or altered outlet for discharge of sewage, or begin to make any new discharge of sewage without taking prior consent of the State Pollution Control Board.

The Central and State Pollution Control Boards constituted under the Water Pollution Act are also to perform functions as per the Air Pollution Act for the prevention and control of air pollution. The Air Pollution Act aims for the prevention, control and abatement of air pollution. It is mandated under this Act that no person can, without the previous consent of the State Pollution Control Board, establish or operate any industrial plant in an air pollution control area as notified by the State Government. The Environment Act has been enacted for the protection and improvement of the environment. The Environment Act empowers the GoI to take measures to protect and improve the environment such as by laying down standards for emission or discharge of pollutants, providing for restrictions regarding areas where industries may operate and so on. The GoI may make rules for regulating environmental pollution. With respect to forest conservation, the Forest (Conservation) Act, 1980 prevents state governments from making any order directing that any forest land be used for a non-forest purpose or that any forest land is assigned through lease or otherwise to any private person or corporation not owned or managed or controlled by the Government without the prior approval of the GoI. The Ministry of Environment and Forests (the "**MoEF**") mandates that Environment Impact Assessment ("**EIA**") must be conducted for specified projects. In the process, the MoEF receives proposals for the setting up of projects and assesses their impact on the environment before granting clearances to the projects.

The EIA Notification S.O. 1533, issued on September 14, 2006 (the "**EIA Notification**") and amended from time to time, under the provisions of the Environment Act, prescribes that new construction of specified projects require prior environmental clearance from the MoEF. The environmental clearance must be obtained from the MoEF according to the procedure specified in the EIA Notification. No construction work or preparation of land by the project management except for securing the land, relating to the setting up of a specified project can be undertaken until such clearance is obtained. Under the EIA Notification, the environmental clearance process for new projects consists of four stages – screening, scoping, public consultation and appraisal. After completion of public consultation, the applicant is required to make appropriate changes in the draft 'EIA Report' and the 'Environment Management Plan.' The final EIA Report has to be submitted to the concerned regulatory authority for appraisal. The regulatory authority is required to give its decision within 105 days of the receipt of the final EIA Report. The EIA Guidance Manual for Highways, 2010 explains the four stages of the environmental clearance process and the contents of the EIA Report required to be submitted by highway projects.

Public Liability Insurance Act, 1991

The Public Liability Insurance Act, 1991 (the "**Public Liability Act**"), imposes liability on the owner or controller of hazardous substances for any damage arising out of an accident involving such hazardous substances. A list of 'hazardous substances' covered by the legislation has been enumerated by the Government by way of a notification. The owner or handler is also required to take out an insurance policy insuring against liability under the legislation. The rules made under the Public Liability Act mandate that the employer has to contribute towards the Environment Relief Fund, a sum equal to the premium paid on the insurance policies. This amount is payable to the insurer.

Green Highways (Plantation, Transplantation, Beautification and Maintenance) Policy, 2015

In September 2015, MoRTH has launched Green Highways (Plantation, Transplantation, Beautification and Maintenance) Policy, 2015 which will require road developers to earmark one per cent of a project's total cost for planting of trees and shrubs across the national highways. Under this policy, the maintenance of such plantations will be outsourced through a bidding process to plantation agencies. MoRTH/NHAI will appoint the authorized agency for empanelment of such plantation agencies.

Foreign Investment Regulations

Foreign investment in Indian securities is governed by the provisions of the FEMA, read with the applicable FEMA Rules, the FEMA (Mode of payment and Reporting of Non-Debt Instruments) Regulations, 2019 and the consolidated FDI Policy issued by the Department for Promotion of Industry and Internal Trade, Ministry of Commerce and Industry, Government. Foreign investment is permitted (except in the prohibited sectors) either through the automatic route or the approval route, depending upon the sector in which foreign investment is sought to be made. Under the FEMA Rules and the current consolidated FDI Policy, effective from October 15, 2020, an infrastructure investment trust registered and regulated by the SEBI under the InvIT Regulations, being an 'investment vehicle', is permitted to receive foreign investment from a person resident outside India subject to the terms and conditions specified in the FEMA Rules.

All investments by entities of a country which shares land border with India or where the beneficial owner of an investment into India is situated in or is a citizen of any such country will require prior approval of the Government of India. Further, in the event of transfer of ownership of any existing or future foreign direct investment in an entity in India, directly or indirectly, resulting in the beneficial ownership falling within the purview of the above restriction, such subsequent change in the beneficial ownership will also require approval of the Government of India. A multilateral bank or fund, of which India is a member, shall not be treated as an entity of a particular country nor shall any country be treated as the beneficial owner of the investments of such bank or fund in India.

Downstream investment by an infrastructure investment trust shall be regarded as indirect foreign investment if either the sponsor or the investment manager of such an infrastructure investment trust is not Indian 'owned and controlled' as defined in FEMA Rules.

Downstream investment by an 'investment vehicle' is required to conform to the sectoral caps and conditions/restrictions, if any, as applicable to the company in which the downstream investment is made as per the FDI Policy. Foreign investment of up to 100% through the automatic route is permitted in the infrastructure sector in India. An infrastructure investment trust that receives foreign investment shall be required to make such report and in such format to the RBI or to the SEBI as may be prescribed by them from time to time.

The payment for the units of an infrastructure investment trust acquired by a person resident or registered/ incorporated outside India shall be made in accordance with the Foreign Exchange Management (Deposit) Regulations, 2016 and other applicable law.

Further, any person who is a non-resident and holds units of an infrastructure investment trust in accordance with the FEMA Rules may pledge such units (i) in favor of a bank in India to secure the credit facilities being extended to the Indian company for bona fide purposes; (ii) in favor of an overseas bank to secure the credit facilities being extended to the person, or a person resident outside India who is the promoter of the Indian company or the overseas group company of the Indian company; (iii) in favor of a Non-Banking Financial Company registered with the RBI to secure credit facilities being extended to the Indian company for bona fide purposes; and (iv) subject to the authorized dealer bank satisfying itself of the compliance of the conditions stipulated by the RBI in this regard.

Laws Relating to Employment

Certain other laws and regulations that may be applicable to the Trust, the Project SPVs and the Target SPV include the following:

- Contract Labour (Regulation and Abolition) Act, 1970;
- Payment of Wages Act, 1936;
- Payment of Bonus Act, 1965;
- Employees' State Insurance Act, 1948;
- Employees' Provident Funds and Miscellaneous Provisions Act, 1952;

- Equal Remuneration Act, 1976;
- Payment of Gratuity Act, 1972;
- Shops and Commercial Establishments Acts, where applicable;
- Minimum Wages Act 1948;
- Industrial Disputes Act, 1947;
- Employees Compensation Act, 1923;
- The Code of Wages, 2019;
- The Occupational Safety, Health and Working Conditions Code, 2020;
- The Industrial Relations Code, 2020; and
- The Code on Social Security, 2020

The Code on Wages, 2019 will come into force on such date as may be notified in the official gazette of India by the central government. Once effective, it will subsume the Equal Remuneration Act, 1976, the Minimum Wages Act, 1948, the Payment of Bonus Act, 1965 and the Payment of Wages Act, 1936. However, certain provisions of relating to the central advisory board have been brought into force by the Ministry of Labor and Employment. Further, the Occupational Safety, Health and Working Conditions Code, 2020, the Industrial Relations Code, 2020 and the Code on Social Security, 2020 will subsume various legislations including the Contract Labour (Regulation and Abolition) Act, 1970, the Industrial Disputes Act, 1947, the Employees Compensation Act, 1923, the Employees' State Insurance Act, 1948, the Employees' Provident Funds and Miscellaneous Provisions Act, 1952, the Maternity Benefit Act, 1961 and the Payment of Gratuity Act, 1972, upon being brought into force.

LEVERAGE

The following tables present (a) the capital structure of the Trust (including any borrowings or deferred payments) on a consolidated basis and a standalone basis as at December 31, 2021; (b) the capital structure of each of the Project SPVs (including any borrowings or deferred payments) on a standalone basis as at December 31, 2021; and (c) the capital structure of the Target SPV (including any borrowings or deferred payments) as at December 31, 2021.

The information presented below should be read in conjunction with the sections "*Objects of the Issue*", "*Financial Statements*" and "*Management's Discussion and Analysis of Financial Condition and Results of Operations*" on pages 66, 271 and 355, respectively.

Consolidated capital structure of the Trust (including any borrowings or deferred payments)

Particulars	As at December 31, 2021	
	Pre-Issue (₹ in millions)	Post-Issue[(1)] (₹ in millions)
Shareholders' Funds:		
Unit Capital	85,504.33	87,947.31
Subordinate Debt	-	-
Other Equity	(6,923.51)	(6,923.51)
Total Shareholders' Funds	**78,580.82**	**81,023.80**
Borrowings		
Borrowings from related parties	4,024.74	4,024.74
Long term borrowings	93,686.54	93,686.54
Current maturities of long term borrowings	589.99	589.99
Total Debt	98,301.27	98,301.27
Total Capitalization	**176,882.09**	**179,325.07**

[(1)] Assuming full subscription in this Issue. As adjusted to reflect the number of Units issued pursuant to this Issue and the use of proceeds from this Issue.

Standalone capital structure of the Trust (including any borrowings or deferred payments)

Particulars	As at December 31, 2021	
	Pre-Issue (₹ in millions)	Post-Issue[(1)] (₹ in millions)
Shareholders' Funds:		
Unit Capital	85,504.33	87,947.31
Subordinate Debt	-	-
Other Equity	5,381.99	5381.99
Total Shareholders' Funds	**90,886.32**	**93,311.32**
Borrowings		
Borrowings from related parties	3,546.93	3,546.93
Long term borrowings	-	-
Current maturities of long term borrowings	-	-
Total Debt	3,546.93	3,546.93
Total Capitalization	94,433.25	96,876.23

[(1)] Assuming full subscription in this Issue. As adjusted to reflect the number of Units issued pursuant to this Issue and the use of proceeds from this Issue.

Standalone capital structure of the Project SPVs (including any borrowings or deferred payments)

AETL

Particulars	As at December 31, 2021	
	Pre-Issue (₹ in millions)	Post-Issue (₹ in millions)
Shareholders' Funds:		
Equity Share Capital	4,365.00	4,365.00
Subordinate Debt	10,265.88	10,265.88
Other Equity	(2,932.80)	(2,932.80)
Total Shareholders' Funds	**11,698.08**	**11,698.08**
Borrowings		
Borrowings from related parties	10,007.30	10,007.30
Long term borrowings	7,225.80	7,225.80
Current maturities of long term borrowings	64.74	64.74
Total Debt	17,297.84	17,297.84
Total Capitalization	**28,995.92**	**28,995.92**

CGTL

Particulars	As at December 31, 2021	
	Pre-Issue (₹ in millions)	Post-Issue (₹ in millions)
Shareholders' Funds:		
Equity Share Capital	2,035.00	2,035.00
Subordinate Debt	2,727.80	2,727.80
Other Equity	897.41	897.41
Total Shareholders' Funds	**5,660.21**	**5,660.21**
Borrowings		
Borrowings from related parties	316.30	316.30
Long term borrowings	13,942.17	13,942.17
Current maturities of long term borrowings	64.49	64.49
Total Debt	14,322.96	14,322.96
Total Capitalization	**19,983.17**	**19,983.17**

IRB HMTL

Particulars	As at December 31, 2021	
	Pre-Issue (₹ in millions)	Post-Issue (₹ in millions)
Shareholders' Funds:		
Equity Share Capital	3,715.00	3,715.00
Subordinate Debt	9,414.76	9,414.76
Other Equity	451.63	451.63
Total Shareholders' Funds	**13,581.38**	**13,581.38**
Borrowings		
Borrowings from related parties	20.26	20.26
Long term borrowings	13,509.81	13,509.81

Particulars	As at December 31, 2021	
	Pre-Issue (₹ in millions)	Post-Issue (₹ in millions)
Current maturities of long term borrowings	59.93	59.93
Total Debt	13,590.00	13,590.00
Total Capitalization	**27,171.38**	**27,171.38**

IRB WTL

Particulars	As at December 31, 2021	
	Pre-Issue (₹ in millions)	Post-Issue (₹ in millions)
Shareholders' Funds:		
Equity Share Capital	1,741.94	1,741.94
Subordinate Debt	12,203.92	12,203.92
Other Equity	(1,623.19)	(1,623.19)
Total Shareholders' Funds	**12,322.67**	**12,322.67**
Borrowings		
Borrowings from related parties	5,116.98	5,116.98
Long term borrowings	9,900.15	9,900.15
Current maturities of long term borrowings	47.72	47.72
Total Debt	15,064.85	15,064.85
Total Capitalization	**27,387.52**	**27,387.52**

KGTL

Particulars	As at December 31, 2021	
	Pre-Issue (₹ in millions)	Post-Issue (₹ in millions)
Shareholders' Funds:		
Equity Share Capital	1,555.00	1,555.00
Subordinate Debt	1,809.50	1,809.50
Other Equity	211.86	211.86
Total Shareholders' Funds	**3,576.36**	**3,576.36**
Borrowings		
Borrowings from related parties	106.00	106.00
Long term borrowings	9,404.05	9,404.05
Current maturities of long term borrowings	28.30	28.30
Total Debt	9,538.35	9,538.35
Total Capitalization	**13,114.71**	**13,114.71**

KTL

Particulars	As at December 31, 2021	
	Pre-Issue (₹ in millions)	Post-Issue (₹ in millions)
Shareholders' Funds:		
Equity Share Capital	3,280.00	3,280.00

Particulars	As at December 31, 2021	
	Pre-Issue (₹ in millions)	Post-Issue (₹ in millions)
Subordinate Debt	4,426.04	4,426.04
Other Equity	(3,522.82)	(3,522.82)
Total Shareholders' Funds	**4,183.22**	**4,183.22**
Borrowings		
Borrowings from related parties	9,444.37	9,444.37
Long term borrowings	5,412.17	5,412.17
Current maturities of long term borrowings	102.50	102.50
Total Debt	14,959.04	14,959.04
Total Capitalization	**19,142.26**	**19,142.26**

SYTL

Particulars	As at December 31, 2021	
	Pre-Issue (₹ in millions)	Post-Issue (₹ in millions)
Shareholders' Funds:		
Equity Share Capital	982.50	982.50
Subordinate Debt	4,423.70	4,423.70
Other Equity	(1,965.45)	(1,965.45)
Total Shareholders' Funds	**3,440.75**	**3,440.75**
Borrowings		
Borrowings from related parties	4,114.82	4,114.82
Long term borrowings	5,205.25	5,205.25
Current maturities of long term borrowings	28.64	28.64
Total Debt	9,348.71	9,348.71
Total Capitalization	**12,789.46**	**12,789.46**

UTL

Particulars	As at December 31, 2021	
	Pre-Issue (₹ in millions)	Post-Issue (₹ in millions)
Shareholders' Funds:		
Equity Share Capital	1,168.00	1,168.00
Subordinate Debt	8,119.31	8,119.31
Other Equity	(1,211.38)	(1,211.38)
Total Shareholders' Funds	**8,075.93**	**8,075.93**
Borrowings		
Borrowings from related parties	415.59	415.59
Long term borrowings	15,309.49	15,309.49
Current maturities of long term borrowings	15.83	15.83
Total Debt	15,740.91	15,740.91
Total Capitalization	**23,816.84**	**23,816.84**

YATL

Particulars	As at December 31, 2021	
	Pre-Issue (₹ in millions)	Post-Issue (₹ in millions)
Shareholders' Funds:		
Equity Share Capital	2,157.57	2,157.57
Subordinate Debt	16,319.79	16,319.79
Other Equity	2,668.99	2,668.99
Total Shareholders' Funds	**15,808.37**	**15,808.37**
Borrowings		
Borrowings from related parties	4,685.20	4,685.20
Long term borrowings	13,777.66	13,777.66
Current maturities of long term borrowings	177.86	177.86
Total Debt	18,640.72	18,640.72
Total Capitalization	**34,449.09**	**34,449.09**

Capital structure of the Target SPV (including any borrowings or deferred payments)

PDTPL

Particulars	As at December 31, 2021	
	Pre-Issue (₹ in millions)	Post-Issue[(1)] (₹ in millions)
Shareholders' Funds:		
Equity Share Capital	0.50	1,212.50
Subordinate Debt	-	1,230.98
Other Equity	(0.11)	(0.11)
Total Shareholders' Funds	**0.39**	**2,442.87**
Borrowings		
Borrowings from related parties	11.47	0
Long term borrowings	-	-
Current maturities of long term borrowings	-	-
Total Debt	11.47	0
Total Capitalization	**11.86**	**2,442.87**

[(1)] As adjusted to reflect the capital structure post completion of the PDTPL Acquisition, assuming full subscription in the Issue.

Leverage Policy

This policy sets out the framework for selection and repayment of borrowings by the Manager Group. The key terms of the Leverage Policy include, *inter-alia*:

(i) The Manager Group Members may avail additional borrowings or debt from time to time in accordance with the Annual Budget and Business Plan of the respective Manager Group Members, the Transaction Documents, and the InvIT Regulations. Any additional borrowing or creation of security that is not in accordance with the Annual Budget and Business Plan will require the prior approval of the shareholders of the Investment Manager.

(ii) In the event that the Trust is listed, and in accordance with Regulation 20 of the InvIT Regulations, if the aggregate consolidated borrowings and deferred payments of the Trust, holdco, and the SPVs, net of cash and cash equivalents exceeds 25% of the value of the Trust Assets, then for any further borrowing:

a. Up to 49% of the value of the Trust Assets, the Trust shall:
   - obtain credit rating from a credit rating agency registered with the SEBI; and
   - seek approval of the Unitholders in the manner as specified in Regulation 22 of the InvIT Regulations.

b. Above 49% of the value of the Trust Assets, the Trust shall:
   - obtain a credit rating of "AAA" or equivalent for its consolidated borrowing and the proposed borrowing, from a credit rating agency registered with the SEBI;
   - utilize the funds only for acquisition or development of infrastructure projects;
   - have a track record of at least six distributions, in terms of Regulation 18(6) of the InvIT Regulations, on a continuous basis, post listing, in the years preceding the financial year in which the enhanced borrowings are proposed to be made; and
   - obtain the approval of 75% of Unitholders by value.

(iii) If either of the conditions specified above are breached on account of market movements of the price of the underlying assets or securities, the Investment Manager shall inform the Trustee at the earliest and ensure that the condition is satisfied within six months of the breach, in accordance with the InvIT Regulations.

(iv) The limits in relation to the aggregate consolidated borrowings and deferred payments of the Trust, any Holdcos and the SPVs, net of cash and cash equivalents, shall be as approved by at least 60% of the Unitholders from time to time, unless otherwise provided under the InvIT Regulations.

(v) In no event will the aggregate borrowings exceed 70% of the value of the Trust Assets, or such other limit as provided under the InvIT Regulations.

(vi) The Trust shall be permitted to borrow monies through any permitted means, by any instrument, in Indian or foreign currency, as permitted by applicable law.

(vii) The Investment Manager shall be permitted to borrow monies on behalf of the Trust, subject to the approval of its board of directors or such other committee of the board of directors of the Investment Manager as may be constituted in this regard.

(viii) Any borrowing and/or creation of security for any borrowing by the Manager Group Members incorporated under the Companies Act, 1956 or the Companies Act, 2013, will be in accordance with the conditions prescribed therein.

(ix) The Investment Manager may secure the payment of any sum of money for and on behalf of the Manager Group Member in such manner and upon such terms and conditions in all respects as set out in the Annual Budget or the Business Plan, including by mortgage or pledge or charge upon all or any Trust Assets (present or future).

RELATED PARTY TRANSACTIONS

Under Regulation 2(1)(zv) of the InvIT Regulations, a 'related party' will be as defined under the Companies Act, 2013 or under the applicable accounting standards (i.e., Ind AS 24 on "Related Party Disclosures") and will also include (i) the Parties to the Trust and (ii) the promoters, directors and partners of the Parties to the Trust. Further, any transaction between the Trust and one or more infrastructure investment trusts having a common investment manager or sponsor, or a transaction where the Investment Manager or the Sponsor is an Associate of the investment manager or sponsor of the other infrastructure investment trust, will be deemed to be related party transactions for such parties. Also see *"Financial Statements*" on page 271.

A. Procedure for dealing with Related Party Transactions

General Requirements

In accordance with relevant provisions of the InvIT Regulations, all related party transactions will be on an arms' length basis, in compliance with applicable accounting standards and any other guidelines issued by the SEBI from time to time. Such related party transactions shall be in the best interest of the Unitholders, and must be consistent with the strategy and investment objectives of the Trust.

Approval of the Unitholders

In the case of related party transactions proposed to be entered into, if such related party transaction is a Reserved Matter, approval from Unitholders will be obtained such that the votes cast by Unitholders so entitled and voting in favor of a resolution are not less than one-and-a-half times the votes cast against such resolution, provided that if the InvIT Regulations specify a different threshold for the approval by Unitholders of such matter, the threshold specified in the InvIT Regulations will prevail. Further, if such related party transaction is a Reserved Matter and does not require the approval of the Unitholders to be obtained at a Unitholders meeting under the InvIT Regulations, then, a meeting of the Unitholders shall not be required if the prior approval in writing of the Unitholders holding at least 60% of the Unitholding of the Trust has been obtained by IRB in respect of such Reserved Matter. For details of the Reserved Matters, see "*Corporate Governance*" and "*Rights of Unitholders*" on pages 138 and 249, respectively.

Voting by any person who is a related party with respect to any transaction as well as the voting by the Associates of such person will not be considered on the specific issue.

Role of the Investment Manager

The Investment Manager is responsible for formulating and maintaining all such internal processes and relevant controls with respect to related party transactions, so as to ensure compliance with the InvIT Regulations and applicable accounting standards. Further, the Investment Manager will convene meetings of the Unitholders in accordance with Regulation 22 of the InvIT Regulations and maintain records pertaining to such meetings in the manner prescribed. The Investment Manager will also ensure compliance with any additional guidelines, circulars or regulations with respect to related party transactions issued by the SEBI in the future.

The Investment Manager or its Associates will not obtain any commission, rebate or any other remuneration, by whatever name called, arising out of transactions pertaining to the Trust, other than as specified in the Letter of Offer or any other document as may be specified by the SEBI for the issue of Units.

Disclosure and Reporting

The Investment Manager will submit quarterly reports on the activities of the Trust, including the status of compliance with the requirements specified under the InvIT Regulations in relation to related party transactions to the Trustee within 30 days of the end of each quarter.

Further, in accordance with the InvIT Regulations, the Investment Manager will submit an annual report and a half-yearly report to the Trustee and the Unitholders, electronically or through physical copies within the timelines specified under the InvIT Regulations, which will contain, *inter-alia*, details of all related party transactions, including acquisitions or disposal of any projects, directly or through SPVs during the year, the value of which exceeded 5% of the value of the Trust Assets.

B. Details of Related Party Transactions undertaken prior to the filing of this Letter of Offer

The Trust (acting through the Trustee) has entered into, *inter-alia*, the following related party transactions prior to the filing of this Letter of Offer:

S. No.	Name of the Related Party	Nature of Relationship with the Trust	Nature of Transaction
1.	IRB Infrastructure Developers Limited	Sponsor	The Trust was settled with an initial settlement amount of ₹1,000.00 by the Sponsor.
2.	MMK Toll Road Private Limited	Investment Manager	The Trustee (acting on behalf of the Trust) has entered into the Investment Management Agreement dated August 27, 2019, as amended on September 16, 2019, with the Investment Manager for managing and administering the Trust, in accordance with the InvIT Regulations. The Investment Manager will be paid Management Fees in accordance with the terms of the Investment Management Agreement. For details, see "*Background and Structure of the Trust – Fees and Expenses – Fees and expenses payable to the Investment Manager*" and "*The Investment Manager*" on pages 102 and 258, respectively.
3.	IRB Infrastructure Developers Limited	Project Manager	The Trustee (on behalf of the Trust) has entered into the Project Implementation Agreements with the Project Manager, with respect to each of the Project SPVs, which set out the obligations of the Project Manager with respect to the execution of each of the projects, in accordance with the InvIT Regulations. The Project Manager will be paid EPC Payments and O&M Payments, as applicable, by the respective Project SPVs in accordance with the terms of the Project Implementation Agreements. For details, see "*Background and Structure of the Trust – Fees and Expenses – Fees and expenses payable to the Project Manager*" and "*The Sponsor and Project Manager*" on pages 102 and 255, respectively.
4.	IRB Infrastructure Developers Limited	Sponsor	Pursuant to the Name Licensing Agreement dated February 13, 2020, the Sponsor has granted to the Trust, each of the Project SPVs and the Investment Manager, the non-transferable and non-assignable right to use the "IRB" trademark as part of their respective corporate names, if applicable, as well as the "IRB" logo in connection with their respective businesses, on a non-exclusive basis. No licensing fee is payable to the Sponsor under the Name Licensing Agreement.
5.	IRB Infrastructure Developers Limited and its Associates	Sponsor and its Associates	The Project SPVs were transferred to the Trust on February 25, 2020 by the Sponsor pursuant to the Formation Transactions undertaken as part of the initial offer through private placement of Units. The Subordinated Debt and Unsecured Loans were also novated in favor of the Trust.

For details of the related party transactions entered into by the Project SPVs during the nine-month periods ended December 31, 2021 and December 31, 2020 and the Financial Years 2021, 2020 and 2019, see "*Financial Statements*" on page 271.

C. Details of Related Party Transactions proposed to be undertaken

Pursuant to the terms of the Framework Agreement, the Sponsor has agreed that prior to the submission of a bid ("**Bid**") for (i) any new concession by the Sponsor and/or its affiliates involving the development or operation of roads and highways ("**New Projects**"); or (ii) over any extensions of the concession period of road projects held by the Sponsor and/or its affiliates (other than the Project SPVs) ("**Extension Projects**", and together with the New Projects, the "**Potential Projects**"), it will consult the Financial Investors in good faith and make best efforts to Bid for the Potential Project on behalf of the Trust on such terms as agreed between the Sponsor and the Financial Investors. If IRB and the Financial Investors are unable to reach an agreement in relation to the terms of the Bid within a reasonable period, the Sponsor will be free to submit a Bid subject to the terms of the Framework Agreement.

The proceeds of the Issue are proposed to be utilized for the payment of the subscription amount for the PDTPL Acquisition under the PDTPL Share Subscription Agreement and to provide shareholder loans to PDTPL under the PDTPL Shareholders Loan Agreement. The Project Manager is also proposed to be appointed as the project manager with respect to PDTPL pursuant to the PDTPL Project Implementation Agreement to be executed after the completion of the Issue. These are related party transactions under the InvIT Regulations. The PDTPL Acquisition also involves certain other agreements with related parties, including amendments to the Framework Agreement, the IM SHA and the Name Licensing Agreement. For further details, see "*Objects of the Issue*" and "*Background and Structure of the Trust – The PDTPL Acquisition*" on pages 66 and 92, respectively.

In order to conduct its business, the Trust may enter into transactions with related parties in the future, which will be carried out in compliance with the above policy for dealing with related party transactions, applicable accounting standards and the provisions of the InvIT Regulations.

D. Potential Conflicts of Interest

We may be subject to potential conflicts of interest arising out of our relationship with our Sponsor and its respective Associates, and we will enter into transactions with related parties in the future. Details in relation to our policies for dealing with related party transactions are provided above. Also see "*Risk Factors – Risks Related to the Trust's Relationships with the Sponsor and the Investment Manager*" on page 35.

While the Sponsor operates various road infrastructure projects and accordingly, has interests in road infrastructure assets apart from those of the Project SPVs and the Target SPV, none of these other road infrastructure assets compete or are likely to compete, directly or indirectly, with the activities of the Trust. The Sponsor confirms that it shall perform its duty in relation to the Trust independent of its related business.

VALUATION

The Valuer has undertaken a valuation of the assets of the Trust as at December 31, 2021 and has issued a valuation report dated January 31, 2022 (the "**Initial Portfolio Valuation Report**") which is included as "*Annexure A: Initial Portfolio Valuation Report*" on page A. This is the last available valuation report for the Initial Portfolio under the InvIT Regulations.

The Valuer has also undertaken a valuation of PDTPL (the Target SPV) as at December 31, 2021 and has issued a valuation report dated January 31, 2022 ("**PDTPL Valuation Report**") which is included as "*Annexure C: PDTPL Valuation Report*" on page C.

A. Summary of the Valuation and Valuation Methodology of the Initial Portfolio

Valuation methodology

The standard of value used in the Valuer's analysis is fair value which is often defined as the price, in terms of cash or equivalent, that a buyer could reasonably be expected to pay, and a seller could reasonably be expected to accept, if the business were exposed for sale on the open market for a reasonable period of time, with both buyer and seller being in possession of the pertinent facts and neither being under any compulsion to act.

There are several commonly used and internationally accepted methods for determining the fair value of companies, which have been considered in the present case, to the extent relevant and applicable. Accordingly, The Valuer has carried out valuation of the Project SPVs as on December 31, 2021.

It should be understood that the valuation of any company or its assets is inherently subjective and is subject to certain uncertainties and contingencies, all of which are difficult to predict and are beyond the Valuer's control. In performing the analysis, the Valuer made assumptions with respect to industry performance and general business and economic conditions, many of which are beyond the control of the Project SPVs. In addition, the valuation will fluctuate with changes in prevailing market conditions, the conditions and prospects, financial and otherwise, of the Project SPVs, and other factors which generally influence the valuation analysis.

The application of any particular method of valuation depends on the purpose for which the valuation is done. Although different values may exist for different purposes, it cannot be too strongly emphasized that a valuer can only arrive at one value for one purpose. The Valuer's choice of methodology of valuation has been arrived at using usual and conventional methodologies adopted for transactions of a similar nature and the Valuer's reasonable judgment, in an independent and bona fide manner is based on the Valuer's previous experience of assignments of a similar nature.

In respect of going concerns, certain valuation techniques have evolved over time and are commonly in vogue. These can be broadly categorised as follows:

Market Price (MP) Method

The market price of an equity share as quoted on a Stock Exchange is generally considered as the value of the equity shares of that company where such quotations are arising from the shares being regularly and freely traded in, subject to the element of speculative support that may be inbuilt in the value of the shares.

Equity shares of the Project SPVs are not listed on any stock exchange. Hence, this method has not been considered for the purpose of valuation.

Comparable Companies Market Multiple ("CCM") Method

Under this method, the value of the equity shares of a company/ business undertaking is arrived at by using multiples derived from valuations of comparable companies, as apparent through stock market valuations of listed companies. This valuation is based on the principle that market valuations, taking place between informed buyers and informed sellers, incorporate all factors relevant for the assessment of the value of the company.

Relevant multiples need to be chosen carefully and adjusted for differences between the circumstances. The Valuer has not considered this method in its valuation analysis in the absence of closely comparable listed companies having similar geographical locations, stage of growth, size, terms and profitability.

Comparable Companies Transaction Multiple ("CTM") Method

Under the CTM method, the value of the equity shares of a company/ business undertaking is arrived at by using the prices implied by reported transactions/ deals of comparable companies.

Relevant multiples need to be chosen carefully and adjusted for differences between the circumstances.

The Valuer has not been able to identify any comparable company to the Project SPVs for which a transaction has taken place in the last one year. The Valuer believes that the older transactions are not relevant for its valuation considering share price movements and changes in the macro-economic situation in India. Also, transactions multiples at times tend to be biased due to premium which may be embedded in the price for strategic benefits and synergies which an acquirer may perceive in the target. Accordingly, the Valuer has not applied the Comparable Transactions Multiple Method for the valuation of the Project SPVs.

Net Asset Value (NAV) Method

The asset-based valuation technique is based on the value of the underlying net assets of the business either on a book value basis or realisable value basis or replacement cost basis. The cost approach assumes that a prudent investor would pay no more for an entity than the amount for which he could replace or re-create it or an asset with similar utility. Under a going-concern premise, the cost approach usually is best suited for use in valuing asset-intensive companies, such as investment or real estate holding companies, or companies with unstable or unpredictable earnings.

In the present case of valuing the Project SPVs, the Valuer has not considered this method as the underlying earnings are fairly stable, and a going concern business plan has been provided by the Management.

Discounted Cash Flows (DCF) Method

Under the DCF method, the projected free cash flows to the firm are discounted at the weighted average cost of capital. The sum of the discounted value of such free cash flows is the value of the firm.

Using the DCF analysis involves determining the following:

Estimating future free cash flows:

Free cash flows are the cash flows expected to be generated by the company that is available to all providers of the company's capital — both debt and equity.

Appropriate discount rate to be applied to cash flows, i.e. the cost of capital:

This discount rate, which is applied to the free cash flows, should reflect the opportunity cost to all the capital providers (namely shareholders and creditors), weighted by their relative contribution to the total capital of the company. The opportunity cost to the capital provider equals the rate of return the capital provider expects to earn on other investments of equivalent risk.

The value so computed by discounting the cash flows to the firm is adjusted for net borrowings, surplus asset including investments, minority interests, equity instruments granted as part of the share-based payment, and other matters to arrive at an aggregate equity value of the company.

In the present case, the Valuer has been provided with the financial projections of all the 9 SPVs. As such, the Valuer has considered this method for valuing the Project SPVs.

Valuation Summary

Valuation summary of SPVs			
Sl. No	**Name of SPV**	**Short name of SPV**	**Enterprise value (INR crores)**
1	Goa Kundapur	IWTL	2,417.18
2	Solapur Yedeshi	SYTL	1,832.50
3	Yedeshi Aurangabad	YATL	3,601.00
4	Kaithal - Rajasthan	KTL	2,522.56
5	Agra Etawah	AETL	2,488.35
6	Udaipur Rajasthan Gujarat	UTL	2,372.39
7	Gulabpura Chittorgarh	CGTL	2,371.66
8	Kishangarh Gulabpura	KGTL	1,478.36
9	Hapur Moradabad	IHMTL	3,792.69
	Enterprise Value	**Total**	**22,876.71**

Computation of fair value of the equity of the Trust			
Valuation approach	**Method**	**INR crores**	**Weight (%)**
Income approach	DCF	22,876.7	100%
Market approach	Comparable companies method	n/a	0%
Cost approach	NAV	n/a	0%
Enterprise value for the combined portfolio of 9 SPVs		22,876.7	100%
Less: Debt		(9,731.4)	
Less: Debt-like-items		0.0	
Less: Present value of stand alone expenses pertaining to InvIT as on 31 December 2021		(151.8)	
Add: Cash and cash equivalents		60.6	
Add: Surplus assets		53.0	
Value of 100% interest in equity (on a control, marketable basis)		**13,107.1**	

Notes:

1. Debt comprises total external borrowings on the Trust combined balance sheet as on December 31, 2021

2. Surplus assets primarily comprises security deposits, current tax assets (net) and investments

B. Summary of the Valuation and Valuation Methodology of PDTPL

Valuation Methodology

The standard of value used in the Valuer's analysis is fair value which is often defined as the price, in terms of cash or equivalent, that a buyer could reasonably be expected to pay, and a seller could reasonably be expected to accept, if the business were exposed for sale on the open market for a reasonable period of time, with both buyer and seller being in possession of the pertinent facts and neither being under any compulsion to act.

There are several commonly used and internationally accepted methods for determining the fair value of companies, which have been considered in the present case, to the extent relevant and applicable. Accordingly, the Valuer has carried out valuation of the PDTPL as on December 31, 2021.

It should be understood that the valuation of any company or its assets is inherently subjective and is subject to certain uncertainties and contingencies, all of which are difficult to predict and are beyond our control. In performing its analysis, the Valuer made assumptions with respect to industry performance and general business and economic conditions, many of which are beyond the control of the PDTPL. In addition, the valuation will fluctuate with changes in prevailing market conditions, the conditions and prospects, financial and otherwise, of PDTPL, and other factors which generally influence the valuation analysis.

The application of any particular method of valuation depends on the purpose for which the valuation is done. Although different values may exist for different purposes, it cannot be too strongly emphasized that a valuer can only arrive at one value for one purpose. The Valuer's choice of methodology of valuation has been arrived at using usual and conventional methodologies adopted for transactions of a similar nature and the Valuer's

reasonable judgment, in an independent and bona fide manner is based on the Valuer's previous experience of assignments of a similar nature.

In respect of going concerns, certain valuation techniques have evolved over time and are commonly in vogue. These can be broadly categorised as follows:

Market Price (MP) Method

The market price of an equity share as quoted on a Stock Exchange is generally considered as the value of the equity shares of that company where such quotations are arising from the shares being regularly and freely traded in, subject to the element of speculative support that may be inbuilt in the value of the shares.

Equity shares of PDTPL are not listed on any stock exchange. Hence, this method has not been considered for the purpose of valuation.

Comparable Companies Market Multiple ("CCM") Method

Under this method, the value of the equity shares of a company/ business undertaking is arrived at by using multiples derived from valuations of comparable companies, as apparent through stock market valuations of listed companies. This valuation is based on the principle that market valuations, taking place between informed buyers and informed sellers, incorporate all factors relevant for the assessment of the value of the company.

Relevant multiples need to be chosen carefully and adjusted for differences between the circumstances. The Valuer has not considered this method in its valuation analysis in the absence of closely comparable listed companies having similar geographical locations, stage of growth, size, terms and profitability.

Comparable Companies Transaction Multiple ("CTM") Method

Under the CTM method, the value of the equity shares of a company/ business undertaking is arrived at by using the prices implied by reported transactions/ deals of comparable companies.

Relevant multiples need to be chosen carefully and adjusted for differences between the circumstances.

The Valuer has not been able to identify any comparable company to PDTPL for which a transaction has taken place in the last one year. The Valuer believes that the older transactions are not relevant for its valuation considering share price movements and changes in the macro-economic situation in India. Also, transactions multiples as times tend to be biased due to premium which may be embedded in the price for strategic benefits and synergies which an acquirer may perceive in the target. Accordingly, the Valuer has not applied the Comparable Transactions Multiple Method for the valuation of PDTPL.

Net Asset Value (NAV) Method

The asset-based valuation technique is based on the value of the underlying net assets of the business either on a book value basis or realisable value basis or replacement cost basis. The cost approach assumes that a prudent investor would pay no more for an entity than the amount for which he could replace or re-create it or an asset with similar utility. Under a going-concern premise, the cost approach usually is best suited for use in valuing asset-intensive companies, such as investment or real estate holding companies, or companies with unstable or unpredictable earnings.

In the present case of valuing PDTPL, the Valuer has not considered this method as the underlying earnings are fairly stable, and a going concern business plan has been provided by the Management.

Discounted Cash Flows (DCF) Method

Under the DCF method, the projected free cash flows to the firm are discounted at the weighted average cost of capital. The sum of the discounted value of such free cash flows is the value of the firm.

Using the DCF analysis involves determining the following:

Estimating future free cash flows:

Free cash flows are the cash flows expected to be generated by the company that is available to all providers of the company's capital — both debt and equity.

Appropriate discount rate to be applied to cash flows, i.e. the cost of capital:

This discount rate, which is applied to the free cash flows, should reflect the opportunity cost to all the capital providers (namely shareholders and creditors), weighted by their relative contribution to the total capital of the company. The opportunity cost to the capital provider equals the rate of return the capital provider expects to earn on other investments of equivalent risk.

The value so computed by discounting the cash flows to the firm is adjusted for net borrowings, surplus asset including investments, minority interests, equity instruments granted as part of the share-based payment, and other matters to arrive at an aggregate equity value of the company.

In the present case, the Valuer has been provided with the financial projections of PDTPL. As such, the Valuer has considered this method for valuing PDTPL.

Valuation Summary

Valuation summary of SPV		
Name of SPV	**Short name of SPV**	**Enterprise value (INR crores)**
Palsit Dankuni	PDTPL	439.56
Enterprise Value	**Total**	**439.56**

C. Frequency of Valuation

In accordance with the InvIT Regulations, a full valuation of the Trust Assets (including physical inspection of each of the Trust's infrastructure projects) shall be conducted by the Valuer not less than once every financial year, and that such a full valuation shall be conducted at the end of each financial year, within two months from the end of such financial year. An updated valuation report taking into account any material developments during the previous half-year is also required to be issued by the Valuer as part of the half-yearly report to be submitted by the Investment Manager to the Trustee and the Unitholders.

However, in case of any material development that may have an impact on the valuation of the Trust Assets, the Investment Manager will require the Valuer to undertake a full valuation of the infrastructure project under consideration, within not more than two months from the date of such event, and disclose the same to the Trustee within 15 days of such valuation.

D. Declaration of NAV

The Investment Manager will ensure that computation and declaration of NAV of the Trust is based on the valuation done by the Valuer, not later than 15 days from the date of valuation.

DISTRIBUTIONS

Distribution

Distributions shall be made by the Trust to the Unitholders, from time to time, in accordance with the Indenture of Trust and the InvIT Regulations. The Trustee shall make and shall ensure that the Investment Manager declares distributions on a quarterly basis. However, Unitholders should note that there is no assurance or guarantee that distributions will be made in any amount or at all.

The InvIT Regulations provide that not less than 90% of net distributable cash flows of each Project SPV, and any other SPV that may be acquired by the Trust, are required to be distributed to the Trust in proportion of its holding in each of the Project SPVs, and any other SPV that may be acquired by the Trust, subject to applicable provisions of the Companies Act. Further, not less than 90% of net distributable cash flows of the Trust shall be distributed to the Unitholders. Such distributions are required be declared and made not less than once every year and shall be made not later than fifteen days from the date of such declaration.

In the event distributions are not made within 15 days of declaration, the Investment Manager shall pay interest at the rate of 15% per annum until the distribution is made to the Unitholders. Such interest is not and will not be recoverable by the Investment Manager from the Trust in the form of fees or any other charges payable by the Trust to the Investment Manager.

Distributions shall be made *pro rata* to the total subscription amount of a Unitholder and in accordance with the provisions of the Indenture of Trust, the InvIT Regulations, the Distribution Policy, the preliminary placement memorandum and the placement memorandum.

Since the establishment of the Trust, there have not been any distributions made on the Units.

The Trust's distribution policy is to distribute as per the Trust's net distributable cash flows (the "**Net Distributable Cash Flows**"). The Trust's distribution policy is to distribute at least 90% of the Net Distributable Cash Flows of the Trust. Unless otherwise decided by the Unitholders, the Trust shall declare 100% of the Net Distributable Cash Flows as distributions to the Unitholders.

See "*Risk Factors*" on page 15 for a description of factors that may adversely affect the ability of the Trust to make distributions to Unitholders.

The requirements in relation to distributions will become applicable with respect to the Target SPV upon completion of the PDTPL Acquisition.

Distribution Policy of the Trust

In accordance with the InvIT Regulations, and the applicable guidelines, as may be issued by SEBI from time to time:

a) Each Project SPV, and any other SPV that may be acquired by the Trust, shall distribute its respective Net Distributable Cash Flows to the Trust, subject to the applicable provisions under Companies Act or any other applicable law, not less than once every three months; and

b) The Trust shall distribute at least 90% of the Net Distributable Cash Flows to the Unitholders not less than once every three months. Unless otheriwse decided by the Unitholders, the Trust shall declare 100% of the Net Distributable Cash Flows as distributions to the Unitholders.

The indicative framework for calculation of net distributable cash flows, as provided herein below, is subject to change, including pursuant to any amendments to the InvIT Regulations or by way of any circulars or guidelines issued by SEBI in this regard:

A. *Indicative Calculation of Net Distributable Cash Flows at a Standalone SPV Level*

S. No.	Description
1.	**Profit after tax as per profit and loss account (standalone) (A)**

2.	**Add:** Depreciation and amortisation as per profit and loss account
3.	**Add/less:** Loss/gain on sale of infrastructure assets
4.	**Add:** Proceeds from sale of infrastructure assets adjusted for the following: • related debts settled or due to be settled from sale proceeds • directly attributable transaction costs • proceeds reinvested or planned to be reinvested in accordance with Regulation 18 (7) (a) of the InvIT Regulations
5.	**Add:** Proceeds from sale of infrastructure assets not distributed pursuant to an earlier plan to re-invest, if such proceeds are not intended to be invested subsequently net of any profit/(loss) recognized in the P&L account
6.	**Add/less:** Any other item of non-cash expense / non cash income (net of actual cash flows for these items), if deemed necessary by the Investment Manager, including but not limited to: • any decrease / increase in carrying amount of an asset or of a liability recognised in profit and loss • account on measurement of the asset or the liability at fair value; • interest cost as per effective interest rate method; • deferred tax; • reserve for major maintenance to the extent payments are not due in the next period; and • any other items charged / credited to the P&L account which do not involve corresponding cash flows
7.	**Less:** Repayment of external debt (principal) / redeemable preference shares / debentures
8.	**Less:** Any premium / negative grant payments to NHAI
9.	**Less:** Capital expenditure towards the project
10.	**Total Adjustments (B)**
11.	**Net Distributable Cash Flows (C)=(A+B)**

A minimum of 90% of the net distributable cash flows arrived at in (C) above shall be distributed by each Project SPV and any other SPVs that may be acquired in the future, to the Trust, subject to the applicable provisions of Companies Act/LLP Act or any other applicable laws, net of applicable taxes, if any, proportionate to the Trust's equity shareholding in such SPV.

B. ***Indicative Calculation of Net Distributable Cash Flows at the Standalone Trust Level***

S. No.	Description
1.	Cash flows received from the Identified SPVs in the form of interest
2.	Cash flows received from the Identified SPVs in the form of dividend
3.	Any other income accruing at the Trust level and not captured above, including but not limited to interest / return on surplus cash invested by the Trust
4.	Cash flows received from the Identified SPVs towards the repayment of the debt issued to the Identified SPVs by the Trust
5.	Proceeds from the Identified SPVs for any capital reduction by way of buy back etc., subject to applicable laws
6.	Proceeds from sale of assets of the Identified SPVs not distributed pursuant to an earlier plan to re-invest, or if such proceeds are not intended to be invested subsequently
7.	**Total cash inflow at the Trust level (A)**
8.	**Less:** Any payment of fees, interest and expense incurred at the Trust level, including but not limited to the fees of the Investment Manager
9.	**Less:** Capital expenditure towards the Identified SPVs
10.	**Less:** Costs/retention associated with sale of assets of the project SPVs: • related debts settled or due to be settled from sale proceeds of Identified SPVs • transaction costs paid on sale of the assets of the Identified SPVs
11.	**Less:** Proceeds reinvested or planned to be reinvested in accordance with Regulation 18(7)(a) of the InvIT Regulations
12.	**Less:** Repayment of external debt at the Trust level
13.	**Less:** Income tax (if applicable) at the standalone Trust Level (including capital gains taxes on sale of assets / share in Identified SPVs / other investments)
14.	**Less:** Contribution towards maintaining minimum cash balance of INR 150,000,000 (Rupees One Hundred and Fifty Million) and/or such other reserve/minimum cash balance as agreed by Unitholders
15.	**Total cash outflows / retention at the Trust level (B)**
16.	**Net Distributable Cash Flows (C)=(A+B)**

A minimum of 90% of the Net Distributable Cash Flows arrived at in (C) above shall be distributed by the Trust to the Unitholders, subject to the applicable provisions of InvIT Regulations, net of applicable taxes, if any.

Distribution on Disposition

Subject to the InvIT Regulations, if (i) any asset is sold by the Trust or (ii) if the equity shares or interest in the Trust Assets are sold by the Trust then (a) if the Trust proposes to re-invest the sale proceeds into another infrastructure asset, it shall not be required to distribute any sale proceeds to the Trust or the Unitholders; but (b) if the Trust proposes not to invest the sales proceeds into any other infrastructure Assets, then such sales proceeds shall be regarded as Net Distributable Cash Flows and the Trust shall be required to distribute such proceeds in accordance with the Distribution Policy.

Distribution on Dissolution

In the event of dissolution or winding up of the Trust, all of the Trust Assets or the proceeds therefrom shall be distributed or used as follows and in the following order of priority:

a) First, towards the payment of the debts and liabilities of the Trust, including without limitation any fees, any amounts due to the Investment Manager, or the Project Manager and the expenses of liquidation;

b) Second, towards the setting up of any reserves which the Trustee, in consultation with the Investment Manager, or the authority in-charge of the dissolution of the Trust may deem reasonably necessary for any contingent or unforeseen liabilities or obligations of the Trust; and

c) Third, towards the Unitholders in accordance with the terms of the Distribution Policy, the Indenture of Trust, and applicable law.

In-specie Distribution

Subject to the provisions of applicable law and the Trust Documents, the Trustee, in consultation with the Investment Manager, may anytime during the life of the Trust make *in-specie* distributions of the Trust Assets.

RIGHTS OF UNITHOLDERS

The rights and interests of the Unitholders are included in this Letter of Offer and the InvIT Regulations. Under the the Indenture of Trust and the Investment Management Agreement, these rights and interests are safeguarded by the Trustee and the Investment Manager respectively. Any rights and interests of Unitholders as specified in this Letter of Offer would be deemed to be amended to the extent of any amendment to the InvIT Regulations.

Please note that nothing contained in this Letter of Offer (including any declarations provided by the directors of the Investment Manager) will relieve any party of its rights or obligations under the Framework Agreement.

Beneficial Interest

Each Unit represents an undivided beneficial interest in the Trust. A Unitholder has no equitable or proprietary interest in the Trust Assets and is not entitled to transfer of the Trust Assets (or any part thereof) or any interest in the Trust Assets (or any part thereof). A Unitholder's right is limited to the right to require due administration of the Trust in accordance with the provisions of the Indenture of Trust and the Investment Management Agreement.

Ranking

No Unitholder of the Trust shall enjoy superior voting or any other rights over another Unitholder. Further, the Units shall not have multiple classes, except any subordinate Units that may be issued only to the Sponsor and its Associates, where such subordinate units carry only inferior voting or any other rights compared to other Units in the future, in accordance with Regulation 4(2)(h) of the InvIT Regulations.

Distribution

The Trustee shall ensure that the Investment Manager makes timely declaration of distributions to the Unitholders in accordance with the InvIT Regulations. If the distributions are not made within 15 days of declaration, then the Investment Manager shall be liable to pay interest to the Unitholders at the rate of 15% per annum till the distribution is made. The Investment Manager shall maintain records of the distributions declared and made to the Unitholders. For details, see "*Distributions*" on page 246.

Rights of Unitholders

Subject to the provisions of the InvIT Regulations, the Indenture of Trust, and applicable rules, regulations and guidelines, the rights of the Unitholders include:

a) right to receive income or distributions with respect to the Units held in accordance with the InvIT Regulations and in the manner set forth in the preliminary placement memorandum and the placement memorandum;

b) right to attend the annual general meeting and other meetings of the Unitholders of the Trust;

c) right to vote upon any matters/resolutions proposed in relation to the Trust;

d) right to receive periodic information having a bearing on the operation or performance of the Trust in accordance with the InvIT Regulations; and

e) right to apply to the Trustee to take up certain issues at meetings for Unitholders approval;

Pre-emptive rights: In addition, the Investment Manager (on behalf of the Trust) will ensure that Unitholders will have the right to subscribe to their respective proportionate share of the proposed issue of Units at the same price to maintain their respective proportionate ownership in the Trust if the Trust proposes to issue any new units after the completion of the initial offer of Units to any person (except as contemplated in any business plan). The Investment Manager and the Trustee will also ensure that Unitholders exercise their rights in relation to Reserved Matters and Events of Default.

For details of Reserved Matters, see "*Corporate Governance*" and " – *Approval of Unitholders*" on pages 138 and 252, respectively. For details of Event of Default, see " – *Arrangements between the Sponsor and the Financial*

Investors" below.

The Trustee shall hold the Trust Assets in the name of the Trust for the benefit of the Unitholders in accordance with the Indenture of Trust and the InvIT Regulations and shall oversee the activities of the Investment Manager in the interest of the Unitholders. All related party transactions shall be on an arms' length basis in accordance with the relevant accounting standards, and in the best interests of the Unitholders. Further, the Trustee shall maintain records relating to the notices and agenda sent to the Unitholders for meetings held and the disclosures made to the Unitholders.

The rights given by the Sponsor to the Financial Investors will be made available to any new Unitholder that acquires Units of the Trust.

Arrangements between the Sponsor and the Financial Investors

In addition to the rights set out above, pursuant to the Framework Agreement, the Sponsor and the Financial Investors have agreed to certain *inter-se* arrangements in relation to their Unitholding in the Trust, including on a post-Issue basis. Key terms of such arrangements are set out below:

Put option: The Financial Investors had the right to require the Sponsor to purchase the Units held by them in the Trust upon the occurrence of certain events within the period of 12 months from the date of allotment in the initial offer of Units.

Right of first offer: The Financial Investors have a right of first offer over Units proposed to be transferred by the Sponsor to any person other than the subsidiaries of the Sponsor.

Tag along right: If the Sponsor proposes to transfer the Units held by it to a third party buyer (which is not a subsidiary of the Sponsor), the Financial Investors have a right to require such buyer to purchase from the Financial Investors, (i) the entire Unitholding of the Financial Investors, if the Sponsor proposes to transfer in excess of 20% of the total outstanding Units or (ii) up to such percentage of Units held by the Financial Investors that are *pro rata* to the percentage of Units proposed to be transferred by the Sponsor if the Sponsor proposes to transfer 20% or less of the total outstanding Units.

Reserved Matters: See *" – Approval of Unitholders*" below.

Encumbrances on the Sponsor's Units: The Sponsor is restricted from creating any encumbrances on its Units until the expiry of five years from the date of allotment of Units in the initial offer of Units. However, the Sponsor can pledge up to a certain percentage of its Units in favor of permitted lenders, the Financial Investors or their affiliates subject to certain conditions as agreed between the Sponsor and the Financial Investors.

Transfer of Units by the Sponsor: The Sponsor will only sell its Units to a person that is willing to be bound by the existing arrangements between Sponsor and the Financial Investors.

Event of Default and Consequences

The Financial Investors have the right to call an event of default ("**Event of Default**") under the Framework Agreement under certain circumstances.

If an Event of Default is declared by the Financial Investors:

- *Credit of distributions into an escrow account controlled by the Investment Manager*: The Sponsor and the Investors will cause any distributions that are to be made to them to be credited into the escrow account. The Trustee and the Investment Manager will ensure compliance with obligations in relation to distributions under Regulation 18(6) of the InvIT Regulations.

- *Operations of the Trust*: Other than operating in the ordinary course of business, no action shall be taken by any Manager Group Member in relation to the operations and business of the Trust without the unanimous consent of the Unitholders. However, if the InvIT Regulations specify a different threshold for the approval by Unitholders of such matter, the threshold specified in the InvIT Regulations will be followed instead of the unanimous consent requirement. If the Financial Investors vote against a resolution on any such matter

for which a different threshold is specified under the InvIT Regulations, the Sponsor has agreed that it will also vote against the resolution on such matter.

The Sponsor may elect to dispute the event of default notice within a specified time period. If the Sponsor does not dispute such notice or the dispute is decided in favour of the Financial Investors:

- *Default call option and default put option*: The Financial Investors will have the right to require (i) the Sponsor to sell its Unitholding to them or (ii) the Sponsor to purchase the Investors' Unitholding in accordance with the conditions specified in the Framework Agreement.

- *Right to cause the Sponsor to take actions*: The Financial Investors will have the right to require the Sponsor to require the Trustee to call for a meeting of the Unitholders for change of the investment manager and the project manager. The Sponsor will vote in favor of the appointment of any entity proposed by the Financial Investors as the new investment manager of the Trust as per the InvIT Regulations. The Sponsor and its affiliates will forfeit all their rights under the transaction documents. This will not impact any responsibilities of the Sponsor under the InvIT Regulations.

- *Resolution of dispute relating to an Event of Default*: Upon the resolution of the dispute relating to the event of default, the distributions in the escrow account will immediately be released to the relevant party, i.e., Sponsor and Financial Investors. The party (against whom the dispute has been resolved unfavorably) shall be required to pay interest to the other party on the distributions credited to the escrow account for the delayed period.

Meetings of Unitholders

Subject to the provisions of the IM SHA, the Investment Manager shall convene meetings of the Unitholders in accordance with Regulation 22 of the InvIT Regulations, including at the written request of the Unitholders as specified therein, and maintain records pertaining to the meetings in accordance with Regulation 26 of the InvIT Regulations.

A Unitholder may be present at and may vote at any Unitholders' meeting in person, by proxy or attorney or by a duly authorized representative, and any such proxy, attorney or representative shall be counted for the purposes of constituting a quorum, to the extent permissible under applicable law. Voting on all matters to be considered at a Unitholders meeting shall be by poll, in proportion of the Units held by each Unitholder. Each Unit shall carry one vote. The Unitholders shall be entitled to participate, be counted towards quorum and vote in Unitholders' meetings by e-voting, postal ballot or any other means, subject to applicable law.

Approval of Unitholders

The Investment Manager and the Trustee are required to ensure that no resolution is passed in respect of any of the Reserved Matters without the approval of Unitholders such that the votes cast by Unitholders so entitled and voting in favor of the resolution are not less than one-and-a-half times the votes cast against such resolution at a validly convened Unitholders meeting (i.e., Unitholders holding at least 60% of the Unitholding of the Trust), provided that if the InvIT Regulations specify a different threshold for approval by Unitholders of any Reserved Matter, the threshold specified in the InvIT Regulations will prevail. If the Financial Investors vote against a resolution on a Reserved Matter for which the InvIT Regulations specify an approval threshold below 60%, the Sponsor has agreed that it will also vote against the resolution on such matter. If a Reserved Matter does not require the approval of the Unitholders to be obtained at a Unitholders meeting under the InvIT Regulations, then, a meeting of the Unitholders shall not be required if the prior approval in writing of the Unitholders holding at least 60% of the Unitholding of the Trust has been obtained by IRB in respect of such Reserved Matter.

After the allotment of Units pursuant to the initial offer of Units, where any act under any Trust Document requires a 'consultation with the Trustee' or involves the exercise of powers by the Trustee which have not or cannot be delegated to the Investment Manager, then the performance of such act shall be deemed to include the obligation to obtain the approval of the Unitholders such that the votes cast by Unitholders so entitled and voting in favor of the resolution are not less than one-and-a-half times the votes cast against such resolution.

The limits in relation to the aggregate consolidated borrowings and deferred payments of the Trust and its SPVs, net of cash and cash equivalents, shall be as approved by at least 60% of the Unitholders from time to time. Also see *"Leverage*" on page 236 for details of the leverage policy of the Trust.

Reserved Matters

Certain Reserved Matters relating to the operations of the Trust, the Investment Manager, the Project SPVs, the Target SPV and any other Manager Group Members which would require the approval of the board of directors, shareholders and Unitholders of the relevant entities, as applicable, have been identified and agreed under the Framework Agreement and the IM SHA. Such Reserved Matters include, *inter-alia*, matters in relation to:

- changes to the capital structure of any Manager Group Member;
- amendments to the charter documents of any Manager Group Member;
- listing of any Manager Group Member;
- approval of annual budgets and business plans;
- acquisition or divestment of road assets by the Trust;
- replacement or removal of certain managerial personnel;
- distributions in deviation from the Distribution Policy;
- indebtedness and encumbrances of assets of any Manager Group Member;
- amendment or termination of material contracts;
- major transactions;
- accounting and tax matters; and
- litigation and delegation of authority.

Matters for Approval under the InvIT Regulations

Under the InvIT Regulations, with respect to any matter requiring approval of the Unitholders:

a) a resolution shall be considered as passed when the votes cast by Unitholders, so entitled and voting, in favor of the resolution exceed a certain percentage (as specified in InvIT Regulations) of votes cast against;

b) the voting may also be done by postal ballot or electronic mode;

c) a notice of not less than 21 days (or such other time period specified under the InvIT Regulations) shall be provided to the Unitholders; and

d) voting by any person who is a related party in such transaction as well as the voting by any Associates of such person(s), shall not be considered on the specific issue.

The Investment Manager shall be responsible for all the activities relating to conducting of a meeting of the Unitholders, subject to the Trustee's oversight. However, in accordance with Regulation 22(2) of the InvIT Regulations, the Trustee shall convene and handle all activities relating to the conduct of the meetings in respect of issues relating to the Investment Manager, such as change, removal or change in control of the Investment Manager. Further, in respect of issues pertaining to the Trustee, including any change in the Trustee, the Trustee shall not be involved in any manner in the conduct of the meetings of the Unitholders.

Under the InvIT Regulations, approval from the Unitholders shall be required where the votes cast in favor of the resolution shall be more than the votes cast against the resolution, with respect to the resolutions of the Unitholders on, *inter-alia*, the following matters:

a) any approval from the unitholders required in terms of Regulation 18 (Investment Conditions and Dividend Policy), Regulation 19 (Related Party Transactions), and Regulation 21 (Valuation of Assets) of the InvIT Regulations, to the extent applicable;

b) any transaction, other than borrowing, the value of which is equal to or greater than the threshold prescribed under the InvIT Regulations (currently 25% of the Trust Assets);

c) any issue of Units after the initial offer by the Trust, in whatever form, other than any issue of Units which is considered by the SEBI under Regulation 22(5) of the InvIT Regulations;

d) increasing period for compliance with investment conditions to one year in accordance with Regulation 18(5)(c) of the InvIT Regulations;

e) any issue, which in the ordinary course of business, in the opinion of the Sponsor, the Trustee or the Investment Manager, is material and requires approval of the Unitholders;

f) declassification of the status of a sponsor;

g) any issue for which the SEBI requires the approval of the Unitholders under Regulation 22(4) of the InvIT Regulations; and

h) any issue taken up at an annual meeting of the Unitholders under Regulation 22(3) of the InvIT Regulations, which requires approval of the Unitholders other than as specified in Regulation 22(6) of the InvIT Regulations.

Under the InvIT Regulations, approval from the Unitholders shall be required where the votes cast in favor of the resolution shall not be less than one and a half times the votes cast against the resolution, with respect to the resolutions of the Unitholders on, *inter-alia*, the following matters:

a) any change in the Investment Manager, including removal or change in control of the Investment Manager;

b) any material change in the investment strategy of the Trust or its management fees;

c) any issue, not in the ordinary course of business, which in the opinion of the Sponsor, the Investment Manager or the Trustee, requires approval of the Unitholders;

d) any issue for which SEBI requires the approval of the Unitholders under Regulation 22(5) of the InvIT Regulations;

e) any issue taken up at the request of the Unitholders, including:

   i) removal of the Investment Manager, and the appointment of another investment manager to the Trust;

   ii) removal of the Auditor, and appointment of another auditor with respect to the Trust;

   iii) removal of the Valuer, and appointment of another valuer with respect to the Trust;

   iv) any issue which the Unitholders have sufficient reason to believe is detrimental to their interest; or

   v) a change in the Trustee if the Unitholders have sufficient reason to believe that the acts of the Trustee are detrimental to their interests.

In relation to any issue taken up at the request of the Unitholders as described above, the Trustee will require the Investment Manager to place the issue for voting in the manner specified in the InvIT Regulations on receipt of such applications.

Redressal of Grievances

The Investment Manager shall ensure adequate and timely redressal of all Unitholders' grievances pertaining to the activities of the Trust, and the Trustee shall periodically review the status of Unitholders' complaints and their redressal undertaken by the Investment Manager. The Investment Manager shall maintain records of the Unitholders' grievances and the actions taken thereon, including copies of correspondences made with the Unitholders.

Limitation of the Liability of the Unitholders

The liability of each Unitholder towards the payment of any amount (that may arise in relation to the Trust including any taxes, duties, fines, levies, liabilities, costs or expenses) shall be limited only to the extent of the Capital Contribution of such Unitholder and after such capital contribution shall have been paid in full by the Unitholder, the Unitholder shall not be obligated to make any further payments.

Periodic Information and Disclosures

The Investment Manager shall submit an annual report, half-yearly report, and valuation report to the Trustee and all Unitholders, electronically or by physical copies.

The Investment Manager shall disclose to the Trustee and the Unitholders any information having bearing on the operation or performance of the Trust which includes, but is not restricted to the following:

a) acquisition or disposal of any projects, directly or through a holdco or SPV, the value of which exceeds 5% of the value of the Trust Assets;

b) additonal issue of Units by the Trust;

c) details of any credit rating obtained by the Trust and any change in such rating;

d) any issue which requires the approval of the Unitholders;

e) any legal proceedings which may have significant bearing on the functioning of the Trust;

f) notices and results of meetings of the Unitholders;

g) any instance of non-compliance with the InvIT Regulations, including any breach of limits specified under the InvIT Regulations; and

h) any material issue that, in the opinion of the Investment Manager or Trustee, needs to be disclosed to the Unitholders.

The Investment Manager (on behalf of the Trust) shall submit such information to the Unitholders on a periodic basis as may be required under the InvIT Regulations and applicable law. Further, the Investment Manager (on behalf of the Trust) shall disclose to the Unitholders and SEBI, all such information, in the manner as may be specified by SEBI. For details of the responsibilities of the Investment Manager in relation to making periodic disclosures with respect to the valuation of the Trust Assets and the computation and declaration of NAV of the Trust, see "*Valuation*" on page 245.

SECTION V – PARTIES TO THE TRUST

THE SPONSOR AND PROJECT MANAGER

The Sponsor of the Trust is IRB Infrastructure Developers Limited. The Sponsor has settled the Trust pursuant to the Indenture of Trust dated August 27, 2019 and has appointed the Trustee in accordance with the provisions of the InvIT Regulations.

The Sponsor has also been appointed as the Project Manager pursuant to the Project Implementation Agreements.

The details of the Sponsor and Project Manager are as follows:

A. Details of the Sponsor and Project Manager

a) **Name:** IRB Infrastructure Developers Limited;

b) **Registered Office:** Off No-11th Floor/1101, Technology Street, Hill Side Avenue, Powai, Mumbai 400 076, Maharashtra, India;

c) **Correspondence Address:** Off No-11th Floor/1101, Technology Street, Hill Side Avenue, Powai, Mumbai 400 076, Maharashtra, India;

d) **Telephone Number:** +91 22 6640 4220;

e) **Website:** www.irb.co.in

f) **E-mail:** info@irb.co.in

B. Details of the Contact Person of the Sponsor

a) **Name:** Mr. Mehul Patel;

b) **Telephone Number:** +91 22 6640 4220; and

c) **E-mail:** mehul.patel@irb.co.in

C. Background and Past Experience of the Sponsor and Project Manager

The Sponsor is one of the largest infrastructure development and construction companies in India in terms of net worth in the roads and highways sector according to the NHAI's annual prequalification for public private partnerships in national highway projects report for 2016. As at December 31, 2021, the Sponsor had eight road projects of which two were operational and six were under-construction or awaiting appointed date.

The Sponsor also acts as the Project Manager. The Sponsor's BOT project portfolio includes the Ahmedabad Vadodara section of NH 8 and the Ahmedabad Vadodara Expressway and the Meerut Budaun (Group-I) section of Ganga Expressway. The Sponsor's HAM project portfolio includes the under construction Padra to Vadodara Section of Vadodara-Mumbai Expressway, the Gandeva to Ena project on the Vadodara-Mumbai eight lane expressway, four-laning of Punjab/Himachal Border to Mo Section of NH-154 and the recently awarded six-laning of Chittoor Thachur road. The Sponsor's TOT project includes the Yashwantrao Chavan Expressway (Mumbai Pune Expressway) and Mumbai – Pune section of NH-48 (old NH-4). The Sponsor has experience in developing road and highway infrastructure and has received various industry awards and recognitions. The Sponsor has experience in developing road and highway infrastructure and has received various industry awards and recognitions.

The Sponsor/Project Manager has experience in the execution of construction work for roads, highways, and other relevant structures and had a track record of constructing over 10,809 Lane Kilometres of roads and highways as of December 31, 2021.

The Sponsor is listed on the Stock Exchanges with a market capitalization of ₹155.70 billion as at April 8,

2022. As at March 31, 2021, the Sponsor has a consolidated networth of ₹69.01 billion. The Sponsor recorded a consolidated turnover of ₹54.88 billion in the Financial Year 2021 with a profit after tax of ₹1,171.49 million.

In accordance with the eligibility criteria specified under the InvIT Regulations, the Sponsor had a net worth of ₹28.56 billion as on March 31, 2021, on a standalone basis. As on March 31, 2021, the Sponsor had a consolidated net worth of ₹69.01 billion. The Sponsor has an experience of more than 20 years as a developer in the infrastructure sector and has completed more than 18 projects.

Further, neither the Sponsor/Project Manager, nor its promoters or directors:

a) is debarred from accessing the securities market by the SEBI; or

b) is a promoter, director or person in control of any other company or a sponsor, investment manager or trustee of any other infrastructure investment trust which is debarred from accessing the capital market under any order or directions made by the SEBI.

None of the promoters or directors of the Sponsor/Project Manager is a fugitive economic offender declared under Section 12 of the Fugitive Economic Offenders Act, 2018.

D. Details of the Holding or the Proposed Holding by Sponsor in the Trust

The Sponsor currently holds 51% of the units of the Trust. The Sponsor proposes to subscribe to additional Units in this Issue such that its post-Issue unitholding is maintained at 51%.

E. Summary of the Consolidated Financial Statements of the Sponsor

For a summary of the financial statements of the Sponsor, as derived from the consolidated financial statements of the Sponsor, prepared in accordance with Ind AS and the Companies Act, as of and for the Financial Years 2021, 2020 and 2019, see "*Summary Financial Information*" on page 54.

F. Functions, Duties and Responsibilities of the Project Manager

The Project Manager has agreed to provide professional services to carry out engineering, procurement, construction, operations and maintenance of the Project SPVs, including making arrangements for the appropriate maintenance, either directly or through sub-contractors, in accordance with the terms and conditions of the relevant project agreements, the InvIT Regulations, other applicable law and good industry practice (the "**Works**"). CGTL, IRB HMTL, KGTL, IRB WTL and UTL have also executed addenda dated May 6, 2021 to their respective Project Implementation Agreements, in connection with the payment of certain additional costs to the Project Manager.

Under the terms of the Project Implementation Agreements, the Project Manager is required to, *inter-alia*, provide the following Works:

(a) engineering, procurement and construction works in relation to the project as required under the project agreements;
(b) operations and maintenance for the project as stipulated under the project agreements, including tolling, which shall include procuring, operating and maintaining the toll management system at its toll plazas, including employing staff for toll collection, security arrangements at toll plazas and printing of toll tickets;
(c) any and all activities required to be performed by the Project SPVs pursuant to the project agreements or pursuant to any communication from NHAI or any other governmental authority, including in relation to shifting of utilities, associated roads, felling of trees and related works with respect to the project site or any work to be undertaken pursuant to a change of scope order based on a determination of change of scope by the NHAI under the relevant concession agreement; and
(d) other administrative services such as software usage support services, information technology support services, support services for legal matters, support services for accounting and tax matters, support services for general administration and investor relations, and support services and payroll and related services.

The Project Manager may engage duly qualified third-party service providers including but not limited to architects, surveyors and technical consultants for provision of the Works. If more than 50% of the Works are sub-contracted to any person other than Modern Road Makers Private Limited or any other affiliate of the Project Manager, then such sub-contract will be subject to prior approval of the Investment Manager (as confirmed by Unitholders of the Trust).

The Project Manager will inform the Investment Manager about any transactions between the Project Manager and its Associates which may involve a conflict of interest and where the Project Manager has advised that there may be a conflict of interest, and will obtain confirmation from the practicing chartered accountant or the valuer, as applicable, that such transaction is on an arms' length basis.

The Project Manager will ensure that it provides a compliance certificate to the Investment Manager and the Trustee on a quarterly basis or such other intervals as required in accordance with the InvIT Regulations with a copy to the Financial Investors.

The Project Manager has confirmed that it will provide the Works to the Project SPVs on a most preferred basis and if the Project Manager offers same or similar works to any person on better terms than offered to a Project SPV, then the Project SPV will be automatically entitled to the such better terms, and the Project Manager will ensure that the such better terms are forthwith made applicable to the Project SPV.

The Project Manager has also agreed to indemnify the Investment Manager, the Project SPVs and their respective officers, directors, shareholders, partners, members and employees subject to the terms, conditions and limitations specified in the Project Implementation Agreements.

The Project Implementation Agreements are valid for an initial period of 10 years. The Project Implementation Agreements may be terminated by the Investment Manager, *inter-alia*, with prior written notice of a specified period, provided that such right shall not be exercisable by the Investment Manager until the later of (i) the completion of the first major maintenance cycle in relation to the first Project SPV that undergoes a major maintenance cycle; or (ii) the commencement of the fifth year of the initial term. The above right of termination shall be exercisable by the Investment Manager collectively in relation to all the Project Implementation Agreements and not selectively in relation to one or more (but less than all) Project Implementation Agreements, provided that selective termination in respect of a Project SPV shall be permitted if (a) the Project Implementation is terminated pursuant to the other provisions of the agreement; or (b) if the Project SPV is undergoing a major maintenance or the construction period or any EPC Work, in which case, unless otherwise required by the Investment Manager for such Project SPV, the other Project Implementation Agreements shall stand terminated. The Investment Manager shall obtain approvals from the Unitholders and any governmental authority as may be applicable, in relation to such termination.

The Investment Manager also has the right to terminate the Project Implementation Agreements by issuing a notice of termination in case of certain events, including breach of the agreement by the Project Manager and the breach is not remedied within 60 days, occurrence of an Event of Default under the Framework Agreement, change in control of the Project Manager, occurrence of an insolvency event in relation to the Project Manager or a force majeure event continues for a period of 180 days or more within a continuous period of 365 days.

In relation to the Target SPV, the PDTPL Project Implementation Agreement has not been executed as of the date of this Letter of Offer and will be executed after the completion of the Issue. The agreement will be effective from the date of closing under the PDTPL Share Subscription Agreement. The Project Manager will provide Works to the Target SPV under the PDTPL Project Implementation Agreement similar to the Project SPVs under their respective Project Implementation Agreements. Also see "*Background and Structure of the Trust – Fees and Expenses – Fees and expenses of the Project Manager*" on page 102.

THE INVESTMENT MANAGER

MMK Toll Road Private Limited is the Investment Manager of the Trust, and has been designated as such pursuant to the Investment Management Agreement. The Investment Manager is responsible for making investment decisions with respect to the underlying assets or projects of the Trust, including any further investment or divestment of its assets, in accordance with the InvIT Regulations and the Investment Management Agreement.

The details of the Invesment Manager are as follows:

A. Details of the Investment Manager

a) **Name:** MMK Toll Road Private Limited;

b) **Registered Office:** Off No-11th Floor/1101, Technology Street, Hill Side Avenue, Powai, Mumbai 400 076, Maharashtra, India;

c) **Correspondence Address:** Off No-11th Floor/1101, Technology Street, Hill Side Avenue, Powai, Mumbai 400 076, Maharashtra, India;

d) **Telephone Number:** +91 22 6733 6400; and

e) **E-mail:** dhananjay.joshi@irb.co.in

B. Details of the Contact Person of the Investment Manager

a) **Name:** Mr. Dhananjay Joshi;

b) **Telephone Number:** +91 22 6733 6400; and

c) **Email:** dhananjay.joshi@irb.co.in

C. Background and Past Experience of the Investment Manager

MMK Toll Road Private Limited ("**Investment Manager**") was incorporated on April 12, 2002. The Investment Manager has experience in operating a road BOT project for a period of 13 years and in developing, operating and maintaining toll roads in the infrastructure sector.

The Investment Manager has executed the BOT project of improving and strengthening the Mohol – Kurul – Kamti – Mandrup Road in Solapur District (length: 33 km). The cost of the project was ₹180 million, which was financed by equity of ₹70.00 million and RTL of ₹110.00 million. The commercial operations date of the project was in May 2002 and the concession period was 13 years which expired in May 2015.

Being part of the IRB group, the Investment Manager has the infrastructure for acting as the Investment Manager for managing the assets and investments of the Trust.

The net worth of the Investment Manager as on March 31, 2021 stood at ₹102.28 million on a standalone basis. The key managerial personnel of the Investment Manager have over five years of experience each, in providing advisory services to a developer in the infrastructure sector. One such key managerial personnel has experience of over five years in the roads sector which is the relevant sub-sector in which the Trust primarily proposes to invest.

The Investment Manager confirms that it has, and undertakes to ensure that it will at all times maintain, adequate infrastructure, personnel and resources to perform its functions, duties and responsibilities with respect to the management of the Trust, in accordance with the InvIT Regulations, the Investment Management Agreement and other applicable law.

Further, neither the Investment Manager, nor its promoters or directors:

a) is debarred from accessing the securities market by the SEBI; or

b) is a promoter, director or person in control of any other company or a sponsor, investment manager or trustee of any other infrastructure investment trust or infrastructure investment trust which is debarred from accessing the capital market under any order or directions made by the SEBI.

None of the promoters or directors of the Investment Manager is a fugitive economic offender declared under Section 12 of the Fugitive Economic Offenders Act, 2018.

The Investment Manager conducts the operations of the Trust from its offices in Mumbai and New Delhi.

D. Brief Profiles of the Investment Manager's Directors

a) **Mr. Virendra D. Mhaiskar**

Mr. Virendra D. Mhaiskar, is a non-executive director of the Investment Manager. He holds a Diploma in Civil Engineering from Shriram Polytechnic, Navi Mumbai. Mr. Mhaiskar has over 20 years of experience in the construction and infrastructure industry. He joined the IRB group in June 1990 and is responsible for leading and directing the IRB group's strategy in BOT and funded projects.

b) **Mr. Boon Chin Hau**

Mr. Boon Chin Hau, is a non-executive director of the Investment Manager. He is also the Managing Director, Head, Asia & Emerging Markets, Infrastructure - GIC Infrastructure Group. He joined the GIC Infrastructure Group in 2008. He has degrees from Imperial College London and the University of Chicago.

c) **Mr. K G Krishnamurthy**

Mr. K.G. Krishnamurthy, is an independent director of the Investment Manager. He was the Managing Director and CEO of HDFC Property Ventures Limited. He holds a degree in Bachelor of Architecture from Indian Institute of Technology Kharagpur. He was associated with Housing Development Finance Corporation ("**HDFC**") for more than two decades and held various leadership positions during his tenure with HDFC. He was also deputed to HDFC Venture Capital Limited (a subsidiary of HDFC) as Managing Director and CEO in the year 2005.

d) **Mrs. Ranjana Paranjape**

Mrs. Ranjana Paranjape, is an independent director of the Investment Manager. She holds a Diploma in Financial Management and a master's degree on Commerce from the University of Mumbai. She is also a Certified Associate of the Indian Institute of Bankers. She was associated with IDBI Bank for over 38 years and retired in October 2016 as a Chief General Manager.

The directors are not directors or members of the governing board of an investment manager of another infrastructure investment trust.

E. Brief Profiles of the Investment Manager's Key Personnel

a) **Mr. Dhananjay K. Joshi, Chief Executive Officer**

Mr. Dhananjay K. Joshi, 48 years, joined the IRB group in November 1998. He was appointed as the Chief Executive Officer of MMK Toll Road Private Limited with effect from February 10, 2020. He holds a bachelor's degree in commerce and a bachelor's degree in law from the University of Mumbai. He also holds a post-graduate diploma in business management and a masters in business administration from Shivaji University, Kolhapur. He has been a part of the IRB group for over 22 years.

b) **Ms. Shilpa C. Todankar, Chief Financial Officer**

Ms. Shilpa C. Todankar, 38 years, joined the IRB group in September 2009. She is a member of the Institute of Chartered Accountants of India since 2011. She holds a diploma in Information System Audit from Institute of Chartered Accountants of India. She has approximately 10 years of

experience in the fields of accountancy, audit and taxation in the IRB group. She is also a director on the board of the nine Project SPVs.

c) **Mr. Kaustubh Shevade, Company Secretary and Compliance Officer**

Mr. Kaustubh Shevade, 35 years, joined the IRB group in December 2019. He is an associate member of the Institute of Company Secretaries of India. He holds a bachelor of legal sciences degree and a bachelor of laws degree from the University of Mumbai. He also holds a master of business laws degree from the National Law School of India University, Bengaluru. Prior to joining the Investment Manager, he was associated with Tata Realty and Infrastructure Limited and Reliance Infrastructure Limited.

F. Details of the Holding or the Proposed Holding by the Investment Manager and its Directors in the Trust

The Investment Manager and its directors do not hold any Units as on date. None of the directors of the Investment Manager or the Investment Manager propose to hold any Units in the Trust.

G. Summary of the Standalone Financial Statements of the Investment Manager

For a summary of the financial statements of the Investment Manager, as derived from the standalone financial statements of the Investment Manager, prepared in accordance with Ind AS and the Companies Act, as of and for the Financial Years 2021, 2020 and 2019, see "*Summary Financial Information*" on page 59.

H. Functions, Duties and Responsibilities of the Investment Manager

Below is the brief description of the functions, duties and responsibilities of the Investment Manager provided in the Investment Management Agreement in accordance with the InvIT Regulations, which *inter-alia*, include:

a) Coordinating with the Trustee, as may be necessary, with respect to the operations of the Trust.
b) Ensuring that the valuation of the Trust Assets is done by the Valuer in accordance with the InvIT Regulations.
c) Arranging for adequate insurance coverage for the Trust Assets in accordance with the InvIT Regulations.
d) Maintaining proper books of accounts, documents and records with respect to the Trust, in the manner set out in the Indenture of Trust and in accordance with Applicable Law.
e) Ensuring that the audit of the accounts of the Trust by the Auditor is undertaken in accordance with the InvIT Regulations.
f) Making Distributions to Unitholders in accordance with Regulations 9(8) and 18 of the InvIT Regulations, the Trust Documents and the Investment Strategy. Subject to the Trust Documents, Applicable Law and the Investment Strategy, at least such percentage of the net distributable cash flows of the SPVs and Holdcos (as applicable) shall be distributed to the InvIT, as prescribed in the InvIT Regulations. The Distributions shall be made not less than once every year or at such other intervals as may be specified in the relevant Trust Documents or applicable under the InvIT Regulations;
g) To convene meetings of the Unitholders in accordance with Regulation 22 of the InvIT Regulations, including at the written request of the Unitholders as specified therein, and maintain records pertaining to the meetings in accordance with Regulation 26 of the InvIT Regulations.
h) To intimate the Trustee prior to any change in control of the Investment Manager to enable the Trustee to seek prior approval from the Unitholders (and the SEBI or any other governmental authority, if applicable) and ensuring that no such change is given effect to, until the approval of the Unitholders (and the SEBI or any other governmental authority, as applicable) has been obtained, or the Investemnt Management Agreement is terminated and a new investment manager has been appointed in accordance with the terms in the Investment Management Agreement, or in compliance with any other requirement under the InvIT Regulations, other applicable law and the Trust Documents.
i) To place before the board of directors, a report on the activity and performance of the Trust in accordance with the InvIT Regulations. To designate an appropriately qualified employee to act as

the compliance officer for monitoring of compliance with the InvIT Regulations and any circulars or guidelines issued thereunder and intimating the SEBI in case of non-compliance.

j) Maintaining records pertaining to the activity of the Trust in terms of Regulation 26 of the InvIT Regulations.

k) To manage the Trust in accordance with applicable law (including the InvIT Regulations) and the Trust Documents and the investment strategy, to make all investment decisions with respect to the Trust Assets and ensure that the investments made by the Trust are in accordance with the investment conditions specified in the applicable provisions of the InvIT Regulations and in accordance with the investment strategy as specified in the Investment Management Agreement.

l) To appoint, in consultation with the Trustee, the Valuer, Auditor (for a period of not more than five consecutive years or such other period as may be prescribed under the InvIT Regulations), regsitrar and transfer agent, merchant bankers, custodians, credit rating agencies, and any other intermediaries or service providers.

m) To ensure all activities of the intermediaries, agents, or service providers appointed by the Investment Manager are in accordance with the InvIT Regulations and guidelines and circulars issued thereunder, as applicable.

n) Overseeing the activities of the Project Manager, ensuring that the Project Manager conplies with the InvIT Regulations, and reviewing the transactions carried out between the Project Manager and its Associates and where the Project Manager has advised that there may be a conflict of interest, to obtain confirmation from a practicing chartered accountant or valuer, as applicable, that such transaction is on an arms' length basis.

o) To ensure adequate and timely redressal of Unitholders' grievances pertaining to the activities of the Trust in accordance with the InvIT Regulations. The Investment Manager is required to submit quarterly reports on Unitholders' grievances to the Trustee, as applicable.

p) To provide to the SEBI, the stock exchanges and other governmental authorities, as applicable, information as may be requested or required under applicable law by the SEBI, the stock exchanges or other governmental authorities, as applicable, in relation to the activities of the Trust

q) To ensure that disclosures and reporting to the Unitholders, SEBI, the Trustee, and the stock exchanges are in accordance with the applicable provisions of the InvIT Regulations (including disclosure to the Trustee and the Unitholders of any information having a bearing on the operation or performance of the Trust) in accordance with the timelines specified in the InvIT Regulations.

r) To intimate the Trustee and the Unitholders on the occurrence of any event that may have a material impact on the Investment Manager and its ability to perform its obligations under the Trust Documents, including any change in control of the Investment Manager.

s) To be responsible for all activities pertaining to the issue of Units including filing of any placement memorandum, final placement memorandum, draft offer document, offer document or final offer document with the SEBI and dealing with all matters relating to the allotment of Units to Unitholders.

t) To ensure that disclosures in the placement memorandum or offer document are material, true, correct and adequate and in accordance with the InvIT Regulations. The Trust may list its Units on one or more stock exchanges subject to compliance with the conditions specified under the InvIT Regulations and directions issued by the SEBI or the stock exchanges, as applicable.

u) Fulfiling its obligations under the applicable provisions of the InvIT Regulations and the Trust Documents.

v) The Investment Manager is required to submit to the Trustee:

   i. quarterly reports on the activities of the Trust including receipts for all funds received by it and for all payments made, status of compliance with the InvIT Regulations, specifically Regulations 18, 19 and 20 of the InvIT Regulations, performance report, status of development of under-construction projects, within time period specified under the InvIT Regulations, whichever is earlier;

   ii. valuation reports as required under the InvIT Regulations within the time period specified under the InvIT Regulations;

   iii. decision to acquire or sell or develop or bid for any Trust Asset or project or expand existing completed Trust Assets or projects along with rationale for the same;

   iv. details of any action which requires approval from the Unitholders as may be required under the InvIT Regulations; and

   v. details of any other material fact including change in its directors, change in its shareholding, any legal proceedings that may have a significant bearing on the activity of the Trust, within the time period specified under the InvIT Regulations.

w) To submit within the time period prescribed under the InvIT Regulations, annual reports and half yearly reports to all the Unitholders electronically or provide physical copies and, if applicable, to the stock exchanges.

x) To keep segregated at all times the assets and liabilities of the Trust from the assets and liabilities of the Investment Manager and the assets and liabilities of any other trusts managed by the Investment Manager. The assets held under the Trust shall be held for the exclusive benefit of the Unitholders and such assets shall not be subject to the claims of any creditor or any person claiming under any other fund or trust administered or managed by the Investment Manager.

y) To be responsible for monitoring, administering and giving effect to all claims and adjustments arising out of the share purchase agreements executed in respect of the acquisition of Trust Assets and any payments required to be made by or to the Trust.

z) Other duties include:

i. ensuring that computation of the net asset value of the Trust is based on the valuation done by the Valuer in accordance with the InvIT Regulations;

ii. maintaining regular interaction with the Trustee on performance of the Trust and providing the Trustee with any information in relation to the operations of the Trust as may be required;

iii. conducting its affairs and the affairs of the Trust in such a manner that Unitholders will not have personal liability with respect to liabilities or obligations of the Trust;

iv. collecting all dividends, fees, property and other payments due and receivable by the Trust in the manner set out in the Indenture and in terms of the InvIT Regulations;

v. ensuring that no commission or rebate or any other remuneration, arising out of transaction pertaining to the Trust is collected by the Investment Manager or its Associates, other than as specified in the offer document or any other document as may be specified by SEBI for the purpose of the issue of the units of the Trust;

vi. ensuring that the Trust Assets have proper and legal marketable titles and that all the material contracts entered into or on behalf of the Trust or the Trust Assets or the SPVs, or the Holdcos are legal, valid, binding and enforceable by and on behalf of the Trust or the Trust Assets or the SPVs or the Holdcos, as applicable;

vii. keeping the Unitholders informed and updated on investment activities of the Trust in accordance with the Trust Documents;

viii. ensuring that any possible conflict of interest involving its role as an Investment Manager is reported to the Trustee and the Unitholders;

ix. ensuring that disclosures and reporting to the Unitholders, SEBI and the Trustee are in accordance with applicable law and InvIT Regulations;

x. to immediately notify the Trustee and the Unitholders of any act which is detrimental to the interest of the Unitholders;

xi. informing the Trustee and Unitholders in writing about any change in the representations and warranties provided by the Investment Manager under the Investment Management Agreement or any of the Trust Documents;

xii. providing assistance to the Trustee as may be required in fulfilling its obligations towards the Trustee and the Unitholders, under applicable law, by any governmental authority or under the Trust Documents;

xiii. providing to the SEBI, the Trustee and if applicable, the stock exchanges, such information as may be sought by the SEBI, the Trustee or the stock exchanges in relation to the activities of the Trust, and providing, in parallel, to the Unitholders a copy of all reports and submissions made hereunder;

xiv. taking any other actions incidental to any of the foregoing or necessary or convenient in order to fully effect or evidence any action or transaction contemplated under the Investment Management Agreement; and

xv. to perform any other duties specified in the InvIT Regulations and the Trust Documents.

I. Rights in relation to shareholding in the Investment Manager

Pursuant to the terms of the IM SHA, the Sponsor and Croxley have agreed to the following arrangements in relation to their shareholding in the Investment Manager:

- ***Put option***: Croxley has the right to require the Sponsor to purchase the equity shares held by it in the Investment Manager upon the occurrence of certain events within the period of 12 months from the date of allotment in the initial offer of Units.

- ***Right of first refusal***: Croxley has a right of first refusal over equity shares of the Investment Manager proposed to be transferred by the Sponsor to any person other than the subsidiaries of the Sponsor.

- ***Tag along right***: Subject to lock-in below, if the Sponsor proposes to transfer equity shares of the Investment Manager held by it to a third party buyer (which is not a subsidiary of the Sponsor), Croxley has a right to require such buyer to purchase from the Investors, (i) the entire shareholding of Croxley if the Sponsor proposes to transfer in excess of 20% of the total outstanding equity shares or (ii) up to such percentage of equity shares held by Croxley that is *pro rata* to the percentage of equity shares proposed to be transferred by the Sponsor if the Sponsor proposes to transfer 20% or less of the total outstanding equity shares.

- ***Lock-in***: The Sponsor is not permitted to transfer the equity shares held by in the Investment Manager to any person, including to its affiliates without the prior written permission of Croxley.

- ***Deed of Adherence***: The Sponsor has agreed that any transfer of its shareholding to any person will be valid only if such person executes a deed of adherence and agrees to be bound by the terms and conditions of the IM SHA.

- ***Pre-emptive rights***: If the Investment Manager proposes to issue any new equity shares to any person including an existing shareholder, including by way of a preferential allotment, subject to certain exceptions specified in the IM SHA, then until the date of completion of any initial public offering of the Investment Manager, the Investment Manager will provide a right to the existing shareholders to subscribe to their respective proportionate share (in the proportion of their shareholding in the Investment Manager) of such proposed issuance at the same price as is offered to the proposed recipient, so as to maintain their respective proportionate ownership in the Investment Manager.

- ***Events of Default and consequences***: See *"Rights of Unitholders – Arrangements between the Sponsor and the Financial Investors*" on page 250.

THE TRUSTEE

The Sponsor has settled the Trust pursuant to the Indenture of Trust and appointed IDBI Trusteeship Services Limited in accordance with the provisions of the InvIT Regulations.

The details of the Trustee are as follows:

A. Details of the Trustee

a) **Name:** IDBI Trusteeship Services Limited;

b) **Registered Office:** Asian Building, Ground Floor, 17, R. Kamani Marg, Ballard Estate, Mumbai 400 001, Maharashtra, India;

c) **Correspondence Address:** Asian Building, Ground Floor, 17, R. Kamani Marg, Ballard Estate, Mumbai 400 001, Maharashtra, India;

d) **Telephone Number:** +91 22 4080 7016;

e) **E-mail:** itsl@idbitrustee.co.in

B. Details of the Contact Person of the Trustee

a) **Name:** Mr. Shivaji Gunware / Mr. Naresh Sachwani;

b) **Telephone Number:** +91 22 4080 7016; and

c) **E-mail:** itsl@idbitrustee.co.in

C. Details of Trustee's Registration with SEBI

The Trustee is registered with SEBI as a debenture trustee with registration number IND000000460.

D. Background of the Trustee

The Trustee is a trusteeship company which has been registered with SEBI, and has been jointly promoted by IDBI Bank Limited, Life Insurance Corporation and General Insurance Corporation for providing corporate and other trusteeship services.

The Trustee is permitted to engage in the following activities.

a) Debenture / bond trustee;
b) Security trustee/ facility agent;
c) Securitization trustee;
d) Share pledge trustee / share monitoring agent;
e) Escrow agent;
f) VCF trustees/ AIF Trustees;
g) Safe keeping / lockers services;
h) Management of private trusts / execution of wills; and
i) Special corporate services (e.g. provision of nominee directors)

The Trustee is the one of the largest trusteeship companies in India. The Trustee provides trusteeship services to corporates across diverse industries as well as domestic and foreign banks and financial institutions.

The Trustee is not an Associate of the Sponsor or the Investment Manager. Further, the Trustee (i) is not debarred from accessing the securities market by the SEBI; or (ii) is not a promoter, director or person in control of any other company or a sponsor, investment manager or trustee of any other infrastructure

investment trust or infrastructure investment trust which is debarred from accessing the capital market under any order or directions made by the SEBI.

To the best knowledge of the Trustee, none of the promoters or directors of the Trustee (i) is debarred from accessing the securities market by SEBI; or (ii) is a promoter, director or person in control of any other company or a sponsor, investment manager or trustee of any other infrastructure investment trust or an infrastructure investment trust which is debarred from accessing the capital market under any order or direction made by SEBI; or (iii) is in the list of wilful defaulters published by the RBI.

None of the promoters or directors of the Trustee is a fugitive economic offender declared under Section 12 of the Fugitive Economic Offenders Act, 2018.

E. Names and Profiles of the Directors of the Trustee

The names and profiles of board of directors of the Trustee, are as follows:

S. No.	Name	Designation	DIN
1.	Mr. J. Samuel Joseph	Chairman	02262530
2.	Ms. Padma Betai	Managing Director and Chief Executive Officer	00937921
3.	Mr. Pradeep Kumar Jain	Director	07829987
4.	Ms. Madhuri J Kulkarni	Director	07787126
5.	Ms. Jayashree Ranade	Director	09320683

The Trustee confirms that it has, and undertakes to ensure that it will at all times maintain, adequate infrastructure, personnel and resources to perform its functions, duties and responsibilities with respect to the Trust, in accordance InvIT Regulations, the Indenture of Trust and applicable law.

F. Functions, Duties and Responsibilities of the Trustee

a) Interests of the Unitholders

The Trustee shall carry on and conduct its business in a proper and efficient manner in the best interest of the Unitholders in accordance with the Trust Documents. The Trustee shall duly perform all its duties, responsibilities and powers as set out in the InvIT Regulations in the interest of the Unitholders and in accordance with the provisions of the Trust Documents.

b) Appointment of the Investment Manager, the Project Manager and enter into the Investment Management Agreement and the Project Implementation Agreements

The Trustee, on behalf of the Trust, shall within a reasonable time from the date of execution of the Indenture of Trust, appoint an Investment Manager and a Project Manager (in consultation with the Investment Manager) and enter into an Investment Management Agreement and the Project Implementation Agreements. The Trustee shall have the power to execute the Project Implementation Agreement or any other agreement or arrangement, from time to time, with the Project Manager, any holding company or the SPV in this regard. The Trustee shall obtain a compliance certificate from the Investment Manager and the Project Manager on a quarterly basis, or such other time and in the form as may be prescribed under the InvIT Regulations.

c) Supervision of the Investment Manager

i. The Trustee shall ensure that the Investment Manager complies with reporting and disclosure requirements in accordance with the InvIT Regulations and in case of any delay or discrepancy, the Trustee shall require the Investment Manager to rectify such delay or discrepancy on an urgent basis.

ii. The Trustee shall oversee the activities of the Investment Manager in the interest of the Unitholders, ensure that the Investment Manager complies with the applicable provisions of the InvIT Regulations, including in relation to reporting and disclosure requirements and shall obtain a compliance certificate from the Investment Manager on a quarterly basis.

iii. The Trustee shall review transactions between the Investment Manager and its Associates and where the Investment Manager has advised that there may be a conflict of interest, obtain a confirmation that such transaction is on an arm's length basis from a practicing chartered account, a valuer or as may be otherwise prescribed under the InvIT Regulations, as applicable.

iv. The Trustee shall ensure that the Investment Manager reviews the valuation reports issued by the valuer and submitted to the Trustee by the Investment Manager in accordance with the InvIT Regulations.

v. The Trustee shall require the Investment Manager to set up such systems and procedures and submit such reports to the Trustee, as may be necessary for effective monitoring of the functioning of the Trust.

vi. The Trustee shall ensure that the Investment Manager convenes meetings of the Unitholders in accordance with the InvIT Regulations and oversees voting by the Unitholders and declaration of results (except where the Trustee is required to carry out such functions under the InvIT Regulations). The Trustee shall ensure that the Investment Manager convenes meetings of Unitholders within the period prescribed under the InvIT Regulations and the period between such meetings shall not exceed the period prescribed under the InvIT Regulations.

d) Providing information to the SEBI

The Trustee shall ensure that the Investment Manager shall provide to the SEBI and other governmental authorities, as applicable, information as may be requested or required under applicable law by the SEBI or other governmental authorities, as applicable, in relation to the activities of the Trust. The Trustee shall comply with the information and intimation requirements under the InvIT Regulations. The Trustee shall ensure that the activity of the Trust is operated in accordance with the provisions of the Indenture of Trust, the InvIT Regulations, other applicable law and the Trust Documents.

e) Documents and information to be provided to Unitholders

The Trustee shall, and shall ensure that the Investment Manager shall, provide documents and information to the Unitholders with respect to the activities carried on by the Trust, as may be required by the SEBI or other governmental authority, as applicable, under applicable law.

f) Change in Control

The Trustee shall obtain approvals, if required under the Trust Documents, the InvIT Regulations, other applicable law and any concession agreement, for any proposed change in control of the Trustee, the Investment Manager or the Project Manager, as applicable.

g) Change in Investment Manager or Project Manager

In the event of any proposed change or termination in the investment manager or project manager, the Trustee shall ensure that all conditions in connection with the removal of such investment manager or project manager and appointment of a new investment manager or project manager prescribed under the InvIT Regulations, the Trust Documents and other applicable law are complied with. The previous investment manager or project manager shall continue to act as such at the discretion of the Trustee until such time as the new investment manager or project manager is appointed. The Trustee shall ensure that the new investment manager or project manager shall stand substituted as a party in all the documents (to the extent applicable) to which the earlier investment manager or project manager was a party. The Trustee shall also ensure that the earlier investment manager or project manager continues to be liable for all its acts of omissions and commissions for the period during which it served as investment manager or project manager, notwithstanding its change or termination.

h) Subscription amounts

The Trustee shall and shall ensure that the Investment Manager ensures that subscription amounts in case of any offering by the Trust (including this Issue) are collected and utilized in accordance

with the InvIT Regulations, the relevant Trust Documents and conditions specified by the SEBI, as applicable.

i) Distribution

The Trustee shall make Distributions and ensure that the Investment Manager makes timely declarations of Distributions to the Unitholders in accordance with the InvIT Regulations.

j) Maintenance of books of accounts and other records

The Trustee shall cause the books of accounts and other records of the Trust to be maintained in accordance with the Indenture of Trust, the Trust Documents and applicable law.

k) Payment of statutory charges, operation of bank accounts etc.

i. The Trustee shall ensure that the Investment Manager shall make payments of all taxes, duties and any other statutory charges or levies that may be payable by the Trust or on behalf of the Unitholders from the Trust Assets, subject to the provisions of the Trust Documents and applicable law.
ii. The Trustee shall be responsible for opening and operating bank accounts and demat accounts on behalf of the Trust.

l) Attainment of objects of the Trust

The Trustee shall ensure that all acts, deeds and things are done for the fulfilment of the investment objectives of the Trust in accordance with the InvIT Regulations, the Trust Documents and to secure the best interests of the Unitholders.

m) Reports to be filed by the Trust

The Trustee shall file such reports as may be required by the SEBI or any other governmental authority or as required under applicable law in relation to the activities carried on by the Trust.

n) Unitholder Complaints

The Trustee shall periodically review the status of Unitholders' complaints and their redressal by the Investment Manager. The Investment Manager shall provide quarterly reports on Unitholders' grievances to the Trustee, as applicable.

o) Segregation of assets and liabilities

The assets and liabilities of the Trust shall at all times be segregated from the assets and liabilities of the Trustee and the assets and liabilities of other trusts managed by the Trustee. The Trust Assets shall be held for the exclusive benefit of the Unitholders and such assets shall not be subject to the claims of any creditor or any Person claiming under any other fund or trust administered or managed by the Trustee or the Investment Manager.

p) Valuer

i. The Trustee shall ensure that the valuer is not an Associate of the Sponsor, the Investment Manager or the Trustee.
ii. The Trustee shall ensure that the Investment Manager ensures that a detailed valuation is undertaken of the Trust Assets by the valuer at such intervals and in the manner specified under the InvIT Regulations and the Trust Documents.
iii. The Trustee shall ensure that the remuneration of the valuer is not linked to or based on the value of the asset being valued.

q) Investment by Trustee

The Trustee shall invest in Units only if permitted under Applicable Law and such investments shall be in accordance with applicable law.

r) Compliance with the InvIT Regulations

The Trustee shall fulfil its obligations under applicable provisions of the InvIT Regulations.

s) Delegation to the Investment Manager

The Trustee shall delegate all such powers to the Investment Manager as may be required by the Investment Manager to carry out its obligations under the Investment Management Agreement and Applicable Law and as may be required for the benefit of the Unitholders. Also see "*Rights of Unitholders – Approval of Unitholders*"on page 251.

t) Related Party Transactions

The Trustee shall review the transactions carried out between the Investment Manager and its Associates and obtain a certificate from a practising chartered accountant or a valuer, as applicable with respect to any related party transactions involving the Investment Manager and its Associates, where the Investment Manager has advised that there may be a conflict of interest, stating that such transactions have been done at an arms-length basis.

u) Monitoring

The Trustee shall require the Investment Manager to set up such systems and procedures and submit such reports to the Trustee, as may be necessary for the effective monitoring or the functioning of the Trust. The Trustee shall oversee activities of the Investment Manager in the interest of the Unitholders, shall ensure that the Investment Manager is in compliance with the provisions of the InvIT Regulations at all times and shall obtain a compliance certificate from the Investment Manager on a quarterly basis. Further, the Trustee shall ensure that the Investment Manager complies with reporting and disclosure requirements in accordance with the InvIT Regulations and in case of any delay or discrepancy, the Trustee will ensure that the Investment Manager rectifies such delay or discrepancy on an urgent basis.

v) Unitholders Meeting

The Trustee shall ensure that the Investment Manager convenes meetings of the Unitholders in accordance with the InvIT Regulations and shall also oversee the voting by the Unitholders and the declaration of results (excpet where the Trustee is required to carry out such functions under the InvIt Regulations). The Trustee shall ensure that the Investment Manager convenes meetings of Unitholders within the period prescribed under the InvIT Regulations and the period between such meetings shall not exceed the period prescribed under the InvIT Regulations.

w) Others

The Trustee shall ensure that the activity of the Trust is operated in accordance with the Indenture of Trust, InvIT Regulations, other applicable law and the Trust Documents. In the event, any discrepancy is noticed by the Trustee, then the Trustee shall promptly inform the SEBI in writing. The Trustee shall provide to the SEBI such information as may be sought by the SEBI pertaining to the activity of the Trust.

The Trustee shall have the power to take up with SEBI or with the stock exchanges, as applicable, any matter which has been approved in any meeting of Unitholders post the initial offer by the Trust, if the matter requires such action.

x) Compliance Certificate

The Trustee shall obtain a compliance certificate in the form and manner prescribed under applicable law on a quarterly basis, from each of the Investment Manager and the Project Manager.

SECTION VI – OTHER PARTIES

AUDITOR

The Investment Manager, in consultation with the Trustee, has appointed Gokhale & Sathe, Chartered Accountants as the Trust's Auditor until the conclusion of the next annual meeting of Unitholders of the Trust. The Auditor has audited the Special Purpose Consolidated / Combined Financial Information and the Special Purpose Consolidated / Combined Financial Information, and their report thereon dated April 12, 2022, has been included in this Letter of Offer. The Auditor has also issued the Pro Forma Financial Information and their report thereon dated April 12, 2022, included in this Letter of Offer.

Policy for Appointment of Auditor

The Investment Manager shall appoint an auditor of the Trust for a period of not more than five consecutive years, provided that an auditor, not being an individual, may be reappointed for a period of another five consecutive years, subject to the approval of the Unitholders in an annual meeting. With respect to the appointment of the auditor of the Trust and the fees of such an auditor, an approval from the Unitholders shall be required at the annual meeting in accordance with Regulation 22 of the InvIT Regulations.

The Investment Manager shall ensure that the auditor carries out an audit of the accounts of the Trust at such intervals as may be required under the InvIT Regulations.

In accordance with the InvIT Regulations, the auditor of the Trust shall:

a) conduct an audit of the accounts of the Trust and draft the audit report based on the accounts examined, after taking into account the relevant accounting and auditing standards, as may be specified by SEBI in this regard;

b) to the best of its information and knowledge, ensure that the accounts and financial statements give a true and fair view of the state of the affairs of the Trust, including profit or loss and cash flow for the period and such other matters as may be specified;

c) have a right of access at all times to the books of accounts and vouchers pertaining to activities of the Trust; and

d) have a right to require such information and explanation pertaining to activities of the Trust, as it may consider necessary for the performance of its duties as auditor from the employees of Trust or the Sponsor, the Investment Manager, the Project Manager or the Trustee or the SPVs or any other person in possession of such information.

Auditing Standards

The Auditor shall conduct an audit of the accounts of the Trust and issue the audit report based on the accounts examined, after taking into account the relevant accounting and auditing standards, as may be specified by SEBI and/or the ICAI, from time to time, in this regard.

VALUER

The Investment Manager, in consultation with the Trustee, has appointed Mr. Sunit Khandelwal as the Valuer of the Trust for a period of three years. Mr. Sunit Khandelwal is a co-founder of Incwert. In accordance with the InvIT Regulations, the Valuer has undertaken a full valuation of the assets of the Trust and his Initial Portfolio Valuation Report dated January 31, 2022 in relation to such valuation has been included in this Letter of Offer. Incwert has issued a confirmation certificate in relation to the Initial Portfolio Valuation Report.

The Valuer is not an Associate of the Sponsor, the Investment Manager or the Trustee, and has not less than five years of experience in the valuation of infrastructure assets.

The Valuer has also undertaken a full valuation of PDTPL (the Target SPV) and his PDTPL Valuation Report dated April 3, 2022 has been included in this Letter of Offer.

SECTION VII – FINANCIAL INFORMATION

FINANCIAL STATEMENTS

A. SPECIAL PURPOSE CONSOLIDATED / COMBINED FINANCIAL INFORMATION

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gokhale & sathe (regd.)
chartered accountants
308/309, Udyog Mandir No. 1,
7-C, Bhagoji Keer Marg,
Mahim, Mumbai 400 016

Independent Auditor's Report on Condensed Interim Special Purpose Consolidated / Combined Financial Statements of the IRB Infrastructure Trust and the Project SPVs in connection with the proposed Rights Issue of the Units of the Trust.

To,
IDBI Trusteeship Services Limited
(As Trustee of the IRB Infrastructure Trust)
Asian Building Ground Floor,
17, R. Kamani Marg
Ballard Estate,
Mumbai-400001

MMK Toll Road Private Limited
(As the Investment Manager of the IRB Infrastructure Trust)
Off no-11th floor/1101
Hiranandani Knowledge Park,
Technology Street, Hill Side Avenue,
Powai, Mumbai -400076.

Dear Sirs,

Report on Condensed Interim Special Purpose Consolidated / Combined Financial Statements of the IRB Infrastructure Trust and the Project SPVs

OPINION

We have audited the accompanying Condensed Interim Special Purpose Consolidated / Combined Financial Statements of the IRB Infrastructure Trust ('the Trust') and the following nine subsidiaries of Trust, namely –

1. IRB Westcoast Tollway Limited
2. Yedeshi Aurangabad Tollway Limited
3. Solapur Yedeshi Tollway Limited
4. Kaithal Tollway Limited
5. AE Tollway Limited
6. Udaipur Tollway Limited
7. CG Tollway Limited
8. Kishangarh Gulabpura Tollway Limited
9. IRB Hapur Moradabad Tollway Limited

(together referred as 'Project SPVs' or 'Trust Group' and individually 'Project SPV') which were transferred from IRBIDL to Trust on February 25, 2020 pursuant to the private placement of Units of the Trust with effect from March 1, 2020 (the effective date for consolidation), and which comprise

- **Condensed Interim Special Purpose Consolidated Balance Sheet** as at December 31, 2021, March 31, 2021 and as at March 31, 2020 (which comprises combined figures for the 11 months ended on February 29, 2020 and consolidated figures for the month ended March 31, 2020),

- **Condensed Interim Special Purpose Consolidated Statement of Profit and Loss (including Other Comprehensive Income)** for the nine months ended December 31, 2021, nine months ended December 31, 2020 and Financial Year ended March 31, 2021 and March 31, 2020 (which comprises Combined figures for the 11 months ended on February 29, 2020 and consolidated figures for the month ended March 31, 2020),

- **Condensed Interim Special Purpose Consolidated Cash Flows** for the nine months ended December 31, 2021, nine months ended December 31, 2020 and Financial Year ended March 31, 2021 and March 31, 2020 (which comprises combined figures for the 11 months ended on February 29, 2020 and consolidated figures for the month ended March 31, 2020),

- the **Condensed Interim Special Purpose Consolidated Changes in Equity** for the nine months ended December 31, 2021 and Financial Year ended March 31, 2021 and March 31, 2020 (which comprises combined figures for the 11 months ended on February 29, 2020 and consolidated figures for the month ended March 31, 2020),

- **Condensed Interim Special Purpose Combined Balance Sheet** as at March 31, 2019,

- **Condensed Interim Special Purpose Combined Statement of Profit and Loss (including Other Comprehensive Income), Condensed Interim Special Purpose Combined Statement of Cash Flows and Condensed Interim Special Purpose Combined Statement of Changes in Equity** for the Financial Year ended as at March 31, 2019,

- **Condensed Interim Special Purpose Consolidated Statement of Net Assets at Fair Value** as at December 31, 2021, March 31, 2021 and March 31, 2020 (which comprises Combined figures for the 11 months ended on February 29, 2020 and consolidated figures for the month ended March 31, 2020),

- **Condensed Interim Special Purpose Consolidated Statement of Total Returns at Fair Value** for the nine months ended December 31, 2021, Financial Year ended March 31, 2021 and March 31, 2020 (which comprises Combined figures for the 11 months ended on February 29, 2020 and consolidated figures for the month ended March 31, 2020) and

- **A Summary of Significant Accounting Policies and Other Explanatory Information**

  (together referred to as **'Condensed Interim Special Purpose Consolidated / Combined Financial Statements'**).

In our opinion and based on the information and according to the explanations given to us, the **Condensed Interim Special Purpose Consolidated / Combined Financial Statements** gives a true and fair view in

accordance with the basis of preparation as specified in Note 2.A. to the Condensed Interim Special Purpose Consolidated / Combined Financial Statements;

a) in case of Condensed Interim Special Purpose Consolidated Balance Sheet, **of the state of affairs** of the Trust Group as at December 31, 2021, as at March 31, 2021, as at March 31, 2020 (which comprises combined figures for the 11 months ended on February 29, 2020 and consolidated figures for the month ended March 31, 2020) and in case of Combined Balance Sheet, of the state of affairs of the Trust Group as at March 31, 2019;

b) in case of Condensed Interim Special Purpose Consolidated Statement of Profit and Loss (including Other Comprehensive Income) of the

   Trust Group's Loss for the nine months ended December 31, 2021,

   Trust Group's Loss for the nine months ended December 31, 2020,

   Trust Group's Loss for the Financial year ended March 31, 2021,

   Trust Group's Loss for the Financial year ended March 31, 2020 (which comprises Combined figures for the 11 months ended on February 29, 2020 and consolidated figures for the month ended March 31, 2020) and

   in case of Combined Statement of Profit and Loss (including Other Comprehensive Income) of the Trust Group's Profit for the Financial Year ended as at March 31, 2019;

c) in case of Condensed Interim Special Purpose Consolidated Statement of Cash Flow Statement, of the cash movements of the Trust Group for the nine months ended December 31, 2021, nine months ended December 31, 2020, Financial Year ended March 31, 2021 and March 31, 2020 (which comprises Combined figures for the 11 months ended on February 29, 2020 and consolidated figures for the month ended March 31, 2020) and in case of Combined Cash Flow Statement, of the cash movements of the Trust Group for the Financial Year ended as at March 31, 2019;

d) in case of Consolidated Statement of Changes in Equity of the movement of the unit holders for the nine months ended December 31, 2021, Financial Year ended March 31, 2021 and March 31, 2020 (which comprises Combined figures for the 11 months ended on February 29, 2020 and consolidated figures for the month ended March 31, 2020) and in case of Combined Statement of Changes in Equity, of the movement of the unit holders for the year ended as at March 31, 2019;

e) in case of Consolidated Statement of Net Assets at Fair Value as at December 31, 2021, March 31, 2021 and March 31, 2020 (which comprises Combined figures for the 11 months ended on February 29, 2020 and consolidated figures for the month ended March 31, 2020); and

f) in case of Consolidated Statement of Total Returns at Fair Value for the nine months ended December 31, 2021, Financial year ended March 31, 2021 and March 31, 2020 (which comprises Combined figures for the 11 months ended on February 29, 2020 and consolidated figures for the month ended March 31, 2020).

BASIS OF ACCOUNTING AND RESTRICTION ON DISTRIBUTION AND USE

Without modifying our opinion, we draw attention to Note 2.A. to the **Condensed Interim Special Purpose Consolidated / Combined Financial Statements**, which describes the basis of accounting including the approach to and purpose of preparation of the Condensed Interim Special Purpose Consolidated / Combined Financial Statements.

The **Condensed Interim Special Purpose Consolidated / Combined Financial Statements** have been prepared in accordance with the requirements of Securities and Exchange Board of India (Infrastructure Investment Trusts) Regulations, 2014, as amended from time to time including any guidelines and circulars issued thereunder, including the circular dated October 20, 2016 on disclosure of financial information in offer document/ placement memorandum for InvITs and the guidelines for rights issue of units by an unlisted InvIT dated November 4, 2020 (together referred to as 'InvIT Regulations'), based on the Indian Accounting Standards as notified under the Companies (Indian Accounting Standards) Rules, 2015 prescribed under section 133 of the Companies Act, 2013 ('the Act'), as applicable ("Ind AS") and the Guidance Note on Combined and Carve Out Financial Statements issued by the Institute of Chartered Accountants of India in September 2016 (the 'Guidance Note') as more clearly specified in note 2.A.: 'Basis of preparation' of the Condensed Interim Special Purpose Consolidated / Combined Financial Statements.

Accordingly, since the effective date of transfer was March 1, 2020, for the Financial Year ended March 31, 2021 and one month period ended March 31, 2020, Condensed Interim Special Purpose Consolidated Financial Statements have been prepared and for the year ended March 31, 2019 and for the 11 month period from April 1, 2019 to February 29, 2020, *Condensed Interim Special Purpose Combined Financial Statements have been prepared, as if the Trust structure was in place and 100% interest of the Project SPVs was part of the Trust since April 1, 2018 and have been approved by the Investment Manager of the Trust. *(Financial information for the Financial Year ended March 31, 2020 has been prepared on a consolidated basis for the one month period ended March 31, 2020 and on a Combined basis for the 11 month ended from April 1, 2019 to February 29, 2020 and is shown as a single period of 12 months for the purpose of the presentation and convenience.)*

Consequently, the above-mentioned *Condensed Interim Special Purpose Combined Financial Statements may not necessarily be indicative of financial performance, financial position and cash flows of the Trust Group that would have occurred if it had operated as a single group of entities during the periods presented.

This report is addressed to and is provided to the Trust, Trustee and the Investment Manager solely for the inclusion in the letter of offer in connection with the proposed Rights Issue of Units of the Trust and may not be suitable for another purpose. Our report should not be used, referred to or distributed for any other purpose or to any other party without our prior written consent other than to the Financial Investors in connection with the proposed Rights Issue of units of the Trust. Accordingly, we do not accept or assume any liability or any duty of care for any other purpose or to any other person to whom this report is shown or into whose hands it may come without our prior consent in writing.

RESPONSIBILITY OF THE MANAGEMENT AND THOSE CHARGED WITH GOVERNANCE FOR THE CONDENSED INTERIM SPECIAL PURPOSE CONSOLIDATED / COMBINED FINANCIAL STATEMENTS

The Investment Manager of the Trust is responsible for the preparation of these **Condensed Interim Special Purpose Consolidated / Combined Financial Statements** that give a true and fair view of the Consolidated / Combined financial position, Consolidated / Combined financial performance (including Other Comprehensive Income), Consolidated / Combined Cash Flows, Consolidated / Combined Statement of Change in Equity in

accordance with the basis of preparation specified in Note 2.A. to the Condensed Interim Special Purpose Consolidated / Combined Financial Statements.

The respective Board of Directors of the Investment Manager and the Project SPVs are responsible for the maintenance of adequate accounting records in accordance with the provisions of the Act; for safeguarding the assets of the Trust and the Project SPVs and for preventing and detecting frauds and other irregularities; the selection and application of appropriate accounting policies; making judgements and estimates that are reasonable and prudent; and the design, implementation and maintenance of adequate Internal Financial Controls, that were operating effectively for ensuring the accuracy and completeness of the accounting records, relevant to the preparation and presentation of the Financial Statements that give a true and fair view and are free from material misstatement, whether due to fraud or error, which have been used for the purpose of preparation of these Special Purpose Consolidated / Combined Financial Statements by the Investment Manager, as aforesaid.

AUDITOR'S RESPONSIBILITY

Our objectives are to obtain reasonable assurance about whether the **Condensed Interim Special Purpose Consolidated / Combined Financial Statements** as a whole are free from material misstatement, whether due to fraud or error, and to issue an Auditor's Report that includes our opinion. Reasonable assurance is a high level of assurance but is not a guarantee that an audit conducted in accordance with Standards on Auditing will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these Financial Statements.

As part of an audit in accordance with Standards on Auditing, we exercise professional judgment and maintain professional skepticism throughout the audit. An audit involves performing procedures to obtain audit evidence about the amounts and the disclosures in the Condensed Interim Special Purpose Combined Financial Statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the Condensed Interim Special Purpose Consolidated / Combined Financial Statements, whether due to fraud or error. In making those risk assessments, the auditor considers Internal Financial Controls relevant to the Project SPVs preparation of the Condensed Interim Special Purpose Consolidated / Combined Financial Statements that give a true and fair view in order to design audit procedures that are appropriate in the circumstances but not for the purpose of expressing an opinion whether the Project SPVs have in place an adequate Internal Financial Controls system over financial reporting and the operating effectiveness of such controls. An audit also includes evaluating the appropriateness of the accounting policies used and the reasonableness of the accounting estimates made by the Investment Manager, as well as evaluating the overall presentation of the Financial Statements. We communicate with those charged with governance of the Investment Manager of the Trust regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

OTHER MATTER

The Financial Statements of nine Project SPVs for the relevant periods have been prepared as per Ind AS have been audited by the respective auditors of the Project SPVs and have been used for the purpose of preparation of the Condensed Interim Special Purpose Consolidated / Combined Financial Statements by the Investment Manager of the Trust and have been relied upon by us for our audit of the Condensed Interim Special Purpose Consolidated / Combined Financial Statements.

The Project SPVs and the periods for which these were audited by other auditors are as follows:

Sr. No.	Project SPV	Reference Financial Statements	Period	Revenue (In Rs. millions)	Total Assets (In Rs. millions)
1	AE Tollway Limited	Condensed Interim Special Purpose Consolidate / Combined Financial Statements	Nine months ended 31st December, 2021	871.14	31,325.26
2	AE Tollway Limited	Condensed Interim Special Purpose Consolidate / Combined Financial Statements	Year ended 31st March, 2021	664.13	31,191.19
3	AE Tollway Limited	Condensed Interim Special Purpose Consolidate / Combined Financial Statements	Nine months ended 31st December, 2020	446.34	31,316.45
4	AE Tollway Limited	Condensed Interim Special Purpose Consolidate / Combined Financial Statements	Year ended 31st March, 2020	-	30,102.38
5	AE Tollway Limited	Audited Financial Statements	Year ended 31st March, 2020	526.25	-
6	AE Tollway Limited	Audited Financial Statements	Year ended 31st March, 2019	294.63	26,398.18
7	Kaithal Tollway Limited	Condensed Interim Special Purpose Consolidate / Combined Financial Statements	Nine months ended 31st December, 2021	976.33	21,063.81
8	Kaithal Tollway Limited	Condensed Interim Special Purpose Consolidate / Combined Financial Statements	Year ended 31st March, 2021	740.79	20,146.57
9	Kaithal Tollway Limited	Condensed Interim Special Purpose Consolidate / Combined Financial Statements	Nine months ended 31st December, 2020	737.82	20,141.11
10	Kaithal Tollway Limited	Condensed Interim Special Purpose Consolidate / Combined Financial Statements	Year ended 31st March, 2020	-	20,572.83
11	Kaithal Tollway Limited	Audited Financial Statements	Year ended 31st March, 2020	1,139.72	-
12	Kaithal Tollway Limited	Audited Financial Statements	Year ended 31st March, 2019	888.58	20,786.14
13	Solapur Yedeshi Tollway Limited	Condensed Interim Special Purpose Consolidate / Combined Financial Statements	Nine months ended 31st December, 2021	584.31	13,628.24
14	Solapur Yedeshi Tollway Limited	Condensed Interim Special Purpose Consolidate /	Year ended 31st March, 2021	728.26	13,987.29

Sr. No.	Project SPV	Reference Financial Statements	Period	Revenue (In Rs. millions)	Total Assets (In Rs. millions)
		Combined Financial Statements			
15	Solapur Yedeshi Tollway Limited	Condensed Interim Special Purpose Consolidate / Combined Financial Statements	Nine months ended 31st December, 2020	503.67	13,879.25
16	Solapur Yedeshi Tollway Limited	Condensed Interim Special Purpose Consolidate / Combined Financial Statements	Year ended 31st March, 2020	-	14,038.14
17	Solapur Yedeshi Tollway Limited	Audited Financial Statements	Year ended 31st March, 2020	1,029.92	-
18	Solapur Yedeshi Tollway Limited	Audited Financial Statements	Year ended 31st March, 2019	1,216.16	14,062.02
19	Yedeshi Aurangabad Tollway Limited	Condensed Interim Special Purpose Consolidate / Combined Financial Statements	Nine months ended 31st December, 2021	1,113.85	35,923.95
20	Yedeshi Aurangabad Tollway Limited	Condensed Interim Special Purpose Consolidate / Combined Financial Statements	Year ended 31st March, 2021	1,368.00	36,274.20
21	Yedeshi Aurangabad Tollway Limited	Condensed Interim Special Purpose Consolidate / Combined Financial Statements	Nine months ended 31st December, 2020	904.32	36,325.45
22	Yedeshi Aurangabad Tollway Limited	Consolidated Financial Statements	Year ended 31st March, 2020	-	36,004.98
23	Yedeshi Aurangabad Tollway Limited	Audited Financial Statements	Year ended 31st March, 2020	2,130.16	-
24	Yedeshi Aurangabad Tollway Limited	Audited Financial Statements	Year ended 31st March, 2019	146.38	33,938.68
25	IRB Westcoast Tollway Limited (Formerly known as IRB Westcoast Tollway Private Limited)	Audited Financial Statements	Year ended 31st March, 2019	155.45	25,460.61

REPORT ON OTHER LEGAL AND REGULATORY REQUIREMENTS

As required by circular number CIR/IMD/DF/114/2016 dated October 20, 2016 issued by Securities and Exchange Board of India; we report that:

a) We have obtained all information and explanations which, to the best of our knowledge and belief, were necessary for the purpose of our audit;

b) The Condensed Interim Special Purpose Consolidated / Combined Balance Sheet and the Condensed Interim Special Purpose Consolidated / Combined Statement of Profit and Loss, are in agreement with the books of account of the InvIT and the respective Project SPV; and

c) the Condensed Interim Special Purpose Consolidated / Combined Financial Statements comply with the Indian Accounting Standards as notified under the Companies (Indian Accounting Standards) Rules, 2015 prescribed under section 133 of the Act and the basis of preparation as specified in Note 2 to the Condensed Interim Special Purpose Consolidated / Combined Financial Statements.

The Condensed Interim Special Purpose Consolidated / Combined Financial Statements have been prepared in accordance with the InvIT Regulations and the circulars issued thereunder, including the guidelines on Rights Issue of units by unlisted infrastructure investment trusts dated November 4, 2020.

For **Gokhale & Sathe**
Chartered Accountants
Firm's Registration No.: 103264W

SD/-

CA Kaustubh Deshpande
Membership No.: 121011
UDIN:22121011AGYECF3577
Place: Mumbai
Date: April 12, 2022

IRB Infrastructure Trust
Condensed Interim Special Purpose Consolidated / Combined Balance sheet

(Amount in Millions.)

	Notes	As at December 31, 2021	As at March 31, 2021	As at March 31, 2020	As at March 31, 2019
ASSETS					
Non-current assets					
Property, Plant and Equipment	4	9.28	10.59	13.18	10.90
Goodwill		604.54	604.54	604.54	-
Other Intangible assets	4	2,18,700.35	2,11,717.65	1,99,478.98	1,35,725.68
Intangible assets under development		4,716.06	4,684.26	13,853.63	34,156.49
Financial assets					
i) Loans	7	-	-	-	-
ii) Others	8	2.74	3.28	1.06	99.39
Other non-current assets	10	-	0.14	-	679.32
Deferred tax assets (net)	9	86.82	-	-	-
		2,24,119.79	**2,17,020.47**	**2,13,951.39**	**1,70,671.78**
Current assets					
Inventories	11	-	-	-	27.86
Financial assets					
i) Investments	5	416.37	572.50	-	184.38
ii) Trade receivables	6	22.17	100.24	352.12	14.02
iii) Cash and cash equivalents	12	493.08	413.49	189.70	325.82
iv) Bank balance other than (iii) above	12(a)	2,221.65	1,744.35	1,576.40	1,450.03
v) Loans	7	-	-	-	3.96
vi) Others	8	1,594.50	635.99	400.26	293.38
Current tax assets (net)	13	110.69	147.11	207.90	137.67
Other current assets	14	2,248.03	2,166.40	3,399.05	5,942.90
		7,106.49	**5,780.08**	**6,125.43**	**8,380.02**
Total assets		**2,31,226.28**	**2,22,800.55**	**2,20,076.82**	**1,79,051.80**
EQUITY AND LIABILITIES					
Equity					
Equity share capital	15	85,504.33	81,688.00	76,582.50	15,636.69
Subordinate debt		-	-	-	25,969.07
Other equity	16				
Other reserves		(6,923.51)	(3,669.05)	(312.75)	1,548.37
Total Equity		**78,580.82**	**78,018.95**	**76,269.75**	**43,154.13**
Non-controlling interests					
		78,580.82	**78,018.95**	**76,269.75**	**43,154.13**
Non-current liabilities					
Financial liabilities					
i) Borrowings	17	92,702.60	89,161.31	77,374.13	90,849.96
ii) Other financial liabilities	19	25,251.30	24,720.81	35,070.78	2,084.34
iii) Trade payables	19(a)	5,327.53	2,463.41	-	-
Provisions	20	1,078.76	357.84	64.96	9.46
Deferred tax liabilities (net)	9	-	424.33	395.71	295.91
Other non-current liabilities	21	-	-	-	-
		1,24,360.19	**1,17,127.70**	**1,12,905.58**	**93,239.67**
Current liabilities					
Financial liabilities					
i) Borrowings	17	4,614.73	4,784.87	326.78	7,155.21
ii) Trade payables	18				
a) total outstanding dues of micro enterprises and small enterprises		18.34	13.18	14.36	-
b) total outstanding dues of creditors other than micro enterprises and small enterprises		10,585.91	2,547.07	2,731.74	8,529.24
iii) Other financial liabilities	19	12,999.27	20,198.86	27,666.07	26,854.20
Other current liabilities	21	67.03	109.78	162.54	107.41
Provisions	20	-	-	-	1.42
Current tax liabilities (net)		-	0.14	-	10.52
		28,285.27	**27,653.90**	**30,901.49**	**42,658.00**
Total liabilities		**1,52,645.46**	**1,44,781.60**	**1,43,807.07**	**1,35,897.67**
Total equity and liabilities		**2,31,226.28**	**2,22,800.55**	**2,20,076.82**	**1,79,051.80**

The accompanying summary of significant accounting policies and other explanatory information (notes) are an integral part of Combined Financial Statements.

As per our report of even date
For Gokhale & Sathe
Chartered Accountants
ICAI registration number: 103264W

For and on behalf of the Board of Directors of
MMK Toll Road Private Limited
(As Investment Manager to IRB Infrastructure Trust)
CIN : U45200MH2002PTC135512

SD/-
Kaustubh Deshpande
Partner
Membership No. 121011

SD/-
Virendra D. Mhaiskar
Chairman
DIN :00183554

SD/-
Dhananjay K. Joshi
Chief Executive officer

SD/-
Shilpa Todankar
Chief Financial Officer

SD/-
Kaustubh Shevade
Company Secretary

Place: Mumbai
Date: 12/04/2022

Place: Mumbai
Date: 12/04/2022

IRB Infrastructure Trust
Condensed Interim Special Purpose Consolidated / Combined Statement of Profit and Loss

(Amount in Millions.)

Particulars	Notes	For nine month ended December 31, 2021	For nine month ended December 31, 2020	For the year ended March 31, 2021	For the year ended March 31, 2020	For the year ended March 31, 2019
Income						
Revenue from operations	22	9,439.09	7,410.55	10,361.51	11,649.12	7,886.81
Other income	23	70.72	98.48	112.71	180.55	156.65
Total income		**9,509.81**	**7,509.03**	**10,474.22**	**11,829.67**	**8,043.46**
Expenses						
Cost of material consumed		-	0.50	-	46.44	-
Road work and site expenses	24	3,035.23	2,955.50	3,983.41	4,211.94	1,756.86
Employee benefits expenses	25	-	-	-	236.12	207.12
Depreciation and amortisation expenses	26	1,167.18	871.97	1,255.69	1,753.97	1,099.83
Finance costs	27	7,069.59	6,149.47	8,228.17	7,620.92	3,898.60
Investment Manager Fees		30.57	24.73	46.25	26.92	-
Other expenses	28	1,969.21	139.64	138.32	158.72	122.46
Total expenses		**13,271.78**	**10,141.81**	**13,651.84**	**14,055.03**	**7,084.87**
Profit/(loss) before tax		**(3,761.97)**	**(2,632.78)**	**(3,177.62)**	**(2,225.36)**	**958.59**
Tax expenses						
Current tax		0.38	0.39	46.20	141.61	527.45
Deferred tax		(511.15)	49.59	369.63	99.75	179.89
MAT Credit utilisation / (Entitlement)		-	-	(340.97)	-	-
Total tax expenses		**(510.77)**	**49.98**	**74.86**	**241.36**	**707.34**
Profit/(loss) after tax		**(3,251.20)**	**(2,682.76)**	**(3,252.48)**	**(2,466.72)**	**251.25**
Other comprehensive income						
Item that will not be reclassified to profit or loss:						
(a) Re-measurement (loss)/gain on defined benefit plans (net of taxes)		-	-	-	1.07	(1.84)
Other comprehensive income/ (loss) for the year/ period, net of tax		**-**	**-**	**-**	**1.07**	**(1.84)**
Total comprehensive income /(loss) for the year/period		**(3,251.20)**	**(2,682.76)**	**(3,252.48)**	**(2,465.65)**	**249.41**
Profit/(loss) after tax		**(3,251.20)**	**(2,682.76)**	**(3,252.48)**	**(2,466.72)**	**251.25**
Attributable to:						
Owners of the Project SPV Group		(3,251.20)	(2,682.76)	(3,252.48)	(2,466.72)	251.25
Non-controlling interests			-	-	-	-
Total comprehensive income for the year/period						
Attributable to:						
Equity holders of the Project SPV Group		(3,251.20)	(2,682.76)	(3,252.48)	(2,465.65)	249.41
Non-controlling interests		-	-	-	-	-

The accompanying summary of significant accounting policies and other explanatory information (notes)are an integral part of Combined Financial Statements.

As per our report of even date
For Gokhale & Sathe
Chartered Accountants
ICAI registration number: 103264W

For and on behalf of the Board of Directors of
MMK Toll Road Private Limited
(As Investment Manager to IRB Infrastructure Trust)
CIN : U45200MH2002PTC135512

SD/-
Kaustubh Deshpande
Partner
Membership No. 121011

SD/-
Virendra D. Mhaiskar
Chairman
DIN :00183554

SD/-
Dhananjay K. Joshi
Chief Executive officer

SD/-
Shilpa Todankar
Chief Financial Officer

SD/-
Kaustubh Shevade
Company Secretary

Place: Mumbai
Date: 12/04/2022

Place: Mumbai
Date: 12/04/2022

IRB Infrastructure Trust
DISCLOSURES PURSUANT TO SEBI CIRCULARS
(SEBI Circular No. CIR/IMD/DF/114/2016 dated 20-Oct-2016 and No. CIR/IMD/DF/127/2016 dated 29-Nov-2016

A. Consolidated statement of net assets at fair value

(Rs. in Millions)

	As at December 31, 2021		As at March 31, 2021		As at March 31, 2020	
Particulars	**Book value**	**Fair value**	**Book value**	**Fair value**	**Book value**	**Fair value**
A. Assets	2,31,226.28	2,47,000.33	2,22,800.55	2,45,589.09	2,20,076.81	2,15,070.07
B. Liabilities (at book value)	1,52,645.46	1,50,173.01	1,42,318.19	1,31,113.67	1,43,807.07	1,17,991.07
C. Net Assets (A-B)	78,580.82	96,827.32	80,482.36	1,14,475.43	76,269.74	97,079.00
D. Number of units (in millions)	855.04	855.04	816.88	816.88	765.83	765.83
E. NAV (C/D) (Amount in Rs.)	**91.90**	**113.24**	**98.52**	**140.14**	**99.59**	**126.76**

B. Consolidated statement of total returns at fair value :

(Rs. in Millions)

Particulars	**For the period ended December 31, 2021**	**For the year ended March 31, 2021**	**For the year ended March 31, 2020**
Total Comprehensive Income (As per the Statement of Profit and Loss)	(3,251.20)	(3,252.48)	(2,465.65)
Add/Less: other changes in fair value (e.g., in investment property, property, plant & equipment (if cost model is followed)) not recognized in total comprehensive income	18,246.51	33,993.07	20,809.26
Total Return	**14,995.31**	**30,740.59**	**18,343.61**

Notes :
Fair value of assets as at December 31, 2021 and other changes in fair value for the year then ended as disclosed in the above tables are derived based on the fair valuation reports issued by the independent valuer appointed under the InvIT Regulations.

As per our report of even date
For Gokhale & Sathe
Chartered Accountants
ICAI Firm Registration Number: 103264W

SD/-
Kaustubh Deshpande
Partner
Membership No. 121011

Place: Mumbai
Date: 12/04/2022

For and on behalf of MMK Toll Road Private Limited
(Investment Manager of IRB Infrastructure Trust)

SD/-
Virendra D.Mhaiskar
Chairman
DIN : 00183554

SD/-
Dhananjay K. Joshi
Chief Executive officer

SD/-
Shilpa Todankar
Chief Finance officer

SD/-
Kaustubh Shevade
Company secretary

Place: Mumbai
Date: 12/04/2022

IRB Infrastructure Trust
Condensed Interim Special Purpose Consolidated / Combined Cash Flow Statement

(Amount in Millions.)

Particulars	For nine month ended December 31, 2021	For nine month ended December 31, 2020	For the year ended March 31, 2021	For the year ended March 31, 2020	For the year ended March 31, 2019
Cash flow from operating activities					
Profit/(loss) before tax	(3,761.97)	(2,632.78)	(3,177.62)	(2,225.36)	958.59
Profits upto 29th February 2020	-	-	-	604.54	-
Adjustment to reconcile profit before tax to net cash flows:					
Depreciation and amortisation	1,167.18	871.97	1,255.69	1,753.97	1,099.83
Resurfacing expenses	720.92	175.29	292.88	64.96	-
Fair value gain on mutual funds	0.54	(0.58)	(1.43)	0.01	(0.04)
Net (gain) on sale of current Investment	(9.15)	(8.83)	(13.08)	(34.11)	(81.95)
Finance costs	7,069.59	6,149.47	8,228.17	7,620.92	1,715.15
Interest income	(58.67)	(59.48)	(82.04)	(115.64)	-
Other non operative income	(3.44)	(29.58)	(13.28)	(30.81)	(0.32)
Gain/(loss) on fair value measurement of other payable	1,764.21	-	(2.86)	-	-
Dividend income on current investments	-	-	-	-	-
Operating profit before working capital changes	**6,889.21**	**4,465.48**	**6,486.41**	**7,638.48**	**3,691.27**
Movement in working capital:					
Increase/ (decrease) in trade payables	10,908.12	1,983.84	2,277.55	(5,783.13)	1,948.03
Increase/ (decrease) in provisions	-	-	-	(9.81)	1.30
Increase/ (decrease) in other financial liabilities	298.76	(375.75)	(2,516.37)	35,726.21	(83.40)
(Decrease)/ increase in other liabilities	(42.75)	(104.36)	(52.75)	55.12	(25.64)
Decrease / (increase) in trade receivables	78.07	330.46	251.88	(338.10)	17.49
Decrease / (increase) in inventories	-	-	-	27.86	(27.86)
Increase in loans	-	(2.04)	(4.53)	4.78	(3.76)
(Increase) / decrease in other financial assets	(977.48)	(117.15)	(213.15)	(42.77)	47.49
(Increase) / decrease in other assets	(81.47)	1,161.07	1,232.51	3,006.76	6,623.09
Cash generated from operations	**17,072.45**	**7,341.55**	**7,461.55**	**40,285.40**	**12,188.01**
Taxes paid (net)	35.90	1.31	14.70	(222.33)	(591.86)
Net cash flows generated from operating activities	**17,108.35**	**7,342.86**	**7,476.25**	**40,063.07**	**11,596.15**
Cash flows from investing activities					
Purchase of property, plant and equipment including CWIP, intangible assets including intangible assets under development and capital advances	(16,912.44)	(12,875.95)	(18,933.90)	(48,328.12)	(40,819.27)
Proceeds/ redemption from sale of non-current investments*	-	-	-	-	477.23
Proceeds from sale/ (purchase) of current investments (net)	164.74	(305.50)	(557.99)	218.48	1,003.24
Investments in bank deposits (having original maturity of more than three months) (net)	(477.30)	(158.44)	(167.95)	(126.37)	(1,450.03)
Interest received	81.61	81.49	75.08	179.84	(60.35)
Dividend received	-	-	-	-	-
Net cash flows (used in) investing activities	**(17143.39)**	**(13258.40)**	**(19584.76)**	**(48056.17)**	**(40849.18)**
Cash flows from financing activities					
Proceeds from non-current borrowings	3,443.19	8,891.45	9,204.86	17,032.83	26,372.50
Repayment of non-current borrowings		(1.89)	(39.62)	(30,035.08)	(56.02)
Proceeds/ (Repayment) of current borrowings (net)	(130.83)	477.81	4,155.57	(7,085.60)	(2,448.94)
Issue of equity share capital	3,816.33	5,105.50	5,105.50	60,945.81	2,139.30
Unit issue expenses	(3.26)	(103.81)	(103.82)	-	-
Issue of sub-ordinate debt	-	-	-	(25,969.07)	4,229.05
Finance cost paid	(7,010.81)	(6,803.94)	(5,990.16)	(7,031.92)	(1,656.50)
Net cash flows generated from financing activities	**114.63**	**7,565.12**	**12,332.32**	**7,856.97**	**28,579.40**
Net increase / (decrease) in cash and cash equivalents (A+B+C)	**79.59**	**1,649.58**	**223.81**	**(136.13)**	**(673.62)**
Cash and cash equivalents at the beginning of the year / period	413.49	189.70	189.70	325.82	999.45
Cash and cash equivalents at the end of the year (refer note 12)	**493.08**	**1,839.27**	**413.49**	**189.70**	**325.82**
Components of cash and cash equivalents					
Balances with scheduled banks:					
- Trust, retention and other escrow accounts	143.43	160.05	113.94	74.14	82.88
- Others	172.82	1,662.99	288.60	105.39	199.19
- In deposit accounts with original maturity less than 3 months	169.32	-	-	-	-
Cash on hand	7.51	16.23	10.96	10.17	43.75
Total cash and cash equivalents	**493.08**	**1,839.27**	**413.49**	**189.70**	**325.82**

IRB Infrastructure Trust
Condensed Interim Special Purpose Consolidated / Combined Cash Flow Statement

(Amount in Millions.)

Particulars	For nine month ended December 31, 2021	For nine month ended December 31, 2020	For the year ended March 31, 2021	For the year ended March 31, 2020	For the year ended March 31, 2019
Debt reconciliation statement in accordance with Ind AS 7					
Opening balances					
Long term borrowing	90,833.34	78,815.63	78,815.63	91,817.88	66,246.26
Short term borrowing	4,155.57	-	-	7,085.60	9,534.54
Movements					
Cash Flows					
Long term borrowing	590.72	6,037.09	9,165.24	(13,002.25)	25,571.62
Short term borrowing	(130.83)	477.81	4,155.57	(7,085.60)	(2,448.94)
Non-cash changes					
Long term borrowing	2,852.47	2,852.47	2,852.47	-	-
Short term borrowing	-	-	-	-	-
Closing balances					
Long term borrowing	94,276.53	87,705.19	90,833.34	78,815.63	91,817.88
Short term borrowing	4,024.74	477.81	4,155.57	-	7,085.60

Notes :
1. All figures in bracket are outflow.
2. Taxes paid are treated as arising from operating activities and are not bifurcated between investing and financing activities.
3. The Consolidated cash flow statement has been prepared under Indirect Method as per Ind AS 7 "Statement of Cash Flows".

The accompanying summary of significant accounting policies and other explanatory information (notes)are an integral part of Combined Financial Statements.

As per our report of even date
For Gokhale & Sathe
Chartered Accountants
ICAI registration number: 103264W

For and on behalf of the Board of Directors of
MMK Toll Road Private Limited
(As Investment Manager to IRB Infrastructure Trust)
CIN : U45200MH2002PTC135512

SD/-
Kaustubh Deshpande
Partner
Membership No. 121011

SD/-
Virendra D. Mhaiskar
Chairman
DIN :00183554

SD/-
Dhananjay K. Joshi
Chief Executive officer

SD/-
Shilpa Todankar
Chief Financial Officer

SD/-
Kaustubh Shevade
Company Secretary

Place: Mumbai
Date: 12/04/2022

Place: Mumbai
Date: 12/04/2022

IRB Infrastructure Trust
Notes to Condensed Interim Special Purpose Consolidated / Combined Financial Statements

Statement of changes in equity
A. Unit capital:

(Amount in Millions.)

	December 31, 2021		March 31, 2021		March 31, 2020		March 31, 2019	
i) Units issued, subscribed and fully paid	**No.**	**Rs.**	**No.**	**Rs.**	**No.**	**Rs.**	**No.**	**Rs.**
Units having face value of Rs. 100/-								
Balance at the beginning of the year	81,68,80,000	81,688.00	76,58,25,000	76,582.50	-	-	1,28,00,81,804	12,800.82
Issue of Unit capital (Note 15)	3,81,63,265	3,816.33	5,10,55,000	5,105.50	76,58,25,000	76,582.50	28,35,87,500	2,835.88
Balance at the end of the year/period	**85,50,43,265**	**85,504.33**	**81,68,80,000**	**81,688.00**	**76,58,25,000**	**76,582.50**	**1,56,36,69,304**	**15,636.69**

The Project SPVs have only one class of equity shares having par value of Rs. 10/- per share.

(Amount in Millions.)

	December 31, 2021	March 31, 2021	March 31, 2020	March 31, 2019
ii) Subordinate debt (in nature of equity)				
Balance at the beginning of the year	-	-	-	21,740.02
Receipt of subordinate debt (Note 15)	-	-	-	4,229.05
Balance at the end of the year/period	**-**	**-**	**-**	**25,969.07**

B. Other equity

	December 31, 2021	March 31, 2021	March 31, 2020	March 31, 2019
i) Retained earnings				
Balance at the beginning of the year/period	(3,669.05)	(312.75)	1548.37	553.31
Profit/(loss) for the year/period	(3,251.20)	(3,252.48)	(2,466.72)	251.25
Pre-incorporation profit			604.54	
Unit Issue expenses	(3.26)	(103.82)		
Balance at the end of the year/period	**-6,923.51**	**(3,669.05)**	**(313.81)**	**804.56**
ii) Other items of other comprehensive income				
a. Re-measurement gains/ (losses) on defined benefit plans				
Balance at the beginning of the year	-	-	-	0.77
Increase/(decrease) during the year/period	-	-	1.07	(1.84)
Balance at the end of the year/period	**-**	**-**	**1.07**	**(1.07)**
b. Mark to market (loss) on fair value measurement of investments				
At the beginning of the year/period	-	-	-	-
Increase/(decrease) during the year/period	-	-	-	744.87
At the end of the year/period	**-**	**-**	**-**	**744.87**
Balance at the end of the year of other equity	**(6,923.51)**	**(3,669.05)**	**(312.75)**	**1,548.37**

As per our report of even date attached

For Gokhale & Sathe
Chartered Accountants
ICAI registration number: 103264W

For and on behalf of the Board of Directors of
MMK Toll Road Private Limited
(As Investment Manager to IRB Infrastructure Trust)
CIN : U45200MH2002PTC135512

SD/-
Kaustubh Deshpande
Partner
Membership No. 121011

SD/-
Virendra D. Mhaiskar
Chairman
DIN :00183554

SD/-
Dhananjay K. Joshi
Chief Executive officer

SD/-
Shilpa Todankar
Chief Financial Officer

SD/-
Kaustubh Shevade
Company Secretary

Place: Mumbai
Date: 12/04/2022

Place: Mumbai
Date: 12/04/2022

1 **Corporate Information**

The IRB Infrastructure Trust (the "Fund" / "Trust") is a trust settled pursuant to the indenture of trust dated August 27, 2019 which is registered under the Registration Act, 1908 and under the Securities Exchange Board of India (Infrastructure Investment Trusts) Regulations, 2014 as amended from time to time. The Fund is settled by the Sponsor, IRB Infrastructure Developers Limited ("IRB" or the "Sponsor"), an infrastructure development company in India. The Trustee to the Fund is IDBI Trusteeship Services Limited (the "Trustee"). Investment manager for the Fund is MMK Toll Road Private Limited (the "Investment Manager"). The Trust has received registraion certificate from SEBI on November 25, 2019.

The Fund has been formed to invest in infrastructure assets primarily being in the road sector in India. The Fund's road projects are eligible infrastructure projects under the InvIT Regulations and held through special purpose vehicles ("Project SPVs" together as "Project SPV Group"). The Fund's portfolio subsequent to the completion of the proposed offering will comprise of nine road projects as listed below:-

Project SPV Name**	Residual Concession life*	Proposed shareholding	Nature of Investment	Status	Principal Activities	Country of incorporation
IRB Westcoast Tollway Limited (IRBWTL)	20 years 2 Months 1 days	100%	Subsidiary	Under Construction	Construction and operation of road including toll collection.	India
Solapur Yedeshi Tollway Limited (SYTL)	22 years 0 Months 19 days	100%	Subsidiary	Operating		India
Yedeshi Aurangabad Tollway Limited (YATL)	19 years 5 Months 30 days	100%	Subsidiary	Operating		India
Kaithal Tollway Limited (KTL)	20 years 6 Months 13 days	100%	Subsidiary	Operating		India
AE Tollway Limited (AETL)	18 years 6 Months 31 days	100%	Subsidiary	Tolling and Construction		India
Udaipur Tollway Limited (UTL)	16 years 8 Months 1 days	100%	Subsidiary			India
CG Tollway Limited (CGTL)	15 years 10 Months 3 days	100%	Subsidiary			India
Kishangarh Gulabpura Tollway Limited (KGTL)	16 years 1 Months 20 days	100%	Subsidiary			India
IRB Hapur Moradabad Tollway Limited (IRBHMTL)	19 years 4 Months 26 days	100%	Subsidiary			India

* Represents residual concession life as at December 31, 2021 as per original concession period (without considering extension of concession period, if any).

** Of the above Project SPVs, IRBWTL, SYTL, YATL, AETL, CGTL, UTL and IRBHMTL have been converted to public companies on November 13, 2019 and KTLand KGTL November 14, 2019 respectively.

2 **Basis of preparation**

A. Statement of compliance

The Condensed Consolidated/ Combined Financial Statements of Project SPV Group comprises of consolidated balance sheet, of the state of affairs of the Project SPV Group as at December 31 2021 , at March 31 2021 and 31 March 2020 and combined balance sheet, of the state of affairs of the Project SPV Group as at March 31, 2019 , the consolidated statement of profit and loss (including other comprehensive income) of the Project SPV group for nine month ended December 31, 2021 and December 31, 2020, for the year ended March 31 2021 and March 31, 2020 (which comprises combined figures for the 11 months ended on February 29, 2020 and consolidated figures for the month ended March 31, 2020) and combined statement of profit and loss (including other comprehensive income) of the Project SPV Group's profit/loss for the year ended as at March 31, 2019 , the consolidated statement of cash flow statement, of the cash movements of the Project SPV Group for nine month ended December 31, 2021 and December 31, 2020, for the year March 31 2021 and March 31, 2020 (which comprises combined figures for the 11 months ended on February 29, 2020 and consolidated figures for the month ended March 31, 2020) and combined cash flow statement, of the cash movements of the Project SPV Group for the year ended as at March 31, 2019 and the consolidated statement of changes in equity of the movement of the unit holders for nine month ended December 31, 2021 ,for the year ended March 31 2021 and March 31, 2020 (which comprises combined figures for the 11 months ended on February 29, 2020 and consolidated figures for the month ended March 31, 2020) and the combined statement of changes in equity, of the movement of the unit holders for the year ended as at March 31, 2019 , the consolidated statement of net assets at fair value as at December 31 2021, March 31 2021 and March 31, 2020 and the consolidated statement of total returns at fair value for the period ended December 31, 2021 ,for the year ended March 31, 2021 and March 31, 2020, a summary of significant accounting policies, notes and other explanatory Information. The Special purpose Consolidated / Combined Financial Statement has been prepared for inclusion in the Letter of Offer to be issued in connection with the proposed Rights issue (the "Issue") of the Fund.

The Condensed Consolidated/ Combined Financial Statements of the Project SPV Group have been prepared in accordance with Indian Accounting Standards (Ind AS) as per the Companies (Indian Accounting Standards) Rules, 2015 notified under Section 133 of the Act, read with other relevant provisions of the Act.The Condensed Consolidated/ Combined Financial Statements have been prepared on a historical cost basis, except for certain assets and liabilities which have been measured at fair value.

For all periods upto and including the year ended March 31, 2020, the Project SPVs prepared its financial statements in accordance with accounting standards notified under the Section 133 of the Companies Act 2013, read together with paragraph 7 of the Companies (Accounts) Rules, 2014 (Indian GAAP). For the year ended March 31, 2021, the Project SPVs prepared their financial statements in accordance with Indian Accounting Standards (Ind AS) as prescribed under Section 133 of Companies Act, 2013 read with relevant rule and other accounting principles.

In accordance with the requirements of Securities and Exchange Board of India (Infrastructure Investment Trusts) Regulations 2014, as amended from time to time including by circulars dated October 20, 2016, November 29, 2016 and any further guidelines and circulars (the "InvIT Regulations"), since the Fund is newly set up on August 27, 2019, to present the financial position and performance of the proposed Project SPV Group, the historical Combined Financial Statements have been prepared, as if the Fund structure was in place and 100% interest of the Project SPVs was part of the Fund since April 1, 2017.

The Condensed Consolidated/ Combined Financial Statements are special purpose financial statements of the fund and have been prepared to meet the requirements of InvIT Regulations and for inclusion in the Letter of Offer in connection with the proposed Right Issue of units of Fund. As a result, the Condensed Consolidated/ Combined Financial Statements may not be suitable for another purpose.

The Project SPVs were transferred to the Trust on February 25, 2020 by the Sponsor pursuant to the Formation Transactions undertaken as part of the initial offer through private placement of Units. The effective date for consolidation was March 1, 2020.Accordingly, since the transfer date was 1st March 2020, for the year ended March 31 2021 and month ended March 31, 2020 Condensed Consolidatedfinancial statements have been prepared and for the year ended 31st March 2019 and 11 months ended 29th February 2020 Condensed Consolidated/ Combined Financial Statements* have been prepared, as if the Trust structure was in place and 100% interest of the Project SPVs was part of the Trust since April 1, 2017 and have been approved by the Investment Manager of the Trust

The Condensed Consolidated/ Combined Financial Statements are presented in Rs. in millions, except when otherwise indicated.

B **Basis of preparation of Combined Financial Statements**

The Condensed Consolidated/ Combined Financial Statements comprise the financial statements of the Project SPV Group.

Condensed Consolidated/ Combined Financial Statements are prepared using uniform accounting policies for like transactions and other events in similar circumstances.

The financial statements of all Project SPVs used for the purpose of combination are drawn up to the same reporting date i.e. year ended on March 31.

Combination procedure:

(a) Combine like items of assets, liabilities, equity, income, expenses and cash flows of Project SPVs.

(b) Eliminate in full intra Project SPVs assets and liabilities, income, expenses and cash flows relating to transactions between Project SPVs of the Project SPV Group (profits or losses resulting from intra Project SPV Group transactions that are recognised in assets, such as inventory and property, plant and equipment, are eliminated in full). Profit or loss and each component of other comprehensive income (OCI) are attributed to the equity holders of the Project SPV Group and to the non-controlling interests, even if this results in the non-controlling interests having a deficit balance.

C **Basis of preparation of Consolidated Financial Statements**

The Condensed Consolidated/ Combined Financial Statements comprise the financial statements of the Project SPV Group.

Condensed Consolidated/ Combined Financial Statements are prepared using uniform accounting policies for like transactions and other events in similar circumstances.

The financial statements of all Project SPVs used for the purpose of combination are drawn up to the same reporting date i.e. year ended on March 31.

Combination procedure:

(a) Combine like items of assets, liabilities, equity, income, expenses and cash flows of Project SPVs.

(b) Eliminate in full intra Project SPVs assets and liabilities, income, expenses and cash flows relating to transactions between Project SPVs of the Project SPV Group (profits or losses resulting from intra Project SPV Group transactions that are recognised in assets, such as inventory and property, plant and equipment, are eliminated in full). Profit or loss and each component of other comprehensive income (OCI) are attributed to the equity holders of the Project SPV Group and to the non-controlling interests, even if this results in the non-controlling interests having a deficit balance.

3 **Summary of significant accounting policies**

3.01 **Taxes**

Current income tax

Current income tax assets and liabilities are measured at the amount expected to be recovered from or paid to the taxation authorities in accordance the Income Tax Act, 1961. The tax rates and tax laws used to compute the amount are those that are enacted or substantively enacted at the reporting date in the country where the Company operates and generates taxable income.

3.02 **Earnings per unit**

Basic earnings per unit are calculated by dividing the net profit or loss for the period attributable to unitholders by the weighted average number of units outstanding during the period. For the purpose of calculating diluted earnings per unit, the net profit or loss for the period attributable to unitholders and the weighted average number of units outstanding during the period are adjusted for the effects of all dilutive potential units.

Note 4 : Property, Plant and Equipment and Capital work in progress

(Amount in Millions.)

	Premises	Computer	Office Equipments	Furniture and Fixture	Total
Cost or deemed cost					
At 31 March 2018	**5.41**	**0.23**	**0.60**	**0.04**	**6.28**
Additions	5.90	0.15	0.58	0.01	6.65
Disposals/ Adjustments	-	-	-	-	-
At 31 March 2019	**11.32**	**0.38**	**1.18**	**0.05**	**12.93**
Additions	4.78	0.01	0.21	0.34	5.34
Disposals/ Adjustments					-
At 31 March 2020	**16.09**	**0.30**	**1.40**	**0.39**	**18.18**
Additions					-
Disposals/ Adjustments					-
At 31 March 2021	**16.09**	**0.30**	**1.40**	**0.39**	**18.18**
Additions					-
Disposals/ Adjustments					-
At 31 December 2021	**16.09**	**0.30**	**1.40**	**0.39**	**18.18**
Depreciation					
At 31 March 2018	**0.20**	**0.07**	**0.29**	**0.01**	**0.56**
Additions	1.04	0.14	0.28	0.01	1.47
Disposals/ Adjustments	-	-	-	-	-
At 31 March 2019	**1.23**	**0.21**	**0.57**	**0.02**	**2.03**
Additions	2.31	0.05	0.40	0.20	2.97
Disposals/ Adjustments	-	-	-	-	-
At 31 March 2020	**3.55**	**0.26**	**0.98**	**0.21**	**5.00**
Additions	2.24	0.02	0.21	0.12	2.59
Disposals/ Adjustments	-	-	-	-	-
At 31 March 2021	**5.79**	**0.28**	**1.18**	**0.34**	**7.59**
Additions	1.21	0.00	0.07	0.03	1.32
Disposals/ Adjustments	-	-	-	-	-
At 31 December 2021	**7.00**	**0.29**	**1.25**	**0.37**	**8.91**
Net Book value					
At 31 December 2021	**9.09**	**0.02**	**0.14**	**0.03**	**9.28**
At 31 March 2021	**10.30**	**0.01**	**0.22**	**0.05**	**10.59**
At 31 March 2020	**12.54**	**0.04**	**0.42**	**0.18**	**13.18**
At 31 March 2019	**10.08**	**0.18**	**0.61**	**0.03**	**10.90**

Net Book value	**December 31, 2021**	**March 31, 2021**	**March 31, 2020**	**March 31, 2019**
Property, Plant and Equipment	9.28	10.59	13.18	10.90

Note 4 : Intangible Assets and Intangible Assets under development

Intangible Assets		(Amount in Millions.)
	Toll Collection Rights	**Total**
Cost or deemed cost		
At 31 March 2018	**1,09,376.81**	**1,09,376.81**
Additions	28,045.21	28,045.21
Deletions	-	-
Adjustments	(73.66)	(73.66)
At 31 March 2019	**1,37,348.36**	**1,37,348.36**
Additions	65,504.30	65,504.30
Deletions	-	-
Adjustments	-	-
At 31 March 2020	**2,02,852.66**	**2,02,852.66**
Additions	13,491.76	13,491.76
Deletions		-
Adjustments	-	-
At 31 March 2021	**2,16,344.42**	**2,16,344.42**
Additions	8,148.55	8,148.55
Deletions		-
Adjustments	-	-
At 31 December 2021	**2,24,492.98**	**2,24,492.98**
Amortisation		
At 31 March 2018	**524.32**	**524.32**
Additions	1,098.36	1,098.36
Deletions	-	-
Adjustments	-	-
At 31 March 2019	**1,622.68**	**1,622.68**
Additions	1,751.00	1,751.00
Deletions	-	-
Adjustments	-	-
At 31 March 2020	**3,373.68**	**3,373.68**
Additions	1,253.09	1,253.09
Deletions	-	-
Adjustments	-	-
At 31 March 2021	**4,626.78**	**4,626.78**
Additions	1,165.86	1,165.86
Deletions	-	-
Adjustments	-	-
At 31 December 2021	**5,792.63**	**5,792.63**

Net Book value	
At 31 December 2021	2,18,700.35
At 31 March 2021	2,11,717.65
At 31 March 2020	1,99,478.98
At 31 March 2019	1,35,725.68

Particulars	**December 31, 2021**	**March 31, 2021**	**March 31, 2020**	**March 31, 2019**
Toll Collection Rights	2,18,700.35	2,11,717.65	1,99,478.98	1,35,725.68
Total	**2,18,700.35**	**2,11,717.65**	**1,99,478.98**	**1,35,725.68**

Intangible assets under development

Particulars	**December 31, 2021**	**March 31, 2021**	**March 31, 2020**	**March 31, 2019**
Toll Collection Rights				
At the beginning of the year	4,684.26	13,853.63	34,156.49	53,208.12
Add : development during the year	1,017.04	1,274.74	45,201.44	8,993.58
	5,701.30	15,128.37	79,357.93	62,201.70
Less : Transfer to Intangible Asset (Toll Collection Rights)	985.25	10,444.11	65,504.30	28,045.21
Closing balance	**4,716.06**	**4,684.26**	**13,853.63**	**34,156.49**
Total	**4,716.06**	**4,684.26**	**13,853.63**	**34,156.49**

Tangible and Intangible assets given as security

Tangible and Intangible assets are subject to first charge to secured long-term borrowings from the lenders.

IRB Infrastructure Trust

Notes to Condensed Interim Special Purpose Consolidated / Combined Financial Statements

(Amount in Millions.)

Particulars	December 31, 2021				March 31, 2021				March 31, 2020				March 31, 2019			
	Face Value Rs.	No of Shares / Units	Current	Non-current	Face Value Rs.	No of Shares / Units	Current	Non-current	Face Value Rs.	No of Shares / Units	Current	Non-current	Face Value Rs.	No of Shares / Units	Current	Non-current
Financial Assets																
Note 5 : Investment																
i) Investments in Mutual Funds (quoted)																
Fair Value Through Profit or Loss (FVTPL)																
Canara Robeco Liquid Fund - Direct Plan - Growth	1,000		-	-	1,000		-	-	1,000	-	-	-	10	-	-	-
IDBI Mutual Fund - Direct Plan - Growth	1,000			-	1,000			-	1,000			-	10	46,617.41	93.37	-
IDBI Ultra Short term Fund- Direct Growth	1,000		-	-	1,000		-	-	1,000			-	10	10,878.32	22.01	-
IDBI Liquid Fund - Direct Plan - Growth	1,000		73.04		1,000		349.34									
ABSL Savings Fund - Direct Plan - Growth	100		-	-	100		-	-	100			-	-	-	-	-
ABSL Liquid Fund - Direct Plan - Growth	100		21.00	-	100		23.00	-	100			-	10	13,329.85	4.00	-
SBI Liquid Fund - Direct Growth	1,000			-	1,000		43.00	-	1,000			-	10	22,195.16	65.00	-
SBI Overnight Fund - Direct Growth	1,000		322.34		1,000		157.16									
SBI Magnum Ultra Short Duration Fund - Direct Plan - Growth	1,000	-	-	-	1,000	-	-	-	1,000			-	-	-	-	-
			416.37	**-**			**572.50**	**-**			**-**	**-**			**184.38**	**-**
Total			**416.37**	**-**			**572.50**	**-**			**-**	**-**			**184.38**	**-**

(Amount in Millions.)

	December 31, 2021		March 31, 2021		March 31, 2020		March 31, 2019	
	Current	**Non-current**	**Current**	**Non-current**	**Current**	**Non-current**	**Current**	**Non-current**
Note 6 : Trade receivable								
(Unsecured, considered good)								
Others	22.17	-	100.24	-	352.12	-	14.02	-
Total	**22.17**	**-**	**100.24**	**-**	**352.12**	**-**	**14.02**	**-**
Less: Allowances for expected credit loss/ bad and doubtful debt	-	-	-	-	-	-	-	-
Total	**22.17**	**-**	**100.24**	**-**	**352.12**	**-**	**14.02**	**-**

The Group has not identifed any credit impairment loss as at March 31, 2021, March 31, 2020 and March 31, 2019.

	December 31, 2021		March 31, 2021		March 31, 2020		March 31, 2019	
	Current	**Non-current**	**Current**	**Non-current**	**Current**	**Non-current**	**Current**	**Non-current**
Note 7 : Loans								
(Unsecured, considered good)								
Loans to employees							2.79	-
Security and other deposits								
Loans to related parties (refer note 36)							1.17	-
Unammortised transaction cost								-
Total	**-**	**-**	**-**	**-**	**-**	**-**	**3.96**	**-**

There are no current loans which has significant increase in credit.
Except as disclosed above, there is no amount due from director, other officer of the Company or firms in which any director is a partner or private companies in which any director is a director or member at anytime during the reporting period.

Note 8 : Other financial assets								
(Unsecured, considered good)								
Security and other deposits	-	-	-	-	-	-	-	-
Interest accrued on fixed deposits	28.07		47.57		27.32	-	60.71	-
Interest receivable from banks	27.35		117.00					
Retention money receivable	533.10		446.62		363.97	-	149.01	29.15
BG Margin receivable				0.54	-	0.54		
Margin money fixed deposits with banks (with maturity more than 12 months)					-	-	-	-
- Related parties (refer note 36)					-	-	41.37	70.24
Receivable from Government Authorities (NHAI)	965.24		1.44		1.35	0.06	15.34	-
Other receivable	33.86		16.47		2.99	-	21.04	-
Security and other deposits	6.89	2.74	6.89	2.74	4.63	0.46	5.91	
Total	**1,594.50**	**2.74**	**635.99**	**3.28**	**400.26**	**1.06**	**293.38**	**99.39**

IRB Infrastructure Trust
Notes to Condensed Interim Special Purpose Consolidated / Combined Financial Statements

(Amount in Millions.)

	December 31, 2021	March 31, 2021	March 31, 2020	March 31, 2019
Note 9 : Deferred tax assets				
Deferred tax liabilities (net):				
Deferred tax liabilities:				
Difference in Depreciation and other differences in block of Property, Plant and equipment and Intangible assets as per tax books & financial books	2,636.80	2,636.80	1,356.49	3,920.88
Deferred tax assets:				
Effect of expenditure debited to profit and loss account in the current year but allowed for tax purposes in following years				-
Deferred tax liabilities (net)	**2,636.80**	**2,636.80**	**1,356.49**	**3,920.88**
Deferred tax assets:				
Deferred tax assets:				
Depreciation	1,629.65	1,629.65		
MAT credit entitlement	582.82	582.82	(960.78)	(823.96)
Expenses allowed for tax purposes on payment basis				
- Gratuity				
Deferred Tax assets on Fair valuation	511.15			
Deferred Tax Assets	**2,723.62**	**2,212.47**	**(960.78)**	**(823.96)**
Deferred Tax liabilities:				
Difference in Depreciation/ amortisation and other differences				-
Tax losses	-	-	-	(2,801.01)
	(86.82)	**424.33**	**395.71**	**295.91**
Note 10 : Other non - current assets				
(Unsecured, considered good)				
Capital advances	-	0.14	-	-
Advance to suppliers	-	-	-	-
Mobilisation advance				
- Related parties (refer note 36)	-	-	-	507.90
- Others	-	-	-	0.20
Prepaid expenses	-	-	-	171.22
Un-amortised ancillary borrowing cost				
Total	**-**	**0.14**	**-**	**679.32**
Note 11 : Inventories				
(valued at lower of cost and net realisable value)				
Construction material	-	-	-	27.86
Land	-	-	-	-
Total	**-**	**-**	**-**	**27.86**

(Amount in Millions.)

	December 31, 2021	March 31, 2021	March 31, 2020	March 31, 2019

IRB Infrastructure Trust
Notes to Condensed Interim Special Purpose Consolidated / Combined Financial Statements

Note 12 : Cash and cash equivalents

Cash and Bank balances				
Balances with banks:				
-on current accounts	172.82	288.60	105.39	199.19
-on trust, retention and other escrow accounts*	143.43	113.94	74.14	82.88
Deposits with banks				
-Original maturity less than 3 months	169.32	-	-	-
Cash on hand	7.51	10.96	10.17	43.75
Total	**493.08**	**413.49**	**189.70**	**325.82**

Note 12(a) : Bank balance other than cash and cash equivalent

	December 31, 2021	March 31, 2021	March 31, 2020	March 31, 2019
Maturity more than 3 months less than 12 months				
Other deposits	113.23	76.09	126.37	-
Maturity more than 12 months				
Debt service reserve account with banks /earmarked balance**	2,108.39	1,668.23	1,450.00	1,450.00
Margin money deposits against bank guarantees **				-
Other deposits	0.03	0.03	0.03	0.03
Total	**2,221.65**	**1,744.35**	**1,576.40**	**1,450.03**

Debt service reserve account/ major maintenance reserve account and trust, retention and other escrow accounts
Bank deposits are marked lien / pledged against the non current secured loan as per term loan agreement with the lender, further the lenders have first charge on trust, retention and other escrow accounts.

* First charge on above to the extent of amount payable as per the waterfall mechanism as defined in the Concession Agreement / Common Loan Agreement.

** The deposits to the extent of Rs. 2,108.39 millions (March 31, 2021 : Rs. 1,668.23 millions ,March 31, 2020 : Rs. 1,450.00 millions, March 31, 2019 : Rs. 1,450.00 millions) maintained by the Project SPV Group with bank includes time deposits, which are held against Debt Service Reserve (DSR), are considered as current portion under the head “Other bank balances” since the same are encashable by the lenders in the event of default by the Project SPV Group, if any.

Current deposits are made for varying periods of between one day and three months, depending on the immediate cash requirements of the group and earn interest at the respective current deposit rates. Other time deposits earn interest at the rate of 4.25 % to 8.25% p.a.

Refer note 17 for details of security against term loans.

For the purpose of statement of cash flows, cash and cash equivalents comprise the following:

	December 31, 2021	March 31, 2021	March 31, 2020	March 31, 2019
Balance with banks:				
-on current accounts	172.82	288.60	105.39	199.19
-on trust, retention and other escrow accounts	143.43	113.94	74.14	82.88
Fixed deposits less than 3 months	**169.32**	-	-	-
Cash on hand	7.51	10.96	10.17	43.75
Less: Bank overdraft	-	-	-	-
Total	**493.08**	**413.49**	**189.70**	**325.82**

Note 13 : Current tax assets (net)

Advance income-tax (net of provision for tax)	110.69	147.11	207.90	137.67
Total	**110.69**	**147.11**	**207.90**	**137.67**

Note 14 : Other current assets
(Unsecured, considered good unless otherwise stated)

Advance with suppliers				
- Related parties (refer note 36)	771.77	1,014.28	2,025.22	2,014.08
- Others	23.19	22.05	70.69	78.36
Mobilisation advances (refer note 36)	435.80	610.61	1,170.47	3,811.02
Prepaid expenses	0.55	47.68	20.70	12.38
Bank Guarantee margin receivable -related party				-
Duties and taxes receivable	1,016.71	471.78	111.97	27.06
Total	**2,248.03**	**2,166.40**	**3,399.05**	**5,942.90**

(Amount in Millions.)

	December 31, 2021	March 31, 2021	March 31, 2020	March 31, 2019

Refer note 17 for details of security against term loans.

Note : 15 : Unit capital

	December 31, 2021		December 31, 2020		March 31, 2021		March 31, 2020		March 31, 2019	
Unit capital										
Authorised Unit capital										
Units having face value of Rs.100 each	85,50,43,265	85,504.33	81,68,80,000	81,688	81,68,80,000	81,688.00	76,58,25,000	76,582.50	1,56,80,44,303	15,680.44
	85,50,43,265	**85,504.33**	**81,68,80,000**	**81,688**	**81,68,80,000**	**81,688.00**	**76,58,25,000**	**76,582.50**	**1,56,80,44,303**	**15,680.44**
Issued Unit capital										
Units having face value of Rs.100 each	85,50,43,265	85,504.33	81,68,80,000	81,688	81,68,80,000	81,688	76,58,25,000	76,582.50	1,56,36,69,304	15,636.69
Total	**85,50,43,265**	**85,504.33**	**81,68,80,000**	**81,688**	**81,68,80,000**	**81,688**	**76,58,25,000**	**76,582.50**	**1,56,36,69,304**	**15,636.69**

Terms / rights attached to equity shares
The Project SPVs have only one class of equity shares having par value of Rs. 100/- per share Each holder of equity shares is entitled to one vote per share. The Project SPVs declares and pays dividend in Indian rupees.

In the event of liquidation of the Project SPV, the holders of equity shares will be entitled to receive remaining assets of the Project SPV, after distribution of all preferential amounts. The distribution will be in proportion to the number of equity shares held by the shareholders.

Reconciliation of the number of unit outstanding and the amount of Unit capital:

	December 31, 2021		December 31, 2020		March 31, 2021		March 31, 2020		March 31, 2019	
Units issued, subscribed and fully paid	**No. of units**	**Rs.**	**No. of units**	**Rs.**	**No. of units**	**Rs.**	**No. of units**	**Rs.**	**No. of shares**	**Rs.**
Units having face value of Rs. 100/-										
At the beginning of the year	81,68,80,000	81,688.00	76,58,25,000	76,582.50	76,58,25,000	76,582.50	-	-	1,28,00,81,804	12,800.82
Increase/(decrease) during the year/period	3,81,63,265	3,816.33	5,10,55,000	5,105.50	5,10,55,000	5,105.50	76,58,25,000	76,582.50	28,35,87,500	2,835.88
At the end of the year/period	**85,50,43,265**	**85,504.33**	**81,68,80,000**	**81,688.00**	**81,68,80,000**	**81,688.00**	**76,58,25,000**	**76,582.50**	**1,56,36,69,304**	**15,636.69**

B) Subordinate debt (in nature of equity)	**December 31, 2021**	**December 31, 2020**	**March 31, 2021**	**March 31, 2020**	**March 31, 2019**
At the beginning of the year	-		-	-	21,740.02
Increase/(decrease) during the year/period	-		-	-	4,229.05
At the end of the year/period	**-**	**-**	**-**	**-**	**25,969.07**

Subordinate debt infused by Sponsor and/ or their subsidiaries
i) Subordinated debt is the part of Sponsors Equity from the promoters of the Project SPVs for the project, which is unsecured and interest free as per Common Loan Agreement with the lenders;

ii) No repayment/redemption/interest servicing allowed during the moratorium period of the long term project loan.

Note : 16 : Other equity

Attributable to the equity holders

Other reserves	**December 31, 2021**	**March 31, 2021**	**March 31, 2020**	**March 31, 2019**
Retained earnings				
At the beginning of the year	(3,669.05)	(312.75)	1,548.37	554.09
Profit for the year/period (Refer Note below)	(3,251.20)	(3,252.48)	(2,466.72)	251.25
Less: Appropriations				
Pre-incoporation Profits			604.54	
Unit Issue expenses	(3.26)	(103.82)		
Impact of Ind AS	-	-	-	744.87
Other comprehensive income/(loss) for the year/period				
- Re-measurement gains/ (losses) on defined benefit plans	-	-	1.07	(1.84)
At the end of the year/period	**(6,923.51)**	**(3,669.05)**	**(312.75)**	**1,548.37**
Total	**(6,923.51)**	**(3,669.05)**	**(312.75)**	**1,548.37**

Note : Reconciliation for March 20 profit

Profit as per March 20 Financials (for March-20 month)	(312.75)	(312.75)
Profit for 11 Months	312.75	(2,153.97)
Profit for the year March -20	**-**	**(2,466.72)**

(Amount in Millions.)

	December 31, 2021	March 31, 2021	March 31, 2020	March 31, 2019
Financial liabilities				
Note : 17 : Borrowings				
Non-current Borrowings				
Term loans				
Indian rupee loan from banks (secured)				
Project loans for SPVs	78,396.59	74,939.04	64,014.66	72,451.82
Less : current maturities expected to be settled within 12 month from balance sheet date	(415.07)	(467.24)	(250.05)	(58.79)
Total (a)	**77,981.52**	**74,471.80**	**63,764.61**	**72,393.03**
Indian rupee loan from financial institutions (secured)				
Project loans for SPVs	10,365.27	10,330.67	9,310.82	13,711.16
Less : current maturities expected to be settled within 12 month from balance sheet date	(72.42)	(99.91)	(55.26)	(3.47)
Total (b)	**10,292.85**	**10,230.76**	**9,255.56**	**13,707.69**
Non-convertible debentures (secured)	5,514.67	5,563.63	5,490.14	5,498.17
Less : current maturities expected to be settled within 12 month from balance sheet date	(102.50)	(62.15)	(21.47)	(7.35)
Total (c)	**5,412.17**	**5,501.48**	**5,468.67**	**5,490.82**
(Unsecured)				
Loan from related parties (refer note 36)	-	-	-	156.73
Total (d)	**-**	**-**	**-**	**156.73**
Less: Unamortised transaction cost **(e)**	(983.94)	(1,042.72)	(1,114.71)	(898.31)
Total non current borrowings (f = a + b + c + d + e)	**92,702.60**	**89,161.31**	**77,374.13**	**90,849.96**
Current Borrowings				
Short-term borrowings (secured)				
Current maturity of long term loans				
Indian rupee loan from banks (secured)	415.07	467.24	250.05	58.79
Indian rupee loan from financial institutions (secured)	72.42	99.91	55.26	3.47
Non convertible debentures (secured)	102.50	62.15	21.47	7.35
Interest accrued but not due on borrowings	-	-	-	-
(Unsecured, repayable on demand and interest free)				
Loan from related parties (refer note 36)	4024.74	4,155.57	-	7,085.60
Total current borrowings (g)	**4,614.73**	**4,784.87**	**326.78**	**7,155.21**
less: Amount clubbed under "other current financial liabilities"				
Net current borrowings	**4,614.73**	**4,784.87**	**326.78**	**7,155.21**
Total borrowings (f+g)	**97,317.33**	**93,946.18**	**77,700.91**	**98,005.17**
Aggregate secured loans	93,292.59	89,161.31	77,374.13	90,693.23
Aggregate unsecured loans	4,024.74	4,155.57	-	7,242.34

(i) Project loans for SPVs

December 31, 2021: Rs. 94,276.53 millions; March 31, 2021: Rs. 90,833.34 millions; March 31, 2020: Rs. 78,815.63 millions; March 31, 2019: Rs. 91,661.15 millions; pertains to term loans taken by SPV's (Special Purpose Vehicles) for Project financing.

Rate of interest

Rate of interest on the Indian Rupee loan from banks and financial institutions varies from 9.21% to 10.49% p.a. (March 31, 2020: 9.85% to 11.90%) and are secured by pledge of shares of its subsidiaries and subservient charge on the current assets of the company to the extent of 125% of the outstanding loan.

Nature of security

i) Secured by first charge on the movable/immovable asset by way of mortgage/hypothecation; first charge on all intangible assets, present and future; assignment of all receivables; book debts and all rights and interest in project, both present and future, excluding the Project Assets of respective companies;

ii) Secured by first charge on the Escrow Account, Debt Service Reserve Account and any other reserves and other bank accounts of the respective Companies.

iii) An irrevocable and unconditional corporate guarantee from IRB Infrastructure Developers Limited to meet shortfall (if any) between debt due and termination payments received from Concessioning Authority in case of termination of Concession Agreement for any reason in case of Project SPV's.

Repayment terms

The Indian rupee loans are repayable in structured monthly installments commencing after commercial operation date such that the total tenor does not exceed 17 years and repayable as per the repayment schedule specified in common loan agreement with the Lenders.

Note : 18 : Trade payables				
Total outstanding dues of micro enterprises and small enterprises (refer note 30)	18.34	13.18	14.36	-
Total outstanding dues of creditors other than micro and small enterprises				-
- Related parties (refer note 36)	9,644.70	1,655.04	2,546.50	8,237.66
- Others	941.21	892.03	185.24	291.57
Total	**10,604.24**	**2,560.24**	**2,746.10**	**8,529.24**

(Amount in Millions.)

	December 31, 2021		March 31, 2021		March 31, 2020		March 31, 2019	
	Current	Non-current	Current	Non-current	Current	Non-current	Current	Non-current
Note 19 : Other financial liabilities								
Current maturities of non-current borrowings								
Indian rupee loan from banks	-	-	-	-	-	-	-	-
Indian rupee loan from fnancial institutions	-	-	-	-	-	-	-	-
Non-convertible debentures	-	-	-	-	-	-	-	-
Unamortised transaction cost	-	-	-	-	-	-	-	-
Interest accrued but not due on borrowings	-	-	-	-	686.46	-	97.45	-
Premium obligation/ Negative grant to NHAI	-	-	-	-	78.53	-	74.42	-
Obligation for construction	2,472.45	-	11,204.52	-	19,392.33	6,423.69	22,020.05	2,009.15
Interest on premium deferment	-	-	-	-	-	-	-	-
Stamp Duty payable	-	-	-	-	-	-	-	-
Directors sitting fees payable	0.19	-	0.25	-	0.66	-	0.27	-
Unpaid dividends	-	-	-	-	-	-	-	-
Book overdraft	-	-	-	-	-	-	-	-
Deposit	1.11	-	1.07	-	1.18	-	1.05	-
Retention money payable	-	-	-	-	-	-	-	-
- Related parties (refer note 36)	277.00	-	190.34	-	182.84	-	26.29	-
- Others	326.89	5.05	318.04	3.05	209.32	6.48	78.09	75.19
Revenue share payable	214.79	-	51.97	-	-	-	-	-
Employee benefits payable	-	-	-	-	-	-	17.52	-
Other payable								
- Related parties (refer note 36)	9,511.65	25,246.25	8,432.67	24,717.75	7,114.74	28,640.61	235.31	-
- Others	-	-	-	-	0.01	-	0.04	-
Other payable (towards reimbursement of expenses)								
- Related parties	195.20	-	-	-	-	-	-	-
- Others	-	-	-	-	-	-	-	-
Advance from customer	-	-	-	-	-	-	-	-
Capital creditors								
- Related parties (refer note 36)	-	-	-	-	-	-	4,303.71	-
Total	**12,999.27**	**25,251.30**	**20,198.86**	**24,720.81**	**27,666.07**	**35,070.78**	**26,854.20**	**2,084.34**

Break up of financial liabilities carried at amortised cost

	December 31, 2021	March 31, 2021	March 31, 2020	March 31, 2019
Borrowings (secured)	93,292.59	89,161.31	77,374.13	90,693.23
Borrowings (unsecured)	4,024.74	4,155.57	-	7,242.34
Trade payables	10,604.24	2,560.24	2,746.10	8,529.24
Other financial liabilities	38,250.57	44,919.67	62,736.85	28,938.54
Total financial liabilities carried at amortised cost	**1,46,172.15**	**1,40,796.80**	**1,42,857.08**	**1,35,403.34**

	December 31, 2021	March 31, 2021	March 31, 2020	March 31, 2019
Note : 19(a) : Trade payables				
a) Total outstanding dues of micro enterprises and small enterprises micro and small enterprises				
'- Related parties	5,327.53	2463.41	-	-
'- Others	-	-	-	-
	5,327.53	**2,463.41**	**-**	**-**

Note 20 : Provisions

	December 31, 2021		March 31, 2021		March 31, 2020		March 31, 2019	
	Current	Non-current	Current	Non-current	Current	Non-current	Current	Non-current
Provision for employee benefits								
- Leave encashment	-	-	-	-	-	-	0.36	-
- Gratuity	-	-	-	-	-	-	1.06	9.46
Others								
- Resurfacing expenses	-	-	-	-	-	-	-	-
Major maintenance expenses	-	1,078.76	-	357.84	-	64.96	-	-
Total	**-**	**1,078.76**	**-**	**357.84**	**-**	**64.96**	**1.42**	**9.46**

The movement in provision for resurfacing expenses is as follows:

	December 31, 2021	March 31, 2021	March 31, 2020	March 31, 2019
Opening balance	357.84	64.96	-	-
Obligation on new toll projects	720.92	292.88	64.96	-
Utilised / reversed during the year/period	-	-	-	-
Closing balance	**1,078.76**	**357.84**	**64.96**	**-**

The above provisions are based on current best estimation of expenses that may be required to fulfill the resurfacing obligation as per the service concession agreement with regulatory authorities. It is expected that significant portion of the costs will be incurred over the period. The actual expense incurred may vary from the above. No reimbursements are expected from any sources against the above obligation.

	December 31, 2021	March 31, 2021	March 31, 2020	March 31, 2019
Note 21 : Other current liabilities				
Advance from customers				
Duties and taxes payable	54.50	59.05	51.53	105.15
Stamp duty payable	-	-	-	-
Capital creditors	-	-	-	-
Other payable	-	-	-	-
Advance from customer- Others	12.53	50.73	111.01	2.26
Total	**67.03**	**109.78**	**162.54**	**107.41**

(Amount in Millions.)

	December 31, 2021	December 31, 2020	March 31, 2021	March 31, 2020	March 31, 2019
Note 22 : Revenue from operations					
Contract revenue (road construction)	841.33	1,375.37	1,863.70	3,854.01	1,603.81
Income arising out of toll collection (net)	7,795.41	6,035.18	8,549.77	7,795.11	6,283.00
Revenue share to NHAI- Fastag	(162.82)	-	(51.97)	-	-
Other operating revenue	965.16	-	-	-	-
Total	**9,439.09**	**7,410.55**	**10,361.51**	**11,649.12**	**7,886.81**

(Amount in Millions.)

	December 31, 2021	December 31, 2020	March 31, 2021	March 31, 2020	March 31, 2019
Note 23 : Other income					
Interest income on					
- Bank deposits	50.69	53.40	74.46	114.37	67.87
- Others	7.97	6.08	7.59	1.27	3.57
Profit on sale of investments	9.15	8.83	13.08	34.11	81.95
Fair value gain on mutual funds	(0.54)	0.58	1.43	(0.01)	0.04
Other non operating income	3.44	29.58	13.28	30.81	3.23
Gain/(loss) on fair value measurement of other payable	-	-	2.86	-	-
Total	**70.72**	**98.48**	**112.71**	**180.55**	**156.65**
Note 24 : Road work and site expenses					
Contract expenses	832.19	1,322.92	1,807.12	3,905.21	1,233.46
Operation and maintenance expenses	2,157.60	1,565.38	2,113.67	143.35	-
Site and other direct expenses	-	41.03	41.03	0.50	394.81
Sub-contracting / Security expenses	0.36	4.12	5.31	153.04	115.35
Technical consultancy and supervision charges	45.10	22.05	16.28	9.84	13.25
Total	**3,035.23**	**2,955.50**	**3,983.41**	**4,211.94**	**1,756.86**
Note 25 : Employee benefits expense					
Salaries, wages and bonus	-	-	-	193.03	172.60
Contribution to provident and other funds		-	-	6.81	7.26
Leave encashment	-	-	-	-	-
Gratuity expenses	-	-	-	5.13	1.55
Staff welfare expenses	-	-	-	31.15	25.71
Total	**-**	**-**	**-**	**236.12**	**207.12**
Note 26 : Depreciation and amortisation expenses					
Depreciation on property, plant and equipment (refer note 4)	1.32	1.95	2.59	2.97	1.47
Amortisation on intangible assets (refer note 4)	1,165.86	870.01	1,253.09	1,751.00	1,098.36
Total	**1,167.18**	**871.97**	**1,255.69**	**1,753.97**	**1,099.83**
Note 27 : Finance cost					
Interest expense					
- Banks and financial institutions	6,498.66	6,007.88	8,046.33	7,446.80	3,829.63
- Unwinding of retention money	36.70	36.70	48.70	48.84	-
Other borrowing costs					
- Amortisation of Transaction cost	58.78	59.15	78.43	83.27	48.90
- Unwinding of discount on provision of MMR	29.73	-	5.47	-	-
- Interest unwinding of Trade Payable- Associates	404.84	-	-	-	-
- Others	40.88	45.75	49.24	42.01	20.07
Total	**7,069.59**	**6,149.47**	**8,228.17**	**7,620.92**	**3,898.60**

(Amount in Millions.)

	December 31, 2021	December 31, 2020	March 31, 2021	March 31, 2020	March 31, 2019
Note 28 : Other expenses					
Power and fuel	-	0.01	-	39.75	32.32
Rent	0.20	0.10	0.29	8.61	6.29
Rates and taxes	27.06	18.75	15.40	8.26	14.53
Water charges	-		-	1.44	0.47
Insurance	0.85	34.49	11.43	8.07	5.55
Repairs and maintenance					
- Plant and machinery	-	-	-	13.08	5.74
- Others	-	-	-	-	-
Travelling and conveyance	-	-	-	11.39	8.56
Vehicle expenses	-	-	-	4.54	4.95
Communication cost	-	-	-	0.84	0.48
Advertisement expenses	-	-	-	-	-
Printing and stationery	-	-	-	9.20	9.36
Director sitting fees	1.15	0.93	1.24	1.91	1.15
Legal and professional expenses	167.87	53.79	69.25	8.99	11.84
Payment to auditor (including service tax/ GST)	2.64	2.35	3.88	2.58	2.09
Corporate social responsibilities expenditure	-	25.00	31.4	19.00	-
Donations	-	-	-	0.02	0.05
Loss on sale of property, plant and equipment	-	-	-	-	-
Bank charges	4.50	2.16	3.01	5.40	6.86
Miscellaneous expenses	0.72	2.08	2.43	15.66	12.22
fair value loss on measurement of other payable	1,764.21	-	-	-	-
Total	**1,969.21**	**139.64**	**138.32**	**158.72**	**122.46**

Note 29 : Commitment and Contingencies

a. Leases
Rent / lease payments under operating lease are recognised as an expense in the Consolidated Statement of profit and loss on a straight line basis over the lease term.

Operating lease

(Rs in millions)

	Dec 31, 2021	March 31, 2021	March 31, 2020	March 31, 2019
a) Future lease rental payments under non-cancellable operating lease are as follows:-				
i) Not later than one year	-	-	-	-
ii) Later than one year and not more than five year	-	-	-	-
iii) Later than five year	-	-	-	-
b) Lease payment recognised in the consolidated statement of profit and loss	0.20	0.29	8.61	6.29
c) General description of the leasing agreement				
i) Leased assets – accommodation for employees	-	-	-	-
ii) Future lease rentals are determined on agreed terms	-	-	-	-

b. Capital commitments

	Dec 31, 2021	March 31, 2021	March 31, 2020	March 31, 2019
Estimated value of contracts in capital account remaining to be executed	877.88	10,679.14	2,493.29	2,947.70

c. Contingent liabilities
Contingent liabilities not provided for

	Dec 31, 2021	March 31, 2021	March 31, 2020	March 31, 2019
Guarantees given by the Group to suppliers, government bodies and performance guarantee				-
For Service Tax, ESIC, Custom Duty, Other Finance expenses and Stamp duty matters				-
Total	-	-	-	-

The Hon'ble Supreme Court of India ("SC") by their order dated February 28, 2019, in the case of Surya Roshani Limited others v/s EPFO, set out the principles based on which allowances paid to the employees should be identified for inclusion in basic wages for the purposes of computation of Provident Fund contribution. Subsequently, a review petition against this decision has been filed and is pending before the SC for disposal. In view of the management, the liability for the period from date of the SC order to March 31, 2019 is not significant. Further, pending decision on the subject review petition and directions from the EPFO, the impact for the past period, if any, is not ascertainable and consequently no effect has been given in the accounts.

Note 30 : Fair values

The carrying values of financials instruments of the Group are reasonable and approximations of fair values.

(Rs in millions)

	Carrying amount				Fair Value			
	Dec 31, 2021	March 31, 2021	March 31, 2020	March 31, 2019	Dec 31, 2021	March 31, 2021	March 31, 2020	March 31, 2019
Financial assets								
Financial assets measured at amortised cost								
Loans	-	-	-	3.96	-	-	-	3.96
Other Financial assets	1,597.24	639.27	401.32	392.77	1,597.24	639.27	401.32	392.77
Financial assets measured at fair value through statement of Profit & Loss								
Investments (Quoted)	416.37	572.50	-	184.38	416.37	572.50	-	184.38
Financial assets measured at amortised cost								
Investments (Unquoted)				-	-	-	-	-
Trade receivable	22.17	100.24	352.12	14.02	22.17	100.24	352.12	14.02
Cash and cash equivalents	493.08	413.49	189.70	325.82	493.08	413.49	189.70	325.82
Other Bank balances	2,221.65	1,744.35	1,576.40	1,450.03	2,221.65	1,744.35	1,576.40	1,450.03
Financial liabilities								
Financial liabilities measured at amortised cost								
Trade payables	15,931.77	5,023.65	2,746.10	8,529.24	15,931.77	5,023.65	2,746.10	8,529.24
Borrowings	97,317.33	93,946.18	77,700.91	98,005.17	97,317.33	93,946.18	77,700.91	98,005.17
Other financial liabilities	38,250.57	44,919.67	62,736.85	28,938.54	38,250.57	44,919.67	62,736.85	28,938.54

The management assessed that the fair value of cash and cash equivalents, trade receivables, trade payables, bank overdrafts and other current liabilities approximate their carrying amounts largely due to the short-term maturities of these instruments.

The fair value of the financial assets and liabilities is included at the amount at which the instrument could be exchanged in a current transaction between willing parties, other than in a forced or liquidation sale.

The discount for lack of marketability represents the amounts that the Group has determined that market participants would take into account when pricing the investments.

Note 31 : Fair value hierarchy
All financial instruments for which fair value is recognised or disclosed are categorised within the fair value hierarchy described as follows, based on the lowest level input that is significant to the fair value measurement as a whole.

Level 1: Quoted (unadjusted) price in active market for identical assets or liabilities

Level 2: Valuation technique for which the lowest level input that has a significant effect on the fair value measurement are observed, either directly or indirectly

Level 3: Valuation technique for which the lowest level input has a significant effect on the fair value measurement is not based on observable market data.

Quantitative disclosures fair value measurement hierarchy for financial instruments as at December 31, 2021: (Rs in millions)

	As on Dec 31, 2021	Fair value measurement at end of the reporting year using		
		Level 1	Level 2	Level 3
Assets				
Investments (Quoted)	**416.37**	416.37	-	-
Trade Receivable	**22.17**	-	-	22.17
Cash and cash equivalents	**493.08**	-	-	493.08
Bank balance other than above	**2,221.65**	-	-	2,221.65
Loans	**-**	-	-	-
Other Financial assets	**1.597.24**			1.597.24
Liabilities				
Borrowings	**97.317.33**	-	-	97.317.33
Trade Payable	**15.931.77**	-	-	15.931.77
Other financial liabilities	**38.250.57**	-	-	38.250.57

Quantitative disclosures fair value measurement hierarchy for financial instruments as at March 31, 2021: (Rs in millions)

	As on March 31, 2021	Fair value measurement at end of the reporting year using		
		Level 1	Level 2	Level 3
Assets				
Investments (Quoted)	**572.50**	572.50	-	-
Trade Receivable	**100.24**	-	-	100.24
Cash and cash equivalents	**413.49**	-	-	413.49
Bank balance other than above	**1,744.35**	-	-	1,744.35
Loans	**-**	-	-	-
Other Financial assets	**639.27**			639.27
Liabilities				
Borrowings	**93.946.18**	-	-	93.946.18
Trade Payable	**2.560.24**	-	-	2,560.24
Other financial liabilities	**44,919.67**	-	-	44,919.67

Quantitative disclosures fair value measurement hierarchy for financial instruments as at March 31, 2020:

	As on March 31, 2020	Fair value measurement at end of the reporting year using		
		Level 1	Level 2	Level 3
Assets				
Investments (Quoted)	-		-	-
Investments (Unquoted) **	-		-	-

Quantitative disclosures fair value measurement hierarchy for financial instruments as at March 31, 2019: -

	As on March 31, 2019	Fair value measurement at end of the reporting year using		
		Level 1	Level 2	Level 3
Assets				
Investments (Quoted)	**184.38**	184.38	-	-
Investments (Unquoted) **	-	-	-	-

Note 32 : Events after reporting period

No subsequent event has been observed which may require an adjustment to the balance sheet.

Note 33: Information on segment reporting pursuant to Ind AS 108 - Operating Segments

The Project SPV Group has identified business segment in accordance with Indian Accounting Standard 108 "Operating Segment" notified under section 133 of the Companies Act 2013, read together with relevant rules issued thereunder. The Group has identified Built, Operate and Transfer ('BOT') as its single reportable segment. Moreover the Group's activities are restricted within India and hence no separate geographical segment disclosure is considered necessary.

Note 34 : Significant accounting judgement, estimates and assumptions

The preparation of the Fund's financial statements requires management to make judgments, estimates and assumptions that affect the reported amounts of revenue, expenses, assets and liabilities and the accompanying disclosures and the disclosure of contingent liabilities. Uncertainty about these assumptions and estimates could result in out comes that require a material adjustment to the carrying amount of assets or liabilities affected in future periods.

Judgement

In the process of applying the Fund's accounting policies, management has made the following judgements, which have the most significant effect on the amounts recognised in the financial statements.

Classification of unit holders Funds

Under the provisions of the InvIT Regulations, Fund is required to distribute to Unit holders not less than ninety percent of the net distributable cash flows of Fund for each financial year. Accordingly, a portion of the unit holders' Funds contains a contractual obligation of the Fund to pay to its Unit holders cash distributions. The Unit holder's Funds could therefore have been classified as compound financial instrument which contain both equity and liability components in accordance with Ind AS 32-Financial Instruments: Presentation.

However, in accordance with SEBI Circulars(No.CIR/IMD/DF/114/2016 dated 20-Oct-2016 and No.CIR/IMD/DF/127/2016 dated 29-Nov-2016) issued under the InvIT Regulations, the unit holders' Funds have been classified as equity in order to comply with the mandatory requirements of Section H of Annexure A to the SEBI Circular dated 20-Oct-2016 dealing with the minimum disclosures for key financial statements. In line with the above, the income distribution payable to unit holders is recognized as liability when the same is approved by the Investment Manager.

Estimates and assumptions

The key assumptions concerning the future and other key sources of estimation uncertainty at the reporting date, that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities or fair value disclosures within the next financial year, are described below. The Fund based its assumptions and estimates on parameters available when the financial statements were prepared. Existing circumstances and assumptions about future developments, however, may change due to market changes or circumstances arising that are beyond the control of the Fund. Such charges are reflected in the assumptions when they occur.

Impairment of non-financial assets

Non-financial assets of the Fund primarily comprise of investments in subsidiaries, Impairment exists when the carrying value of an asset or cash generating unit exceeds its recoverable amount, which is the higher of its fair value less costs of disposal and its value in use. The recordable amounts for the investments in subsidiaries are based on value in use of the underlying projects. The value in use calculation is based on a DCF model. The cash flows are derived from budgets / forecasts over the life of the projects.

Note 35 : Liquidity Risk

Liquidity risk is the risk that the Group may not be able to meet its present and future cash and collateral obligations without incurring unacceptable losses. The Group's objective is to, at all times maintain optimum levels of liquidity to meet its cash and collateral requirements. The Group closely monitors its liquidity position and deploys a robust cash management system. It maintains adequate sources of financing including debt and overdraft from banks at an optimised cost.

The table below summarises the maturity profile of the Group's financial liabilities based on contractual undiscounted payments:

(Rs in millions)

As at December 31, 2021	Carrying amt	Total	On Demand	Less than 1 year	1 to 5 years	> 5 years
Borrowings	97,317.33	98,301.27	4,024.74	589.99	11,441.70	82,244.84
Other financial liabilities	38,250.57	38,250.57	-	12,999.27	25,251.30	-
Trade payables	15,931.77	15,931.77	-	10,604.24	5,327.53	-
Total	**1,51,499.67**	**1,52,483.61**	**4,024.74**	**24,193.50**	**42,020.53**	**82,244.84**

As at March 31, 2021	Carrying amt	Total	On Demand	Less than 1 year	1 to 5 years	> 5 years
Borrowings	93,946.18	93,946.18	219.09	4,307.07	11,203.11	78,216.92
Other financial liabilities	44,919.67	44,919.67	-	20,198.87	24,720.80	-
Trade payables	5,023.65	5,023.65	-	2,560.23	2,463.41	-
Total	**1,43,889.50**	**1,43,889.50**	**219.09**	**27,066.17**	**38,387.32**	**78,216.92**

As at March 31, 2020	Carrying amt	Total	On Demand	Less than 1 year	1 to 5 years	> 5 years
Borrowings	77,700.91	77,700.91	-	326.79	19,109.50	58,264.63
Other financial liabilities	62,736.85	62,736.85	-	27,666.05	34,950.62	120.16
Trade payables	2,746.10	2,746.10	-	2,746.10	-	-
Total	**1,43,183.86**	**1,43,183.86**	**-**	**30,738.95**	**54,060.12**	**58,384.79**

As at March 31, 2019	Carrying amt	Total	On Demand	Less than 1 year	1 to 5 years	> 5 years
Borrowings	98,005.17	98,005.17	-	7,208.11	4,414.09	86,382.97
Other financial liabilities	28,938.54	28,938.54	-	26,866.86	2,071.68	-
Trade payables	8,529.24	8,529.24	-	8,529.24	-	-
Total	**1,35,472.95**	**1,35,472.95**	**-**	**42,604.21**	**6,485.77**	**86,382.97**

IRB Infrastructure Trust
Notes to Condensed Interim Special Purpose Consolidated / Combined Financial Statements

Note 36 : Related party disclosures

List of Related parties of the Fund

(i)	Parties to the InvIT	IRB Infrastructure Developers Limited (Sponsor and Project Manager)
		MMK Toll Road Private Limited (Investment Manager)
		IDBI Trusteeship Services Limited (Trustee of the IRB Infrastructure Trust)
(ii)	Associates, Promoters, Directors and Partners of the persons mentioned in clause (i) and (ii)	As per table below

List of associates, promoters, directors and partners of the persons mentioned in clause (i) and (ii)

Particulars	**IRB Infrastructure Developers Limited (Sponsor and Project Manager)**	**MMK Toll Road Private Limited (Investment Manager)**	**IDBI Trusteeship Services Limited (Trustee of IRB Infrastructure Trust)**
Promoters	Mr. Virendra D. Mhaiskar Mrs. Deepali V. Mhaiskar Mr. Virendra D. Mhaiskar (HUF)	IRB Infrastructure Developers Limited (IRBIDL)	IDBI Bank Limited LIC Corporation Limited General Insurace Corporation
Directors	Mr. Virendra D. Mhaiskar Mrs. Deepali V. Mhaiskar Mr. Mukeshlal Gupta Mr. Sudhir Rao Hoshing **Independent Directors** Mr. Chandrashekhar S. Kaptan Mr. Sunil H. Talati Mr. Sandeep J. Shah Mr. Sunil Tandon Mrs. Heena H. Raja	Mr. Naresh Taneja Mrs. Arati Taskar **Independent Directors** Mr. Darshan Sangurdekar Mr. Omprakash Singh	Mr. J. Samuel Joseph Mr. Ravishankar G. Shinde Ms. Madhuri J. Kulkarni Mr. Swapan Kumar Bagchi Ms. Sashikala Muralidharan (upto Jan 16, 2020)
Associates	**A) Holding Company of Sponsor / Project Manager** Mhaiskar Ventures Private Limited **B) Subsidiary Companies of Sponsor / Project Manager** **Project SPVs** 1. IRB Westcoast Tollway Limited (IRBWTL) 2. Solapur Yedeshi Tollway Limited (SYTL) 3. Yedeshi Aurangabad Tollway Limited (YATL) 4. Kaithal Tollway Limited (KTL) 5. AE Tollway Limited (AETL) 6. Udaipur Tollway Limited (UTL) 7. CG Tollway Limited (CGTL) 8. Kishangarh Gulabpura Tollway Limited (KGTL) 9. IRB Hapur Muradabad Tollway Limited (IRBHMTL) **Others** 1. Ideal Road Builders Private Limited (IRBPL) 2. Mhaiskar Infrastructure Private Limited (MIPL) 3. Modern Road Makers Private Limited (MRMPL) 4. Aryan Toll Road Private Limited (ATRPL) 5. ATR Infrastructure Private Limited (ATRFL) 6. IRB Infrastructure Private Limited (IRBFL) 7. Thane Ghodbunder Toll Road Private Limited (TGTRPL) 8. Aryan Infrastructure Investments Private Limited (AIIPL) 9. IRB MP Expressway Private Limited (formerly known as NKT Road and Toll Private Limited) 10. MMK Toll Road Private Limited (MMK) 11. IRB Kolhapur Integrated Road Development Company Private Limited (IRBK) 12. Aryan Hospitality Private Limited (AHPL) 13. IRB Sindhudurg Airport Private Limited (IRBSA) 14. IRB Goa Tollway Private Limited (IRB Goa) 15. IRB PS Highway Private Limited (formerly known as MRM Highways Private Limited) (IRBPS) 16. IRB Ahmedabad Vadodara Super Express Tollway Private Limited (IRBAV) 17. MRM Mining Private Limited (Formerly "J J Patel Infrastructural and Engineering Private Limited") (Subsidiary of MRMPL) 18. GE1 Expressway Private Limited (formerly known as IRB PP Project Private Limited) 19. VK1 Expressway Private Limited (VK1) 20. Modern Estate (Partnership Firm) 21. Pathankot Mandi Highway Private Limited 22. Chittoor Thachur Highway Private Limited 23. VM7 Expressway Private Limmited		

	C) Other Associate Companies of Sponsor / Project Manager 1. Virendra D. Mhaiskar (HUF) 2. VCR Toll Services Private Limited 3. VDM Ventures Private Limited 4. DEUX Farming Films Private Limited 5. IRB Charitable Foundation **Key Managerial personnel of Project SPV Group** (Only with whom Project SPV Group had transactions during the year/ there was balance outstanding at the year end) 1. Mr. Mukeshlal Gupta 2. Mr.Ajay P. Deshmukh 3. Mr.Rajpaul S. Sharma 4. Mr.Dhananjay K. Joshi 5. Mr.Anil D. Yadav 6. Mrs. Kshama Vengsarkar 7. Mr. Rajendra Kumar Agarwal (upto March 30, 2018) 8. Mrs. Arati Taskar 9. Mr. Sudhir Rao Hoshing 10. Mr. Naresh Taneja 11. Mr. Darshan Sangurdekar 12. Mr. Omprakash Singh 13. Jitendra Sharma (upto February 28, 2022) 14. Mrs. Heena Raja (upto October 01, 2021) 15. Ms. Shilpa Todankar 16. Mrs. Ranjana Paranjape (w.e.f October 06, 2021) 17. Mr.Abhay Phatak (w.e.f. March 09, 2022)

IRB Infrastructure Trust
Notes to Condensed Interim Special Purpose Consolidated / Combined Financial Statements

I. Related Party Transactions

(Rs. in millions)

Sr. No.	Particulars	Sponsor and Project Manager				Fellow subsidaries of Project SPV Group				Key Management Personnel of Project SPV Group			
		Dec 31, 2021	March 31, 2021	March 31, 2020	March 31, 2019	Dec 31, 2021	March 31, 2021	March 31, 2020	March 31, 2019	Dec 31, 2021	March 31, 2021	March 31, 2020	March 31, 2019
1	**Contract expenses**	-	-	**1,695.27**	**605.34**	**569.34**	**921.31**	**1,452.39**	**2,591.46**	-	-	-	-
	IRB Infrastructure Developers Limited	-	-	1,695.27	605.34	-	-	-	-	-	-	-	-
	Modern Road Makers Private Limited	-	-	-	-	569.34	921.31	1,452.39	2,591.46	-	-	-	-
2	**Operation & Main. Expenses**	**1,466.39**	**1,826.29**	**119.47**	-	-	-	-	-	-	-	-	-
	IRB Infrastructure Developers Limited	1,466.39	1,826.29	119.47	-	-	-	-	-	-	-	-	-
3	**Finance Cost -Interest unwinding on loan**	-	-	-	-	-	-	**44.70**	**1.60**	-	-	-	-
	Mhaiskar Infrastructure Private Limited	-	-	-	-	-	-	44.70	1.60	-	-	-	-
4	**Finance Cost -Interest unwinding on Trade payable**	-	-	-	-	**404.84**	-	-	-	-	-	-	-
	Modern Road Makers Private Limited	-	-	-	-	404.84	-	-	-	-	-	-	-
5	**Share application money received**	-	**2,603.81**	**1,182.32**	**697.08**	-	-	-	-	-	-	-	-
	IRB Infrastructure Developers Limited	-	2,603.81	1,182.32	697.08	-	-	-	-	-	-	-	-
	IRB Goa Tollway Private Limited	-	-	-	-	-	-	-	-	-	-	-	-
6	**Allotment of Equity Share**	-	**2,603.81**	-	**2,835.88**	-	-	-	-	-	-	-	-
	IRB Infrastructure Developers Limited	-	2,603.81	-	2,835.88	-	-	-	-	-	-	-	-
	IRB Goa Tollway Private Limited	-	-	-	-	-	-	-	-	-	-	-	-
7	**Sub-ordinate debts (Unsecured & interest free)**	-	-	**2,924.28**	**4,229.05**	-	-	-	-	-	-	-	-
	IRB Infrastructure Developers Limited	-	-	2,924.28	4,229.05	-	-	-	-	-	-	-	-
	IRB Goa Tollway Private Limited	-	-	-	-	-	-	-	-	-	-	-	-
8	**Short-term borrowings taken (unsecured)**	-	-	**13,418.70**	**6,483.20**	-	-	-	-	-	-	-	-
	IRB Infrastructure Developers Limited	-	-	13,418.70	6,483.20	-	-	-	-	-	-	-	-
9	**Short-term borrowings repayment**	-	-	**562.49**	**8,917.95**	-	-	-	**14.20**	-	-	-	-
	IRB Infrastructure Developers Limited	-	-	562.49	8,917.95	-	-	-	-	-	-	-	-
	Modern Road Makers Private Limited	-	-	-	-	-	-	-	14.20	-	-	-	-
10	**Long-term borrowings taken (unsecured)**	-	-	-	-	-	-	-	**900.00**	-	-	-	-
	Mhaiskar Infrastructure Private Limited	-	-	-	-	-	-	-	900.00	-	-	-	-
11	**Expenses incurred on our behalf**	-	**5.71**	-	**46.81**	**404.84**	**6.05**	-	**77.26**	-	-	-	-
	IRB Infrastructure Developers Limited	-	5.71	-	46.81	-	-	-	-	-	-	-	-
	Modern Road Makers Private Limited	-	-	-	-	404.84	6.05	-	77.26	-	-	-	-
12	**Repayment for expenses incurred on our behalf**	-	-	-	**15.27**	-	-	-	-	-	-	-	-
	IRB Infrastructure Developers Limited	-	-	-	15.27	-	-	-	-	-	-	-	-
13	**Loans and advances (Long-term) Given**	-	-	-	-	-	-	-	**1.17**	-	-	-	-
	IRB Infrastructure Developers Limited	-	-	-	-	-	-	-	-	-	-	-	-
	Modern Road Makers Private Limited	-	-	-	-	-	-	-	1.17	-	-	-	-

I. Related Party Transactions

(Rs. in millions)

Sr. No.	Particulars	Sponsor and Project Manager				Fellow subsidaries of Project SPV Group				Key Management Personnel of Project SPV Group			
		Dec 31, 2021	March 31, 2021	March 31, 2020	March 31, 2019	Dec 31, 2021	March 31, 2021	March 31, 2020	March 31, 2019	Dec 31, 2021	March 31, 2021	March 31, 2020	March 31, 2019
14	**Mobilisation advances given**	-	-	-	-	-	-	-	-	-	-	-	-
	IRB Infrastructure Developers Limited	-	-	-	-	-	-	-	-	-	-	-	-
15	**Mobilisation advances recovered**	**608.46**	-	**2,348.12**	**3,838.28**	-	-	-	-	-	-	-	-
	IRB Infrastructure Developers Limited	608.46	-	2,348.12	3,838.28	-	-	-	-	-	-	-	-
16	**Additional advances recovered**	-	-	**55.21**	**3,953.22**	-	-	-	-	-	-	-	-
	IRB Infrastructure Developers Limited	-	-	55.21	3,953.22	-	-	-	-	-	-	-	-
17	**Material Aggregate Purchase**	-	-	-	-	**1,099.65**	**2,062.51**	-	-	-	-	-	-
	Modern Road Makers Private Limited	-	-	-	-	1,099.65	2,062.51	-	-	-	-	-	-
18	**Advance received including BG margin payable**	-	-	**41.37**	**72.51**	-	**75.42**	-	-	-	-	-	-
	IRB Infrastructure Developers Limited	-	-	41.37	72.51	-	-	-	-	-	-	-	-
	Modern Road Makers Private Limited	-	-	-	-	-	75.42	-	-	-	-	-	-
19	**Advance given including BG margin given**	**451.03**	-	-	**57.51**	**62.57**	-	-	-	-	-	-	-
	IRB Infrastructure Developers Limited	451.03	-	-	57.51	-	-	-	-	-	-	-	-
	Modern Road Makers Private Limited	-	-	-	-	62.57	-	-	-	-	-	-	-
20	**General advance given - EPC**	-	-	-	**3,501.27**	-	**75.42**	-	-	-	-	-	-
	IRB Infrastructure Developers Limited	-	-	-	3,501.27	-	-	-	-	-	-	-	-
	Modern Road Makers Private Limited	-	-	-	-	-	75.42	-	-	-	-	-	-
21	**General advance recovered - EPC**	**270.10**	-	**900.56**	**2,456.81**	**62.48**	-	-	-	-	-	-	-
	IRB Infrastructure Developers Limited	270.10	-	900.56	2,456.81	-	-	-	-	-	-	-	-
	Modern Road Makers Private Limited	-	-	-	-	62.48	-	-	-	-	-	-	-
22	**Construction cost**	**5,601.40**	-	**24,920.09**	**31,437.42**	-	**2,194.10**	**2,080.00**	**2,193.87**	-	-	-	-
	IRB Infrastructure Developers Limited	5,601.40	-	24,920.09	31,437.42	-	-	-	-	-	-	-	-
	Modern Road Makers Private Limited	-	-	-	-	-	2,194.10	2,080.00	2,193.87	-	-	-	-
23	**Construction cost- EPC- WIP**	**2,021.66**	-	-	-	-	-	-	-	-	-	-	-
	IRB Infrastructure Developers Limited	2,021.66	-	-	-	-	-	-	-	-	-	-	-
24	**Construction cost- COS- WIP**	-	-	-	-	**1,040.90**	-	-	-	-	-	-	-
	IRB Infrastructure Developers Limited	-	-	-	-	-	-	-	-	-	-	-	-
	Modern Road Makers Private Limited	-	-	-	-	1,040.90	-	-	-	-	-	-	-
25	**Amount held up**	-	-	-	-	-	**7.51**	-	**13.37**	-	-	-	-
	Modern Road Makers Private Limited	-	-	-	-	-	7.51	-	13.37	-	-	-	-
26	**BG margin receivable**	-	-	**36.21**	**18.75**	-	-	-	**69.69**	-	-	-	-
	IRB Infrastructure Developers Limited	-	-	36.21	18.75	-	-	-	-	-	-	-	-
	Modern Road Makers Private Limited	-	-	-	-	-	-	-	69.69	-	-	-	-
27	**Other payable**	**1,792.44**	**3.88**	**32,037.96**	-	**36.70**	**5.85**	**3,535.73**	-	-	-	-	-
	IRB Infrastructure Developers Limited	1,792.44	3.88	32,037.96	-	-	-	-	-	-	-	-	-
	Modern Road Makers Private Limited	-	-	-	-	-	5.85	1,785.30	-	-	-	-	-
	IRB Goa Tollway Private Limited	-	-	-	-	-	-	1,544.86	-	-	-	-	-
	Mhaiskar Infrastrcture Private Limited	-	-	-	-	36.70	-	205.57	-	-	-	-	-
28	**Unsecured Loan payable**	-	**3,677.76**	-	-	-	**48.71**	-	-	-	-	-	-
	IRB Infrastructure Developers Limited	-	3,677.76	-	-	-	-	-	-	-	-	-	-
	Mhaiskar Infrastructure Private Limited	-	-	-	-	-	48.71	-	-	-	-	-	-
29	**Unsecured Loan / other payable repaid**	**130.83**	**5,105.50**	-	-	-	**1.17**	-	-	-	-	-	-
	IRB Infrastructure Developers Limited	130.83	5,105.50	-	-	-	-	-	-	-	-	-	-
	Mhaiskar Infrastructure Private Limited	-	-	-	-	-	1.17	-	-	-	-	-	-
30	**Units Issued**	**1,946.33**	-	-	-	-	-	-	-	-	-	-	-
	IRB Infrastructure Developers Limited	1,946.33	-	-	-	-	-	-	-	-	-	-	-
31	**Trade payable**	-	-	-	-	**6.00**	-	-	-	-	-	-	-
	MMK Toll Road Private Limited	-	-	-	-	6.00	-	-	-	-	-	-	-
32	**Additional Intangible Asset**	-	-	-	-	**5,891.04**	-	-	-	-	-	-	-
	Modern Road Makers Private Limited	-	-	-	-	5,891.04	-	-	-	-	-	-	-

I. Related Party Transactions

(Rs. in millions)

Sr. No.	Particulars	Sponsor and Project Manager				Fellow subsidaries of Project SPV Group				Key Management Personnel of Project SPV Group			
		Dec 31, 2021	March 31, 2021	March 31, 2020	March 31, 2019	Dec 31, 2021	March 31, 2021	March 31, 2020	March 31, 2019	Dec 31, 2021	March 31, 2021	March 31, 2020	March 31, 2019
33	**Director sitting fees paid**	-	-	-	-	-	-	-	-	**1.13**	**1.23**	**1.83**	**1.18**
	Mr. Mukeshlal Gupta	-	-	-	-	-	-	-	-	-	-	0.16	0.12
	Mr. Dhananjay K. Joshi	-	-	-	-	-	-	-	-	-	-	0.11	0.09
	Mr. Ajay P. Deshmukh	-	-	-	-	-	-	-	-	-	-	0.22	0.18
	Mr. Naresh Taneja	-	-	-	-	-	-	-	-	-	-	0.11	-
	Mr. Rajendra kumar Agarwal	-	-	-	-	-	-	-	-	-	-	-	-
	Mrs. Arati Taskar	-	-	-	-	-	-	-	-	-	-	0.16	0.12
	Mr. Darshan Sangurdekar	-	-	-	-	-	-	-	-	0.16	0.17	0.19	0.13
	Mr. Mr. Omprakash Singh	-	-	-	-	-	-	-	-	0.15	0.18	0.20	0.10
	Mr. Sudhir Hoshing	-	-	-	-	-	-	-	-	-	-	0.23	0.14
	Mr. Jitendra Sharma	-	-	-	-	-	-	-	-	0.33	0.37	0.05	0.10
	Mr Anil Yadav	-	-	-	-	-	-	-	-	-	-	0.12	-
	Mrs. Heena Raja	-	-	-	-	-	-	-	-	0.05	0.08	-	0.05
	Mr. C S Kaptan	-	-	-	-	-	-	-	-	0.26	0.24	-	-
	Miss Shilpa Todankar	-	-	-	-	-	-	-	-	0.17	0.19	-	-
	Mrs. Kshama Vengsarkar	-	-	-	-	-	-	-	-	-	-	0.17	0.07
	Mr. Rajpaul S. Sharma	-	-	-	-	-	-	-	-	-	-	0.11	0.07

IRB Infrastructure Trust
Notes to Condensed Interim Special Purpose Consolidated / Combined Financial Statements

II. Related party balances

(Rs. in millior

Sr. No.	Particulars	Sponsor and Project Manager				Fellow subsidaries of Project SPV Group				Key Management Personnel of Project SPV Group			
		Dec 31, 2021	March 31, 2021	March 31, 2020	March 31, 2019	Dec 31, 2021	March 31, 2021	March 31, 2020	March 31, 2019	Dec 31, 2021	March 31, 2021	March 31, 2020	March 31, 2019
1	**Subordinated debt (unsecured and interest free)**	**-**	**-**	**-**	**22,638.92**	**-**	**-**	**-**	**3,330.16**	**-**	**-**	**-**	**-**
	IRB Infrastructure Developers Limited	-	-	-	22,638.92	-	-	-	-	-	-	-	-
	Modern Road Makers Private Limited	-	-	-	-	-	-	-	1,785.30	-	-	-	-
	IRB Goa Tollway Private Limited	-	-	-	-	-	-	-	1,544.86	-	-	-	-
2	**Short-term borrowings**	**477.81**	**-**	**-**	**7,085.60**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
	IRB Infrastructure Developers Limited	477.81	-	-	7,085.60	-	-	-	-	-	-	-	-
	Modern Road Makers Private Limited	-	-	-	-	-	-	-	-	-	-	-	-
3	**Long-term borrowings**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**156.73**	**-**	**-**	**-**	**-**
	Mhaiskar Infrastructure Private Limited	-	-	-	-	-	-	-	156.73	-	-	-	-
4	**Share application money**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
	IRB Infrastructure Developers Limited	-	-	-	-	-	-	-	-	-	-	-	-
5	**Trade payable**	**1,279.54**	**1,119.15**	**2,214.88**	**3,352.53**	**8,485.83**	**2,931.85**	**331.62**	**4,885.13**	**-**	**-**	**-**	**-**
	IRB Infrastructure Developers Limited	1,279.54	1,119.15	2,214.88	3,352.53	-	-	-	-	-	-	-	-
	Modern Road Makers Private Limited	-	-	-	-	8,412.40	2,931.85	331.62	4,885.13	-	-	-	-
	MMK Toll Road Private Limited	-	-	-	-	73.43	-	-	-	-	-	-	-
6	**Capital creditors**	**-**	**-**	**-**	**530.27**	**-**	**-**	**-**	**3,773.43**	**-**	**-**	**-**	**-**
	IRB Infrastructure Developers Limited	-	-	-	530.27	-	-	-	-	-	-	-	-
	Modern Road Makers Private Limited	-	-	-	-	-	-	-	3,773.43	-	-	-	-
7	**Mobilisation advances**	**435.80**	**1,522.77**	**1,170.47**	**4,318.93**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
	IRB Infrastructure Developers Limited	435.80	1,522.77	1170.47	4,318.93	-	-	-	-	-	-	-	-
8	**Advance given**	**771.65**	**102.14**	**2,025.00**	**2,014.08**	**0.09**	**1.17**	**1.39**	**-**	**-**	**-**	**-**	**-**
	IRB Infrastructure Developers Limited	771.65	102.14	2,025.00	2,014.08	-	-	-	-	-	-	-	-
	Modern Road Makers Private Limited	-	-	-	-	0.09	1.17	1.39	-	-	-	-	-
9	**Retention payable**	**-**	**-**	**-**	**-**	**236.09**	**190.35**	**182.85**	**26.29**	**-**	**-**	**-**	**-**
	Modern Road Makers Private Limited	-	-	-	-	236.09	190.35	182.85	26.29	-	-	-	-
10	**Other payable including BG margin payable**	**31,316.43**	**29,550.45**	**32,208.96**	**158.06**	**3,636.66**	**3,599.97**	**3,546.38**	**77.26**	**-**	**-**	**-**	**-**
	IRB Infrastructure Developers Limited	31,316.43	29,550.45	32,208.96	158.06	-	-	-	-	-	-	-	-
	Modern Road Makers Private Limited	-	-	-	-	1,800.83	1,800.83	1,795.95	77.26	-	-	-	-
	IRB Goa Tollway Private Limited	-	-	-	-	1,544.86	1,544.86	1,544.86	-	-	-	-	-
	Mhaiskar Infrastructure Private Limited	-	-	-	-	290.97	254.28	205.57	-	-	-	-	-

IRB Infrastructure Trust
Notes to Condensed Interim Special Purpose Consolidated / Combined Financial Statements

II. Related party balances

(Rs. in millior

Sr. No.	Particulars	Sponsor and Project Manager				Fellow subsidaries of Project SPV Group				Key Management Personnel of Project SPV Group			
		Dec 31, 2021	March 31, 2021	March 31, 2020	March 31, 2019	Dec 31, 2021	March 31, 2021	March 31, 2020	March 31, 2019	Dec 31, 2021	March 31, 2021	March 31, 2020	March 31, 2019
		-	-	-	-	-	-	**1,795.95**	**528.91**	-	-	-	-
11	**Intangible asset under development**												
	IRB Infrastructure Developers Limited	-	-	-	-	-	-		-	-	-	-	-
	Modern Road Makers Private Limited	-	-	-	-	-	-	1,795.95	528.91	-	-	-	-
12	**Short-term loans & advances**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**1.17**	**-**	**-**	**-**	**-**
	Modern Road Makers Private Limited	-	-	-	-	-	-	-	1.17	-	-	-	-
13	**Unsecured Loan / other payable**	**3,546.93**	**4155.57**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
	IRB Infrastructure Developers Limited	3,546.93	4155.57	-	-	-	-	-	-	-	-	-	-
14	**Trade Receivable**	**-**	**-**	**-**	**-**	**0.51**	**0.51**	**-**	**-**	**-**	**-**	**-**	**-**
	Modern Road Makers Private Limited	-	-	-	-	0.51	0.51	-	-	-	-	-	-
15	**BG margin money receivable**	**-**	**0.54**	**0.54**	**41.91**	**-**	**-**	**-**	**69.69**	**-**	**-**	**-**	**-**
	IRB Infrastructure Developers Limited	-	0.54	0.54	41.91	-	-	-	-	-	-	-	-
	Modern Road Makers Private Limited				-			-	69.69				-
16	**Expense payable**	**2,883.30**	**-**	**-**	**-**	**2,323.56**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
	IRB Infrastructure Developers Limited	2,883.30	-	-	-	-	-	-	-	-	-	-	-
	Modern Road Makers Private Limited					2,323.56	-	-	-	-	-	-	-
17	**Retention Money Receivable**	**-**	**-**	**-**	**-**	**40.90**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
	Modern Road Makers Private Limited	-	-	-	-	40.90	-	-	-	-	-	-	-
18	**Director sitting fees Payable**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**0.18**	**0.28**	**0.65**	**0.25**
	Mr. Mukeshlal Gupta	-	-	-	-	-	-	-	-	-	-	0.06	0.03
	Mr. Dhananjay K. Joshi	-	-	-	-	-	-	-	-	-	-	0.04	0.02
	Mr. Ajay P. Deshmukh	-	-	-	-	-	-	-	-	-	-	0.08	0.04
	Mr. Rajendra kumar Agarwal	-	-	-	-	-	-	-	-	-	-	0.01	0.01
	Mrs. Aarti Taskar	-	-	-	-	-	-	-	-	-	-	0.06	0.02
	Mr. Darshan Sangurdekar	-	-	-	-	-	-	-	-	0.02	0.04	0.08	0.02
	Mr. Omprakash Singh	-	-	-	-	-	-	-	-	0.02	0.04	0.06	0.01
	Mr. Sudhir Hoshing	-	-	-	-	-	-	-	-	-	-	0.08	0.03
	Mr. Jitendra Sharma	-	-	-	-	-	-	-	-	0.05	0.09	0.02	0.02
	Mr. Rajpaul S. Sharma	-	-	-	-	-	-	-	-	-	-	0.04	0.01
	Mrs. Heena Raja	-	-	-	-	-	-	-	-	-	0.02	-	0.01
	Mr. C S Kaptan	-	-	-		-	-	-	-	0.04	0.08	-	-
	Mrs. Kshama Vengsarkar	-	-	-		-	-	-	-	-	-	0.06	-
	Miss Shilpa Todankar	-	-	-		-	-	-	-	0.03	0.01	-	-
	Mr. Naresh Taneja	-	-	-	-	-	-	-	-	-	-	0.02	0.01
	Mr. Anil D.Yadav	-	-	-	-	-	-	-	-	-	-	0.04	0.01

Note 37: Earnings Per Unit (EPU)

EPU amounts are calculated by dividing the profit for the period attributable to unit holders by the weighted average number of Units outstanding during the year/period.

The following reflects the income and share data used in the EPU computations: (Rs in millions)

	Dec 31, 2021	March 31, 2021
Profit attributable to unit holders for earnings	(3,251.20)	(3,252.48)
Weighted average number of Units for EPU	83,89,45,306	78,47,08,356
Face value per unit (in Rs)	100	100
Earning per unit (in Rs.)	(3.88)	(4.14)

Note 38 : COVID-19

The outbreak of Coronavirus (COVID-19) pandemic globally and in India is causing significant disturbance and slowdown of economic activity. As per the directions of the Ministry of Road Transport & Highways (MoRTH)/ National Highway Authority of India (NHAI), in order to follow MHA guidelines about commercial and private establishment in the wake of COVID-19 epidemic in the country, operations at the toll plaza of the Group were closed down w.e.f. 26th March, 2020. The toll operations were resumed from 20th April, 2020 by ensuring compliance with preventive measures in terms of guidelines/ instructions issue by Govt. of India to contain spread of Covid -19. Due to this, traffic for the toll road has been impacted. Management believes this is temporary and expects traffic will be normalised looking at the recent toll collection. In accordance with the Concession Agreement and NHAI policy no. 8.3.33/2020 and 8.4.20/2020 dated 26th May, 2020, the Group is eligible for extension of concession period with NHAI towards loss of revenue due to COVID-19 pandemic and NHAI is also extending COVID-19 loan to the Concessionaire for shortfall in cashflow.

The management has assessed and determined that considering the nature of its operations and overall revenue model, COVID-19 does not have material impact on the Group's financial position as at March 31, 2021 and its financial performance for the year then ended.

Note 39 : Previous year comparatives

Consequent to the issuance of " Guidance Note on Division II – Ind AS Schedule III to the Companies Act, 2013" certain items of financial statements have been regouped/ reclassified.

As per our report of even date
For Gokhale & Sathe
Chartered Accountants
ICAI registration number: 103264W

SD/-
Kaustubh Deshpande
Partner
Membership No. 121011

Place: Mumbai
Date: 12/04/2022

For and on behalf of the Board of Directors of
MMK Toll Road Private Limited
(As Investment Manager to IRB Infrastructure Trust)
CIN : U45200MH2002PTC135512

SD/-
Virendra D. Mhaiskar
Chairman
DIN :00183554

SD/-
Dhananjay K. Joshi
Chief Executive officer

SD/-
Shilpa Todankar
Chief Financial Officer

SD/-
Kaustubh Shevade
Company Secretary

Place : Mumbai
Date: 12/04/2022

B. AUDITED FINANCIAL INFORMATION OF PDTPL

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Independent Auditor's Report on condensed interim special purpose standalone financial statements of the Palsit Dankuni Tollway Private Limited

To

The Board of Directors
Palsit Dankuni Tollway Private Limited

Dear Sirs,

Report on condensed interim special purpose financial statements

Opinion

We have audited the accompanying Condensed Interim Special Purpose Financial Statements of Palsit Dankuni Tollway Private Limited ("the Company") prepared for the purpose of inclusion in the placement memorandum in connection with the proposed issuance of its rights issue of units of IRB Infrastructure Trust ("the Trust"), and which comprise the condensed interim special purpose balance sheet as at December 31, 2021, the condensed interim special purpose statement of profit and loss (including other comprehensive income), condensed interim statement of cash flows and condensed interim standalone statement of changes in equity for the period from April 15, 2021 to December 31, 2021 and a summary of significant accounting policies and other explanatory information (together referred to as 'Special Purpose Financial Statements').

In our opinion and to the best of our information and according to the explanations given to us, the aforesaid special purpose standalone financial statements give a true and fair view in accordance with the basis of preparation as specified in note 2 to the special purpose standalone financial statements in case of:

a) the balance sheet, of the state of affairs of the Company as at December 31, 2021;
b) the statement of profit and loss (including other comprehensive income) of the Company's loss for the period from April 15, 2021 to December 31, 2021;
c) the statement of cash flows, of the cash movements of the Company for the period from April 15, 2021 to December 31, 2021
d) the statement of changes in equity of the changes in equity for the period from April 15, 2021 to December 31, 2021;

Basis of Accounting and Restriction on Distribution and Use

Without modifying our opinion, we draw attention to note 2 to the Special Purpose Financial Statements, which describes the basis of accounting including the approach to and purpose of preparation of these Special Purpose Financial Statements.

These Special Purpose Financial Statements have been prepared in accordance with the Indian Accounting Standards as notified under the Companies (Indian Accounting Standards) Rules, 2015 prescribed under section 133 of the Companies Act, 2013 ('the Act'), as applicable ("Ind AS") as more clearly specified in note 2: 'Basis of preparation' of the Special Purpose Financial Statements.

MKPS & ASSOCIATES FRN 302014E CHARTERED ACCOUNTANTS

Our report should not be used, referred to or distributed for any other purpose or to any other party without our prior written consent. Accordingly, we do not accept or assume any liability or any duty of care for any other purpose or to any other person to whom this report is shown or into whose hands it may come without our prior consent in writing.

Responsibility of the Management and Those Charged With Governance for the Special Purpose Financial Statements

The Management of the Company is responsible for the preparation of these special purpose financial statements that give a true and fair view of the financial position, financial performance (including other comprehensive income), cash flows in accordance with the basis of preparation specified in note 2 to the special purpose financial statements.

The Board of Directors of the Company are responsible for the maintenance of adequate accounting records in accordance with the provisions of the Act; for safeguarding the assets of Company and for preventing and detecting frauds and other irregularities; the selection and application of appropriate accounting policies; making judgements and estimates that are reasonable and prudent; and the design, implementation and maintenance of adequate internal financial controls, that were operating effectively for ensuring the accuracy and completeness of the accounting records, relevant to the preparation and presentation of the financial statements that give a true and fair view and are free from material misstatement, whether due to fraud or error, which have been used for the purpose of preparation of these special purpose financial statements by the Management, as aforesaid.

Auditor's Responsibility

Our objectives are to obtain reasonable assurance about whether the Special purpose financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not a guarantee that an audit conducted in accordance with Standards on Auditing will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with Standards on Auditing, we exercise professional judgment and maintain professional skepticism throughout the audit. An audit involves performing procedures to obtain audit evidence about the amounts and the disclosures in the special purpose standalone financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the Special Purpose Standalone Financial Statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal financial controls relevant to the Company's preparation of the Special Purpose Financial Statements that give a true and fair view in order to design audit procedures that are appropriate in the circumstances but not for the purpose of expressing an opinion whether the Company has in place an adequate internal financial controls system over financial reporting and the operating effectiveness of such controls. An audit also includes evaluating the appropriateness of the accounting policies used and the reasonableness of the accounting estimates made by the Management, as well as evaluating the overall presentation of the financial statements. We communicate with those charged with governance and the Management of the Company regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

MKPS & ASSOCIATES FRN 302014E CHARTERED ACCOUNTANTS

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

For MKPS & Associates
Chartered Accountants
Firm's Registration No.: 302014E

CA. Narendra Khandal
Partner
Membership No.: 065025
UDIN: 22065025AFUMDB4423
Mumbai, February 2, 2022

Palsit Dankuni Tollway Private Limited
Balance Sheet as at December 31, 2021

(Amount in million)

		Note No.	As at December 31, 2021
I	**ASSETS**		
(1)	**Non-current assets**		
	Intangible assets under development	4	0.05
			0.05
(2)	**Current assets**		
	Financial assets		
	i) Cash and cash equivalents	5	0.05
	Other current assets	6	151.04
			151.09
	TOTAL ASSETS		**151.14**
II	**EQUITY AND LIABILITIES**		
(1)	**Equity**		
	Equity share capital	7	0.50
	Other equity	8	(0.11)
			0.39
	Minority Interest		
(2)	**Current liabilities**		
	Financial liabilities		
	i) Borrowings	9	11.47
	ii) Trade payables	10	
	a) total outstanding dues of micro enterprises and small enterprises		-
	b) total outstanding dues of creditors other than micro enterprises		127.48
	Other liabilities	11	11.80
			150.75
	Total liabilities		**150.75**
	TOTAL EQUITY AND LIABILITIES		**151.14**
	Summary of significant accounting policies	3	

The accompanying notes are an integral part of these Financial Statements.

As per our report of even date
For MKPS & Associates
Chartered Accountants
Firm's Regd No. 302014E

MKPS & ASSOCIATES FRN 302014E CHARTERED ACCOUNTANTS

CA Narendra Khandal
Partner
Membership No.: 065025

Place : Mumbai
Date : February 02, 2022

For and on behalf of the Board of Directors of
Palsit Dankuni Tollway Private Limited
(CIN : U45201MH2021PTC359020)

Arati Taskar
Director
DIN : 07089953

Amitabh Murarka
Director
DIN: 08099533

Place : Mumbai
Date : February 02, 2022

Palsit Dankuni Tollway Pvt Ltd Mumbai

Palsit Dankuni Tollway Private Limited
Statement of Profit and Loss for the period ended December 31, 2021

(Amount in million)

	Note No.	For the period from April 15, 2021 to December 31, 2021
Income		
Revenue from operations	-	-
Other income	-	-
TOTAL INCOME		-
Expenses		
Other expenses	12	0.11
TOTAL EXPENSES		0.11
Profit / (loss) before tax		**(0.11)**
Tax expenses	-	
Current tax		-
Deferred tax		-
TOTAL TAX EXPENSES		-
Profit/(loss) for the period		**(0.11)**
Other comprehensive income		
Item that will not to be reclassified to profit or loss:		
Re-measurement gains/ (losses) on defined benefit plans (net of taxes)		-
Mark to market gain/(loss) fair value measurement of investments		-
Net other comprehensive income not to be reclassified to profit or loss in subsequent periods		-
Other comprehensive income/(loss) for the period (net of tax)		-
Total comprehensive income for the period		**(0.11)**
Earnings per equity share (of Rs. 10 each)		
Basic		(2.13)
Diluted		(2.13)
Summary of significant accounting policies	3	

The accompanying notes are an integral part of these financial statements.

As per our report of even date
For MKPS & Associates
Chartered Accountants
Firm's Regd No. 302014E

MKPS & ASSOCIATES FRN 302014E CHARTERED ACCOUNTANTS

CA Narendra Khandal
Partner
Membership No.: 065025

Place : Mumbai
Date : February 02, 2022

For and on behalf of the Board of Directors of
Palsit Dankuni Tollway Private Limited
(CIN : U45201MH2021PTC359020)

Arati Taskar
Director
DIN : 07089953

Amitabh Murarka
Director
DIN: 08099533

Palsit Dankuni Tollway Pvt Ltd Mumbai

Place : Mumbai
Date : February 02, 2022

Palsit Dankuni Tollway Private Limited
Statement of Cash flows for the period ended December 31, 2021

	(Amount in million) For the period from April 15, 2021 to December 31, 2021
A. Cash flow from operating activities	
Profit before tax	**(0.11)**
Adjustments to reconcile profit before tax to net cash flows	
Finance costs	-
Depreciation and amortisation expenses	-
Operating profit before working capital changes	**(0.11)**
Movement in working capital:	
(Increase)/Decrease in other assets	(151.04)
Increase/(Decrease) in trade payable	127.48
Increase/(decrease) in other liabilities	11.80
Cash generated from operations	**(11.87)**
Direct taxes paid (net of refunds)	-
Net cash flows generated from operating activities	**(11.87)**
B. Cash flows from investing activities	
Purchase of property, plant and equipment and intangible assets	(0.05)
Proceeds from issue of equity shares	0.50
Net cash flows (used in) investing activities	**0.45**
C. Cash flow from financing activities	
Proceeds from short-term borrowings	11.47
Net cash flows (used in) financing activities	**11.47**
Net (decrease)/increase in cash and cash equivalents (A+B+C)	**0.05**
Cash and cash equivalents at the beginning of the year (refer note 5)	-
Cash and cash equivalents at the end of the year (refer note 5)	**0.05**
Components of cash and cash equivalents	
Balances with scheduled banks	
- Others	0.05
Cash on hand	-
Total Cash and cash equivalents (Note 7)	**0.05**
Debt reconciliation statement in accordance with Ind AS 7	
Opening balances	
Long term borrowing	-
Short term borrowing	-
Movements	
Long term borrowing	-
Short term borrowing	11.47
Closing balances	
Long term borrowing	-
Short term borrowing	11.47

Summary of significant accounting policies (refer note 3)

The accompanying notes are an integral part of these Financial Statements.

Note :

1. All figures in bracket are outflow.
2. Direct taxes paid are treated as arising from operating activities and are not bifurcated between investing and financing activities.
3. The cash flow statement has been prepared under Indirect Method as per Ind AS 7 "Statement of Cash Flows" as as under section 133 of Companies Act, 2013.

As per our report of even date
For MKPS & Associates
Chartered Accountants
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MKPS & ASSOCIATES FRN 302014E CHARTERED ACCOUNTANTS

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For and on behalf of the Board of Directors of
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Amitabh Murarka
Director
DIN: 08099533

Arati Taskar
Director
DIN : 07089953

Palsit Dankuni Tollway Pvt Ltd Mumbai

Place : Mumbai
Date : February 02, 2022

Palsit Dankuni Tollway Private Limited
Notes to the financial statements for the period ended December 31, 2021

1. Corporate Information

Palsit Dankuni Tollway Private Limited ('the Company') is domiciled in India. The Company has been awarded the work of six laning of national corridor NH-19 from Palsit to Dhankuni (upto NH-6 connector) from k.m. 588.870 to k.m. 652.700 (total design length 63.830 k.m.) in the state of West Bangal under Bharatmala Priyojana to be executed on BOT (toll) basis The Company is a subsidiary of IRB Infrastructure Developers Limited ('IRBIDL'). IRBIDL being a public company, the Company has also become a public company in accordance with the provisions of the Indian Companies Act, 2013. The registered office is located at 1101, Hiranandani Knowledge Park, Technology Street, Opp Hiranandani Hospital, Powai, Mumbai – 400 076, Maharashtra.

2. Basis of preparation

A. Statement of compliance

The financial statements of the Company have been prepared in accordance with Indian Accounting Standards (Ind AS) notified under the Companies (Indian Accounting Standards) Rules, 2015 (as amended from time to time) and presentation requirements of Division II of Schedule III to the Companies Act, 2013.

The financial statements were authorised for issue by the Company's Board of Directors on February 02, 2022

Details of the Company's accounting policies are included in Note 3. The accounting policies set out below have been applied consistently to the years presented in the financial statements.

B. Functional and presentation currency

The financial statements are presented in Indian Rupee ('INR') which is also the Company's functional currency and all values are rounded to the nearest millions, except when otherwise indicated. Wherever the amount represented '0' (zero) construes value less than Rupees five thousand.

C. Basis of measurement

The financial statements have been prepared on a historical cost basis, except for certain financial assets and liabilities (refer accounting policies regarding financial instruments) which have been measured at fair value.

3. Summary of significant accounting policies

3.1 Current versus non-current classification

The Company has idenfied twleve months as its operating cycle. The operating cycle is the time between the acquisition of assets for processing and their realisation in cash and cash equivalents.

The Company presents assets and liabilities in the balance sheet based on current/ non-current classification. An asset is treated as current when it is:
- Expected to be realised or intended to be sold or consumed in normal operating cycle
- Held primarily for the purpose of trading
- Expected to be realised within twelve months after the reporting period, or
- Cash or cash equivalent unless restricted from being exchanged or used to settle a liability for at least twelve months after the reporting period.

All other assets are classified as non-current.

MKPS & ASSOCIATES FRN 302014E CHARTERED ACCOUNTANTS

Palsit Dankuni Tollway Pvt Ltd Mumbai

A liability is current when:
- It is expected to be settled in normal operating cycle
- It is held primarily for the purpose of trading
- It is due to be settled within twelve months after the reporting period, or
- There is no unconditional right to defer the settlement of the liability for at least twelve months after the reporting period

The Company classifies all other liabilities as non-current.

Deferred tax assets and liabilities are classified as non-current assets and liabilities.

3.2 Foreign currency translations

The Company's financial statements are presented in INR, which is also the Company's functional currency.

Transactions and balances

Transactions in foreign currencies are initially recorded by the Company at their functional currency spot rates at the date the transaction first qualifies for recognition.

Monetary assets and liabilities denominated in foreign currencies are translated at the functional currency spot rates of exchange at the reporting date.

Exchange differences arising on settlement or translation of monetary items are recognised in the statement of profit and loss.

Non-monetary items that are measured in terms of historical cost in a foreign currency are translated using the exchange rates at the dates of the initial transactions. Non-monetary items measured at fair value in a foreign currency are translated using the exchange rates at the date when the fair value is determined. The gain or loss arising on translation of non-monetary items measured at fair value is treated in line with the recognition of the gain or loss on the change in fair value of the item (i.e., translation differences on items whose fair value gain or loss is recognised in OCI or profit or loss are also recognised in OCI or profit or loss, respectively).

3.3 Fair value measurement

Financial instruments are recognised when the Company becomes a party to the contractual provisions of the instrument. Fair value measurement is given in Note 16.

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The fair value measurement is based on the presumption that the transaction to sell the asset or transfer the liability takes place either:
- in the principal market for the asset or liability, or
- in the absence of a principal market, in the most advantageous market for the asset or liability

The principal or the most advantageous market must be accessible by the Company.

The fair value of an asset or a liability is measured using the assumptions that market participants would use when pricing the asset or liability, assuming that market participants act in their economic best interest.

A fair value measurement of a non-financial asset takes into account a market participant's ability to generate economic benefits by using the asset in its highest and best use or by selling it to another market participant that would use the asset in its highest and best use.

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Palsit Dankuni Tollway Pvt Ltd Mumbai

The Company uses valuation techniques that are appropriate in the circumstances and for which sufficient data is available to measure fair value, maximising the use of relevant observable inputs and minimising the use of unobservable inputs.

All assets and liabilities for which fair value is measured or disclosed in the financial statements are categorised within the fair value hierarchy, described as follows, based on the lowest level input that is significant to the fair value measurement as a whole:

Level 1 - Quoted (unadjusted) market prices in active markets for identical assets or liabilities
Level 2- Valuation techniques for which the lowest level input that is significant to the fair value measurement is directly or indirectly observable
Level 3 -Valuation techniques for which the lowest level input that is significant to the fair value measurement is unobservable

For assets and liabilities that are recognised in the financial statements, the Company determines whether transfers have occurred between levels in the hierarchy by re-assessing categorisation (based on the lowest level input that is significant to the fair value measurement as a whole) at the end of each reporting period.

At each reporting date, the Management analyses the movements in the values of assets and liabilities which are required to be remeasured or re-assessed as per the Company's accounting policies. For this analysis, the Management verifies the major inputs applied in the latest valuation by agreeing the information in the valuation computation to contracts and other relevant documents.

The management also compares the change in the fair value of each asset and liability with relevant external sources to determine whether the change is reasonable.

On an annual basis, the Management presents the valuation results to the Audit Committee and the Company's independent auditors. This includes a detailed discussion of the major assumptions used in the valuations.
For the purpose of fair value disclosures, the Company has determined classes of assets and liabilities on the basis of the nature, characteristics and risks of the asset or liability and the level of the fair value hierarchy as explained above.

This note summarises accounting policy for fair value. Other fair value related disclosures are given in the relevant notes.

Disclosures for valuation methods, significant estimates and assumptions (note 3, 16)
Financial instruments (including those carried at amortised cost) (note 4,5,6,7,8,9,10,11 and 12)
Quantative disclosure of fair value measurement hierarchy (note 16)

3.4 Use of estimates and judgements

The preparation of the Company's financial statements requires management to make judgements, estimates and assumptions that affect the reported amounts of revenue, expenses , assets and liabilities, and the accompanying disclosures, and the disclosure of contingent liabilities. Uncertainty about these assumptions and estimates could result in outcomes that require a material adjustment to the carrying amount of assets or liabilities affected in future years.

Estimates and assumptions

Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised in the year in which the estimates are revised and future periods are affected.

MKPS & ASSOCIATES FRN 302014E CHARTERED ACCOUNTANTS

Palsit Dankuni Tollway Pvt Ltd Mumbai

The key assumptions concerning the future and other key sources of estimation uncertainty at the reporting date, that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year, are described below. The Company based its assumptions and estimates on parameters available when the financial statements were prepared. Existing circumstances and assumptions about future developments, however, may change due to market changes or circumstances arising that are beyond the control of the Company. Such changes are reflected in the assumptions when they occur.

Fair value measurement of financial instruments (Refer note 16)

3.5 Revenue recognition

The Company has adopted Ind AS 115, Revenue from Contracts with Customers, with effect from 15 April 2021. The Company has applied the following accounting policy for revenue recognition:

Revenue is recognised to the extent that it is probable that the economic benefits will flow to the Company and the revenue can be reliably measured, regardless of when the payment is being made. Revenue is measured at the fair value of the consideration received or receivable, taking into account contractually defined terms of payment and including taxes or duties collected as principal contractor.

Toll revenue
The income from Toll collection is recognised on the actual collection of toll revenue. Revenue from Electronic Toll collection is recognised on accrual basis.

Interest income
Financial instruments which are measured either at amortised cost or at fair value through other comprehensive income, interest income is recorded using the effective interest rate (EIR). EIR is the rate that exactly discounts the estimated future cash payments or receipts over the expected life of the financial instrument or a shorter period, where appropriate, to the gross carrying amount of the financial asset or to the amortised cost of a financial liability. When calculating the effective interest rate, the Company estimates the expected cash flows by considering all the contractual terms of the financial instrument (for example, prepayment, extension, call and similar options) but does not consider the expected credit losses. Interest income is included in finance income in the statement of profit and loss.

Dividends
Dividend is recognised when the Company's right to receive the payment is established, which is generally when shareholders approve the dividend.

Claim Revenue
Claims are recognised as revenue as per relevant terms of the concession agreement with the authority when it is probable that such claims will be accepted by the customer that can be measured reliably.

Contract balances
Contract assets
A contract asset is the right to consideration in exchange for goods or services transferred to the customer e.g. unbilled revenue. If the Company performs its obligations by transferring goods or services to a customer before the customer pays consideration or before payment is due, a contract asset i.e. unbilled revenue is recognised for the earned consideration that is conditional. The contract assets are transferred to receivables when the rights become unconditional. This usually occurs when the Company issues an invoice to the Customer.

Trade receivables
A receivable represents the Company's right to an amount of consideration that is unconditional (i.e., only the passage of time is required before payment of the consideration is due).

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Palsit Dankuni Tollway Pvt Ltd Mumbai

Contract liabilities
A contract liability is the obligation to transfer goods or services to a customer for which the Company has received consideration (or an amount of consideration is due) from the customer. If a customer pays consideration before the Company transfers goods or services to the customer, a contract liability is recognised when the payment is made or the payment is due (whichever is earlier). Contract liabilities are recognised as revenue when the Company performs under the contract.

3.6 Taxes

Current income tax
Current income tax assets and liabilities are measured at the amount expected to be recovered from or paid to the taxation authorities in accordance the Income Tax Act, 1961. The tax rates and tax laws used to compute the amount are those that are enacted or substantively enacted at the reporting date in the country as per the applicable taxation laws where the Company operates and generates taxable income.

Current tax items are recognised in correlation to the underlying transaction either in OCI or directly in equity. Management periodically evaluates positions taken in the tax returns with respect to situations in which applicable tax regulations are subject to interpretation and establishes provisions where appropriate.

Deferred tax
Deferred tax is recognised in respect of temporary differences between the tax bases of assets and liabilities and their carrying amounts for financial reporting purposes at the reporting date.

Deferred tax liabilities are recognised for all taxable temporary differences, except:
- When the deferred tax liability arises from the initial recognition of goodwill or an asset or liability in a transaction that is not a business combination and at the time of the transaction, affects neither the accounting profit nor taxable profit or loss.
- In respect of taxable temporary differences associated with investments in subsidiaries, when the timing of the reversal of the temporary differences can be controlled and it is probable that the temporary differences will not reverse in the foreseeable future

Deferred tax assets are recognised for all deductible temporary differences, the carry forward of unused tax credits and any unused tax losses. Deferred tax assets are recognised to the extent that it is probable that taxable profit will be available against which the deductible temporary differences, and the carry forward of unused tax credits and unused tax losses can be utilised, except:

- When the deferred tax asset relating to the deductible temporary difference arises from the initial recognition of an asset or liability in a transaction that is not a business combination and, at the time of the transaction, affects neither the accounting profit nor taxable profit or loss.

The carrying amount of deferred tax assets is reviewed at each reporting date and reduced to the extent that it is no longer probable that sufficient taxable profit will be available to allow all or part of the deferred tax asset to be utilised. Unrecognised deferred tax assets are re-assessed at each reporting date and are recognised to the extent that it has become probable that future taxable profits will allow the deferred tax asset to be recovered.

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply in the year when the asset is realised or the liability is settled, based on tax rates (and tax laws) that have been enacted or substantively enacted at the reporting date.

MKPS & ASSOCIATES FRN 302014E CHARTERED ACCOUNTANTS

Palsit Dankuni Tollway Pvt Ltd Mumbai

Deferred tax relating to items recognised outside profit or loss is recognised outside profit or loss (either in other comprehensive income or in equity). Deferred tax items are recognised in correlation to the underlying transaction either in OCI or directly in equity.

Deferred tax assets and deferred tax liabilities are offset if a legally enforceable right exists to set off current tax assets against current tax liabilities and the deferred taxes relate to the same taxable entity and the same taxation authority.

Minimum Alternate Tax (MAT)
Minimum Alternate Tax (MAT) paid as per Indian Income Tax Act, 1961 is in the nature of unused tax credit which can be carried forward and utilised when the Company will pay normal income tax during the specified period. Deferred tax assets on such tax credit are recognised to the extent that it is probable that the unused tax credit can be utilised in the specified future period. The net amount of tax recoverable from, or payable to, the taxation authority is included as part of receivables or payables in the balance sheet. At each Balance Sheet date, the carrying amount of MAT Credit Entitlement receivable is reviewed to reassure realisation.

3.7 Property, plant and equipment

The Company has elected to continue with the carrying value for all of its property, plant and equipment as recognised in the financial statements as at the date of transition to Ind AS, measured as per the previous GAAP and use that as its deemed cost in accordance with the exemption provided under IND AS 101.

Plant, property and equipment is stated at cost, net of accumulated depreciation and accumulated impairment losses, if any such cost includes the cost of replacing part of the plant and equipment and borrowing cost for long-term construction projects if the recognition criteria are met. When significant parts of plant and equipment are are required to be replaced at intervals, the Company depreciates them separately based on their specific useful lives. Likewise, when a major inspection is performed, its cost is recognised in the carrying amount of the plant and equipment as a replacement if the recognition criteria are satisfied. All other repair and maintenance costs are recognised in profit or loss as incurred.

Depreciation on property, plant and equipment is calculated on a WDV basis using the rates arrived at based on the useful lives estimated by the management which coincides with the rates as per Schedule II of the Companies Act, 2013. The useful life of major assets are as under:

Asset class		Useful lives
Office equipments	-	5 years
Computers	-	3 years
Servers	-	6 years
Vehicles	-	8 years
Furniture and fixtures	-	10 years

An item of property, plant and equipment and any significant part initially recognised is derecognised upon disposal or when no future economic benefits are expected from its use or disposal. Any gain or loss arising on derecognition of the asset (calculated as the difference between the net disposal proceeds and the carrying amount of the asset) is included in the income statement when the asset is derecognised.

The residual values, useful lives and methods of depreciation of property, plant and equipment are reviewed at each financial year end and adjusted prospectively, if appropriate.

MKPS & ASSOCIATES FRN 302014E CHARTERED ACCOUNTANTS

Palsit Dankuni Tollway Pvt Ltd Mumbai

3.8 Intangible assets

The Company has elected to continue with the carrying value for all of its Intangible assets as recognised in the financial statements as at the date of transition to Ind AS, measured as per the previous GAAP and use that as its deemed cost in accordance with the exemption provided under IND AS 101.

Under the Concession Agreements, where the Company has received the right to charge users of the public service, such rights are recognised and classified as "Intangible Assets". Such right is not an unconditional right to receive consideration because the amounts are contingent to the extent that the public uses the service and thus are recognised and classified as intangible assets. Such an intangible asset is recognised by the Company at cost (which is the fair value of the consideration received or receivable for the construction services delivered) and is capitalized when the project is complete in all respects and when the companies receives the completion certificate from the authority as specified in the Concession Agreement.

Intangible assets acquired separately are measured on initial recognition at cost. The cost of intangible assets acquired is their fair value at the date of acquisition. Following initial recognition, intangible assets are carried at cost less any accumulated amortisation and accumulated impairment losses. Internally generated intangibles, excluding capitalised development costs, are not capitalised and the related expenditure is reflected in profit or loss in the period in which the expenditure is incurred.

Toll Collection Rights
The Company exercised first time adoption exemption under Ind AS 101 and has elected to continue with the carrying value of its "Toll Collection Rights" (Intangible Assets), as recognised in the financial statements as at the date of transition measured as per the previous GAAP and uses that as its deemed cost as at date of transition.

Toll collection rights are stated at cost net of accumulated amortisation and impairment losses. Cost includes:

Toll Collection Rights awarded by the grantor against construction service rendered by the company on DBFOT basis - Direct and indirect expenses on construction of roads, bridges, culverts, infrastructure and other assets at the toll plazas.

Toll Collection Rights are amortised over the period of concession i.e. 17 years, using revenue based amortisation as per exemption provided in Ind AS 101. Under this method, the carrying value of the rights is amortised in the proportion of actual toll revenue for the year to projected revenue for the balance toll period, to reflect the pattern in which the assets economic benefits will be consumed. At each balance sheet date, the projected revenue for the balance toll period is reviewed by the management. If there is any change in the projected revenue from previous estimates, the amortisation of toll collection rights is changed prospectively to reflect any changes in the estimates.

Gains or losses arising from derecognition of an intangible asset are measured as the difference between the net disposal proceeds and the carrying amount of the asset and are recognised in the statement of profit or loss when the asset is derecognised.

Intangible assets are assessed for impairment whenever there is an indication that the intangible asset may be impaired.

3.9 Borrowing costs

Borrowing costs includes interest and amortisation of ancillary costs incurred in connection with the arrangement of borrowings.

MKPS & ASSOCIATES CHARTERED ACCOUNTANTS FRN 302014E

Palsit Dankuni Tollway Pvt Ltd Mumbai

3.10 Contingent Liabilities and Contingent assets

A contingent liability is a possible obligation that arises from past events whose existence will be confirmed by the occurrence or non-occurrence of one or more uncertain future events beyond the control of the Company or a present obligation that is not recognised because it is not probable that an outflow of resources will be required to settle the obligation. A contingent liability also arises in extremely rare cases where there is a liability that cannot be recognised because it cannot be measured reliably. The Company does not recognise a contingent liability but discloses its existence in the financial statements.

A contingent asset is not recognised unless it becomes virtually certain that an inflow of economic benefits will arise. When an inflow of economic benefits is probable, contingent assets are disclosed in the financial statements.

Contingent liabilities and contingent assets are reviewed at each balance sheet date.

3.11 Provisions

Provisions are recognised when the Company has a present obligation (legal or constructive) as a result of a past event, it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation. The expense relating to a provision is presented in the statement of profit and loss net of any reimbursement.

If the effect of the time value of money is material, provisions are discounted using a current pre-tax rate that reflects, when appropriate, the risks specific to the liability. When discounting is used, the increase in the provision due to the passage of time is recognised as a finance cost. Provisions are reviewed at each balance sheet date and adjusted to reflect the current best estimates.

3.12 Financial instruments

A financial instrument is any contract that gives rise to a financial asset of one entity and a financial liability or equity instrument of another entity.

Financial assets

Initial recognition and measurement
All financial assets are recognised initially at fair value plus, in the case of financial assets not recorded at fair value through profit or loss, transaction costs that are attributable to the acquisition of the financial asset.

On initial recognistion, a financial asset is classified as measured of
- amortised cost
- FVOCI - Debt instruments
- FVOCI - equity instruments
- FVTPL

Financial assets are not reclassified subsequent to their initial recognition, except if and in the period, the Company changes its business model for managing financial assets.

MKPS & ASSOCIATES FRN 302014E CHARTERED ACCOUNTANTS

Palsit Dankuni Tollway Pvt Ltd Mumbai

Debt instruments at amortised cost

A 'debt instrument' is measured at its amortised cost if both the following conditions are met:

a) The asset is held within a business model whose objective is to hold assets for collecting contractual cash flows, and

b) contractual terms of the asset give rise on specified dates to cash flows that are solely payments of principal and interest (SPPI) on the principal amount outstanding.

This category is the most relevant to the Company.

After initial measurement, such financial assets are subsequently measured at amortised cost using the effective interest rate (EIR) method. Amortised cost is calculated by taking into account any discount or premium on acquisition and fees or costs that are an integral part of the EIR. The EIR amortisation is included in other income in the statement of profit and loss. The losses arising from impairment are recognised in the statement of profit and loss.

Debt instrument at FVTOCI

A 'debt instrument' is classified at FVTOCI if both of the following criteria are met:

a) The objective of the business model is achieved both by collecting contractual cash flows and selling the financial
assets, and

b) The asset's contractual cash flows represent SPPI.

Debt instruments included within the FVTOCI category are measured initially as well as at each reporting date at fair value.

Fair value movements are recognized in the other comprehensive income (OCI). However, the Company recognizes interest income, impairment losses & reversals and foreign exchange gain or loss in the statement of Profit and Loss. On derecognition of the asset, cumulative gain or loss previously recognised in OCI is reclassified from the equity to the statement of Profit and Loss. Interest earned whilst holding FVTOCI debt instrument is reported as interest income using the EIR method.

Equity investment

All equity investments in scope of Ind AS 109 are measured at fair value. Equity instruments which are held for trading are classified as at FVTPL. For all other equity instruments, the Company may make an irrevocable election to present in other comprehensive income subsequent changes in the fair value. The Company makes such election on an instrument-by-instrument basis. The classification is made on initial recognition and is irrevocable.

If the Company decides to classify an equity instrument as at FVTOCI, then all fair value changes on the instrument, excluding dividends, are recognized in the OCI. There is no recycling of the amounts from OCI to statement of profit and loss, even on sale of investment. However, the Company may transfer the cumulative gain or loss within equity.

Equity instruments included within the FVTPL category are measured at fair value with all changes recognised in the statement of profit and loss.

MKPS & ASSOCIATES FRN 302014E CHARTERED ACCOUNTANTS

Palsit Dankuni Tollway Pvt Ltd Mumbai

Derecognition

A financial asset (or, where applicable, a part of a financial asset or part of a Company of similar financial assets) is primarily derecognised (i.e. removed from the Company's balance sheet) when:
The rights to receive cash flows from the asset have expired, or
The Company has transferred its rights to receive cash flows from the asset or has assumed an obligation to pay the received cash flows in full without material lay to a third party under a 'pass-through' arrangement; and either (a) the Company has transferred substantially all the risks and rewards of the asset, or (b) the Company has neither transferred nor retained substantially all the risks and rewards of the asset, but has transferred control of the asset.

3.13 Cash and cash equivalents

Cash and cash equivalent in the balance sheet comprise cash at banks and on hand and short-term deposits with an original maturity of three months or less, which are subject to an insignificant risk of changes in value.
For the purpose of the statement of cash flows, cash and cash equivalents consist of cash and short-term deposits, as defined above as they are considered an integral part of the Company's cash management.

3.14 Earnings per share

Basic earnings per share are calculated by dividing the net profit or loss for the period attributable to equity shareholders by the weighted average number of equity shares outstanding during the period.

For the purpose of calculating diluted earnings per share, the net profit or loss for the period attributable to equity shareholders and the weighted average number of shares outstanding during the period are adjusted for the effects of all dilutive potential equity shares.

3.15 Segment information

Based on "Management Approach" as defined in Ind AS 108 - Operating Segments, the Chief Operating Decision Maker evaluates the Company's performance and allocates the resources based on an analysis of various performance indicators by business segments. Inter segment sales and transfers are reflected at market prices.

Unallocable items includes general corporate income and expense items which are not allocated to any business segment.

Segment Policies:
The Company prepares its segment information in conformity with the accounting policies adopted for preparing and presenting the financial statements of the Company as a whole.

The Company is engaged in "Road Infrastructure Projects" which in the context of Ind AS 108 - Operating Segments is considered as the only segment. The Company's activities are restricted within India and hence no separate geographical segment disclosure is considered necessary.

3.16 Recent Indian Accounting Standards (Ind AS):

Ministry of Corporate Affairs ("MCA") notifies new standard or amendments to the existing standards. There is no such notification which would have been applicable from April 1, 2021.

MKPS & ASSOCIATES CHARTERED ACCOUNTANTS FRN 302014E

Palsit Dankuni Tollway Pvt Ltd Mumbai

Palsit Dankuni Tollway Private Limited
Notes to Financial Statements for the period ended December 31, 2021
Note 4 : Intangible assets under development

(Amount in million)

Intangible assets under development	
Opening Balance	-
Additions	0.05
Disposals/ Adjustments	-
As at December 31, 2021	**0.05**

MKPS & ASSOCIATES FRN 302014E CHARTERED ACCOUNTANTS

Palsit Dankuni Tollway Pvt Ltd Mumbai

Palsit Dankuni Tollway Private Limited
Notes to Financial Statements for the period ended December 31, 2021

(Amount in million)

		As at December 31, 2021
5	**Cash and cash equivalent**	
	Balances with banks:	
	- In current accounts	0.05
		0.05
	For the purpose of the Statement of cash flows, cash and cash equivalents comprises of the following:	
	Balances with scheduled banks:	
	Cash on hand	
	Balances with scheduled banks	
	- On Current Account	0.05
	Total cash and cash equivalents	**0.05**
6	**Other current assets**	
	(Unsecured, considered good unless otherwise stated)	
	Prepaid expenses	151.04
	Total	**151.04**

MKPS & ASSOCIATES FRN 302014E CHARTERED ACCOUNTANTS

Palsit Dankuni Tollway Pvt Ltd Mumbai

Palsit Dankuni Tollway Private Limited

Notes to Financial Statements for the period ended December 31, 2021

Note 7 : Equity

	(Amount in million.)
	December 31, 2021
Equity share capital	
Authorised share capital	
At the beginning of the period	-
Increase / (decrease) during the period	0.50
At the end of the period (50,000 equity shares of Rs.10 each)	0.50
Issued, subscribed and paid up equity share capital	
Equity share of Rs. 10 each issued, subscribed and fully paid up	
At the beginning of the period	-
Increase / (decrease) during the period	0.50
At the end of the period (50,000 equity shares of Rs.10 each)	0.50

a. Reconciliation of shares outstanding at the beginning and at the en of the reporting period.

equity shares of Rs. 10 each issued, subscribed and fully paid.

	December 31, 2021	
	No. of shares	Rs. in miillion
At the beginning of the year	-	-
Increase / (decrease) during the year	50,000	0.50
At the end of the year	50,000	0.50

b. Details of shareholders holding more than 5% shares in the company

Promotor & promotor Group	No. of shares	%
IRB Infrastructure Developers Limited	50,000	100.00%

As per records of the Company, including its register of shareholders / members and other declarations received from shareholders regarding beneficial interest, the above shareholding represents both legal and beneficial ownership of shares.

c. Terms / rights arrached to equity shares

The Company has only one class of equity shares having par value of Rs. 10 per share. Each holder of equity shares is entitled to one vote per share.

The Company declares and pays dividend in Indian rupees. The dividend proposed by the Board of Directors is subject to the approval of the shareholders in the ensuing Annual General Meeting, except in case of interim dividend, if any.

In the event of liquidation of the Company, the holders of equity shares will be entitled to receive remaining assets of the Company, after distribution of all preferential amounts. The distribution will be in proportion to the number of equity shares held by the shareholders.

Note 8 : Other Equity

	December 31, 2021
Retained earnings	
At the beginning of the period	-
Profit/(Loss) for the period	(0.11)
Total retained earnings	(0.11)

Retained Earnings: Retained earnings are the profits/(loss) that the Company has earned till date, less any transfers to general reserve, dividends or other distributions paid to shareholders.

MKPS & ASSOCIATES CHARTERED ACCOUNTANTS FRN 302014E

Palsit Dankuni Tollway Pvt Ltd Mumbai

Palsit Dankuni Tollway Private Limited
Notes to Financial Statements for the period ended December 31, 2021

(Amount in million)

		As at December 31, 2021
	Current financial liabilities	
9	**Borrowing**	
	Unsecured loan from related parties (refer note 20)	
	- Interest free	11.47
	Total	**11.47**
10	**Trade Payables**	
	a) total outstanding dues of micro enterprises and small enterprises (refer note 15)	-
	b) Total outstanding dues of creditors other than micro and small enterprises	
	- others	127.48
	Total	**127.48**
11	**Other current liabilities**	
	Statutory dues payable (including TDS, GST & others)	11.80
		11.80

MKPS & ASSOCIATES FRN 302014E CHARTERED ACCOUNTANTS

Palsit Dankuni Tollway Pvt Ltd Mumbai

Palsit Dankuni Tollway Private Limited

Notes to Financial Statements for the period ended December 31, 2021

	(Amount in million)
	For the period from April 15, 2021 to December 31, 2021
Note 12 : Other expenses	
Rates & taxes	0.00
Payment to auditor (refer note below)	0.11
	0.11
Payment to auditor (including service tax / GST)	
As auditors:	
- Statutory audit fees	-
- Limited review fees	0.11
In other capacity:	-
- Other services (certification fees)	-
Reimbursement of expenses	-
	0.11

MKPS & ASSOCIATES CHARTERED ACCOUNTANTS FRN 302014E

Palsit Dankuni Tollway Pvt Ltd Mumbai

Note 13 : Earnings per share (EPS)

Basic EPS amounts are calculated by dividing the profit for period attributable to equity holders by the weighted average number of Equity shares outstanding during the period.

Diluted EPS amounts are calculated by dividing the profit attributable to equity holders by the weighted average number of Equity shares outstanding during the period plus the weighted average number of Equity shares that would be issued on conversion of all the dilutive potential Equity shares into Equity shares.

The following reflects the income and share data used in the basic and diluted EPS computations:

	As at December 31, 2021
Net profit/(loss) for calculation of basic EPS (profit after tax)	(0.11)
Weighted average number of equity shares in calculating basic EPS and diluted (number of shares)	50,000
Weighted average number of Equity adjusted for the effect of dilution*	50,000
Face value per share	10
Basic earning per share	(2.13)
Diluted earning per share	(2.13)

Note 14 : Disclosures with regard to Toll Collection Rights (Intangible Assets)

i) Name of Concessionaire	Palsit Dankuni Tollway Private Limited
ii) Description of the arrangement:	Six laning of national corridor NH-19 from Palsit to Dhankuni (upto NH-6 connector) from k.m. 588.870 to k.m. 652.700 (total design length 63.830 k.m.) in the state of West Bangal under Bharatmala Priyojana to be executed on BOT (toll) basis
iii) Significant terms of the arrangement:	
Period of concession since the appointed date	The concession period is 17 years from the appointed date (including construction period of 910 days). The company will get tolling rights on the project from the appointed date.
Start of concession period under concession agreement (Appointed date)	Awaited
End of concession period under concession agreement	Awaited
Payment terms:	The premium payable as a percentage of revenue is 10.8 percent commencing after one year of actual completion date and increasing annually by one percent thereafter.

* The above project shall have following rights/ obligations in accordance with the Concession Agreement entered into with the Respective Government Authorities:-

a. Rights to use the Specified assets

b. Obligations to provide or rights to expect provision of services

c. Obligations to deliver or rights to receive at the end of the Concession

MKPS & ASSOCIATES ★ CHARTERED ACCOUNTANTS ★ FRN 302014E

Palsit Dankuni Tollway Pvt Ltd Mumbai

Note 15 : Details of dues to micro and small enterprises as per MSMED Act, 2006

Under the Micro, Small and Medium Enterprises Development Act, 2006 ('MSMED') which came into force from 2 October 2006, certain disclosures are required to be made relating to Micro, Small and Medium enterprises. On the basis or the information and records available with the management, there are no outstanding dues to the Micro and Small enterprises as defined in the Micro, Small mid Medium Enterprises Development Act, 2006 as set out in the following disclosures.

The disclosure in respect of the amount payable to enterprises which have provided goods and services to the Company and which qualify under the definition of micro and small enterprises, as defined under Micro, Small and Medium Enterprises Development Act, 2006 has been made in the financial statement as at December 31, 2021 based on the information received and available with the Company.

Particulars	As at December 31, 2021
Principal amount remaining unpaid to any supplier as at the period end	-
Interest due thereon	-
Amount of interest paid by the Company in terms of section 16 of the MSMED, along with the amount of the payment made to the supplier beyond the appointed day during the accounting period.	-
Amount of interest due and payable for the period of delay in making payment (which have been paid but beyond the appointed day during the period) but without adding the interest specified under the MSMED, 2006	-
Amount of interest accrued and remaining unpaid at the end of the accounting period	-
The amount of further interest remaining due and payable even in the succeeding periods, until such date when the interest dues as above are actually paid to the small enterprise for the purpose of disallowance as a deductible expenditure under the MSMED Act, 2006	-

Note 16 : Fair Values

The carrying values of financials instruments of the Company are reasonable and approximations of fair values.

	Carrying amount	Fair Value
	As at December 31, 2021	As at December 31, 2021
Financial assets		
Financial assets measured at amortised cost		
Cash and cash equivalents	0.05	0.05
Others financial assets	151.04	151.04
Financial liabilities		
Financial liabilities measured at amortised cost		
Borrowings	11.47	11.47
Trade payable	127.48	127.48

The management assessed that the fair value of cash and cash equivalents, trade receivables, trade payables and other current liabilities approximate their carrying amounts largely due to the short-term maturities of these instruments.

The fair value of the financial assets and liabilities is included at the amount at which the instrument could be exchanged in a current transaction between willing parties, other than in a forced or liquidation sale.

The discount for lack of marketability represents the amounts that the Company has determined that market participants would take into account when pricing the investments.

MKPS & ASSOCIATES ★ CHARTERED ACCOUNTANTS ★ FRN 302014E

Palsit Dankuni Tollway Pvt Ltd Mumbai

Note 17 : Fair Value Hierarchy

All financial instruments for which fair value is recognised or disclosed are categorised within the fair value hierarchy described as follows, based on the lowest level input that is significant to the fair value measurement as a whole.

Level 1: Quoted (unadjusted) price is active market for identical assets or liabilities.

Level 2: Valuation technique for which the lowest level input that has a significant effect on the fair value measurement are observed, either directly or indirectly.

Level 3: Valuation technique for which the lowest level input has a significant effect on the fair value measurement is not based on observable market data.

The following table presents fair value hierarchy of assets and liabilities measured at fair value on a recurring basis as of December 31, 2021:

Particulars	As at December 31, 2021	Fair value measurement at end of the reporting period using		
		Level 1	Level 2	Level 3
Assets				
Cash and cash equivalents	0.05	-		0.05
Others financial assets	151.04	-	-	151.04
Financials liabilities				
Borrowings	11.47	-	-	11.47
Trade payable	127.48	-	-	127.48

Note 18 : Financial risk management objectives and policies

The Company's risk management policies are established to identify and analyse the risks faced by the Company, to set appropriate risk limits and controls, and to monitor risks and adherence to limits. Risk management policies and systems are reviewed regularly to reflect changes in market conditions and the Company's activities.

The Board of Directors has overall responsibility for the establishment and oversight of the Company's risk management framework.
In performing its operating, investing and financing activities, the Company is exposed to the Credit risk, Liquidity risk and Market risk.
The Company's risk management policies are established to identify and analyse the risks faced by the Company, to set appropriate risk limits and controls, and to monitor risks and adherence to limits. Risk management policies and systems are reviewed regularly to reflect changes in market conditions and the Company's activities.

The Board of Directors has overall responsibility for the establishment and oversight of the Company's risk management framework.
In performing its operating, investing and financing activities, the Company is exposed to the Credit risk, Liquidity risk and Market risk.

Market Risk

Market risk is the risk that the fair value of future cash flows of a financial instrument will fluctuate because of changes in market prices. Market risk comprises three types of risk: interest rate risk, currency risk and other price risk, such as equity price risk and commodity risk. Financial instruments affected by market risk include loans and borrowings, deposits, FVTOCI investments and derivative financial instruments.

Credit risk on Financial Assets

Credit risk is the risk that counterparty will not meet its obligations under a financial instrument or customer contract, leading to a financial loss. The Company is exposed to credit risk from its operating activities (primarily trade receivables) and from its financing activities, including deposits with banks and financial institutions, foreign exchange transactions and other financial instruments.

Financial instruments

Credit risk from balances with banks, trade receivables, loans and advances and financial institutions is managed by the Company top management in accordance with the Company's policy. Investments of surplus funds are made only with approved counterparties and within credit limits assigned to each counterparty. Counterparty credit limits are reviewed by the top management on an annual basis, and may be updated throughout the period subject to approval of the Company's board of directors. The limits are set to minimise the concentration of risks and therefore mitigate financial loss through counterparty's potential failure to make payments.

Trade receivables and Loans and Advances

Customer credit risk and Loans and advances is managed by each business unit subject to the Company's established policy, procedures and control relating to customer credit risk management. An impairment analysis is performed at each reporting date on an individual basis for major trade receivables and loan and advances which is pertains to receivable from subisidairy companies. The Company has not identified any impairment loss as at December 31, 2021.

Other financial assets

Credit risk from balances with banks and financial institutions is managed by the Company in accordance with the Company's policy. Investments of surplus funds are made only in highly marketable debt instruments with appropriate maturities to optimise the cash return on instruments while ensuring sufficient liquidity to meet its liabilities.

MKPS & ASSOCIATES CHARTERED ACCOUNTANTS FRN 302014E

Palsit Dankuni Tollway Pvt Ltd Mumbai

Interest Rate Risk

Interest rate risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market interest rates. The Company's exposure to the risk of changes in market interest rates relates primarily to the Company's long-term debt obligations with floating interest rates.

The Company manages its interest rate risk by having a balanced portfolio of fixed and variable rate loans and borrowings.

Liquidity risk

Liquidity risk is the risk that the Company may not be able to meet its present and future cash and collateral obligations without incurring unacceptable losses. The Company's objective is to, at all times maintain optimum levels of liquidity to meet its cash and collateral requirements. The Company closely monitors its liquidity position and deploys a robust cash management system. It maintains adequate sources of financing including debt from banks at an optimised cost (refer note 9).

The table below summaries the maturity profile of the Company's financial liabilities based on contractual undiscounted payments:

As at December 31, 2021	Carrying amount	Total	Less than 1 period	1-5 periods	More than 5 periods
Borrowings	11.47	11.47	11.47	-	-
	138.95	**138.95**	**138.95**	-	-

At present, the Company expects to repay all liabilities at their contractual maturity. In order to meet such cash commitments, the operating activity is expected to generate sufficient cash inflows.

Currency Risk

The Company conducts all the transactions in Indian Rupees which is also the functional currency of the Company. Hence, the sensitivity analysis is not required.

Commodity price risk

The company requires for implementation (construction, operation and maintenance) of the projects, such as cement, bitumen, steel and other construction materials. For which, the company entered the fixed price contract with the EPC contractor and O&M Contractor so as to manage our exposure to price increases in raw materials. Hence, the sensitivity analysis is not required.

Note 19 : Capital management

a) Risk management

Capital includes equity attributable to the equity holders to ensure that it maintains an efficient capital structure and healthy capital ratios in order to support its business and maximize shareholder value. The Company manages its capital structure and makes adjustments to it, in light of changes in economic conditions or its business requirements. To maintain or adjust the capital structure, the Company may adjust the dividend payment to shareholders, return capital to shareholders or issue new shares. No changes were made in the objectives, policies or processes during the period ended December 31, 2021.

The Company monitors capital using a gearing ratio, which is net debt divided by total capital plus net debt. Net debt is calculated as loans and borrowings less cash and cash equivalents.

	As at December 31, 2021
Borrowings (refer note 9)	11.47
Less: cash and cash equivalents (refer note 5)	(0.05)
Net debt (A)	**11.42**
Equity (refer note 8)	0.39
Total sponsor capital	**0.39**
Capital and Net debt (B)	**11.81**
Gearing ratio (%) (A/B)	**96.67**

This is a first year for managing capital during the period ended December 31, 2021.

MKPS & ASSOCIATES FRN 302014E CHARTERED ACCOUNTANTS

Palsit Dankuni Tollway Pvt Ltd Mumbai

Palsit Dankuni Tollway Private Limited
Notes to Financial Statements for the period ended December 31, 2021

Note 20 : Related Party Disclosures

a) Names of Related Parties

i) Where control exists
Holding company - IRB Infrastructure Developers Limited

ii) Key Management Personnel
Mr. Sudhir Rao Hoshing, Director
Mr. Amitabh Murarka, Director
Mrs. Arati Taskar, Director

b) Related party transactions for the period ended December 31, 2021

Particular	Holding Company December 31, 2021
1. Short-term loan taken	
IRB Infrastructure Developers Limited	11.47
Total	**11.47**
2. Expenses Incurred on our behalf	
IRB Infrastructure Developers Limited	0.01
Total	**0.01**
3. Reimbursement of Expenses	
IRB Infrastructure Developers Limited	0.00
Total	**0.00**

c) Related party outstanding balances for the period ended December 31, 2021

Particular	Holding Company December 31, 2021
1. Short-term loan taken (maturity within one year and interest free)	
IRB Infrastructure Developers Limited	11.47
Total	**11.47**
2. Other Payable	
IRB Infrastructure Developers Limited	0.01
Total	**0.01**

MKPS & ASSOCIATES ★ CHARTERED ACCOUNTANTS ★ FRN 302014E

Palsit Dankuni Tollway Pvt Ltd Mumbai

Note 21 : Segment information

The Company has identified one business segment in accordance with the Indian Accounting Standard 108 "Operating Segment" notified under section 133 of the Companies Act, 2013 read together with relevant ruled issued thereunder.

Note 22 : Subsequent events

No subsequent event has been observed which may require an adjustment to the balance sheet.

Summary of significant accounting policies

The accompanying notes are an integral part of these Financial Statements.

As per our report of even date
For MKPS & Associates
Chartered Accountants
Firm's Regd No. 302014E

CA Narendra Khandal
Partner
Membership No.: 065025

Place : Mumbai
Date : February 02, 2022

MKPS & ASSOCIATES FRN 302014E CHARTERED ACCOUNTANTS

For and on behalf of the Board of Directors of
Palsit Dankuni Tollway Private Limited

Amitabh Murarka
Director
DIN: 08099533

Arati Taskar
Director
DIN : 07089953

Palsit Dankuni Tollway Pvt Ltd Mumbai

Place : Mumbai
Date : February 02, 2022

C. PRO FORMA FINANCIAL INFORMATION OF THE TRUST AND PDTPL

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gokhale & sathe (regd.)
chartered accountants
308/309, Udyog Mandir No. 1,
7-C, Bhagoji Keer Marg,
Mahim, Mumbai 400 016

Independent Auditor's Report on the Compilation of Pro forma Financial Information to be included in Letter of Offer in connection with the proposed rights issue of the units of IRB Infrastructure Trust

To,
The Board of Directors,
MMK Toll Road Private Limited
(as the Investment Manager of the IRB Infrastructure Trust)
Office No. 11th floor/1101
Hiranandani Knowledge Park,
Technology Street, Hill Side Avenue,
Powai, Mumbai -400076.

Dear Sirs,

Report on the Compilation of Pro forma Financial Information of IRB Infrastructure Trust

1. We have completed our assurance engagement to report on the compilation of Pro forma financial information of IRB Infrastructure Trust ("the Trust") by the management of MMK Toll Road Private Limited (hereinafter the "Management"). The Pro forma financial information consists of the Pro forma Balance Sheets as at March 31, 2021 and December 31, 2021, the Pro forma Statements of Profit and Loss for the year ended March 31, 2021 and for the nine months period ended December 31, 2021 and related notes to the Pro forma financial information. The applicable criteria on the basis of which the Management has compiled the Pro forma financial information are in accordance with the basis of preparation described in Note 2 to the Pro forma financial information and the Securities and Exchange Board of India (Infrastructure Investments Trusts) Regulations, 2014 read with the circulars, notifications, guidelines and clarifications issued thereunder, including the guidelines for right issue of units of unlisted InvITs dated November 4, 2020.

2. The Pro forma financial information has been compiled by the Management to illustrate the impact of material acquisition of business set out in note 2 of the Pro forma financial information, on the Trust's Balance Sheets as at March 31, 2021 and as at December 31, 2021 and its Profit and Loss for the year ended March 31, 2021 and its Profit and Loss for nine months ended December 31, 2021.

   The pro forma Balance Sheet as at March 31, 2021 and December 31, 2021 is to be prepared as if the acquisition had taken place on March 31, 2021 and December 31, 2021, respectively however, as Palsit Dankuni Tollway Private Limited ("PDTPL") was incorporated on April 15, 2021, the Balance Sheets as of these periods do not reflect the acquisition. The pro forma Statement of Profit and Loss for the year ended March 31, 2021 is to be prepared as if the acquisition had taken place on April 1, 2020; however PDTPL was incorporated on April 15, 2021 and accordingly, the pro forma Statement of Profit and Loss for the year ended March 31, 2021 does not reflect the acquisition. Further, since PDTPL was incorporated on April 15, 2021, the pro forma Statement of Profit and Loss for the nine months ended December 31, 2021 assumes that the acquisition had taken place at April 15, 2021.

3. As part of this process, information about Trust's financial position and financial performance has been extracted by the Management from the Trust's Audited Consolidated Financial Statements for

the year ended March 31, 2021 and the Trust's Audited Condensed Interim Special Purpose Consolidated / Combined Financial Statements for nine months period ended December 31, 2021, on which we have issued our report.

Managements' responsibility for the Pro forma financial information

4. The Management is responsible for compiling the Pro forma financial information on the basis set out in note 2 to the Pro forma financial information. This responsibility includes the responsibility for designing, implementing and maintaining internal control relevant for compiling the Pro forma financial information on the basis set out in note 2 to the Pro forma financial information that is free from material misstatement, whether due to fraud or error. The Management is also responsible for identifying and ensuring that the Trust complies with the laws and regulations applicable to its activities.

Auditor's Responsibility

5. Our responsibility is to express an opinion, about whether the Pro forma financial information of the Trust have been compiled, in all material respects, by the Management on the basis set out in note 2 to the Pro forma financial information and the Securities and Exchange Board of India (Infrastructure Investments Trusts) Regulations, 2014 read with the circulars, notifications, guidelines and clarifications issued thereunder, including the guidelines for right issue of units of unlisted InvITs dated November 4, 2020 ("applicable criteria ") .

6. We conducted our engagement in accordance with Standard on Assurance Engagements (SAE) 3420, Assurance Engagements to "Report on the Compilation of Pro forma Financial Information included in a Prospectus", issued by the Institute of Chartered Accountants of India. This Standard requires that we comply with ethical requirements and plan and perform procedures to obtain reasonable assurance about whether the Management has compiled, in all material respects, the Pro forma financial information on the basis set out in applicable criteria.

7. For purposes of this engagement, we are not responsible for updating or re-issuing any reports or opinions on any historical financial information used in compiling the Pro forma financial information, nor have we, in the course of this engagement, performed an audit or review of the financial information used in compiling the Pro forma financial information. For our assurance engagement, we have placed reliance on the following and have not performed any further procedures for the purpose of this report:

    a. the Audited Consolidated Financial Statements of the Trust as at and for the year ended March 31, 2021 prepared in accordance with Indian Accounting Standards as defined in Rule 2(1)(a) of the Companies (Indian Accounting Standards) Rules, 2015(as amended), prescribed under Section 133 of the Companies Act, 2013 ("Ind AS") read with SEBI (Infrastructure Investment Trusts) Regulations, 2014, as amended and the circulars issued thereunder ("InvIT Regulations"), which have been approved by the Board of Directors at their meeting held on May 24, 2021 and on which, we have issued our Auditor's report on even date;

    b. the Audited Condensed Interim Special Purpose Consolidated / Combined Financial Statements of the Trust as at and for the nine months ended December 31, 2021 prepared in accordance with Indian Accounting Standards as defined in Rule 2(1)(a) of the Companies

(Indian Accounting Standards) Rules, 2015(as amended), prescribed under Section 133 of the Companies Act, 2013 ("Ind AS") read with SEBI (Infrastructure Investment Trusts) Regulations, 2014, as amended and the circulars issued thereunder ("InvIT Regulations"), which have been approved by the Board of Directors at their meeting held on April 12, 2022 and on which we have issued an unmodified Auditor's report on even date.

c. the Audited Condensed Interim Special Purpose Financial Statements of Palsit Dankuni Tollway Private Limited as at and for the nine months ended December 31, 2021, audited by another firm of Chartered Accountants which together with their unmodified audit opinion thereon dated February 02, 2022 was furnished to us by the Management.

8. The purpose of Pro forma financial information included in the Letter of offer is solely to illustrate the impact of significant events or transactions on the unadjusted financial information of the Trust as if the event had been undertaken at an earlier date as mentioned in Paragraph 2 above. Accordingly, we do not provide any assurance that the actual outcome of the proposed event or transaction would have been as presented.

9. A reasonable assurance engagement to report on whether the Pro forma financial information has been compiled, in all material respects, on the basis of the applicable criteria involves performing procedures to assess whether the applicable criteria used by the Management in the compilation of the Pro forma financial information provides a reasonable basis for presenting the significant effects directly attributable to the acquisition, and to obtain sufficient appropriate evidence about whether:

   a. The related Pro forma adjustments give appropriate effect to those applicable criteria; and

   b. The Pro forma financial information reflects the proper application of those adjustments to the unadjusted financial information.

   The procedures selected by us for this purpose were based on our understanding of the nature of the Trust, the event or transaction in respect of which the Pro forma financial information has been compiled, and other relevant engagement circumstances. The engagement also involves evaluating the overall presentation of the Pro forma financial information.

10. We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Opinion

11. In our opinion the Pro forma financial information have been compiled, in all material respects, on the basis set out in the note 2 to the Pro forma financial information and the Securities and Exchange Board of India (Infrastructure Investments Trusts) Regulations, 2014 read with the circulars, notifications, guidelines and clarifications issued thereunder, including the guidelines for right issue of units of unlisted InvITs dated November 4, 2020.

Emphasis of matter

12. We draw attention to note 2 – Basis of Preparation wherein it has been stated as regard to statement of profit and loss that, the Pro forma statement of profit and loss for the year ended March 31, 2021 does not reflect the acquisition of PDTPL by IRB Infrastructure Trust since PDTPL was incorporated on 15th April, 2021 and also further that, the Pro forma statement of profit and loss for

the nine months period ended 31 December 2021 has been prepared as if acquisition of PDTPL occurred on 15th April, 2021.

13. We draw attention to note 3 - Pro forma Adjustments, relating to Equity attributable to unit holders, to the Pro forma financial information with regard to the Trust controlling ~99.96% of the equity share capital of PDTPL pursuant to Share Subscription agreement and accordingly, the equity share capital of PDTPL is not eliminated in the Pro forma Consolidated Balance Sheet as at 31 December 2021 and no other additional material adjustments have been made to the Pro forma balance sheet or the Pro forma statement of profit and loss.

    Our opinion is not modified in respect of these matters

Other matter

14. The Condensed Interim Special Purpose Financial Statements of the Palsit Dankuni Tollway Private Limited for the nine months ended December 31, 2021, used by the Management for compilation of Pro forma financial information was audited by another firm of Chartered Accountants, MKPS & Associates (Firm Registration Number – 302014E).

15. The Pro forma financial information do not reflect the effects of events that occurred subsequent to the date of financial statements mentioned in paragraph 7 above.

Restrictions on use

16. This report should not in any way be construed as a reissuance or re-auditing or reexamination of any of the previous audit reports issued by us. We have no responsibility to update our report for events and circumstances occurring after the date of the report.

17. Our report is intended solely for use of the Management for inclusion in the Letter of Offer to be filed with SEBI in connection with the proposed Rights Issue offering of the units of the Trust and is not to be used, referred to or distributed for any other purpose.

For Gokhale & Sathe
Chartered Accountants
ICAI registration Number: 103264W

SD/-

CA Kaustubh Deshpande
Partner
Membership No:121011
UDIN: 22121011AGYGGT8725
Place: Mumbai
Date: April 12, 2022

IRB Infrastructure Trust
Proforma Consolidated Balance Sheet as at March 31, 2021
(All amounts in Rs. million unless otherwise stated)

	Notes	Consolidated Trust	PDTPL	Proforma adjustments	Proforma information
		(A)	(B)	(C)	(A)+(B)+(C)
ASSETS					
Non-current assets					
Property, Plant and Equipment		10.60			10.60
Goodwill		604.54			604.54
Other Intangible assets		2,11,717.65			2,11,717.65
Intangible assets under development		4,684.26			4,684.26
Financial assets					-
i) Investments		-			-
i) Loans		-			-
ii) Others		3.28			3.28
Other non-current assets		0.14			0.14
		2,17,020.47	**-**	**-**	**2,17,020.47**
Current assets					
Inventories		-			-
Financial assets					
i) Investments		572.50			572.50
ii) Trade receivables		100.24			100.24
iii) Cash and cash equivalents		413.49			413.49
iv) Bank balance other than (iii) above		1,744.35			1,744.35
v) Loans		-			-
vi) Others		635.99			635.99
Current tax assets (net)		147.11			147.11
Other current assets		2,166.40			2,166.40
		5,780.08	**-**	**-**	**5,780.08**
Total assets		**2,22,800.55**	**-**	**-**	**2,22,800.55**
EQUITY AND LIABILITIES					
Equity					
Equity share capital		81,688.00			**81,688.00**
Other equity		(3,669.05)			**(3,669.05)**
Total Equity		**78,018.95**	**-**	**-**	**78,018.95**

Non-current liabilities				
Financial liabilities				
i) Borrowings	89,161.31			**89,161.31**
ii) Other financial liabilities	24,720.81			**24,720.81**
iii) Trade payables	2,463.41			**2,463.41**
Provisions	357.84			**357.84**
Deferred tax liabilities (net)	424.33			**424.33**
	1,17,127.70	**-**	**-**	**1,17,127.70**
Current liabilities				
Financial liabilities				
i) Borrowings	4,784.87			**4,784.87**
ii) Trade payables				
a) total outstanding dues of micro enterprises and small enterprises	13.18			**13.18**
b) total outstanding dues of creditors other than micro enterprises and small enterprises	2,547.07			**2,547.07**
iii) Other financial liabilities	20,198.86			**20,198.86**
Other current liabilities	109.78			**109.78**
Current tax liabilities (net)	0.14			**0.14**
	27,653.90	**-**	**-**	**27,653.90**
Total liabilities	**1,44,781.60**	**-**	**-**	**1,44,781.60**
Total equity and liabilities	**2,22,800.55**	**-**	**-**	**2,22,800.55**

The above statement should be read with notes to proforma consolidated financial information.

As per our report of even date
For Gokhale & Sathe
Chartered Accountants
ICAI registration number: 103264W

For and on behalf of the Board of Directors of
MMK Toll Road Private Limited
(As Investment Manager to IRB Infrastructure Trust)
CIN : U45200MH2002PTC135512

SD/-
Kaustubh Deshpande
Partner
Membership No. 121011

SD/-
Virendra D. Mhaiskar
Chairman
DIN:00183554

SD/-
Dhananjay K. Joshi
Chief Executive officer

SD/-
Shilpa Todankar
Chief Financial Officer

SD/-
Kaustubh Shevade
Company Secretary

Place: Mumbai
Date: 12/04/2022

Place: Mumbai
Date: 12/04/2022

IRB Infrastructure Trust
Proforma Consolidated Statement of Profit & Loss for the year ended March 31, 2021
(All amounts in Rs. million unless otherwise stated)

	Notes	Consolidated Trust	PDTPL	Proforma adjustments	Proforma information
		(A)	(B)	(C)	(A)+(B)+(C)
Income					
Revenue from operations		10,361.51			10,361.51
Other income		112.71			112.71
Total income		**10,474.22**	**-**	**-**	**10,474.22**
Expenses					
Cost of material consumed		-			-
Road work and site expenses		3,983.41			3,983.41
Employee benefits expenses		-			-
Depreciation and amortisation expenses		1,255.69			1,255.69
Finance costs		8,228.17			8,228.17
Investment Manager Fees		46.25			46.25
Other expenses		138.32			138.32
Total expenses		13,651.84	-	-	13,651.84
Profit/(loss) before tax		**(3,177.62)**	**-**	**-**	**(3,177.62)**
Tax expenses					
Current tax		46.20			46.20
Deferred tax		369.63			369.63
MAT Credit utilisation / (Entitlement)		(340.97)			(340.97)
Total tax expenses		**74.86**	**-**	**-**	**74.86**
Profit/(loss) after tax		**(3,252.48)**	**-**	**-**	**(3,252.48)**
Other comprehensive income					
Item that will not be reclassified to profit or loss:					
Re-measurement (loss)/gain on defined benefit plans (net of taxes)		-			-
Other comprehensive (loss) for the year, net of tax		**-**	**-**	**-**	**-**
Total comprehensive income for the year		**(3,252.48)**	**-**	**-**	**(3,252.48)**

The above statement should be read with notes to proforma consolidated financial information.

As per our report of even date
For Gokhale & Sathe
Chartered Accountants
ICAI registration number: 103264W

For and on behalf of the Board of Directors of
MMK Toll Road Private Limited
(As Investment Manager to IRB Infrastructure Trust)
CIN : U45200MH2002PTC135512

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Dhananjay K. Joshi
Chief Executive officer

SD/-
Shilpa Todankar
Chief Financial Officer

SD/-
Kaustubh Shevade
Company Secretary

Place: Mumbai
Date: 12/04/2022

Place: Mumbai
Date: 12/04/2022

IRB Infrastructure Trust
Proforma Consolidated Balance Sheet as at December 31, 2021
(All amounts in Rs. million unless otherwise stated)

	Notes	Consolidated Trust	PDTPL	Proforma adjustments	Proforma information
		(A)	(B)	(C)	(A)+(B)+(C)
ASSETS					
Non-current assets					
Property, Plant and Equipment		9.28			9.28
Goodwill		604.54			604.54
Other Intangible assets		2,18,700.35			2,18,700.35
Intangible assets under development		4,716.06	0.05		4,716.11
Financial assets					-
i) Investments		-			-
i) Loans		-			-
ii) Others		2.74			2.74
Other non-current assets		-			-
Deferred tax assets (net)		86.82			86.82
		2,24,119.79	**0.05**	**-**	**2,24,119.84**
Current assets					
Inventories		-			-
Financial assets					
i) Investments		416.37			416.37
ii) Trade receivables		22.17			22.17
iii) Cash and cash equivalents	3.c (i)	493.08	0.05	-	493.13
iv) Bank balance other than (iii) above		2,221.65			2,221.65
v) Loans		-			-
vi) Others		1,594.50			1,594.50
Current tax assets (net)		110.69			110.69
Other current assets		2,248.03	151.04		2,399.07
		7,106.49	**151.09**	**-**	**7,257.58**
Total assets		**2,31,226.28**	**151.14**	**-**	**2,31,377.42**
EQUITY AND LIABILITIES					
Equity					
Equity share capital	3.c (ii)	85,504.33	0.50	-	**85,504.83**
Other equity		(6,923.51)	(0.11)		**(6,923.62)**
Total Equity		**78,580.82**	**0.39**	**-**	**78,581.21**
Non-current liabilities					
Financial liabilities					
i) Borrowings		92,702.60			**92,702.60**
ii) Other financial liabilities		25,251.30			**25,251.30**
iii) Trade payables		5,327.53			**5,327.53**
Provisions		1,078.76			**1,078.76**
Deferred tax liabilities (net)		-			**-**
		1,24,360.19	**-**	**-**	**1,24,360.19**

Current liabilities				
Financial liabilities				
i) Borrowings	4,614.73	11.47		**4,626.20**
ii) Trade payables				
a) total outstanding dues of micro enterprises and small enterprises	18.34	-		**18.34**
b) total outstanding dues of creditors other than micro enterprises and small enterprises	10,585.91	127.48		**10,713.39**
iii) Other financial liabilities	12,999.27			**12,999.27**
Other current liabilities	67.03	11.80		**78.83**
	28,285.27	**150.75**	**-**	**28,436.02**
Total liabilities	**1,52,645.46**	**150.75**	**-**	**1,52,796.21**
Total equity and liabilities	**2,31,226.28**	**151.14**	**-**	**2,31,377.42**

The above statement should be read with notes to proforma consolidated financial information.

As per our report of even date
For Gokhale & Sathe
Chartered Accountants
ICAI registration number: 103264W

For and on behalf of the Board of Directors of
MMK Toll Road Private Limited
(As Investment Manager to IRB Infrastructure Trust)
CIN : U45200MH2002PTC135512

SD/-
Kaustubh Deshpande
Partner
Membership No. 121011

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Chairman
DIN:00183554

SD/-
Dhananjay K. Joshi
Chief Executive officer

SD/-
Shilpa Todankar
Chief Financial Officer

SD/-
Kaustubh Shevade
Company Secretary

Place: Mumbai
Date: 12/04/2022

Place: Mumbai
Date: 12/04/2022

IRB Infrastructure Trust
Proforma Consolidated Statement of Profit & Loss for the period ended December 31, 2021
(All amounts in Rs. million unless otherwise stated)

	Notes	Consolidated Trust	PDTPL	Proforma adjustments	Proforma information
		(A)	(B)	(C)	(A)+(B)+(C)
Income					
Revenue from operations		9,439.09			9,439.09
Other income		70.72			70.72
Total income		**9,509.81**	**-**	**-**	**9,509.81**
Expenses					
Cost of material consumed		-			-
Road work and site expenses		3,035.23			3,035.23
Employee benefits expenses		-			-
Depreciation and amortisation expenses		1,167.18			1,167.18
Finance costs		7,069.59			7,069.59
Investment Manager Fees		30.57			30.57
Other expenses		1,969.21	0.11		1,969.32
Total expenses		13,271.78	0.11	-	13,271.89
Profit/(loss) before tax		**(3,761.97)**	**(0.11)**	**-**	**(3,762.08)**
Tax expenses					
Current tax		0.38			0.38
Deferred tax		(511.15)			(511.15)
MAT Credit utilisation / (Entitlement)					-
Total tax expenses		**(510.77)**	**-**	**-**	**(510.77)**
Profit/(loss) after tax		**(3,251.20)**	**(0.11)**	**-**	**(3,251.31)**
Other comprehensive income					
Item that will not be reclassified to profit or loss:					
Re-measurement (loss)/gain on defined benefit plans (net of taxes)		-			-
Other comprehensive (loss) for the period, net of tax		**-**	**-**	**-**	**-**
Total comprehensive income for the period		**(3,251.20)**	**(0.11)**	**-**	**(3,251.31)**

The above statement should be read with notes to proforma consolidated financial information.

As per our report of even date
For Gokhale & Sathe
Chartered Accountants
ICAI registration number: 103264W

For and on behalf of the Board of Directors of
MMK Toll Road Private Limited
(As Investment Manager to IRB Infrastructure Trust)
CIN : U45200MH2002PTC135512

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Shilpa Todankar
Chief Financial Officer

SD/-
Kaustubh Shevade
Company Secretary

Place: Mumbai
Date: 12/04/2022

Place: Mumbai
Date: 12/04/2022

1. **Background**

The IRB Infrastructure Trust (the "Trust") is a trust settled pursuant to the indenture of trust dated August 27, 2019 which is registered under the Registration Act, 1908 and under the Securities Exchange Board of India (Infrastructure Investment Trusts) Regulations, 2014 as amended from time to time. The Trust is settled by the Sponsor, IRB Infrastructure Developers Limited ("IRB" or the "Sponsor"), an infrastructure development company in India. The Trustee to the Trust is IDBI Trusteeship Services Limited (the "Trustee"). Investment manager for the Trust is MMK Toll Road Private Limited (the "Investment Manager"). The Trust has received registration certificate from SEBI on November 25, 2019.

The Trust has been formed to invest in infrastructure assets primarily being in the road sector in India. The Trust's road projects are eligible infrastructure projects under the InvIT Regulations and held through special purpose vehicles ("Project SPVs" together as "Project SPV Group").

The Trust's portfolio subsequent to the completion of the proposed offering and acquisition will comprise of ten road projects as listed below:-

1. IRB Westcoast Tollway Limited (IRBWTL)
2. Solapur Yedeshi Tollway Limited (SYTL)
3. Yedeshi Aurangabad Tollway Limited (YATL)
4. Kaithal Tollway Limited (KTL)
5. AE Tollway Limited (AETL)
6. Udaipur Tollway Limited (UTL)
7. CG Tollway Limited (CGTL)
8. Kishangarh Gulabpura Tollway Limited (KGTL)
9. IRB Hapur Moradabad Tollway Limited (IRBHMTL)
10. Palsit Dankuni Tollway Private Limited (PDTPL)

Pursuant to share subscription agreement dated 7th April, 2022 ("SSA") executed among IRB Infrastructure Trust ("Trust"), Palsit Dankuni Tollway Private Limited ("PDTPL"), MMK Toll Road Private Limited and IRB Infrastructure Developers Limited, the Trust will subscribe to the shares of PDTPL and become shareholder holding 99.96% of paid up equity share capital of PDTPL upon closing.

PDTPL was incorporated on 15th April, 2021. The Company has been awarded the work of six laning of national corridor NH-19 from Palsit to Dankuni (upto NH-6 connector) from Km. 588.870 to Km. 652.700 (total design length 63.830 Km.) in the state of West Bengal under Bharatmala Pariyojana to be executed on BOT (toll) basis ('the Project').

The unitholders shall infuse amount upto Rs. 2,442.98 million into the Trust by way of Rights issue. The said funds shall be utilized, among other things, to subscribe to 121,200,000 equity shares of

PDTPL. Pursuant to this infusion, the Trust will consolidate PDTPL in its consolidated financial statements.

2. Basis of preparation

The proforma financial information has been prepared in accordance with "Guide to Reporting on Proforma Financial Statements" issued by the Institute of Chartered Accountants of India ("the Guide") specifically for Inclusion in the Letter of Offer (hereinafter referred as "LOF") to be filed by IRB Infrastructure Trust with SEBI in connection with proposed offering of units by the Trust. The Proforma Financial Information were approved for issue in accordance with resolution passed by the Board of Directors of the Investment Manager on behalf of the Trust on 8th April, 2022.

In accordance with principles of the Guide, the historical consolidated financial information have been adjusted in proforma financial information to give effect to proforma events that are directly attributable to acquisition/ business combination and factually supportable.

The proforma financial information of the Project SPV Group comprising the proforma balance sheet as at 31 March 2021 and 31 December 2021 and the proforma statement of profit and loss for the year ended 31 March 2021 and for the nine months period ended 31 December 2021, read with the notes to the proforma financial information, has been prepared to reflect the impact of material acquisition of business (PDTPL) as mentioned in note 1 above, to be undertaken based on Share Subscription agreement entered into in this regard, made after the date of the latest period for which financial information is disclosed in the LOF but before date of filing of such LOF.

Because of their nature, the proforma financial information addresses a hypothetical situation and does not represent the Group's actual consolidated financial condition or results of operations. Accordingly, the proforma financial information does not necessarily indicate the results of operations that would have resulted had the acquisition been completed at the beginning of the year/period presented and the financial position had the acquisition been completed as at year end/period end and is also not intended to be indicative of expected results or operations in the future periods or the future financial position of the Group.

The adjustments set forth in the proforma financial information are based upon available information and assumptions that the Management believes to be reasonable. If the assumptions underlying the preparation of such information do not occur, the actual results could be materially different from those indicated in the information. Such proforma financial information has not been prepared in accordance with auditing or other standards and practices generally accepted in any other jurisdictions and accordingly should not be relied upon as if it had been carried out in accordance with those standards and practices. Accordingly, the degree of reliance placed by anyone in other jurisdictions on such proforma information should be limited. In addition, the rules and regulations related to the preparation of proforma financial information in other jurisdictions may also vary significantly from the basis of preparation as set out in paragraphs above to prepare these proforma financial information.

As explained in the following paragraphs, the proforma balance sheet as at 31 March 2021 and the proforma statement of profit and loss for the year ended March 31, 2021 does not reflect the acquisition of PDTPL by IRB Infrastructure Trust since PDTPL was incorporated on 15th April, 2021.

Further, the proforma balance sheet as at 31 December 2021 has been prepared to reflect the acquisition of PDTPL by IRB Infrastructure Trust as if the acquisition happened on 31 December 2021. The proforma statement of profit and loss for the nine months period ended 31 December 2021 has been prepared as if acquisition of PDTPL occurred on 15th April, 2021.

The adjustments made to the proforma financial information are included in the following sections.

The proforma consolidated financial information has been prepared taking into consideration:

a) The consolidated financial statements of the Project SPV Group as at and for the year ended 31 March 2021 and as at and for the nine months period ended 31 December 2021.
b) The financial statement of PDTPL as at and for the nine months period ended 31 December 2021.
c) Adjustments to recognise the impact of allocation of purchase consideration paid/payable by the Project SPV Group.

The financial statements at (a) and (b) above have been prepared in accordance with Indian Accounting Standards (Ind AS) notified under the Companies (Indian Accounting Standards) Rules, 2015 (as amended from time to time).

3. Proforma Adjustments:

The following adjustments have been made to present the proforma financial information:

a) **Accounting Policy adjustments and GAAP adjustments:**
There are no accounting policy adjustments or GAAP adjustments between the Group and the PDTPL.

b) **Intra group elimination adjustments:**
There are no intragroup transactions between the Group and PDTPL.

c) **Acquisition related adjustments:**
The proforma financial information includes various assumptions to give effect to all of the following events. Accordingly, the proforma adjustments are preliminary and have been made solely for illustrative purpose. Following are the assumptions –

i. As per Share Subscription agreement entered, the trust will infuse the funds into PDTPL in cash subject to conditions agreed between the parties.

Proforma acquisition related adjustments – Key notes
Proforma adjustment to Balance Sheet

3c. (i) Cash and cash equivalents

For the purpose of the Proforma Consolidated Balance Sheet as at 31 December 2021, cash & cash equivalents available out of rights issue aggregating to INR 2,442.98 millions is not assumed since the same will be infused out of the rights issue as per conditions agreed between the parties.

3c. (ii) Equity attributable to unit holders

As explained in the note 1, the Trust will control ~99.96% of the equity share capital of PDTPL pursuant to Share Subscription agreement. Accordingly, equity share capital of PDTPL is not eliminated in the Proforma Consolidated Balance Sheet as at 31 December 2021.

Other than as mentioned above, no additional material adjustments have been made to the proforma balance sheet or the proforma statement of profit and loss to reflect any results or other transactions of the Trust entered into subsequent to 31 March 2021 and 31 December 2021 respectively.

As per our report of even date
For Gokhale & Sathe
Chartered Accountants
ICAI registration number: 103264W

For and on behalf of the Board of Directors of
MMK Toll Road Private Limited
(As Investment Manager to IRB Infrastructure Trust)
CIN : U45200MH2002PTC135512

SD/-
Kaustubh Deshpande
Partner
Membership No. 121011

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Shilpa Todankar
Chief Financial Officer

SD/-
Kaustubh Shevade
Company Secretary

Place: Mumbai
Date: 12/04/2022

Place: Mumbai
Date: 12/04/2022

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Investors should read the following discussion and analysis of the Trust's financial condition and results of operations together with the sections "Summary Financial Information" and "Financial Statements" on pages 42 and 271, respectively. This discussion contains forward-looking statements and involves numerous risks and uncertainties, including, but not limited to, those described in the section "Risk Factors" on page 15. Actual results could differ materially from those contained in any forward-looking statements and for further details regarding forward-looking statements, refer to "Forward-Looking Statements" on page 13.

This Letter of Offer includes Special Purpose Consolidated / Combined Financial Information for the Trust and the Project SPVs for the nine-month periods ended December 31, 2021 and December 31, 2020 and the Financial Years 2021, 2020 and 2019. The Project SPVs were transferred to the Trust on February 25, 2020 by the Sponsor pursuant to the Formation Transactions undertaken as part of the initial offer through private placement of Units. The effective date for consolidation was March 1, 2020. Consolidated financial information has been included for the nine-month periods ended December 31, 2021 and December 31, 2020 and the Financial Year 2021. The financial information for Financial Year 2020 includes consolidated financial information for the one-month period ended March 31, 2020 and combined financial information for the 11 month period from April 1, 2019 to February 29, 2020. Combined financial information has been included for the Financial Year 2019. The combined financial information has been prepared as if the Trust structure was in place and 100% interest of the Project SPVs was part of the Trust since April 1, 2018.

The following discussion includes a discussion and analysis of the financial condition and results of operations of the Trust and the Project SPVs (i) on a consolidated basis as at and for the nine-month periods ended December 31, 2021 and December 31, 2020; (ii) on a consolidated basis as at and for the Financial Year ended March 31, 2021; (iii) on a consolidated and combined basis as at and for the Financial Year ended March 31, 2020; and (iv) on a combined basis as at and for the Financial Year ended March 31, 2019. Ind AS differs in certain material respects from Indian GAAP, IFRS and U.S. GAAP. Accordingly, the degree to which our financial statements will provide meaningful information to a prospective investor in countries other than India is entirely dependent on the reader's level of familiarity with Ind AS.

PDTPL, the Target SPV proposed to be acquired by the Trust, was incorporated on April 15, 2021. This Letter of Offer includes the audited financial statements of PDTPL as of and for the period from April 15, 2021 to December 31, 2021. This Letter of Offer also contains Pro Forma Financial Information of the Trust and PDTPL as at and for the Financial Year 2021 and the nine-month period ended December 31, 2021 prepared in accordance with the requirements of the SEBI Rights Issue Guidelines and the InvIT Regulations.

The Project SPVs' and the Target SPV's financial year ends on March 31 of each year. Accordingly, all references to a particular financial year are to the 12-month period ended March 31 of such year.

References herein to the "Initial Portfolio" are to the pre-PDTPL Acquisition portfolio of the Trust and to the "Expanded Portfolio" are to the post-PDTPL Acquisition portfolio of the Trust.

Overview

The Trust is a registered infrastructure investment trust under the InvIT Regulations. The Initial Portfolio of the Trust comprises nine toll-road assets in the states of Haryana, Uttar Pradesh, Rajasthan, Gujarat, Goa, Maharashtra and Karnataka in India. These toll roads are operated and maintained pursuant to concessions awarded by the NHAI. The Trust is the first unlisted infrastructure investment trust focused on toll-road assets in India.

The Trust has acquired the Initial Portfolio comprised of the Project SPVs from the Sponsor. Each of the Project SPVs is an eligible infrastructure project as defined under the InvIT Regulations. As of December 31, 2021, the Project SPVs owned the following toll road assets comprising 5,892 Lane Kilometers of highway:

- The Agra - Etawah NH-2 Project: A 124.52 km section of NH-2 between Agra and Etawah Bypass in Uttar Pradesh which is held by AETL;

- The Gulabpura - Chittorgarh NH-79 Project: A 124.87 km section of NH-79 between Gulabpura and Chittorgarh Bypass in Rajasthan which is held by CGTL;

- The Hapur - Moradabad NH-9 Project: A 99.867 km section of NH-9 between Hapur and Moradabad in Uttar Pradesh which is held by IRB HMTL;

- The Goa - Kundapur NH-17Project: A 187.28 km section of NH-17 between Goa/Karnataka border and Kundapur in Karnataka which is held by IRB WTL;

- The Kishangarh - Gulabpura NH-79/79A Project: A 90.00 km section of NH-79/79A between Kishangarh and Gulabpura in Rajasthan which is held by KGTL;

- The Kaithal - Rajasthan Border NH-152/65 Project: A 166.259 km section of NH-152/65 between Kaithal and Rajasthan Border in Haryana which is held by KTL;

- The Solapur - Yedeshi NH-211 Project: A 98.717 km section of NH-211 between Solapur and Yedeshi in Maharashtra which is held by SYTL;

- The Udaipur - Rajasthan Border NH-8 Project: A 113.80 km section of NH-8 between Udaipur and Rajasthan Border in Rajasthan and Gujarat which is held by UTL; and

- The Yedeshi - Aurangabad NH-211 Project: A 189.09 km section of NH-211 between Yedeshi and Aurangabad in Maharashtra which is held by YATL.

The map set out below depicts the location of the Initial Portfolio:

The Sponsor of the Trust is IRB Infrastructure Developers Limited, one of the largest infrastructure development and construction companies in India in terms of net worth in the roads and highways sector according to the NHAI's annual prequalification for public private partnerships in national highway projects report for 2016. The Sponsor has been listed on the Stock Exchanges since 2008. As at December 31, 2021, the Sponsor had eight road projects of which two were operational and six were under-construction or awaiting appointed date. The Sponsor also acts as the Project Manager. For further details, see "*The Sponsor and Project Manager*" on page 255.

The Investment Manager of the Trust is MMK Toll Road Private Limited. The Investment Manager has experience in operating a road project for a period of 13 years. 51% of the equity share capital in the Investment Manager is held by the Sponsor and 49% of the equity share capital of the Investment Manager is held by Croxley. For further details, see "*The Investment Manager*" and "*Corporate Governance*" on pages 258 and 138, respectively.

The Trustee of the Trust is IDBI Trusteeship Services Limited. The Trustee is registered with the SEBI as a debenture trustee under the Debenture Trustees Regulations. For further details, see "*The Trustee*" on page 264.

PDTPL or the Target SPV is currently a wholly-owned subsidiary of the Sponsor. PDTPL has entered into a concession agreement with the NHAI for the six-laning of National Corridor NH-19 from Palsit to Dankuni (upto NH-6 Connector) from KM 588.870 to KM 652.700 (total design length 63.830 km) in the state of West Bengal under Bharatmala Pariyojana. The Target SPV is an eligible infrastructure project under the InvIT Regulations. A portion of the proceeds of the Issue is proposed to be utilized for the acquisition of PDTPL, subject to the terms of the PDTPL Share Subscription Agreement. The Trust proposes to acquire PDTPL pursuant to the PDTPL Acquisition by subscribing to 99.96% of the equity share capital of PDTPL, with the Sponsor (and its nominee shareholders) holding the remaining equity share capital of PDTPL. For further details, see "*Objects of the Issue*" and "*Background and Structure of the Trust – The PDTPL Acquisition*" on pages 66 and 92, respectively.

Update in relation to COVID-19

The outbreak and continuing spread of the COVID-19 pandemic globally and in India is causing significant disturbance and slowdown of economic activity. Operations at all toll plazas of the Project SPVs had been closed down with effect from March 26, 2020 until midnight on April 19, 2020. This was done as per the directives issued by MoRTH / NHAI, in accordance with the MHA guidelines about commercial and private establishment in the wake of COVID-19 pandemic. The Project SPVs commenced collection of user fee at all toll plazas on National Highways with effect from April 20, 2020 as per the directives issued by NHAI and by ensuring compliance with preventive measures in terms of guidelines/ instructions issued by the Government of India to contain spread of COVID-19. Further, construction activities were also resumed gradually in the phased manner. For further details in relation to extension of concession period and payment of concession fee / premium, see the section "*Regulations and Policies*" on page 224.

There was a second wave of the pandemic in India April 2021 onwards. From the second fortnight of April 2021, various State Governments imposed restrictions on travel, which has led to a decline in our toll collections since such period. Please note that under the concession agreements, the Project SPVs are entitled to an extension of the concession period if actual average traffic falls below the target traffic set out in the agreements. For details, see "*Business – Details of the Project SPVs and the Initial Portfolio*" and "*Summary of the Concession Agreements*" on pages 114 and 144, respectively.

The NHAI has offered an extension of concession period by three to six months to compensate for reduced revenue due to the COVID-19 lockdown. Certain Project SPVs have applied to the NHAI for appropriate relief (including extension of the concession period) and compensation as per the respective concession agreements for the time period during which the relevant projects have been impacted by COVID-19.

Considering the uncertainties and continuously evolving nature of this pandemic, the impact of this pandemic may be different from that currently estimated, and this will continue to be monitored in future periods.

Also see "*Risk Factors – The outbreak and continuing spread of COVID-19 has had, and could further have, a material adverse effect on our business, financial condition and results of operations.*" on page 15.

Factors affecting Results of Operations

Our business and results of operations have been affected and will continue to be affected in future by a number of important factors, including:

The terms of the concession agreements and traffic volumes

BOT and DBFOT projects restrict the Project SPVs and the Target SPV's operational and financial flexibility. Toll fees are typically pre-determined with the relevant government entity and cannot be modified to reflect prevailing circumstances, other than annual adjustments to account for inflation as specified in the concession agreements. Accordingly, a Project SPV's or the Target SPV's profitability is largely a function of how effectively it manages costs during the concession period. Significant costs during the concession period include construction costs and operating and maintenance expenses such as periodic maintenance, which is required to be performed as specified in the concession agreement. Periodic maintenance involves the repair of wear and tear of the roads and highways, including overlaying the surface of the roads and highways, if required. The Project Manager has

agreed to provide the remaining portion of construction works for the Project SPVs and the Target SPV and operations and maintenance works for all the Project SPVs and the Target SPV for an initial period of 10 years on a fixed-fee basis.

The Project SPVs and the Target SPV are substantially dependent on the accuracy of the traffic volume forecasts for their respective projects. Projects undertaken on a BOT or DBFOT basis involve concession agreements that are long-term in nature, usually between 15 to 30 years. The agreed consideration for each of the Project SPVs' projects and the Target SPV's project was based on forecasts of traffic volumes and expected revenues over the concession period. Any material shortfall between the actual traffic volume and the forecast traffic volume for a project could have a material adverse effect on their cash flows, results of operations and financial condition.

The Project SPVs' projects and the Target SPV's project involve agreements that are long-term in nature. All long-term projects have inherent risks associated with them and involve variables that may not necessarily be within the Project SPVs' or the Target SPV's control. Accordingly, we may be exposed to a variety of construction, operation and maintenance and other risks, including unanticipated cost increases and overruns, inability to negotiate satisfactory arrangements with service providers and disagreements with service providers. In addition, the long-term nature of the Project SPVs' and the Target SPV's contracts may expose them to increased risk of unforeseen business and industry changes and developments which could have a material adverse effect on their business, financial condition and results of operations.

General economic and political conditions in India and the level of investment and activity in the infrastructure development sector

The Project SPVs and the Target SPV derive their revenue from their toll-road operations. Demand for toll roads is primarily dependent on sustained economic development in the regions that they operate in and government policies relating to infrastructure development. It is also significantly dependent on budgetary allocations made by the Government of India and the State Governments for the roads and highways sector, as well as funding provided by international and multilateral development finance institutions for infrastructure projects. Investment by the private sector in infrastructure projects is dependent on the potential returns from such projects and is, therefore, linked to Government and State Government policies relating to private sector participation and sharing of risks and returns from such projects.

We believe that the Government's and State Governments' focus on, and sustained increases in budgetary allocation for, infrastructure, and the development of comprehensive infrastructure policies that encourage greater private sector participation and funding for infrastructure projects should further result in large infrastructure projects in India. We believe that we are likely to benefit from the Government and State Governments making infrastructure development a policy priority, which may lead to corresponding significant investment in the roads and highways sector. Since the Project SPVs and the Target SPV focus on the roads and highways sector, macroeconomic factors in India relating to this sector will have a significant impact on their prospects and results of operations. As the roads and highways sector is driven by increases in agriculture and manufacturing, any slowdown or perceived slowdown in the Indian economy, or in specific sectors of the Indian economy, could materially and adversely impact the Project SPVs' and the Target SPV's business and financial performance.

Project SPVs or the Target SPV may be unable to collect tolls due to political protests or other agitations relating to tolling. For instance, due to a protest against certain agricultural laws in India, tolling for the Kaithal – Rajasthan project operated by KTL was halted from December 5, 2020 and resumed on December 16, 2021. The Project SPV has informed NHAI of this event and expects to receive compensation under the *force majeure* clause of the relevant Concession Agreement, which provides for the receipt of 50% of the O&M and interest costs as reimbursement in cash and an extension in concession period to compensate for revenue loss during the toll suspension period.

See " – *Update in relation to COVID-19*" for details of the impact of COVID-19 on our business and results of operations.

Competition

The Trust, the Project SPVs and the Target SPV operate in a competitive environment. The competition for toll road and other infrastructure projects varies depending on the size, nature and complexity of the project and on the geographical region in which the project is to be executed. Some of their competitors may have greater financial resources, economies of scale and operating efficiencies than the Trust, the Project SPVs or the Target

SPV do. There can be no assurance that they can effectively compete with their competitors in the future, and this failure to compete effectively may have a material adverse effect on the Trust's financial condition and results of operations.

Financial Information of the Target SPV

This Letter of Offer includes the interim audited financial statements of the Target SPV as at and for the period from April 15, 2021 to December 31, 2021, in accordance with the requirements under the SEBI Rights Issue Guidelines. See "*Financial Statements*" on page 312 and "*Summary Financial Information*" on page 51.

The Target SPV was incorporated on April 15, 2021 and began collecting toll with effect from April 2, 2022. Accordingly, the Target SPV did not have significant revenue from operations prior to April 2, 2022.

Pro Forma Financial Information

This Letter of Offer includes the Pro Forma Financial Information prepared in accordance with the requirements of the InvIT Regulations and the SEBI Rights Issue Guidelines in "*Financial Statements*" on page 340. The Pro Forma Financial Information consists of the pro forma balance sheet as at December 31, 2021 and March 31, 2021, the pro forma statement of profit and loss for the nine-month period ended December 31, 2021 and the Financial Year ended March 31, 2021. The PDTPL Acquisition has been considered material for purposes of the SEBI Rights Issue Guidelines.

The Pro Forma Financial Information has been compiled by management to illustrate the impact of the PDTPL Acquisition on the Trust's balance sheet as at December 31, 2021 and March 31, 2021 and the Trust's statement of profit and loss for the nine-month period ended December 31, 2021. The pro forma balance sheet as at March 31, 2021 and December 31, 2021 was to prepared as if the PDTPL Acquisition had taken place on March 31, 2021 and December 31, 2021, respectively; however, since PDTPL was incorporated on April 15, 2021, the balance sheets as of these periods do not reflect the PDTPL Acquisition. The pro forma statement of profit and loss for the year ended March 31, 2021 was to be prepared as if the PDTPL Acquisition had taken place on April 1, 2020; however, PDTPL was incorporated on April 15, 2021 and accordingly, the pro forma statement of profit and loss for the year ended March 31, 2021 does not reflect the PDTPL Acquisition. Further, since PDTPL was incorporated on April 15, 2021, the pro forma statement of profit and loss for the nine months ended December 31, 2021 assumes that the acquisition had taken place at April 15, 2021. See "*Risk Factors - The Pro Forma Financial Information included in this Letter of Offer is prepared for illustrative purposes only. Our actual results may be materially different from the outcome of the event or transaction as presented in the Pro Forma Financial Information.*" on page 22 for risks in relation to the Pro Forma Financial Information.

Note that there can be no assurance that the assumptions for the preparation of the Pro Forma Financial Information will be fulfilled, including that PDTPL Acquisition will be completed in the manner described in this Letter of Offer or at all. See "*Risk Factors - We are in the process of acquiring the Target SPV (pursuant to definitive acquisition agreements), which if not completed in a timely manner or at all, or any failure to realize the anticipated benefits of the PDTPL Acquisition, may adversely affect us.*" on page 21.

Significant Accounting Policies

The preparation of financial statements in conformity with Ind AS, applicable accounting standards and the Companies Act requires our management to make judgments, estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent liabilities at the date of the financial statements and the results of operations during the reporting period end. By their nature, these judgments are subject to a degree of uncertainty. Although these estimates are based upon management's best knowledge of current events and actions, actual results could differ from these estimates.

While all aspects of the Project SPVs Consolidated / Combined Financial Information should be read and understood in assessing their current and expected financial condition and results, we believe that the following critical accounting policies warrant particular attention:

Intangible assets

As permitted under Ind AS, the group has elected to continue with the carrying value of its toll collection rights (which form part of its intangible assets), as recognised in the financial statements as at the date of transition to Ind AS and measured as per the previous GAAP.

Intangible assets acquired separately are measured on initial recognition at cost. Following initial recognition, intangible assets are carried at cost less any accumulated amortisation and accumulated impairment losses. Internally generated intangibles, excluding capitalised development costs, are not capitalised and the related expenditure is reflected in statement of profit or loss in the period in which the expenditure is incurred.

Toll Collection Rights

Toll collection rights including premium to NHAI are stated at cost, net of accumulated amortisation and impairment losses. Cost includes toll collection rights awarded by the grantor against construction service rendered by the Project SPV on a DBFOT basis - direct and indirect expenses on construction of roads, bridges, culverts, infrastructure and other assets at the toll plazas.

Incase of four to six laning projects, where toll collections commence from the Appointed Date, the Project SPV is obligated to incur project cost over the construction period. Accordingly, liability towards entire amount payable towards project cost recognised and shown under 'Obligation for Construction' and the corresponding amount is shown as 'Toll Collection Rights' under the head Intangible Assets.

Toll collection rights are amortised over the period of the concession, using revenue based amortisation as per the exemption provided in Ind AS 101. Under this method, the carrying value of the rights is amortised in the proportion of actual toll revenue for the year to projected revenue for the balance toll period, to reflect the pattern in which the asset's economic benefits will be consumed. At each balance sheet date, the projected revenue for the balance toll period is reviewed by the management. If there is any change in the projected revenue from previous estimates, the amortisation of toll collection rights is changed prospectively to reflect any changes in the estimates.

Intangible assets are assessed for impairment whenever there is an indication that the intangible asset may be impaired.

Amortisation of toll equipments

Toll equipments are amortized on a straight line basis over the estimated useful economic life not exceeding seven years.

Provisions

Provisions are recognised when the group has a present obligation (legal or constructive) as a result of a past event, and it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation. When the Group expects some or all of a provision to be reimbursed, for example, under an insurance contract, the reimbursement is recognised as a separate asset, but only when the reimbursement is virtually certain. The expense relating to a provision is presented in the statement of profit and loss net of any reimbursement.

If the effect of the time value of money is material, provisions are discounted using a current pre-tax rate that reflects, when appropriate, the risks specific to the liability. When discounting is used, the increase in the provision due to the passage of time is recognised as a finance cost.

Principal components of Income and Expenses

Income

Our total income comprises (i) revenue from operations and (ii) other income.

Revenue from operations

Revenue from operations comprises (i) contract revenue (road construction); (ii) income arising out of toll collection (net); and (iii) other operating revenue.

During the construction period of a project, the NHAI may ask the Project SPVs to carry out utility shifting work (which is incidental to the construction of the toll road and typically involves the shifting of utilities that are located at the construction site) or may award the Project SPVs additional scope of work, which is separately paid by the NHAI. Revenue from such utility shifting or change in scope contract, among others, also forms part of the Project SPVs' contract revenue. Note that contract revenue is typically incurred during the initial construction period of a project and is not recurring in nature.

The following table provides a breakdown of revenue from operations for the periods indicated:

Revenue from Operations	Nine-month period ended December 31, 2021*		Nine-month period ended December 31, 2020*		Financial Year 2021*		Financial Year 2020**		Financial Year 2019***	
	Amount (in ₹ million)	*% of Total Revenue from Operations*	*Amount (in ₹ million)*	*% of Total Revenue from Operations*	*Amount (in ₹ million)*	*% of Total Revenue from Operations*	*Amount (in ₹ million)*	*% of Total Revenue from Operations*	*Amount (in ₹ million)*	*% of Total Revenue from Operations*
Contract revenue (road construction)	841.33	8.91	1,375.37	18.56	1,863.70	17.99	3,854.01	33.08	1,603.81	20.34
Income arising out of toll collection (net)	7,632.60	80.86	6,035.18	81.44	8,497.81	82.01	7,795.11	66.92	6,283.00	79.66
Other operating revenue	965.16	10.23	-	-	-	-	-	-	-	-
Total	**9,439.09**	**100.00**	**7,410.55**	**100.00**	**10,361.51**	**100**	**11,649.12**	**100**	**7,886.81**	**100**

**On a consolidated basis*
***Please note that the financial information for the Financial Year 2020 has been prepared on a consolidated basis for the one-month period ended March 31, 2020 and on a combined basis for the 11-month period from April 1, 2019 to February 29, 2020 and is shown as a single period for purposes of presentation and convenience only.*
****On a combined basis*

Other income

The key components of other income are interest income on bank deposits, dividend income on other investments, profit on sale of investments, fair value gain on mutual funds and other non-operating income.

The following table provides a breakdown of other income for the periods indicated:

Other income	Nine-month period ended December 31, 2021*	Nine-month period ended December 31, 2020*	Financial Year 2021*	Financial Year 2020**	Financial Year 2019***
Interest income on					
- Bank deposits	50.69	53.40	74.46	114.37	67.87
- Others	7.97	6.08	7.59	1.27	3.57
Dividend income on:					
Profit on sale of investments	9.15	8.83	13.08	34.11	81.95
Fair value gain on mutual funds	(0.54)	0.58	1.43	(0.01)	0.04
Other non-operating income	3.44	29.58	13.28	30.81	3.23

Gain/(loss) on fair value measurement of other payable	-	-	2.86	-	-
Total	**70.72**	**98.48**	**112.71**	**180.55**	**156.65**

**On a consolidated basis*
***Please note that the financial information for the Financial Year 2020 has been prepared on a consolidated basis for the one-month period ended March 31, 2020 and on a combined basis for the 11-month period from April 1, 2019 to February 29, 2020 and is shown as a single period for purposes of presentation and convenience only.*
****On a combined basis*

Expenses

Our expenses primarily consist of the following:

- cost of material consumed, which comprise material consumed to carry out utility shifting work;
- road work and site expenses, which comprise contract expenses in relation to utility shifting or change in scope contracts, site and other direct expenses, sub-contracting/security expenses and technical consultancy and supervision charges;
- employee benefits expenses, which comprise salaries, wages and bonus, contribution to provident and other funds, leave encashment, gratuity expenses and staff welfare expenses;
- depreciation and amortization expenses, which comprise depreciation on property, plant and equipment and amortization on intangible assets;
- finance costs, which primarily comprise interest expenses on loans availed from banks/financial institutions and other borrowing costs which include amortization of transaction costs;
- Investment Manager fees; and
- other expenses, which comprise various administration costs such as power and fuel costs, rent, rates and taxes, water charges, repairs and maintenance, travel and conveyance expenses, vehicle expenses, printing and stationery expenses, sitting fees for directors, legal and professional expenses, payments to the auditors, bank charges, insurance and other miscellaneous expenses.

Results of Operations

Special Purpose Consolidated Financial Information

This section discusses our results of operations for the nine-month periods ended December 31, 2021 and December 31, 2020 and the Financial Year 2021 on the basis of our Special Purpose Consolidated / Combined Financial Information.

The Project SPVs were transferred to the Trust on February 25, 2020 by the Sponsor pursuant to the Formation Transactions undertaken as part of the initial offer through private placement of Units. The effective date for consolidation was March 1, 2020. Accordingly, our results of operations for the Financial Year 2021 are not comparable to our results of operations for the Financial Years 2020 and 2019 and the results for such period have been discussed below separately. Additionally, the historical results presented below are not necessarily indicative of the results that may be expected for any future period. For additional information, see "*Financial Statements*" on page 271.

Nine-month period ended December 31, 2021 compared to nine-month period ended December 31, 2020

The table below sets forth certain data from the Special Purpose Consolidated / Combined Financial Information for nine-month periods ended December 31, 2021 and December 31, 2020.

Particulars	Nine-month period ended December 31, 2021*	Nine-month period ended December 31, 2020*
	Amount (in ₹ million)	*Amount (in ₹ million)*
Income		
Revenue from operations	9,439.09	7,410.55
Other income	70.72	98.48
Total income	**9,509.81**	**7,509.03**
Expenses		
Cost of material consumed	-	0.50
Road work and site expenses	3,035.23	2,955.50
Depreciation and amortization expenses	1,167.18	871.97
Finance costs	7,069.59	6,149.47
Investment Manager Fees	30.57	24.73
Other expenses	1,969.21	139.64
Total expenses	**13,271.78**	**10,141.81**
Profit before tax	**(3,761.97)**	**(2,632.78)**
Tax expenses		
Current tax	0.38	0.39
Deferred tax	(511.15)	49.59
Total tax expenses	**(510.77)**	**49.98**
Profit after tax	**(3,251.20)**	**(2,682.76)**
Other comprehensive income		
Item that will not be reclassified to profit or (a) re-measurement (loss)/gain on defined benefit plans (net of taxes)	-	-
Other comprehensive (loss) for the period/year, net of tax	-	-
Total comprehensive income for the period/year	**(3,251.20)**	**(2,682.76)**

**On a consolidated basis*

Total income

The total income of the Project SPVs increased to ₹9,509.81 million in the nine-month period ended December 31, 2021 from ₹7,509.03 million in the nine-month period ended December 31, 2020. This increase in total income was primarily due to an increase in toll revenue and other operating revenue.

Revenue from operations

The revenue from operations of the Project SPVs increased to ₹9,439.09 million in the nine-month period ended December 31, 2021 from ₹7,410.55 million in the nine-month period ended December 31, 2020, primarily due to increase in toll collection on account of issuance of completion certificates for UTL and CGTL on May 31, 2021 and August 14, 2021, respectively, pursuant to which these projects received tariff hikes of approximately 55% and 58% respectively.

The income arising out of toll collection (net) increased to ₹7,632.60 million in the nine-month period ended December 31, 2021 from ₹6,035.18 million in the nine-month period ended December 31, 2020. The contract revenue (road construction) decreased to ₹841.33 million in the nine-month period ended December 31, 2021 from ₹1,375.37 million in the nine-month period ended December 31, 2020 due to decrease in utility shifting works. Other operating revenue increased to ₹965.16 million in the nine-month period ended December 31, 2021 from nil in the nine-month period ended December 31, 2020 primarily due to claims lodged by KTL and AETL for the farmer agitations that led to stoppage of toll collection.

Other income

The other income of the Project SPVs decreased to ₹70.72 million in the nine-month period ended December 31, 2021 from ₹98.48 million in the nine-month period ended December 31, 2020. This decrease was primarily due to a decrease in the non-operating income.

Total expenses

The total expenses of the Project SPVs increased to ₹13,271.78 million in the nine-month period ended December 31, 2021 from ₹10,141.81 million in the nine-month period ended December 31, 2020. This increase was primarily due to increase in depreciation and amortization expenses, finance costs and other expenses.

Road work and site expenses

Road work and site expenses increased to ₹3,035.23 million in the nine-month period ended December 31, 2021 from ₹2,955.50 million in the nine-month period ended December 31, 2020. This increase was primarily due to an increase in operation and maintenance expenses. Operation and maintenance expenses increased to ₹2,157.60 million in the nine-month period ended December 31, 2021 from ₹1,565.38 million in the nine-month period ended December 31, 2020 due to provision of resurfacing expenses upon receipt of completion certificates for CGTL and UTL during the period ended December 31, 2021. Technical consultancy and supervision charges amounting to ₹45.10 million were paid during the nine-month period ended December 31, 2021 as against ₹22.05 million paid during the nine-month period ended December 31, 2020. Contract expenses decreased to ₹832.19 million in the nine-month period ended December 31, 2021 from ₹1,322.92 million in the nine-month period ended December 31, 2020 due to decrease in utility shifting works. The Project SPVs did not incur any site and other direct expenses during the nine-month period ended December 31, 2021 compared to ₹41.03 million in the nine-month period ended December 31, 2020. Sub-contracting/security expenses decreased to ₹0.36 million in the nine-month period ended December 31, 2021 from ₹4.12 million in the nine-month period ended December 31, 2020.

Depreciation and amortization expenses

Depreciation and amortization expenses increased to ₹1,167.18 million in the nine-month period ended December 31, 2021 from ₹871.97 million in the nine-month period ended December 31, 2020. Amortization expenses are directly proportionate to toll revenue. Increase in amortization expenses during the nine-month period ended December 31, 2021 was primarily attributable to increase in toll collection for UTL and CGTL upon issue of completion certificates for these projects pursuant to which these projects were entitled for tariff hikes of approximately 55% and 58%, respectively. Further, during the nine-month period ended December 31, 2020, there was a nation-wide lockdown during which toll collection was suspended for the period from March 26, 2020 to April 19, 2020.

Finance costs

Finance costs increased to ₹7,069.59 million in the nine-month period ended December 31, 2021 from ₹6,149.47 million in the nine-month period ended December 31, 2020. This increase was primarily due to availing of loan disbursements from banks/financial institutions for projects under construction.

Investment Manager fees

Investment Manager fees stood at ₹30.57 million in the nine-month period ended December 31, 2021 as against ₹24.73 million during the nine - month period ended December 31, 2020.

Other expenses

Other expenses increased to ₹1,969.21 million in the nine-month period ended December 31, 2021 from ₹139.64 million in the nine-month period ended December 31, 2020. The increase was on account of fair valuation of claim receivable from NHAI, on the basis of which liability towards 'Payable – IRB' is determined in the Trust's financial statements. During the the nine-month period ended December 31, 2021, the Trust Group had filed claims for the Kaithal Rajasthan project with NHAI. On actualization of claim in fair valuation working, there was a fair value loss of ₹1,755.32 million. However, the actual amount will be paid only upon receipt of funds from NHAI.

Profit/(loss) before tax

As a result of the factors discussed above, the profit / (loss) before tax increased to ₹(3,761.97) million in the nine-month period ended December 31, 2021 from loss of ₹(2,632.78) million in the nine-month period ended December 31, 2020.

Tax expenses

The Trust Group recorded deferred tax of ₹(511.15) million in the nine-month period ended December 31, 2021 compared to ₹49.59 million in the nine-month period ended December 31, 2020. Accordingly, the total tax expenses of the Trust Group decreased to ₹(510.77) million in the nine-month period ended December 31, 2021 from ₹49.98 million in the nine-month period ended December 31, 2020.

Profit/(loss) after tax

The profit/(loss) after tax of the Group increased to ₹(3,251.20) million in the nine-month ended December 31, 2021 as compared to (loss) of ₹(2,682.76) million in the nine-month ended December 31, 2020. This increase was primarily due to an increase in the finance costs, amortization expenses and other expenses, which includes loss on account of fair valuation of claim lodged with the NHAI.

Total comprehensive income/(loss) for the period

The total comprehensive income/(loss) increased to ₹(3,251.20) million in the nine-month period ended December 31, 2021 from ₹(2,682.76) million in the nine-month period ended December 31, 2020.

Financial Year 2021

The table below sets forth certain data from the Special Purpose Consolidated / Combined Financial Information for the Financial Year 2021.

Particulars	Financial Year 2021*
	Amount (in ₹ million)
Income	
Revenue from operations	10,361.51
Other income	112.71
Total income	**10,474.22**
Expenses	
Road work and site expenses	3,983.41
Depreciation and amortization expenses	1,255.69
Finance costs	8,228.17
Investment Manager Fees	46.25
Other expenses	138.32
Total expenses	**13,651.84**
Profit before tax	**(3,177.62)**
Tax expenses	
Current tax	46.20
Deferred tax	369.63
MAT Credit utilisation / (Entitlement)	(340.97)
Total tax expenses	**74.86**
Profit after tax	**(3,252.48)**
Other comprehensive income	
Item that will not be reclassified to profit or (a) re-measurement (loss)/gain on defined benefit plans (net of taxes)	-
Other comprehensive (loss) for the period/year, net of tax	**-**

Particulars	Financial Year 2021*
	Amount (in ₹ million)
Total comprehensive income for the period/year	**(3,252.48)**

**On a consolidated basis*

Total income

Our total income was ₹10,474.22 million. Our revenue from operations was ₹10,361.51 million. Contract revenue (road construction) was ₹1,863.70 million and income arising out of toll collection (net) was ₹8,497.81million.

Expenses

Our total expenses were ₹13,651.84 million. Finance costs were ₹8,228.17 million due to an increase in drawdown and loan disbursements from banks/financial institutions for projects which are under-construction. Road work and site expenses were ₹3,983.41 million. Depreciation and amortization expenses were ₹1,255.69 million. Investment Manager fees were ₹46.25 million. Other expenses were ₹138.32 million.

Profit/(loss) before tax

We recorded a (loss) before tax of ₹(3,177.62) million on a consolidated basis.

Profit/ (loss) after tax and Total comprehensive income/(loss) for the period

The profit/(loss) after tax and total comprehensive income/(loss) were ₹(3,252.48) million and ₹(3,252.48) million, respectively.

Special Purpose Combined and Consolidated Financial Information

This section discusses the results of operations of the Project SPVs for Financial Year 2020 and Financial Year 2019 on the basis of the Special Purpose Combined / Consolidated Financial Statements.

The Project SPVs were transferred to the Trust on February 25, 2020 by the Sponsor pursuant to the Formation Transactions undertaken as part of the initial offer through private placement of Units. The effective date for consolidation was March 1, 2020. Please note that the financial information for the Financial Year 2020 has been prepared on a consolidated basis for the one-month period ended March 31, 2020 and on a combined basis for the 11-month period from April 1, 2019 to February 29, 2020 and is shown as a single period for purposes of presentation and convenience only. Additionally, the financial results presented below are not necessarily indicative of the results that may be expected for any future period. For additional information, see "*Financial Statements*" on page 271.

Please note that each of the Project SPVs commenced tolling operations at different times during the last three Financial Years. Further, interest cost for projects for which construction has not been completed has been capitalized. Accordingly, our results of operations as extracted from the Special Purpose Combined Financial Information and set out below are not indicative of our future performance. Also see "*Risk Factors – We have a limited operating history and may not be able to operate our business successfully or generate sufficient cash flows to make or sustain distributions. The Special Purpose Consolidated / Combined Financial Information in this Letter of Offer has been prepared for purposes of this Issue and may not be indicative of the Trust's future financial condition and results of operations.*" on page 19.

The table below sets forth certain data from the Special Purpose Consolidated / Combined Financial Information for the periods indicated.

Particulars	Financial Year 2020*	Financial Year 2019**
	Amount (in ₹ million)	*Amount (in ₹ million)*
Income		
Revenue from operations	11,649.12	7,886.81
Other income	180.55	156.65
Total income	**11,829.67**	**8,043.46**
Expenses		
Cost of material consumed	46.44	-
Road work and site expenses	4,211.94	1,756.86
Employee benefits expenses	236.12	207.12
Depreciation and amortization expenses	1,753.97	1,099.83
Finance costs	7,620.92	3,898.60
Investment Manager Fees	26.92	-
Other expenses	158.72	122.46
Total expenses	**14,055.03**	**7,084.87**
Profit before tax	**(2,225.36)**	**958.59**
Tax expenses		
Current tax	141.61	527.45
Deferred tax	99.75	179.89
Total tax expenses	**241.36**	**707.34**
Profit after tax	**(2466.72)**	**251.25**
Other comprehensive income		
Item that will not be reclassified to profit or (a) re-measurement (loss)/gain on defined benefit plans (net of taxes)	1.07	(1.84)
Other comprehensive (loss) for the period/year, net of tax	**1.07**	**(1.84)**
Total comprehensive income for the period/year	**(2,465.65)**	**249.41**

**Please note that the financial information for the Financial Year 2020 has been prepared on a consolidated basis for the one-month period ended March 31, 2020 and on a combined basis for the 11-month period from April 1, 2019 to February 29, 2020 and is shown as a single period for purposes of presentation and convenience only.*
***On a combined basis*

Financial Year 2020 compared to Financial Year 2019

Total income

The total income of the Project SPVs increased to ₹11,829.67 million in the Financial Year 2020 from ₹8,043.46 million in the Financial Year 2019. This increase in total income was primarily due to an increase in toll revenue and contract revenue.

Revenue from operations

The revenue from operations of the Project SPVs increased to ₹11,649.12 million in the Financial Year 2020 from ₹7,886.81 million in the Financial Year 2019, primarily due to an increase in the income arising out of toll collection (net). This increase was due to the commencement of toll collection operations by certain Project SPVs during the Financial Year 2020. YATL commenced tolling in March 2019. IRB HMTL commenced toll collection operations in the month of May 2019 and IWTL commenced toll collection operations in the month of February 2020.

The income arising out of toll collection (net) increased to ₹7,795.11 million in the Financial Year 2020 from ₹6,283.00 million in the Financial Year 2019. The contract revenue (road construction) increased to ₹3,854.01 million in the Financial Year 2020 from ₹1,603.81 million in the Financial Year 2019 due to utility shifting work.

Other income

The other income of the Project SPVs increased to ₹180.55 million in the Financial Year 2020 from ₹156.65 million in the Financial Year 2019. This increase was primarily due to an increase in the interest income on bank deposits.

Total expenses

The total expenses of the Project SPVs increased to ₹14,055.03 million in the Financial Year 2020 from ₹7,084.87 million in the Financial Year 2019. This increase was primarily due to an overall increase in the expenses, road work and site expenses, employee benefit expenses, depreciation and amortization expenses, finance costs and other expenses for projects which were being constructed.

Road work and site expenses

Road work and site expenses increased to ₹4,211.94 million in the Financial Year 2020 from ₹1,756.86 million in the Financial Year 2019. This increase was primarily due to an increase in contract expenses, operation and maintenance expenses and sub-contracting/security expenses. Contract expenses increased to ₹3,905.21 million in the Financial Year 2020 from ₹1,233.46 million in the Financial Year 2019 due to increase in utility shifting work. Site and other direct expenses decreased to ₹0.50 million in the Financial Year 2020 from ₹394.81 million in the Financial Year 2019. Sub-contracting/security expenses increased to ₹153.04 million in the Financial Year 2020 from ₹115.35 million in the Financial Year 2019. Technical consultancy and supervision charges amounting to ₹9.84 million were paid in in the Financial Year 2020.

Employee benefits expenses

Employee benefits expenses increased to ₹236.12 million in the Financial Year 2020 from ₹207.12 million in the Financial Year 2019. This increase was primarily due to an increase in overall employee costs.

Depreciation and amortization expenses

Depreciation and amortization expenses increased to ₹1,753.97 million in the Financial Year 2020 from ₹1,099.83 million in the Financial Year 2019. This increase was primarily due to certain Project SPVs becoming operational.

Finance costs

Finance costs increased to ₹7,620.92 million in the Financial Year 2020 from ₹3,898.60 million in the Financial Year 2019. This increase was primarily due to an increase in availing of loan disbursements from banks/financial institutions for projects which were being constructed. Also since YATL and IWTL has achieved PCOD in March 2019 and February 2020 respectively, interest cost which was earlier being capitalised is now being expensed.

Investment Manager fees

We incurred Investment Manager fees of ₹26.92 million in the Financial Year 2020 because of the establishment of the Trust during the Financial Year 2020.

Other expenses

Other expenses increased to ₹158.72 million in the Financial Year 2020 from ₹122.46 million in the Financial Year 2019. This increase was primarily due to certain Project SPVs becoming operational.

Profit before tax

As a result of the factors discussed above, the profit / (loss) before tax decreased to ₹ (2,225.36) million in the Financial Year 2020 from the profit / (loss) ₹ 958.59 million in the Financial Year 2019.

Tax expenses

The Project SPVs recorded a current tax of ₹141.61 million in the Financial Year 2020 compared to ₹527.45 million in the Financial Year 2019. The decrease in current tax in the Financial Year 2019 was primarily due to

lower profits. The Project SPVs also recorded deferred tax of ₹99.75 million in the Financial Year 2020 compared to ₹179.89 million in the Financial Year 2019. Accordingly, the total tax expenses of the Project SPVs decreased to ₹241.36 million in the Financial Year 2020 from ₹707.34 million in the Financial Year 2019.

Profit/(loss) after tax

The (loss) after tax of the Project SPVs increased to ₹(2,466.72) million in the Financial Year 2020 from profit of ₹251.25 million in the Financial Year 2019. This increase was primarily due to an increase in the finance costs and amortization expenses.

Total comprehensive income for the year

The total comprehensive income/(loss) stood at ₹(2,465.65) million in the Financial Year 2020 as against ₹249.41 million in the Financial Year 2019.

Liquidity and Capital Resources

The Project SPVs operate in a capital-intensive industry and their principal liquidity requirements have been to finance their capital expenditures. To fund these costs, the Project SPVs have historically relied on equity contributions, short term and long-term borrowings and cash from operating activities.

The Project SPVs' funding and treasury activities are conducted consistent with corporate policies designed to enhance investment returns while maintaining appropriate liquidity for their requirements. Their short-term liquidity requirements relate to servicing debt and funding working capital requirements. Sources of short-term liquidity include cash balances and receipts from operations. Their long-term liquidity requirements include partial funding of investments in new projects, funding equity contributions in Project SPVs and repayment of long-term debt under credit facilities. Sources of funding for long-term liquidity requirements include loans, equity issuances or debt issues. The principal liquidity requirements have been, and are expected to continue to be, construction, development, implementation and maintenance costs of the BOT projects.

The Investment Manager believes that after taking into account the expected cash to be generated from our business and operations, we have sufficient funds for both our present and anticipated future requirements for working capital for 12 months following the date of Allotment.

Cash Flows

The following table sets forth certain information relating to the Project SPVs cash flows for the periods indicated:

(₹ in millions)

Particulars	Nine-month period ended December 31, 2021*	Nine-month period ended December 31, 2020*	Financial Year 2021 *	Financial Year 2020**	Financial Year 2019***
Net cash flows generated from operating activities	17,108.35	7,342.86	7,476.25	40,063.07	11,596.15
Net cash flows (used in) investing activities	(17,143.39)	(13,258.40)	(19,584.76)	(48,056.17)	(40,849.18)
Net cash flows generated from financing activities	114.63	7,565.13	12,332.32	7,856.97	28,579.40
Net increase/ (decrease) in cash and cash equivalents	79.58	1,649.58	223.81	(136.13)	(673.63)

**On a consolidated basis*
***Please note that the financial information for the Financial Year 2020 has been prepared on a consolidated basis for the one-month period ended March 31, 2020 and on a combined basis for the 11-month period from April 1, 2019 to February 29, 2020 and is shown as a single period for purposes of presentation and convenience only.*
****On a combined basis*

Cash flows from operating activities

Nine-month period ended December 31, 2021

In the nine-month period ended December 31, 2021, the Project SPVs' net cash flow from operating activities was ₹17,108.35 million and the loss before tax was ₹3,761.97 million, which was adjusted for non-cash and other items in a net amount of ₹10,651.18 million and changes in working capital and other provisions amounting to ₹ 10,183.24 million, primarily on account of increase in trade payable of ₹10,908.12 million due to construction work execution, decrease in trade receivable of ₹ 78.07 million due to increase in utility shifting work and increase in other financial liabilities for ₹ 298.76 million. The cash generated from operations was ₹ 17,072.45 million and net taxes paid were ₹35.90 million in the nine-month period ended December 31, 2021.

Nine-month period ended December 31, 2020

In the nine-month period ended December 31, 2020, the Project SPVs' net cash flow from operating activities was ₹7,342.86 million and the loss before tax was ₹2,632.78 million, which was adjusted for non-cash and other items in a net amount of ₹7,098.25 million and changes in working capital and other provisions amounting to ₹ 2,876.06 million, primarily on account of increase in trade payable of ₹1,983.84 million due to construction work execution, decrease in trade receivable of ₹ 330.46 million due to increase in utility shifting work, decrease in other financial liabilities of ₹ 375.75 million and decrease in other assets of ₹ 1,161.07 million. The cash generated from operations was ₹ 7,341.55 million and net taxes paid were ₹1.31 million in the nine-month period ended December 31, 2020.

Financial Year 2021

In the Financial Year 2021, the Project SPVs' net cash flow from operating activities was ₹7,476.25 million and the loss before tax was ₹3,177.62 million, which was adjusted for non-cash and other items in a net amount of ₹9,664.03 million and changes in working capital and other provisions, such as increase in trade payables of ₹2277.55 million due to construction work execution, decrease in trade receivable of ₹251.88 million due to increase in utility shifting works and decrease in other liabilities of ₹52.75 million due to increase in advance from customer. The cash generated from operations was ₹7,461.55 million and net taxes paid were ₹14.70 million in the year ended March 31, 2021.

Financial Year 2020

In the Financial Year 2020, the Project SPVs' net cash flow from operating activities was ₹40,063.07 million and the loss before tax was ₹2,225.36 million, which was adjusted for non-cash and other items in a net amount of ₹9,259.30 million and changes in working capital and other provisions, such as decrease in trade payables of ₹5,783.13 million and decrease in other assets of ₹3,006.76 million due to recovery of mobilization advance given to the EPC contractor. The cash generated from operations was ₹40,285.40 million and net taxes paid were ₹(222.33) million in the Financial Year 2020.

Financial Year 2019

In the Financial Year 2019, the Project SPVs' net cash flow from operating activities was ₹11,596.15 million and the profit before tax was ₹958.59 million, which was adjusted for non-cash and other items in a net amount of ₹2,732.68 million and changes in working capital and other provisions, such as increase in trade payables of ₹1,948.03 million due to construction work execution and decrease in other assets of ₹6,623.09 million due to recovery of mobilization advance given to the EPC contractor. The cash generated from operations was ₹12,188.01 million and net taxes paid were ₹(591.86) million in the Financial Year 2019.

Cash used in investing activities

Nine-month period ended December 31, 2021

The Project SPVs' net cash used in investing activities in the nine-month period ended December 31, 2021 was ₹ (17,143.39) million, primarily attributable to addition towards construction for projects (classified as toll collection rights under intangible assets).

Nine-month period ended December 31, 2020

The Project SPVs' net cash used in investing activities in the nine-month period ended December 31, 2020 was ₹ (13,258.40) million, primarily attributable to addition towards construction for projects (classified as toll collection rights under intangible assets).

Financial Year 2021

The Project SPVs' net cash used in investing activities in the year ended March 31, 2021 was ₹(19,584.76) million, primarily attributable to addition towards construction for projects (classified as toll collection rights under intangible assets).

Financial Year 2020

The Project SPVs' net cash used in investing activities in the Financial Year 2020 was ₹(48,056.17) million, primarily attributable to addition towards construction for projects (classified as toll collection rights under intangible assets).

Financial Year 2019

The Project SPVs' net cash used in investing activities in the Financial Year 2019 was ₹(40,849.18) million, primarily attributable to addition towards construction for projects (classified as toll collection rights under intangible assets).

Cash flows generated from financing activities

Nine-month period ended December 31, 2021

Net cash generated from financing activities in the nine-month period ended December 31, 2021 was ₹114.63 million, primarily consisting of borrowings from banks/financial institutions and issue of equity share capital and subordinated debt.

Nine-month period ended December 31, 2020

Net cash generated from financing activities in the nine-month period ended December 31, 2020 was ₹ 7,565.13 million, primarily consisting of borrowings from banks/financial institutions and issue of equity share capital and subordinated debt.

Financial Year 2021

Net cash generated from financing activities in the year ended March 31, 2021 was ₹12,332.32 million, primarily consisting of borrowings from banks/financial institutions and issue of equity share capital and subordinated debt.

Financial Year 2020

Net cash generated from financing activities in the Financial Year 2020 was ₹7,856.97 million, primarily consisting of borrowings from banks/financial institutions and issue of equity share capital and subordinated debt.

Financial Year 2019

Net cash generated from financing activities in the Financial Year 2019 was ₹28,579.40 million, primarily consisting of borrowings from banks/financial institutions and issue of equity share capital and subordinated debt.

Indebtedness

The table below provides the types and amounts of our outstanding indebtedness as at December 31, 2021.

(₹ in million)

	As at December 31, 2021
Non-current Borrowings	
Term loans	
Indian rupee loan from banks (secured)	
Project loans for SPVs	78,396.59

	As at December 31, 2021
Less : current maturities expected to be settled within 12 month from balance sheet date	(415.07)
Total (a)	**77,981.52**
Indian rupee loan from financial institutions (secured)	
Project loans for SPVs	10,365.27
Less : current maturities expected to be settled within 12 month from balance sheet date	(72.42)
Total (b)	**10,292.85**
Non-convertible debentures (secured)	5,514.67
Less : current maturities expected to be settled within 12 month from balance sheet date	(102.50)
Total (c)	**5,412.17**
(Unsecured)	
Loan from related parties	-
Total (d)	-
Less: Unamortised transaction cost **(e)**	(983.94)
Total non current borrowings (f = a + b + c + d + e)	**92,702.60**
Current Borrowings	
Short-term borrowings (secured)	
Current maturity of long term loans	
Indian rupee loan from banks (secured)	415.07
Indian rupee loan from financial institutions (secured)	72.42
Non convertible debentures (secured)	102.50
(Unsecured, repayable on demand and interest free)	
Loan from related parties	4,024.74
Total current borrowings (g)	**4,614.73**
less: Amount clubbed under "other current financial liabilities"	-l
Net current borrowings	**4,614.73**
Total borrowings (f+g)	**97,317.33**
Aggregate secured loans (net of unamortised transaction cost)	93,292.59
Aggregate unsecured loans	4,024.74

As at December 31, 2021, the Project SPVs had total borrowings aggregating to ₹97,317.33 million (comprising secured loans) on a consolidated basis. The Project SPVs' secured financing arrangements are secured by their movable and immovable assets, including a charge on equipment as well as on their intangible assets relating to toll collection rights under the various projects. Also see "*Financial Indebtedness*" on page 375.

Contractual Obligations and Commitments

The following table sets forth certain information relating to future payments due under contractual commitments as of December 31, 2021, aggregated by type of contractual obligation:

(₹ in million)

Particulars	Total	On Demand	Less than 1 year	1 to 5 years	> 5 years
Borrowings [Gross of unamortised transaction cost]	98,301.27	4,024.74	589.99	11,441.70	82,244.84
Other financial liabilities	38,250.57	-	12,999.27	25,251.30	-

Trade payables	15,931.77	-	10,604.24	5,327.53	-
Total	**152,483.61**	**4,024.74**	**24,193.50**	**42,020.53**	**82,244.84**

Contingent Liabilities and other Off-Balance Sheet Arrangements

Contingent liabilities not provided for

(₹ in millions)

Particulars	December 31, 2021*	March 31, 2021*	March 31, 2020**	March 31, 2019***
Guarantees given by the Group to suppliers, government bodies and performance guarantee for Service Tax, ESIC, Custom Duty, Other Finance expenses and Stamp duty matters	-	-	-	-
Total	-	-	-	-

**On a consolidated basis*
***Please note that the financial information for the Financial Year 2020 has been prepared on a consolidated basis for the one-month period ended March 31, 2020 and on a combined basis for the 11-month period from April 1, 2019 to February 29, 2020 and is shown as a single period for purposes of presentation and convenience only.*
****On a combined basis*

The Supreme Court of India, pursuant to an order dated February 28, 2019, in the case of *Surya Roshani Limited others v. EPFO*, set out the principles based on which allowances paid to the employees should be identified for inclusion in basic wages for the purposes of computation of Provident Fund contribution. Subsequently, a review petition against this decision was filed and is pending before the Supreme Court for disposal. In the view of the management, the liability for the period from date of the Supreme Court order to March 31, 2019 is not significant. Further, pending decision on the subject review petition and directions from the EPFO, the impact for the past period, if any, is not ascertainable and consequently no effect has been given in the accounts.

There are no off-balance sheet arrangements that have or are reasonably likely to have an adverse effect on our financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources that the Investment Manager believe are material to investors.

Transactions with Related Parties

The Project SPVs have in the course of their business entered into various transactions with related parties. These transactions include operation and maintenance charges paid for operation and maintenance activities sub-contracted, loans and advances, certain road work expenses for work road work contracted to various Sponsor entities in similar businesses. Further, the Trust has also provided Shareholder Loans to the Project SPVs. The PDTPL Acquisition is also a related party transaction.

For further information, see "*Related Party Transactions"* on page 238 and "*Financial Statements*" on page 271.

Material Developments since the date of the last balance sheet

The global spread of COVID-19 has created significant economic and political volatility and uncertainty and business disruption. The ultimate extent of COVID-19 on our business, financial condition and results of operations will depend on future developments, which are highly uncertain and cannot be predicted. For more information, see "*Risk Factors – The outbreak and continuing spread of COVID-19 has had, and could further have, a material adverse effect on our business, financial condition and results of operations.*" on page 15 and " – *Update in relation to COVID-19*" on page 357.

Except as disclosed above and in this Letter of Offer, the Investment Manager is not aware of any circumstances that have arisen since December 31, 2021, that materially and adversely affect, or are likely to affect, the Trust's or the Project SPVs' or the Target SPV's operations or profitability, the value of the Trust's or the Project SPVs' or the Target SPV's respective assets, or the Trust's or the Project SPVs' or the Target SPV's ability to pay their respective material liabilities within the next 12 months.

Quantitative and Qualitative Disclosure about Market Risk

Interest rate risk

As the infrastructure development and construction business is capital intensive, the Project SPVs are exposed to interest rate risk. Interest rates for borrowings have been volatile in India in recent periods. The Project SPVs infrastructure development and construction projects were funded to a large extent by debt and increases in interest expense could have an adverse effect on their results of operations and financial condition. The Project SPVs current debt facilities carry interest at variable rates as well as fixed rates with the provision for periodic reset of interest rates. As of December 31, 2021, the majority of the Project SPVs total indebtedness was subject to variable rates. Although from time to time we may engage in interest rate hedging transactions or exercise any rights available to us under these financing arrangements to terminate the existing debt financing arrangement on the respective reset dates and enter into new financing arrangements, there can be no assurance that we will be able to do so on commercially reasonable terms, that our counterparties will perform their obligations, or that these agreements, if entered into, will protect us adequately against interest rate risks.

Inflation Risk

In recent years, India has experienced relatively high rates of inflation. While we believe inflation has not had any material impact on our business and results of our operations, inflation generally impacts the overall economy and business environment and could affect us.

Quality of income

The majority of our income on a consolidated basis is from the collection of toll. This is based on actual receipts by each of the Project SPVs. There are no management estimates or judgement involved in the recognition of our revenues. For further information see " – *Factors Affecting Results of Operations*", " – *Significant Accounting Policies*", " – *Components of Income and Expenses*".

Unusual or Infrequent Events or Transactions

Except as described in this Letter of Offer, there have been no events or transactions to our knowledge which may be described as "unusual" or "infrequent".

Known Trends or Uncertainties

Except as described in "*Risk Factors*" on page 15 and elsewhere in this Letter of Offer, to our knowledge, there are no known trends or uncertainties that have had or are expected to have a material adverse impact on our revenues.

Future Relationships between Costs and Income

Except as discussed in "*Risk Factors*" and elsewhere in this Letter of Offer, there are no known factors that will have a material adverse impact on our operations or finances.

Competitive Conditions

Please see "*Risk Factors*" and "- *Factors affecting our results of Operations*" on pages 15 and 357, respectively.

Significant Economic Changes that Materially Affected or are Likely to Affect Income from Continuing Operations

Our business has been subject, and we expect it to continue to be subject, to significant economic changes that materially affect or are likely to affect our income from continuing operations identified above in "- *Factors Affecting our Results of Operations*" and the uncertainties described in "*Risk Factors*" on the pages 357 and 15, respectively.

FINANCIAL INDEBTEDNESS

The following is a summary of the indebtedness of the Project SPVs and the Target SPV, together with a brief description of certain material covenants of the relevant financing agreements. Applicants should also refer to "Background and Structure of the Trust" and "Financial Statements" on pages 82 and 15, respectively.

The Project SPVs and the Target SPV have primarily availed loans, for financing, in part, the project costs in relation to the construction and development of their respective underlying road infrastructure asset. Certain Project SPVs have availed further financing, as necessary, for refinancing existing loans or with respect to the repayment obligations under previously availed loans.

Set forth below is a brief summary of the aggregate borrowings of the Project SPVs as at December 31, 2021. PDTPL did not have any outstanding borrowings as at December 31, 2021.

Category of Borrowing	Aggregate Amount (₹ in Millions)	Outstanding amount as at December 31, 2021 (₹ in Millions)
AETL		
Term Loans		
Secured	16,500.00	7290.54
Unsecured	-	10,007.30
Total		**17,297.84**
CGTL		
Term Loans		
Secured	14,000.00	14,006.67
Unsecured	-	316.30
Total		**14,322.97**
IRB HMTL		
Term Loans		
Secured	15,410.00	13,569.75
Unsecured	-	20.26
Total		**13,590.01**
IRB WTL		
Term Loans		
Secured	14,060.00	9,947.87
Unsecured	-	5,116.98
Total		**15,064.85**
KGTL		
Term Loans		
Secured	10,200.00	9,432.35
Unsecured	-	106.00
Total		**9,538.35**
KTL		
Term Loans		
Secured	-	-
Unsecured	-	9,444.37
Debentures	5,500.00	5,514.67
Total		**14,959.04**
SYTL		
Term Loans		
Secured	9,100.00	5,233.89
Unsecured	-	4,114.82
Total		**9,348.71**
UTL		
Term Loans		
Secured	14,609.00	15,325.32
Unsecured	-	415.59
Total		**15,740.91**
YATL		
Term Loans		
Secured	17,560.00	13,955.52
Unsecured	-	4,685.20
Total		**18,640.72**

Principal Terms of the Borrowings availed by the Project SPVs and the Target SPV

1. **Interest and commissions:** In terms of the loans availed by the Project SPVs and the Target SPV, the interest rate is a base rate specified by the lender plus applicable spread, if any, per annum. The applicable spread varies among different loans. The rate of interest upon non-convertible debentures is at a fixed rate per annum.

2. **Maturity and Repayment:** The final maturity period of the loans availed by the Project SPVs and the Target SPV ranges from August 2033 to March 2037. These loans are repayable in accordance with the repayment schedule specified in the relevant financing agreements, which typically prescribe monthly instalments for rupee loans and monthly instalments with respect to the non-convertible debentures.

3. **Security:** In terms of borrowings where security needs to be created, the Project SPVs and the Target SPV are typically required to create:

    a. A first charge by way of hypothecation of all the Project SPV's or the Target SPV's movables, including moveable plant and machinery, machinery spares, tools and accessories, furniture, fixtures, vehicles and all other movable assets, present and future, excluding the project assets;

    b. A first ranking charge over all accounts of the Project SPV or the Target SPV, including, *inter alia*, the escrow account, trust and retention account, DSR account and the sub-accounts that may be opened in accordance with the facility agreement/debenture trust deed and the supplementary escrow agreement, or any of the other project agreements and all funds from time to time deposited therein, the receivables and authorised investments or other securities for the purpose of being applied to the extent of the waterfall of priority specified in the concession agreement;

    c. A first charge on the Project SPV's or Target SPV's intangibles, including but not limited to goodwill and uncalled capital, present and future, excluding the project assets;

    d. A first ranking *pari passu* charge over all of the Project SPV's or Target SPV's immovable assets, both present and future, if any;

    e. A substitution agreement, as may be executed between the NHAI, the Project SPV/Target SPV and its respective lenders, whereby the NHAI may substitute the Project SPV/Target SPV by a selectee of its respective lenders, for the purpose of securing the payment of lender dues;

    f. A pledge of a certain specified percentage of the equity shares of the Project SPVs that are held by the Sponsor (directly or indirectly);

    g. A pledge of a certain specified percentage of the equity shares of the Target SPV;

    h. An irrevocable and unconditional corporate guarantee from the Sponsor and/or certain other members of the Sponsor group to meet shortfall between outstanding amount of obligations and termination payments received from NHAI in case of termination of the concession agreements;

    i. Assignment on *pari passu* basis by way of hypothecation of all toll receivables, cash flows and revenue and other project documents;

    j. The right, title and interest of the Project SPV/Target SPV by way of first charge in, to and under all the applicable permits, insurance policies and uncalled capital of the Project SPV/Target SPV; and

    k. The right, title and interest of the Project SPV/Target SPV by way of first charge in, to and under (a) the project documents/project agreements and (b) the guarantees, other performance warranties, indemnities and security that may be furnished in favor of the Project SPV/Target SPV by various contractors.

4. **Covenants:** Borrowing arrangements entered into by the Project SPVs and the Target SPV contain certain restrictive conditions and covenants restricting certain corporate actions and the respective Project

SPV/Target SPV is required to take the prior approval of the lender before carrying out such activities. Each of the Project SPVs and the Target SPV are also required to adhere to certain financial covenants, which include but are not limited to, maintaining a prescribed debt to equity ratio during the currency of the loan and maintaining a minimum debt service coverage ratio during certain periods.

A Project SPV/Target SPV is required to intimate and/or obtain prior written permission of its lenders, *inter alia*, in the following instances:

a. Effecting any change in the nature or scope of the project or any change in the financing plan;

b. Effecting any change in capital structure (including shareholding pattern);

c. Raising any equity or preference share capital;

d. Making any capital expenditure other than permitted investments;

e. Making any dividend payments to the Trust or making any other restricted payments (including redemption of any shares of any class, prepayment in relation to any indebtedness, payment of interest on unsecured loans, investment in any entity) except as permitted under the financing agreements;

f. Creation of any security interest in any of the secured property;

g. Incurrence of any other indebtedness, including the issue of debentures other than permitted indebtedness;

h. Entering into any partnership, profit-sharing or royalty agreement;

i. Removal of any person exercising substantial powers of management over the affairs of the Project SPVs/Target SPV in case of an event of default;

j. Amending the constitutional documents of the Project SPVs/Target SPV;

k. Undertaking of any new project or making of any investment or taking any assets on lease;

l. Providing guarantees, indemnities or similar assurances in respect of indebtedness of any other person, (other than in the ordinary course of business);

m. Repay or prepay any subordinated loan or loans brought in as equity taken by the Project SPVs or the Target SPV from the Sponsor;

n. Create any subsidiary or permit the Project SPV/Target SPV to become a subsidiary;

o. Undertake or permit any scheme of arrangement or compromise with its creditors or shareholders; and

p. Change in the composition of the board of directors of the Project SPV/Target SPV.

Certain lenders have the ability to opt for a put/call option after a minimum period of five years from the scheduled commercial operation date or a refinance option after a block of five years as per their internal guidelines.

Additionally, if a Project SPV or the Target SPV receives funds in respect of the following then the monies received to be utilized to prepay the loans, upon request from the lenders, on a *pro rata* basis to all the lenders without any prepayment premium: (a) any liquidated damages/ penalties received; (b) any proceeds arising in connection with a breach of warranty or guarantee; (c) any insurance proceeds; (d) any proceeds arising in relation to the expropriation or other taking by any government entity of the project assets; (e) any proceeds arising from any termination payments/ buy-out payments received; and (f) any proceeds resulting from an arbitral or judicial award received. The lenders of certain Project SPVs have the right to

accelerate the repayment of the unamortized portion of the loans at any time, in the event the cash flows of such Project SPV are adequate for such acceleration.

In relation to outstanding debentures, the relevant Project SPV/Target SPV is required to undertake mandatory redemption on a *pro-rata* basis to all the debenture holders from the proceeds of any amount received by and on behalf of the issuer from any such event if the event involves receipt of, *inter-alia*: (a) insurance proceeds; (b) proceeds from a breach of warranty or guarantee; (c) payments received on account of buy-out events; (d) liquidated damages or penalties paid under project agreement; or (e) proceeds from expropriation or takeover event.

5. **Events of Default:** Borrowing arrangements entered into by the Project SPVs and the Target SPV contain standard events of default, including:

   a. Non-payment of principal amount by the Project SPV/Target SPV;

   b. Non-payment of interest, additional interest, liquidated damages, free or other amount by the Project SPV/Target SPV;

   c. Default by the borrower in creation of security interest to the satisfaction of the lenders within the period stipulated;

   d. Default or breach in the performance of any covenants and/or covenants under the agreement by the Project SPV/Target SPV;

   e. Misrepresentation made by the Project SPV/Target SPV under the agreement or any financing document provided in connection with the loan;

   f. Sale, disposal or creation of any charge or encumbrance on any of the land, building, structures or plant and machinery of the Project SPVs/Target SPV in breach of any of the provisions of the relevant project agreements, without prior written approval of the relevant lenders;

   g. Undertaking any action for reorganization of the Project SPV/Target SPV without the approval of the relevant lenders;

   h. Default in performance or observance of any covenant, condition, warranty or provision contained in any other financing agreement entered into by the Project SPV/Target SPV;

   i. Failure on the part of the Project SPV/Target SPV to maintain adequate insurances in accordance with the terms of the transaction documents;

   j. The Project SPV/Target SPV ceasing or threatening to cease to carry on its business or giving notice of its intention to do so;

   k. The Project SPV/Target SPV abandoning its project;

   l. Violation or breach of any environmental, health and safety standards requirement; and

   m. The Project SPV/Target SPV ceasing or threatening to cease to carry on its business or giving notice of its intention to do so or it becoming unlawful for the borrower to carry on its business.

The descriptions above are indicative, and there may be additional terms and conditions with respect to security, financial or other covenants and events of default under the various borrowing arrangements entered into by the Project SPVs and the Target SPV. The Project SPVs and the Target SPV are required to ensure that the aforementioned events of default and other events of default, as specified under the various documents and agreements entered into by such Project SPV/Target SPV for the purpose of availing of loans, are not triggered.

SECTION VIII – LEGAL AND OTHER INFORMATION

MATERIAL LITIGATION AND REGULATORY ACTION

Except as stated below, there is no outstanding material litigation or regulatory action (i) involving the Project SPVs or the Target SPV; (ii) against the Trust or its Associates; (iii) against the Investment Manager or its Associates; (iv) against the Sponsor/Project Manager or its Associates; and (v) against the Trustee.

*For purposes of this section, details of all regulatory actions and criminal matters that are currently outstanding involving the Project SPVs, the Target SPV or against the Trust, the Investment Manager, the Sponsor/Project Manager and their respective Associates have been disclosed. Notices received by any of the above entities (collectively, the "**Relevant Parties**") from third parties (excluding notices from statutory, regulatory or tax authorities or notices threatening criminal action) shall not be evaluated for materiality until the Relevant Parties are impleaded as defendants in proceedings before any judicial forum.*

Outstanding litigation against any of the Project SPVs or the Target SPV before any judicial forum involving a claim amount exceeding ₹52.40 million, being 0.5% of the income of the Project SPVs for the last completed Financial Year (i.e., the Financial Year 2021), in accordance with the Special Purpose Consolidated / Combined Financial Information shall be considered material. In relation to outstanding litigation where the monetary liability is not quantifiable, such litigation shall be considered material in the event that the outcome of such litigation would have a material adverse effect on the position of the Project SPVs or the Target SPV.

Outstanding litigation against the Sponsor/Project Manager, the Investment Manager and their respective Associates (excluding the Project SPVs) before any judicial forum involving a claim amount exceeding ₹274.44 million, being 0.5% of the income of the Sponsor for the last completed Financial Year (i.e., the Financial Year 2021), in accordance with its audited consolidated financial statements for the Financial Year 2021 shall be considered material. In relation to outstanding litigation where the monetary liability is not quantifiable, such litigation shall be considered material in the event that the outcome of such litigation would have a material adverse effect on the position of the Sponsor or the Investment Manager, as applicable, or the Trust.

Further, due to the nature and extent of their operations, the Sponsor/Project Manager and the Project Entities (including the Project SPVs and the Target SPV) are and may be routinely required to file complaints and/or register first information reports against various persons, on account of such persons, inter-alia, refusing to pay toll, causing injury to the employees or contract labour of such entities and damage to the properties of such entities, which have been not been disclosed. Additionally, there have been various criminal complaints, compensation claims and first information reports filed against the employees and contract labour of the Sponsor/Project Manager and the Project Entities (including the Project SPVs and the Target SPV), in which such entities are not impleaded, which have been not been disclosed.

With respect to the Trustee, details of all regulatory actions and criminal matters that are currently outstanding against the Trustee have been disclosed. Outstanding litigation against the Trustee that the Trustee has determined to be material has been disclosed.

Taxation proceedings against the Relevant Parties (and, in case of the Project SPVs and the Target SPV, involving the Project SPVs or the Target SPV) have been disclosed in a consolidated manner.

I. Material Litigation and Regulatory Action against the Trust and its Associates

Material Litigation and Regulatory Action against the Trust

As at the date of this Letter of Offer, there is no outstanding material litigation or regulatory action against the Trust. For details in relation to outstanding material litigation and regulatory action against the Associates of the Trust, please see below.

II. Material Litigation and Regulatory Action against the Sponsor/Project Manager and Associates of the Sponsor/Project Manager

Material Litigation and Regulatory Action against the Sponsor/Project Manager

As at the date of this Letter of Offer, there is no outstanding criminal litigation against the Sponsor/Project Manager. Other than as disclosed below, there is no outstanding material civil litigation, regulatory action or other material litigation against the Sponsor/Project Manager.

Outstanding Material Civil Litigation

1. Mr. Girdhari Lal Jat has filed a public interest litigation against the Sponsor and others before the High Court of Rajasthan, Jaipur bench. Mr. Jat has alleged, *inter-alia*, that barricades have been illegally installed in several villages on the NH 12 and accordingly, public transport vehicles and other utility vehicles have been prevented from plying on the road. The petitioner has also alleged that such barricades were constructed by the respondents to increase toll collection. The petitioner has sought orders directing the respondents to remove the barricades. The respondents have stated that the matter does not public interest and that the barricades have been constructed as per the directions of the local administration to prevent damage to the roads constructed by the local authorities. The matter is currently pending.

2. Hakim Singh Yadav and others (the "**Petitioners**") have filed a writ petition before the High Court of Allahabad against the Sponsor and others (the "**Respondents**") in relation to the road asset operated by AETL, seeking to quash the contract order for the construction of the drainage system and directing the relevant authority concern to revaluate the technical measures adopted in drainage work. The Petitioners have alleged, *inter-alia*, that faulty construction and design of the drainage system have resulted in the flooding of a nearby area. The matter is currently pending.

3. Mr. Shaikh Rafiq and others have filed a writ petition against the Sponsor, Modern Road Makers Private Limited (an Associate of the Sponsor), YATL and others before the High Court of Bombay, Aurangabad (the "**BHC Aurangabad**") bench in relation to acquisition of land for the four laning of Yedshi – Aurangabad road that forms a part of the Solapur – Aurangabad highway, i.e., NH 211. For details, see " – *Material Litigation and Regulatory Action involving the Project SPVs – YATL*" on page 390.

4. Mr. Panditrao Digambarrao Shete Chausalkar and another have filed a writ petition against the Sponsor, YATL and others before the BHC Aurangabad in relation to acquisition of land for the four laning of Yedshi – Aurangabad road that forms a part of the Solapur – Aurangabad highway, i.e., NH 211. For details, see " – *Material Litigation and Regulatory Action involving the Project SPVs – YATL*" on page 391.

5. Mr. Pruthviraj Shahane (the "**Petitioner**") has filed a civil suit against the Sponsor, YATL and others before the Civil Judge (Senior Division), Beed. For details, see " – *Material Litigation and Regulatory Action involving the Project SPVs – YATL*" on page 391.

6. Mr. Kishore Mukherjee has filed a writ petition in the Calcutta High Court against the Sponsor and others. The petitioner has prayed that the notice for tender for Palsit to Dankuni project should be stopped, Environment Impact Assessment should be obtained and pending the disposal of the matter the Respondents should be directed not to uproot any trees from Panagarh to Dankuni on NH-19. The matter is currently pending.

Outstanding Regulatory Action

NHAI issued a notice to the Sponsor asking to pay damages of ₹30,485 in relation to the toll plaza Krishnavaram. The Sponsor has replied in its letter. As on date, no legal proceedings have been initiated in relation to the aforesaid notice.

Other Material Litigation

1. The Sponsor had initiated arbitration proceedings against Hyderabad Growth Corridor Limited (the "**Respondent**") in connection with a road project in Hyderabad. The Sponsor has claimed an amount of ₹982.69 million for losses suffered by the Sponsor due to a failure by the respondent to provide a toll management system. The Respondent has denied the allegations of the Sponsor and stated that it was not required to provide a toll management system under the terms of the contract between the parties. The Sponsor has received an arbitral award in its favor, but as of the date of this Letter of Offer, the Respondent has not made the payments as directed in the award. Further, the Sponsor has filed an appeal before the XXIV Additional Chief Judge cum Commercial Court, City Civil Court, Hyderabad against

the arbitral award stating the arbitral tribunal has without any reason and in complete disregard of settled principles of law, diallowed part of the compensation claimed by the Sponsor against the Respondent despite finding that the Respondent had failed to fulfil its contractual obligations resulting into drastic reduction in the toll revenue. The matter is currently pending. Further, the Respondent has filed a petition before the Commercial Courts cum Hon'ble XIII District Judge, Ranga Reddy District, praying to set aside the award for part of the claim under the arbitration award and award the cost of arbitration including the fees paid by the Respondent. The Sponsor has filed its reply in the matter. The matter is currently pending.

Material Litigation and Regulatory Action against the Associates of the Sponsor/Project Manager

For details in relation to outstanding material litigation and regulatory action against the Project SPVs, see " – *Litigation and Regulatory Action involving the Project SPVs*" on page 387. Details of outstanding material litigation and regulatory action against the other Associates of the Sponsor/Project Manager are set out below.

I. *Aryan Hospitality Private Limited ("AHPL")*

As at the date of this Letter of Offer, there is no outstanding criminal litigation or regulatory action against AHPL. Other than as disclosed below, there is no outstanding material civil litigation against AHPL.

Jaykumar Govindrao Nikam and others (the "**Petitioners**") have filed a suit before the Civil Judge, Junior Division at Kolhapur alleging that AHPL has encroached the land owned by the Petitioners. The suit pertains to the plot leased for the IRDP Kolhapur project. The concession agreement in relation to the project was entered into between the Maharashtra State Road Development Corporation (the "**MSRDC**"), IRB Kolhapur Integrated Road Company Private Limited ("**IRB Kolhapur**"), and the Kolhapur Municipal Corporation (the "**KMC**"). Under the concession agreement, land owned by the KMC was leased to IRB Kolhapur for the project pursuant to a lease deed between KMC, MSRDC and IRB Kolhapur. The land was then sub-leased by IRB Kolhapur to AHPL. The IRDP Kolhapur project has been bought back by the government. AHPL has cancelled the sub-lease deed and the possession of the land as well as the structure thereon has been given back to IRB Kolhapur on an "*as is where is*" basis, free from encumbrances. AHPL no longer has any interest in the property. The matter is currently pending.

II. *Aryan Toll Road Private Limited ("ATRPL")*

As at the date of this Letter of Offer, there is no outstanding civil or criminal litigation or regulatory action against ATRPL.

III. *ATR Infrastructure Private Limited ("ATRIPL")*

As at the date of this Letter of Offer, there is no outstanding criminal litigation or regulatory action against ATRIPL. Other than as disclosed below, there is no outstanding material civil litigation against ATRIPL.

Outstanding Material Civil Litigation

Kishore Dyanoba Shevkari (the "**Petitioner**") has filed a writ petition before the High Court of Bombay against the State of Maharashtra and ATRIPL, among others. The petition relates to the choking of the Hume Pipe Culvert because of garbage dumping. The Petitioner has alleged that the choking of the Hume Pipe Culvert has resulted in waterlogging and that has affected his land. The matter is currently pending.

IV. *IRB Ahmedabad Vadodara Super Express Tollway Private Limited ("IRB AVSETPL")*

As at the date of this Letter of Offer, there is no outstanding criminal litigation or regulatory action against IRB AVSETPL. Other than as disclosed below, there is no outstanding material civil litigation or other material litigation against IRB AVSETPL.

Outstanding Material Civil Litigation

1. Shabbirbhai Noormohmmadbhai, the owner of Pragati Hotel, Bareja, Ahmedabad (the "**Petitioner**") has filed a suit before the Additional Civil Court Judge, Ahmedabad against the Director, IRB, Jetalpur, Ahmedabad, the Deputy Engineer, R&B, Ahmedabad, the District Collector, Ahmedabad, and the State

Public Works Department, Gandhinagar seeking a permanent stay order on closing his access to the main carriage way. The suit relates to compensation for land acquisition. The matter is currently pending.

2. Jitendra Chandulal Amin, the owner of Rishi Petrol Pump, Nadiad has filed a suit before the Additional Civil Court Judge, Nadiad agaisnt IRB AVSETPL and others seeking a permanent stay order on closing his access to the main carriage way. The suit relates to compensation for land acquisition. The matter is currently pending.

Other Material Litigation

IRB AVSETPL invoked arbitration in relation to a competing road. The NHAI suggested that the matter be brought before the Conciliation Committee of Industrial Experts (the "**CCIE**"). IRB AVSETPL filed a writ petition in the High Court of Bombay, which directed the parties to immediately refer the matter to arbitration. IRB AVSETPL was also granted a waiver with respect to the payment of premium for three months subject to the submission of an undertaking. The CCIE, pursuant to order dated May 29, 2019 concluded that the conciliation had failed. IRB AVSETPL then invoked arbitration and appointed an arbitrator. The NHAI did not appoint an arbitrator. IRB AVSETPL then filed a writ petition in the High Court of Delhi, pursuant to which the NHAI was directed to form a tribunal. The interim relief granted by the High Court of Bombay was also extended. The NHAI had challenged the order of the High Court of Bombay in a special leave petition before the Supreme Court of India, but the petition was dismissed.

Subsequently, the High Court of Delhi nominated a presiding arbitrator. However, the NHAI filed a special leave petition before the Supreme Court of India challenging such nomination. The Supreme Court of India passed an order appointing a different presiding arbitrator and the arbitral tribunal was constituted. IRB AVSETPL has filed an application for interim relief and a statement of claims on March 1, 2021 requesting the arbitral tribunal to, *inter-alia*, (a) declare that the NHAI is in breach of its obligations and representations under the concession agreement; (b) direct the NHAI to pay compensation of ₹12.64 billion for the period between December 4, 2015 until December 31, 2020 with an interest at 15% per annum until payment or realization from January 1, 2021 until the subsistence of the breach; and (c) pass an order of mandatory injunction directing the NHAI to cure the breach with respect to the competing road. The NHAI has responded to the application for interim relief filed by IRB AVSETPL. The respondent has filed a counter-claim for an amount of (i) ₹562.2 million (until June 30, 2021) towards premium deferment; (ii) ₹5,026.1 million (until May 2021) and unpaid premium during the pendency of the proceedings as well as future premium; and (iii) ₹312.1 million towards interest (as on June 30, 2021) as per the provisions of the supplementary agreement. The parties filed written submissions and the arbitral tribunal framed preliminary issues and conducted hearings. In this regard, the arbitral tribunal passed an interim award dated October 14, 2021 in favour of the claimant. The arbitral tribunal subsequently formulated further issues to be settled pursuant to hearings. The NHAI also filed an application seeking to implead the Government of Gujarat as a party in the proceedings. The matter is currently pending.

The NHAI has challenged the interim award dated October 14, 2021 under Section 34 before the Delhi High Court and the matter is currently pending.

V. *IRB Goa Tollway Private Limited ("IGTPL")*

As at the date of this Letter of Offer, there is no outstanding criminal litigation, regulatory action or material civil litigation against IGTPL. Other than as disclosed below, there is no outstanding material litigation involving IGTPL.

IGTPL had initiated arbitration proceedings against the NHAI for wrongful termination of contract by the NHAI with respect to the Goa/Karnataka to Panaji-Goa section of NH-4A in the State of Goa. The arbitral tribunal had passed an award in favor of IGTPL which allowed the following claims: (i) approximately ₹1,963.80 million towards 50% of the adjusted equity of ₹1,309.20 million arising out of the termination of contract by the NHAI; (ii) an amount of ₹47.10 million for damages on account of a delay in the fulfilment of the conditions of the contract; and (iii) interest on the amounts mentioned above. The aggregate amount involved is ₹3,039.80 million. The NHAI had filed a petition before the High Court of Delhi ("**Court**") for setting aside the award passed by the arbitral tribunal and a stay on the operations of the award. The stay on the Award was not allowed by the Court. IGTPL availed 75% of the arbitral award amount from the NHAI against bank guarantees amounting to ₹2,279.80 million with the NHAI. Further, the Court also directed NHAI to deposit the balance amount with the Court, pending disposal of the case. Accordingly, NHAI has deposited an amount of ₹103.50 million with the Court. Pursuant to an order dated February 21, 2022, the Court upheld the arbitral award in relation to (i) above and

corresponding interest, but set aside the claim in relation to (ii) above. IGTPL has filed an application for withdrawal as well as an application for execution of the arbitral award under Section 36 of the Arbitration and Conciliation Act, 1996. The matter is currently pending.

VI. *IRB Infrastructure Private Limited ("IRBIPL")*

As at the date of this Letter of Offer, there is no outstanding civil or criminal litigation or regulatory action against IRBIPL.

VII. *Ideal Road Builders Private Limited ("Ideal Road Builders")*

As at the date of this Letter of Offer, there is no outstanding criminal litigation or regulatory action against Ideal Road Builders. Other than as disclosed below, there is no outstanding material civil litigation against Ideal Road Builders.

Outstanding Material Civil Litigation

1. Shamsuddin Miyalal Mushrif has filed a pulic interest litigation before the High Court of Bombay against the Union of India, Ideal Road Builders and others, to declare that the National Highways Act, 1956 and Rule 3 of National Highways (Collection of Fees by any Person for the Use of Section of National Highways/Permanent Bridge/Temporary/Bridge on National Highway) Rules, 1997 are contrary to and violate of the provisions of the Constitution of India, 1950. The petition also seeks the declaration of Section 7 of the National Highways Act, 1956 and Rules 7 and 11 of the National Highways (Fees for the use of National Highway Section and Permanent Bridge-Public Funded Projects) Rules, 1997 and the MoRTH Notifications dated March 4, 2005 and May 5, 2015 illegal, *ultra vires* and invalid, and to stop collection of toll. This is relation to the Ideal Road Builders Khambatki Ghat project. The project has been completed and handed back to the government. The matter is currently pending.

2. Nitin Sardesai and others have filed a public interest litigation before the High Court of Bombay against the State of Maharashtra, Ideal Road Builders and others, seeking the following: (i) to comply with the provisions of the manual of specifications; (ii) to take traffic census on NH 4 and expressway by electronic census system; (iii) to appoint independent agency to monitor traffic; (iv) to remove advertisements and hoardings; (v) to deposit the toll amount with government; and (vi) discount to local public. The matter relates to the Ideal Road Builders Mumbai-Pune project. The project has been completed and handed back to the government. The matter is currently pending.

3. Nitin Sardesai and others have filed a public interest litigation before the High Court of Bombay against the State of Maharashtra, Ideal Road Builders and others, seeking to quash and set aside a notification dated August 9, 2004 (no. PSP 2000/CR-106(1I) Road-8) and a notification dated September 5, 2006. The following prayers have also been made: (i) to comply with the manual of specifications; (ii) to take traffic census by electronic traffic census system; (iii) to deposit toll amount in separate account of government; (iv) to appoint an independent agency to monitor traffic; and (v) to install advance traffic mentoring system. The matter relates to the Ideal Road Builders Mumbai-Pune project. The project has been completed and handed back to the government. The matter is currently pending.

4. Shrinivas Anant Ghanekar (the "**Petitioner**") has filed a public interest litigation before the High Court of Bombay against the State of Maharashtra, Ideal Road Builders and others, seeking to quash the toll notification and declare the concession agreement illegal and *ultra vires*. The matter relates to the Ideal Road Builders Thane-Godbunder project. The suit has been filed based on erronous information provided to the Petitioner's Right to Information Application by the Maharashtra State Road Transport Corporation, as has been admitted in the reply to the petition. The matter is currently pending.

Other Material Litigation

Ideal Road Builders Private Limited and others (the "**Petitioners**") have filed a writ petition before the High Court of Bombay against the State of Maharshtra to set aside a notification issued by the Government of Maharashtra exempting LMVs and buses of the Maharashtra State Road Transport Corporation from payment of toll taxes at the Thane Godbunder project. Compensation is being paid by the Government of Maharashtra to the the entity which operates the Thane Godbunder project. The matter is currently pending.

VIII. ***IRB Kolhapur Integrated Road Development Company Private Limited ("IRB Kolhapur")***

As at the date of this Letter of Offer, there is no outstanding criminal litigation against IRB Kolhapur. Other than as disclosed below, there is no outstanding material civil litigation or regulatory action against IRB Kolhapur.

Outstanding Material Civil Litigation

1. Jairaj Velyan (the "**Petitioner**") has filed a suit before the Civil Judge, Senior Division, Kolhapur, against the State of Maharashtra and others alleging that road construction has resulted in encroachment . The Petitioner has prayed that the encroachment should be removed and the road should be made available for use of the members of the society. IRB Kolhapur has constructed the project as per the concession agreement on land made available by the Kolhapur Municipal Corporation and the project has been bought back by the government. The matter is currently pending.

2. Ashish Shah and others (the "**Petitioners**") have filed a writ petition before the High Court of Bombay against the Kolhapur Municipal Corporation (the "**KMC**") and others seeking to (i) quash the reservation of the leased plot allotted to IRB Kolhapur as well as the related resolution; (ii) allot the Petitioners an alternate piece of the land for timber market purposes; (iii) recover the plot of the land from IRB Kolhapur; and (iv) restrain IRB Kolhapur from creating encumbrances on the leased plot or otherwise dealing with it. The leased land belongs to the KMC has been given to IRB Kolhapur pursuant to the concession agreement and a lease deed executed between the KMC and the Maharashtra State Road Development Corporation. The matter is currently pending.

Outstanding Regulatory Action

Mr. Dilip Desai has filed a complaint with the Collector of Stamps, Kolhapur alleging insufficient payment of stamp duty on the cancellation of the lease deed executed between Maharashtra State Road Development Corporation and the Kolhapur Municipal Corporation ("**KMC**") for the land leased to IRB Kolhapur in Kolhapur. As per a governmnet resolution, KMC is responsible for the payment of stamp duty. IRB Kolhapur has filed a reply. The matter is currently pending.

IX. ***IRB MP Expressway Private Limited ("IRB MP") (earlier known as NKT Road and Toll Private Limited)***

As at the date of this Letter of Offer, there is no outstanding criminal litigation involving IRB MP. Other than as disclosed below, there is no outstanding material civil litigation or regulatory action against IRB MP.

Outstanding Material Civil Litigation

Pravin Wategaonkar and others (the "**Petitioners**") have filed a public interest litigation ("**PIL**") before the High Court of Bombay against Maharashtra State Road Development Corporation ("**MSRDC**"), Comptroller and Auditor General of India ("**CAG**"), Mumbai Pune Expressway Limited ("**MPEL**"), State of Maharashtra and IRB MP seeking an order from the High Court of Bombay, *inter-alia*, to (i) exempt the light motor vehicles from payment of toll on the Mumbai Pune Expressway ("**Expressway**"); (ii) stay the tender process which is underway for the toll collection rights for next ten (10) years on the Expressway; and (iii) declare the toll collection as illegal and restrain MPEL / MSRDC from collecting such toll on the Expressway. The Petitioners have filed civil application in the PIL nad has prayed the Honorable High Court to examine the legality and validy of the documents of MSRDC, to register case against the officers of MSRDC involving in preparing the document and direct the toll contractor to deposit in the court entire toll revenue collected on Mumbai Pune Expressway. The matter is currently pending.

Outstanding Regulatory Action

The Collector of Stamps, Solapur has raised a demand for a deficit in stamp duty of ₹323,000 and a penalty, on the agreement dated November 28, 2001. In its letter dated July 3, 2015, IRB MP informed the Collector of Stamps that such stamp duty is not applicable to the agreement as the section referred to by the Collector of Stamps was not in existence at the time of execution of the agreement. There has been no further response from the Collector of Stamps.

X. *IRB Sindhudurg Airport Private Limited ("IRB Sindhudurg")*

As at the date of this Letter of Offer, there is no outstanding criminal litigation or regulatory action involving IRB Sindhudurg. Other than as disclosed below, there is no outstanding material civil litigation against IRB Sindhudurg.

Vijay Krishnaji Rane (the "**Petitioner**") has filed a suit before the Civil Court, Oras, Sindhudurg against IRB Sindhudurg and others (the "**Respondents**") praying for the following reliefs: (i) that the Respondents be prevented from creating obstacles on the suit property; and (ii) that the Respondents be prevented from cutting trees and fruits in the suit property. The Petitioner has also prayed that in the event that it is found that the Respondents are encroaching on the suit property, then the possession of the suit property should be given to him.

XI. *Mhaiskar Infrastructure Private Limited ("MIPL")*

As at the date of this Letter of Offer, there is no outstanding criminal litigation against MIPL. Other than as disclosed below, there is no outstanding material civil litigation or regulatory action against MIPL.

Outstanding Material Civil Litigation

1. Nitin Sardesai and others have filed a public interest litigation before the High Court of Bombay against the State of Maharashtra, MIPL, Ideal Road Builders, and others, seeking compliance with certain specifications. For details, see " – *Material Litigation and Regulatory Action against the Sponsor/Project Manager and Associates of the Sponsor/Project Manager – Material Litigation and Regulatory Action against the Associates of the Sponsor – Ideal Road Builders Private Limited*" on page 383.

2. Nitin Sardesai and others have filed a public interest litigation before the High Court of Bombay against the State of Maharashtra, MIPL, Ideal Road Builders Private Limited, and others seeking to quash certain notifications. For details, see " – *Material Litigation and Regulatory Action against the Sponsor/Project Manager and Associates of the Sponsor/Project Manager – Material Litigation and Regulatory Action against the Associates of the Sponsor/Project Manager – Ideal Road Builders Private Limited*" on page 383.

3. Juilie Patil (the "**Petitioner**") has filed a suit before the Court of the Civil Judge, Khalapur against the Maharashtra State Road Development Corporation (the "**MSRDC**") and MIPL (together, the "**Respondents**") requesting the court to issue an order against the Respondents for the following: (i) to remove the encroachment caused by the construction of a toilet and a compound wall on the land that is the subject of the suit; (ii) to issue necessary orders for reimbursement of loss of income due to encroachment; and (iii) to order the Respondents to pay to the Petitioner the costs incurred in filing the suit. A written statement has been filed in the matter and an application has been made for the appointment of a court commissioner. The 15 year concession period in relation to the project has been completed and the project has been handed back to the government. The responsibility for land acquisition lies with the MSRDC. The matter is currently pending.

4. The Shree Ganesh Cooperative Housing Society, through Mr. Shrikrishna Parshuram Joshi and others (the "**Petitioner**") has filed a suit before the Court of the Civil Judge, Senior Division, Pune against MIPL and others challenging the encroachment removal notice issued by Maharashtra State Road Development Corporation on the basis of a survey conducted by MIPL. The 15 year concession period in relation to the project has been completed and the project has been handed back to the government. The matter is currently pending.

5. Pravin Wategaonkar and others have filed a public interest litigation before the High Court of Bombay against the Maharashtra State Road Development Corporation and others allegeing that MIPL is collecting excess toll on the Mumbai-Pune Expressway. The 15 year concession period in relation to the project has been completed and the project has been handed back to the government. The matter is currently pending.

6. The Depurty Inspector General of Registration and Deputy Controller of Stamps and Collector of Stamps, Mumbai Division, Mumbai ("**Authority**"), passed an order dated March 12, 2008 (the "**Order**") against MIPL demanding a payment of ₹275.40 million as deficit stamp duty and a penalty of ₹49.57 million in relation to an the agreement dated August 4, 2004 executed among MSRDC, Ideal Road

Builders and MIPL for construction on the Mumbai-Pune Expressway. MIPL filed a writ petition before the High Court of Bombay challenging the Order. Pursuant to an order dated April 28, 2008, the High Court of Bombay provided interim relief to MIPL and directed it to deposit 50% of the claimed amount. MIPL subsequently deposited ₹137.70 million with the Authority. The matter is currently pending.

Outstanding Regulatory Action

The Collector of Stamps, Andheri, Maharashtra sent a notice to MIPL demanding that stamp duty of ₹1,500,000 a penalty of ₹5,340,000 be paid on the agreement dated August 4, 2004 for the Mumbai Pune project. MIPL has replied to the notice, and has not received any response from the Collector of Stamps.

XII. *Mhaiskar Ventures Private Limited ("MVPL")*

As at the date of this Letter of Offer, there is no outstanding civil or criminal litigation or regulatory action against MVPL.

XIII. *MRM Mining Private Limited ("MRMMPL")*

As at the date of this Letter of Offer, there is no outstanding civil or criminal litigation or regulatory action involving MTMMPL.

XIV. *Modern Road Makers Private Limited ("MRM")*

As at the date of this Letter of Offer, there is no outstanding criminal litigation or regulatory action against MRM. Other than as disclosed below, there is no outstanding material civil litigation against MRM.

1. Arjun Rama Ghatal has filed complaint before the office of the Tahasildar and the Executive Magistrate, Palghar against MRM and others regarding the payment of land cess and seeking compensation for possession of land and damage to crops caused by the installation of a tar plant machine. The matter is currently pending.

2. Mr. V Sachhidananda Shetty (the "**Petitioner**") filed a petition against the NHAI, MRM and others (the "**Respondents**") before the Civil Judge at Kundapura alleging that he was not given permission to cut teakwood trees by one of the Respondents. The Petitioner has stated that he entered into an agreement with the NHAI for taking away the salvage in the form of timber and fire wood of felled trees from k.m. 93.700 to k.m. 283.300 of NH 66. The Petitioner has also alleged that the Respondents have colluded with each other to cut and remove the teakwood trees in violation of the agreement. The Petitioner has requested the court to grant a permanent injunction restraining the Respondents from cutting and transporting the teakwood trees. The matter is currently pending.

XV. *Thane Godbunder Toll Road Private Limited ("TGRPL")*

As at the date of this Letter of Offer, there is no outstanding criminal litigation or regulatory action against TGRPL. Other than as disclosed below, there is no material civil litigation against or other material litigation involving TGRPL.

Outstanding Material Civil Litigation

Shrinivas Anant Ghanekar has filed a public interest litigation before the High Court of Bombay against the State of Maharashtra, Ideal Road Builders Private Limited, TGRPL, and others. For details, see " – *Material Litigation and Regulatory Action against the Sponsor/Project Manager and Associates of the Sponsor/Project Manager – Material Litigation and Regulatory Action against the Associates of the Sponsor/Project Manager – Ideal Road Builders*" on page 383.

Other Material Litigation

Ideal Road Builders Private Limited, TGRPL and others have filed a writ petition before the High Court of Bombay against the State of Maharashtra. For details, see " – *Material Litigation and Regulatory Action against the Sponsor/Project Manager and Associates of the Sponsor/Project Manager – Material Litigation and*

Regulatory Action against the Associates of the Sponsor/Project Manager – Ideal Road Builders – Other Material Litigation" on page 383.

XVI. *VCR Toll Services Private Limited ("VCR")*

As at the date of this Letter of Offer, there is no outstanding criminal litigation or regulatory action against VCR. As at the date of this Letter of Offer, there is no outstanding material civil litigation against VCR. Other than as disclosed below, there is no material litigation against VCR.

Other Material Litigation

VCR has filed a writ petition before the High Court of Bombay against the Executive Engineer, Public Works Department, and others, challenging an action of the Government which has prevented them from collecting the toll based on an allegation that they have not carried out repairs to the project road. The matter is currently pending.

Material Litigation and Regulatory Action involving the Project SPVs

A. *AETL*

As at the date of this Letter of Offer, there is no outstanding criminal litigation or regulatory litigation involving AETL. Other than as disclosed below, there is no outstanding material civil litigation involving AETL.

Outstanding Material Civil Litigation

1. Hakim Singh Yadav and others (the "**Petitioners**") have filed a writ petition before the High Court of Allahabad against the Sponsor and others (the "**Respondents**") in relation to the drainage system for the road asset operated by AETL. For details, see "– *Material Litigation and Regulatory Action against the Sponsor/Project Manager and Associates of the Sponsor/Project Manager - Material Litigation and Regulatory Action against the Sponsor/Project Manager - Outstanding Material Civil Litigation*" on page 380.

2. AETL has filed for settlement through conciliation with the NHAI in relation to a dispute with respect to the payment of premium with proportionate reduction of revenue losses on account of COVID-19 and delay in completion of construction. The amounts under dispute are excess payment of premium of ₹128.4 million and outstanding payment of premium including interest of ₹553.4 million as of June 7, 2021. AETL and the NHAI did not reach any settlement, and accordingly, AETL invoked arbitration proceedings against the NHAI under the terms of its concession agreement. The matter is currently pending.

B. *CGTL*

As at the date of this Letter of Offer, there is no outstanding regulatory action involving CGTL. Other than as disclosed below, there is no outstanding material civil litigation or criminal litigation involving CGTL.

Outstanding Material Civil Litigation

CGTL, KGTL and UTL have filed a writ petition before the High Court of Rajasthan, Jaipur Bench against Union of India and NHAI challenging certain notifications and seeking interim relief from the High Court of Rajasthan, Jaipur Bench. For details, see " – *Material Litigation and Regulatory Action involving the Project SPVs – UTL – Outstanding Material Civil Litigation*" on page 389.

Outstanding Criminal Litigation

1. Mr. Waman Rathod, deputy general toll manager at a toll plaza located on the road asset operated by CGTL, has filed two first information reports at the Police Station, Gangrar, Chittorgarh, Rajasthan in relation to (i) the misbehaviour of certain individuals when asked to pay toll; and (ii) the theft of ₹0.62 million from the cash room at the toll plaza. The matters are currently pending.

2. Mr. Rohit Sharma, a supervisor at at a toll plaza located on the road asset operated by CGTL, has filed a first information report at the Raila Police Station, Bhilwara, Rajasthan against the driver of a truck-trailer in relation to a collision with the toll booth and injuries caused to the supervisor. The matter is currently pending.

C. *IRB HMTL*

As at the date of this Letter of Offer, there is no outstanding material civil litigation, criminal litigation, regulatory action or other material litigation involving IRB HMTL.

D. *IRB WTL*

As at the date of this Letter of Offer, there is no outstanding criminal litigation or regulatory action involving IRB WTL. Other than as disclosed below, there is no outstanding material civil litigation involving IRB WTL.

1. Mr. Laxman Neelakantha Desai (the "**Petitioner**") has filed a petition against IRB WTL (the "**Respondent**") before the court of Civil Judge Karwar alleging that the blasting of rocks done by the Respondent has caused damage to the property of the Petitioner. The Petitioner has requested a permanent injunction restraining the Respondent from undertaking such activity. The court had passed an order granting a temporary injunction against the Respondent. Subsequently, the parties entered into a mediation agreement, pursuant to which the court passed an order dated April 28, 2017, vacating the earlier injunction. The matter is currently pending.

2. Mr. V Sachhidananda Shetty (the "**Petitioner**") filed a petition against the NHAI, MRM and others (the "**Respondents**") before the Civil Judge at Kundapura alleging that he was not given permission to cut teakwood trees by one of the Respondents. For details, see " – *Material Litigation and Regulatory Action against the Sponsor/Project Manager and Associates of the Sponsor/Project Manager – Material Litigation and Regulatory Action against the Associates of the Sponsor/Project Manager – Modern Road Makers Private Limited*" on page 386.

3. Mr. Vithobha Ganesh Naik (the "**Petitioner**") has filed a suit against IRB WTL before the Principal Judge at Karwar, alleging that IRB WTL is encroaching upon the Petitioner's land to construct the highway. IRB WTL has received summons from the court. The matter is currently pending.

E. *KGTL*

As at the date of this Letter of Offer, there is no outstanding criminal litigation or regulatory action involving KGTL. Other than as disclosed below, there is no outstanding material civil litigation involving KGTL.

CGTL, KGTL and UTL have filed a writ petition before the High Court of Rajasthan, Jaipur Bench against Union of India and NHAI challenging certain notifications and seeking interim relief from the High Court of Rajasthan, Jaipur Bench. For details, see " – *Material Litigation and Regulatory Action involving the Project SPVs – UTL – Outstanding Material Civil Litigation*" on page 389.

F. *KTL*

As at the date of this Letter of Offer, there is no outstanding criminal litigation involving KTL. Other than as disclosed below, there is no outstanding material civil litigation or regulatory action involving KTL.

Outstanding Material Civil Litigation

1. Sirsa Eagle Cooperative Transport Society and another (the "**Petitioners**") filed a writ petition against the NHAI, KTL and others (the "**Respondent**") before the Punjab and Haryana High Court. The Petitioners have challenged the provisional certificate dated September 6, 2017 granted to KTL and the gazette notifications dated September 5, 2017 and September 6, 2017 for toll collection. The Petitioners have alleged that the construction of the project is yet to be completed and the collection of tolls is not in compliance with the relevant NHAI rules. The Petitioners have also made allegations in relation to exempting certain categories of entities from payment of toll. The Petitioners have requested the court to quash the toll collection notifications and to pass an order to frame a policy for local cooperative transport societies who transport local villagers on a no-cost basis. KTL has stated that the central government, through its notification dated September 5, 2017, has fixed the amount of toll fees which KTL was authorized collection for from the date of receiving either the completion certificate or the provisional certificate. KTL has also stated that it has completed 95% of the work and was permitted to start the collecting toll. The matter is currently pending.

2. KTL has invoked arbitration against the NHAI under the terms of its concession agreement in relation to a claim submitted by KTL for an aggregate amount of approximately INR 1,001 million and an extension of its concession period by 356 days in connection with the toll stoppage due to the farmer protests in 2020-2021. The matter is currently pending.

Outstanding Regulatory Action

The District Town Planner, Jind (exercising the power of Director, Town and Country Planning, Haryana) (the "**District Town Planner**") issued a notice under the Punjab Scheduled Roads and Controlled Area Restriction of Unregulated Development Act, 1963 ("**Punjab Act**") to the general manager of the toll plaza located at village Badowal, Tehsil Narwama, District Jind, stating that the construction of the toll plaza and other commercial and official building on NH-52 Narwana to Uklana was unauthorized since the construction was on land which has been notified as a controlled area under the Punjab Act. The notice also, *inter-alia*, directed the stoppage of any further construction on the land. KTL responded to the notice requesting the District Town Planner to withdraw the notice, stating that the collection of toll and the construction of the toll plaza were in accordance with the concession agreement, toll notifications and specifications approved by an independent engineer on land acquired by the NHAI. The matter is currently pending.

G. *SYTL*

As at the date of this Letter of Offer, there is no outstanding material civil litigation or criminal litigation involving SYTL. Other than as disclosed below, there is no outstanding regulatory action involving SYTL.

Outstanding Regulatory Action

The Collector of Stamps, Osmanabad (the "**Collector**") sent a notice dated July 2, 2020 demanding SYTL to produce a copy of the concession agreement executed between SYTL and the NHAI. Subsequently, further notices were sent by the Collector demanding stamp duty on the concession agreement. SYTL filed replies denying the payment of deficit stamp duty on the grounds that (a) the demand notice is misconceived and erroneous without jurisdiction as the taxable event was not in the state of Maharashtra and further that the notice is not for any instrument falling under clause (a) or (b) of Section 3 of the Maharashtra Stamp Act, 1958; and (b) the concession agreement was signed in Delhi and the stamp duty was paid as applicable in Delhi. No further communication has been received from the Collector in this regard.

H. *UTL*

As at the date of this Letter of Offer, there is no regulatory action involving UTL. Other than as disclosed below, there is no outstanding material civil litigation and outstanding criminal litigation involving UTL.

Outstanding Material Civil Litigation

CGTL, KGTL and UTL (the "**Petitioners**") have filed a writ petition before the High Court of Rajasthan, Jaipur Bench against Union of India and NHAI (the "**Respondents**") stating that on account of COVID-19 and the subsequent national lockdown, the Petitioners submitted claim for reimbursement of losses and consequent extension of the concession period which shall be computed every month until the toll collection stabilizes to more than 90% of the average daily fee as defined under the concession agreements. Further, under the terms of the concession agreements, the Petitioners are obligated to start premium payment to the NHAI upon the third anniversary of appointed date whereas the schedule completion date was contracted as two and a half year after the appointed date. Hence, once the construction is completed in two and a half year, toll rates would have been revised and only after six months of such revision of toll rates would the Petitioners have to start the premium payment. The Petitioners have stated the scheduled completion date was revised by the NHAI, primarily due to reasons attributable to them and the revised date of completion was revised to November 30, 2020, January 31, 2021 and September 9, 2021 applicable to the Petitioners. However, NHAI addressed a letter to UTL instructing them to commence the premium payment as per the scheduled stipulated under the concession agreements.

Hence, the Petitioners have challenged, *inter-alia*, (i) sub-rule (9) of rule 4, *i.e.*, "Base rate of fee" of the National Highways Fee (Determination of Rates and Collection) Rules, 2008 as it limits the rate of fee applicable for a section of a four lane highway under upgradation to six laning during the construction period; and (ii) office memorandum dated May 18, 2020 issued by the Central Government and consequent policy guidelines / BOT

(Toll) / 2020 dated May 26, 2020 issued by the NHAI and sought an interim relief to maintain the same time gap of six months between the date of revised completion date / toll tariff revision and date of commencement of payment of premium, under the respective concession agreements and issue an appropriate writ directing the NHAI (i) to not take coercive action against the Petitioners; (ii) to grant compensation to the Petitioners due to losses on account of COVID-19; and (iii) to grant an extension to the concession period. Pursuant to an interim order dated September 18, 2020, the High Court of Rajasthan, Jaipur bench, ordered a stay on the operation of Clause 26.2.1 of the model concession agreement.

The judgment along with the rectification order was pronounced by the High Court of Rajasthan on August 25, 2021 and August 26, 2021 respectively. As per direction of the said judgment, CGTL, KGTL and UTL filed undertakings on August 31, 2021. As interim relief, the High Court of Rajasthan gave interim protection to the Petitioners against payment of premium for a period of three months and directed the parties to go for arbitration. Subsequently, CGTL, KGTL and UTL filed petitions before the Delhi High Court praying for extension of relief granted by the High Court of Rajasthan. The order in relation to appointment of the arbitrator passed on November 28, 2021 by the Delhi High Court was challenged by CGTL, KGTL and UTL through a Special Leave Petition filed in the Supreme Court. The Supreme Court has appointed a presiding arbitrator pursuant to an order dated February 7, 2022.

The Delhi High Court passed an order dated November 9, 2021 in relation to interim relief and CGTL, KGTL and UTL filed an appeal against this order before the division bench of the Delhi High Court. The division bench disposed of the appeal in favour of CGTL, KGTL and UTL with the direction that the Delhi High Court holds the sole jurisdiction to hear the petition on interim relief and accordingly, hearings may be commenced before the Delhi High Court. The Delhi High Court has directed that the orders dated August 25, 2021 and August 26, 2021 passed by the Rajasthan High Court, will remain in operation. Pursuant to a judgement dated March 16, 2022, the Delhi High Court has held that the interim order will continue until an application under Section 17 of the Arbitration and Conciliation Act, 1996 is filed by the parties before the arbitral tribunal. The arbitral tribunal has been constituted. The matter is currently pending.

Outstanding Criminal Action

Hiteshkumar Ramanlal Gandhi, a shift in-charge working at the Kherwara-Khandi Obri toll plaza, filed a first information report at the Kherwara police station, Udaipur against Bhairulal Salvi, a bus driver who refused the pay toll at the toll plaza. When the people working at the toll plaza tried to stop him, the bus driver along with others misbehaved with the workers and destroyed equipment at the toll plaza resulting in the loss of about ₹0.80 million to ₹1.00 million. The matter is currently pending.

I. *YATL*

As at the date of this Letter of Offer, there is no outstanding criminal litigation involving YATL. Other than as disclosed below, there is no outstanding material civil litigation or regulatory action involving YATL.

Outstanding Material Civil Litigation

1. Mr. Shaikh Rafiq and others (the "**Petitioners**") filed a writ petition against the Sponsor, Modern Road Makers Private Limited and others (the "**Respondents**") before the BHC Aurangaba**d** in relation to acquisition of land for the four laning of Yedshi – Aurangabad road that forms a part of the Solapur – Aurangabad highway, *i.e.*, NH 211. The Petitioners alleged that certain of the Respondents tried to change the alignment of the land already acquired for the project to include additional land in order to protect interest of one of the Respondent which is illegal. The Sponsor filed its response to the petition filed by the Petitioners and *inter-alia* stated that (i) the correct party to be impleaded in the petition is YATL and not itself as YATL is responsible for the operations under the concession agreement and therefore the petition should be dismissed on account of misjoinder and non joinder of necessary parties; and (ii) acquisition of land is the responsibility of the NHAI and hence, no cause of action lies against itself. The matter is currently pending.

2. Mr. Panditrao Digambarrao Shete Chausalkar and another (the "**Petitioners**") filed a writ petition against the Sponsor and others (the "**Respondents**") before the BHC Aurangabad in relation to acquisition of land for the four laning of Yedshi – Aurangabad road that forms a part of the Solapur – Aurangabad highway, i.e., NH 211. The Petitioners have alleged that an award was passed acquiring land of the Petitioners without following the due procedure of law and the acquisition of the land of the Petitioners

is illegal. The Petitioners requested the BHC Aurangabad to set aside the award for acquisition of the lands of the Petitioner and that the Respondents should be restrained from acquiring such land. The matter is currently pending.

3. Mr. Pruthviraj Shahane (the "**Petitioner**") filed a civil suit against the Sponsor and others (the "**Respondents**") before the Civil Judge (Senior Division), Beed, alleging that the Respondents encroached upon its land by erecting electric polls over them instead of erecting them over land which has been acquired for the project. The Petitioner has, *inter-alia*, requested the court to grant a decree of perpetual and mandatory injunction against the Respondents. The matter is currently pending.

Outstanding Regulatory Action

1. The Collector of Stamps, Beed ("**Collector**") sent a demand notice dated July 24, 2020 ("**Demand Notice**") to YATL demanding a sum of ₹280.70 million as deficit stamp duty and a penalty of ₹415.44 million on the concession agreement executed between YATL and the NHAI and bank guarantees. YATL filed a reply denying the payment of deficit stamp duty on the grounds that (a) the concession agreement was executed in Delhi which is outside the jurisdiction of the state of Maharashtra and hence the provisions of the Maharashtra Stamp Act, 1968 are not applicable; (ii) the concession agreement or a copy of the concession agreement was never brought into the state of Maharashtra and it is only pursuant to the notice dated November 11, 2019 addressed to the NHAI requesting a copy of the concession agreement that it was provided by the NHAI; and (iii) the relevant provision of the Maharashtra Stamp Act, 1968 mentioned in the Demand Notice did not include bank guarantees and even otherwise the demand of stamp duty mentioned in the Demand Notice is more than the stamp duty as provided under the Maharashtra Stamp Act, 1968. YATL was directed to pay ₹106.95 million towards stamp duty and penalty by the Collector in its order dated October 28, 2020. YATL has challenged this order before the Chief Controlling Revenue Authority, Pune. The matter is currently pending.

2. YATL approached the NHAI for amicable settlement of claims in relation to delays attributable to the NHAI during the construction of the project. The claims were for an amount of approximately ₹15,018.4 million and an extension of the concession period by 831.08 days. Since the parties were unable to reach a settlement, YATL has invoked arbitration under its concession agreement. The matter is currently pending.

Material Litigation and Regulatory Action involving the Target SPV

As at the date of this Letter of Offer, there is no outstanding criminal litigation or regulatory action involving PDTPL. Other than as disclosed in " – *Material Litigation and Regulatory Action against the Sponsor/Project Manager – Outstanding Material Civil Litigation*" on page 380, in relation to the petition filed by Mr. Kishore Mukherjee in the Calcutta High Court, there is no outstanding material civil litigation involving PDTPL.

III. Material Litigation and Regulatory Action against the Investment Manager and Associates of the Investment Manager

Material Litigation and Regulatory Action against the Investment Manager

As at the date of this Letter of Offer, there is no outstanding material civil litigation or criminal litigation against the Investment Manager. Other than as disclosed below, there is no outstanding regulatory action against or other material litigation involving the Investment Manager.

Outstanding Regulatory Action

The Collector of Stamps, Solapur sent a demand notice dated April 24, 2015 to the Investment Manager demanding a sum of ₹152,000 as deficit stamp duty and a penalty of ₹3,040 on the agreement dated May 29, 2002 executed between the Maharashtra State Road Development Corporation, Ideal Road Builders and the Investment Manager. The Investment Manager filed a reply denying the payment of deficit stamp duty on the grounds that (a) the demand of deficit amount of stamp duty was made payable by citing the provisions included in Section 63 of the Bombay Stamp Act, 1958 inserted vide amendment 12 of 2006 (effective from May 1, 2006) whereas the agreement was already executed prior to the amendment; and (b) Section 63 of the Bombay Stamp Act, 1958 does not have a retrospective effect. In its letter dated July 7, 2015, the Collector of Stamps issued a direction that the Investment Manager and Ideal Road Builders must pay the deficit stamp duty and the penalty within seven days,

failing which recovery action for the said amount would be initiated as per the Maharashtra Land Revenue Code, 1966 and the toll would be sealed. No further communication has been received from the Collector of Stamps Solapur in this regard.

Material Litigation and Regulatory Action against the Associates of the Investment Manager

For details of material litigation and regulatory action against the associates of the Investment Manager, see " – *Material Litigation and Regulatory Action against the Sponsor/Project Manager and Associates of the Sponsor/Project Manager*" on page 381.

IV. Material Litigation and Regulatory Action against the Trustee

As at the date of this Letter of Offer, there is no outstanding criminal litigation or regulatory action against the Trustee.

Outstanding Material Civil Litigation

1. Hubtown Limited (the "**Plaintiff**") had filed a case before the High Court of Bombay against the Trustee and its directors (the "**Defendants**") for having informed the bankers of the Plaintiff regarding the defaults committed by the Plaintiff. The Trustee has stated that the Plaintiff is a guarantor for the debt for which the Trustee is acting as a debenture trustee and in case of defaults, the relevant documents authorize the Trustee to share information about such default to CIBIL/RBI and other creditors. The aggregate amount claimed is ₹ 3,000 million. The matter is currently pending in the court for settlement.

2. SBI Cap Trustee (the "**Plaintiff**") had filed a suit before the City Civil Court, Bangalore against the Trustee and others (the "**Defendants**") requiring sale of pledged shares for a particular price by SREI Fund/Investors, for whom the Trustee was acting as the share pledge trustee. The Plaintiff was acting for a consortium of lenders and has residual interest. The aggregate claim amount is ₹1,550.3 million. The Branch Manager of SBI along with their counsel submitted to the Court that they are willing to explore settlement. The Court referred the matter for pre-conciliation efforts. In the afternoon session, our Advocate appeared before the Conciliator. Advocate briefly explained the dispute to the Conciliator. The Plaintiff informed the Conciliator that if Trinity provides the details of the loan transaction and a statement of accounts in relation to the same, this information would help them resolve the dispute quickly. The case was listed on September 30, 2021 for further conciliation. As no representative was present on behalf of the company, the Court recorded that there was no settlement between the parties. The case was adjourned to February 4, 2022 for the parties to proceed with the litigation. The matter is listed for April 13, 2022 to carry out the amendment and filing amended plaint. The matter is pending.

3. Balmer Lawrie and Company Limited and another (the "**Plaintiffs**") had filed a petition before the Calcutta High Court against the Trustee and certain others (the "**Defendants**") challenging the validity of the sale transaction of 1,48,20,000 shares in Transafe Services Limited by the Defendant to the Plaintiff. The Plaintiffs have inter alia sought (a) the recovery of consideration received by the Defendants for the allegedly void contract being ₹ 237.12 million and (b) interest at the rate of 18% per annum on the decretal amount. The matter is currently pending.

4. Loancore Servicing Solutions Private Limited (the "**Petitioner**") had filed a Company petition no. 293/59/ND/2019 before the National Company Law Tribunal ("**NCLT**"), Principal Bench at New Delhi against the Religare Enterprise Limited and others including the Trustee (the "**Respondents**") alleging that the Respondents sold the shares of the Religare Enterprise Limited under the dominion and control of the Petitioners to Respondent no. 3-5. It is further alleged that the Trustee appropriated the shares and had transferred them to the Respondents nos. 3 to 5. It is furthermore alleged that the pledged shares had been sold to consciously deprive the Petitioner of its rights and to facilitate an illegal takeover of Respondent no. 1 by the Trustee through Respondent no.5 acting in concert. The alleged damages claim amount is ₹ 700 million is against the Respondent nos. 2 to 5. The NCLT has refused to pass any interim orders as asked by the Petitioner. The Petitioners has failed to produce any evidence or otherwise establish that it has any form of contractual privity or other relationship of any manner with the Trustee and therefore has absolutely no locus to make any claims against the Trustee. However, as the petition is pending before the NCLT, Delhi. The next date of hearing is May 19, 2022.

5. Future Corporate Resources Limited (FCRL) In the matter of FCRL ESOP Trust, SE, BI Adjudicating Officer has passed an order dated the February 3, 2021, on the ground of insider trading against eight persons including FCRL Employees Trust of which ITSL is a trustee. FCRL along with FCRL Employee Welfare Trust has been jointly and severally directed to disgorge an amount of ₹ 2, 75, 68,650/-. ITSL has submitted that ITSL as a trustee has acted on the instructions of the committee and not liable for insider trading and has not gained or received any amount. ITSL and FCRL Employee Welfare Trust are separate. All the said persons have filed an appeal before SAT against the said SEBI Order dated the February 3, 2021. SAT has given the next date of hearing on June 13, 2022. The matter is sub-judice.

V. Taxation Proceedings

Details of all outstanding direct tax and indirect tax proceedings (i) against the Trust, the Sponsor/Project Manager, the Investment Manager, their respective Associates and the Trustee and (ii) involving the Project SPVs and the Target SPV, as at the date of this Letter of Offer are disclosed below:

Nature of Proceedings	Number of Proceedings	Amount involved (in ₹ million)
Direct Tax*		
Trust	Nil	Nil
Sponsor/Project Manager	Nil	Nil
Associates of the Sponsor/Project Manager	9	61.91
Project SPVs	4	84.79
Target SPV	Nil	Nil
Investment Manager	Nil	Nil
*Associates of the Investment Manager***	Nil	Nil
Trustee	Nil	Nil
Indirect Tax*		
Trust	Nil	Nil
Sponsor/Project Manager	Nil	Nil
Associates of the Sponsor/Project Manager	12	3,185.38
Project SPVs	Nil	Nil
Target SPV	Nil	Nil
Investment Manager	Nil	Nil
*Associates of the Investment Manager***	Nil	Nil
Trustee	Nil	Nil

**Such amount excludes any interest or penalty in relation to such direct and indirect tax proceedings.*
*** Excludes Associates of the Sponsor/Project Manager.*

GOVERNMENT AND OTHER APPROVALS

On the basis of the list of material approvals, consents, licenses and permissions provided below, the Trust can undertake this Issue and the Trust, the Project SPVs and the Target SPV can undertake each of their respective current business activities and other than as stated below, no further material approval, consent, license or permission from any regulatory authority is required to undertake this Issue or continue such business activities. Unless otherwise stated, these approvals are valid as of the date of this Letter of Offer. For details in connection with the regulatory and legal framework within which we operate, see "Regulations and Policies" on page 224.

Certain licenses and/or approvals may expire/elapse periodically, in the ordinary course of business, and applications to the appropriate authorities for the renewal of such licenses and/or approvals are/will be submitted in accordance with applicable requirements and procedures.

A. Approvals in Relation to this Issue

1. Resolutions dated April 12, 2022 of the board of directors of the Investment Manager in relation to this Issue and other related matters.

B. Registration of the Trust

1. The SEBI has issued a certificate dated November 25, 2019 for registration of the Trust as an infrastructure investment trust (registration number IN/InvIT/19-20/0012).

The registration certificate has been granted subject to the following conditions, *inter-alia*, as specified in Regulation 7 of the InvIT Regulations:

(i) the Trust shall abide by the provisions of the SEBI Act and the InvIT Regulations;
(ii) the Trust shall forthwith inform the SEBI in writing, if any information or particulars previously submitted to the SEBI are found to be false or misleading in any material particular or if there is any material change in the information already submitted;
(iii) the Trust and the parties to the Trust shall satisfy with the conditions specified in Regulation 4 of the InvIT Regulations at all times;
(iv) the Trust and the parties to the Trust shall comply, at all times, with the code of conduct as specified in Schedule VI of the InvIT Regulations, wherever applicable.

The certificate also states:

(i) that the investment conditions and other restrictions will apply to all investments, distributions etc. made;
(ii) that for issuance and listing of Units issued in terms of Chapter VIA of the InvIT Regulations, the Trust shall fulfill the conditions as may be prescribed by the SEBI from time to time;
(iii) that the transaction for transfer of the underlying assets/shares or interest in SPVs to the Trust and the corresponding issue of the Trust's Units to the transferor entity shall happen only after the closure of the initial offer;
(iv) the minimum investment and lot size for an InvIT for a public issue or a private placement;
(v) that the Trust shall keep and maintain the books of accounts, records and such other documents as may be required by the SEBI under the InvIT Regulations from time to time;
(vi) that the Trust shall ensure compliance with the guidelines/directives/instructions/circulars etc. as may be issued from time to time by the SEBI or the Government of India relating to the activities carried on by the Trust;
(vii) that the Trust shall not make use of its status as a SEBI registered InvIT in furtherance of unrelated activities or any other purpose which is not permitted under the InvIT Regulations;
(viii) that the Trust's actions shall be governed by the SEBI Act and the InvIT Regulations in respect of activities carried on as an InvIT;
(ix) that any material change in the information on the basis of which registration is granted must be communicated to SEBI immediately; and
(x) that the registration has been granted on the basis of information available with the SEBI at the relevant point of time and does not preclude the SEBI from cancelling the registration later if anything adverse is found against the Trust or in case of a conviction.

Pursuant to a letter dated January 30, 2020, the SEBI has, *inter-alia*, taken on record the rights and provided to the investors in the Trust.

2. Approval dated January 3, 2020 issued by the NHAI for establishing the Trust and the transfer of the Project SPVs subject to, *inter-alia*, the following conditions:

   (i) submission of no-objection certificates from the lenders of all the Project SPVs;
   (ii) the concessionaire/developer is required to comply with all the provisions of the concession agreements including 51% holding in the Trust until two years after completion / provisional COD of the projects;
   (iii) the incoming investor will comply to all relevant contractual obligations of the concession agreements;
   (iv) the proposal submitted pursuant to the letter dated September 16, 2019 for establishing the Trust, transfer of the Project SPVs to the Trust and the transfer of 49% in the Trust shall not have the effect of jeopardizing the interests of the NHAI in any manner; and
   (v) an undertaking that all statutory compliances as required by the SEBI guidelines shall be adhered to.

C. Other approvals in relation to the Trust

Under Regulation 26B(3) of the InvIT Regulations, privately placed and unlisted InvITs are required to have a minimum of five unitholders, collectively holding at least 25% of the total units of such InvIT, other than the sponsor, its related parties and its associates. For purposes of this requirement, a unitholder, its associates and its related parties will be treated as a single unitholder. Pursuant to a circular dated August 4, 2021 issued by the SEBI, registered privately placed and unlisted InvITs that have already issued units have been given a period of six months from the date of the circular to comply with the requirements under Regulation 26B(3) of the InvIT Regulations. The Sponsor applied to the SEBI for an extension of the timeline for compliance through a letter dated January 31, 2022. Pursuant to a letter dated February 3, 2022, the SEBI approved the request for extension and has provided the Trust time until August 4, 2022 to comply with the requirements of Regulation 26B(3) of the InvIT Regulations.

D. Approvals in Relation to the Project SPVs and the Target SPV

Completion Certificates

1. Completion certificate dated March 29, 2019, with respect to 167.04 km stretch of KTL's Kaithal-Rajasthan border section of NH 152/65 project.

2. Completion certificate dated November 25, 2019, effective from October 15, 2019, with respect to the four-laning of the Solapur to Yedeshi section km. 0.000 to km. 100.000 (design length 98.717 km) of NH 211 project.

3. Provisional completion certificate dated January 31, 2020 with respect to 141.00 km stretch of IRB WTL's Goa-Karnataka Border – Kundapur section of NH-17 (now NH-66). The aforesaid provisional completion certificate was issued along with a punch list containing certain items to be completed within 90 days from the date of issuance thereof, including, *inter alia*, (a) laying of earthwork, GSB, WMM, DBM, SDBC, RCC drain, and footpath in the service road; (b) laying of earthwork, GSB, DLC, PQC, toll plaza tunnel on RHS and kerb in the toll plaza on RHS at km 182+850; (c) slope dressing; (d) chute drain stetches; (e) slope protection which includes pithcing on structures and slope protection on high embankment slope; (f) avenue plantation; (g) structural numbering and construction of appron; (h) static weigh bridge construction; (i) construction of truck bay, bus shelter, and boundary stones; (j) cleaaning of waterway of structure and providing cut drain as per standards; and (k) surveying with network survey vehicle from Ch 93.70 to Ch 280.94.

4. Completion certificate dated September 24, 2020 with respect to 189.02 km stretch of YATL's Yedeshi-Aurangabad section of NH 211 project.

5. Completion certificate dated November 24, 2020 with respect to the six-laning of AETL's Agra-Etawah bypass section of NH-2 (km 199.660 to km 232.525).

6. Completion certificate dated May 31, 2021 with respect to the six-laning of UTL's section of NH-8 (now NH-48), effective from June 1, 2021.

7. Completion certificate dated August 14, 2021 with respect to the six-laning of CGTL effective from August 14, 2021.

Approvals for Continuing Commercial Operations

The Project SPVs and the Target SPV are required to obtain and maintain certain permits, registrations, approvals and licenses during the commercial operations phase of their respective projects, as disclosed below:

1. Certificate of registration of establishment under the Maharashtra Shops and Establishment (Regulation of Employment and Condition of Service) Act, 2017.

2. Registrations under various tax laws, including but not limited to, permanent account number, professional tax and goods and services tax.

3. Registration under the Legal Metrology Act, 2009 and respective state government rules for weigh-in-motion and road weigh bridge.

4. Registrations under applicable labour laws including, but not limited to, registrations under the Employees' Provident Funds and Miscellaneous Act, 1952, the Employees' State Insurance Act, 1948 and the Contract Labour (Regulation and Abolition) Act, 1970.

5. No-objection certificates and authroization from the relevant state pollution control board for consent to operate under the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981 and Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008.

The Project SPVs and the Target SPV have obtained the necessary permits, registrations, approvals and licenses from the appropriate regulatory and governing authorities that are required to operate their respective businesses. Certain approvals may have lapsed in their normal course and the respective Project SPVs or the Target SPV have either made applications to the appropriate authorities for renewal of such licenses and/or approvals or are in the process of making such applications.

E. Approvals applied for, but not yet received

As at the date of this Letter of Offer, there are no approvals required to be obtained by the Trust, the Project SPVs or the Target SPV, for which applications have been made, but approvals have not been received.

F. Approvals for which applications are yet to be made

As at the date of this Letter of Offer, there are no material approvals required to be obtained by the Trust, the Project SPVs or the Target SPV for which applications are yet to be made.

G. Intellectual Property

The Project SPVs, the Target SPV, the Investment Manager and the Trustee have entered into a name licensing agreement with the Sponsor. For details, see "*Related Party Transactions*" on page 238.

OTHER REGULATORY DISCLOSURES

Eligibility for this Issue

A resolution dated April 12, 2022 has been passed by the Board of the Investment Manager approving this Issue.

Units of the same class which are proposed to be allotted have already been issued by the Trust.

The Trust holds not less than 80% of its assets in eligible infrastructure projects and proposes to undertake this Issue in accordance with the SEBI Rights Issue Guidelines.

Prohibition by SEBI or RBI

None of the Trust, the Sponsor, the Investment Manager, the Project Manager and the Trustee, or the promoter(s) or director(s) of any of the Sponsor, the Investment Manager, the Project Manager (i) is debarred from accessing the securities market by SEBI; or (ii) is a promoter, director or person in control of any other company or a sponsor, investment manager or trustee of any other infrastructure investment trust which is debarred from accessing the capital market under any order or direction made by SEBI.

None of the promoters or directors of the Trustee (i) is debarred from accessing the securities market by SEBI; (ii) is a promoter, director or person in control of any other company or a sponsor, investment manager or trustee of any other infrastructure investment trust or an infrastructure investment trust which is debarred from accessing the capital market under any order or direction made by SEBI; or (iii) is in the list of wilful defaulters published by the RBI.

None of the respective promoters or directors of the Sponsor or Investment Manager or the Trustee has been declared a fugitive economic offender under Section 12 of the Fugitive Economic Offenders Act, 2018.

Minimum Allotment

The minimum allotment to any investor shall be ₹10.00 million.

Prohibition on Offer of Incentives

No person connected with this Issue, including any person connected with the distribution of this Issue, shall offer any incentive, whether direct or indirect, in any manner, whether in cash or kind or services or otherwise to any person for making an application for Allotment of the Units.

Restriction on Further Capital Issues

The Trust shall not make any further issue of Units in any manner during the period between the date of filing this Letter of Offer with the SEBI and the Allotment of the Units offered through this Letter of Offer.

Undertakings by the Investment Manager

The Investment Manager (on behalf of the Trust) undertakes the following:

- at any given time, there shall be only one denomination for the Units; and
- it shall comply with such disclosure and accounting norms specified by SEBI from time to time.

The Units have not been and will not be registered, listed or otherwise qualified in any other jurisdiction outside India and may not be offered or sold, and Applications may not be made by persons in any such jurisdiction, except in compliance with the applicable laws of such jurisdiction.

SECTION IX – ISSUE INFORMATION

ISSUE PROCEDURE

This section is a summary intended to provide a general outline of the procedures for the application, payment, allocation and Allotment of the Units to be offered pursuant to this Issue.

Eligible Unitholders are advised to inform themselves of any restrictions or limitations that may be applicable to them under applicable law to which they are subject, and are required to consult their respective advisors in this regard. Eligible Unitholders that apply in this Issue will be required to confirm, and will be deemed to have represented to the Trustee, the Investment Manager and their respective directors, officers, agents, affiliates and representatives, that they are eligible under all applicable law, rules, regulations and guidelines to acquire the Units. The Investment Manager, the Sponsor, the Trustee and their respective directors, officers, agents, affiliates and representatives accept no responsibility or liability for advising any investor on whether such investor is eligible to acquire the Units.

Authority for the Issue

This Issue was authorized and approved by the board of directors of the Investment Manager on April 12, 2022.

The Investment Manager has filed a copy of this Letter of Offer with the SEBI.

The Units have not been and will not be registered, listed or otherwise qualified in any jurisdiction outside India and may not be offered or sold, and Applications may not be made by persons in any such jurisdiction, except in compliance with the applicable law of such jurisdiction. The Units shall not be offered or sold where such offer or sale would require registration, qualification or listing.

Eligible Unitholders should note that credit of Rights Entitlements and Allotment to successful Applicants will only be in the dematerialized form. Application Forms which do not have the details of the Applicants' demat accounts including DP ID, PAN and Client ID will be treated as incomplete and rejected. Applicants will not have the option of receiving Allotment in physical form.

The Units are being offered for subscription for cash to the Eligible Unitholders as on the Record Date.

Dispatch and availability of Issue material

This Letter of Offer and the Application Form will be sent only to the e-mail addresses of Eligible Unitholders who have provided their e-mail addresses to the Investment Manager.

The Investment Manager shall make arrangements for distribution of the Application Form along with this Letter of Offer to all Eligible Unitholders at least five days prior to the Issue Opening Date.

The Investment Manager will not be liable for non-dispatch of physical copies of Issue materials, including this Letter of Offer and the Application Form, or delay in the receipt of this Letter of Offer or the Application Form attributable to non-availability of the e-mail addresses of Eligible Unitholders or electronic transmission delays or failures.

Rights Entitlements

A Unitholder whose name appears as a beneficial owner in respect of the issued and paid-up Units held in dematerialized form as on the Record Date may be entitled to subscribe to the number of Units as set out in the Application Form. The Rights Entitlement for each Eligible Unitholder will be specified in the Application Form.

In accordance with the SEBI Rights Issue Guidelines, the credit of Rights Entitlements and Allotment of Units shall be made in dematerialized form only. Prior to the Issue Opening Date, the Investment Manager shall credit the Rights Entitlements to the demat accounts of the Eligible Unitholders holding Units as on the Record Date.

In this regard, the Investment Manager has made necessary arrangements with the Registrar, NSDL and CDSL for the crediting of the Rights Entitlements to the demat accounts of the Eligible Unitholders in a dematerialized

form. A separate ISIN for the Rights Entitlements will be created, which will remain frozen (for debit) until the Issue Opening Date. The ISIN will be suspended for transfer by the Depositories after the Issue Closing Date.

The Rights Entitlements shall include a right exercisable by the person concerned to renounce the Units offered to it in favor of any other person.

Rights Entitlements Ratio

The Units are being offered on a rights basis to the Eligible Unitholders in the ratio of one Unit for every 35 Units held by the Eligible Unitholders as on the Record Date.

Renunciation of Rights Entitlements

This Issue includes a right exercisable by Eligible Unitholders to renounce the Rights Entitlements credited to their respective demat accounts either in full or in part.

All rights and obligations of the Eligible Unitholders in relation to Application Forms, receipt of information and refunds pertaining to this Issue shall apply to Renouncee(s) as well.

Please note that the Rights Entitlements which are neither renounced nor subscribed by Applicants on or prior to the Issue Closing Date shall lapse and shall be extinguished after the Issue Closing Date.

Fractional Entitlements

The Units in this Issue are being offered on a rights basis to existing Eligible Unitholders in the ratio of one Unit for every 35 Units held as on the Record Date. The Sponsor and the Financial Investors shall adjust their entitlements *inter-se* against their total Unitholding so as to avoid fractional entitlements or Units and maintain the Unitholding pattern as per the Framework Agreement.

Options available to Eligible Unitholders

The Application Form will clearly indicate the number of Units that the Eligible Unitholder is entitled to. If the Eligible Unitholder applies in this Issue, then such Eligible Unitholder can: (i) apply for its Units to the full extent of its Rights Entitlements; or (ii) apply for its Units to the extent of a portion of its Rights Entitlements (without renouncing the remaining portion); or (iii) apply for Units to the extent of a portion of its Rights Entitlements and renounce the remaining portion of its Rights Entitlements; or (iv) apply for its Units to the full extent of its Rights Entitlements and apply for additional Units in this Issue; or (v) renounce its Rights Entitlements in full.

Additional Units

Investors are eligible to apply for additional Units in this Issue, over and above their Rights Entitlements, provided that they are eligible to apply for Units under applicable law and they have applied for all the Units forming part of their Rights Entitlements without renouncing them in whole or in part. Applications for additional Units in this Issue shall be considered and Allotment shall be made as described below. Eligible Unitholders who renounce their Rights Entitlements cannot apply for additional Units in this Issue.

Issue Procedure

1. The Investment Manager shall electronically circulate this Letter of Offer and the Application Form to the Eligible Unitholders. The Application Form will be specifically addressed to each Unitholder.

2. **Unless a copy of this Letter of Offer along with an Application Form is addressed to a particular Eligible Unitholder, no invitation to subscribe shall be deemed to have been made to such Eligible Unitholder.** Even if such documentation were to come into the possession of any person other than the intended recipient, no offer or invitation to offer shall be deemed to have been made to such person and such person shall not be eligible to participate in this Issue.

3. Applicants may submit an Application Form to the Investment Manager only during the Issue Period.

4. Applicants will be required *inter-alia*, to indicate the following in the Application Form:

a. name of the Applicant to whom the Units are to be Allotted;

b. number of Units held as on the Record Date;

c. number of Units entitled to;

d. number of Units applied for within the Rights Entitlements;

e. number of additional Units applied for, if any;

f. total number of Units applied for;

g. the details of the Application Amount deposited by the Applicant into the Designated Account;

h. details of the demat account to which the Units should be credited;

i. the details of the Applicant's bank account along with fund transfer details, in case of any refund;

j. that it is permitted to acquire the Units under the laws of any applicable jurisdiction and that it has necessary capacity and authority, and has obtained all necessary consents and authorizations to enable it to commit to this participation in this Issue and to perform its obligations in relation thereto (including, without limitation, on behalf of any person) and honor such obligations;

k. it is eligible to invest in India and in the Units under applicable law, including the SEBI Rights Issue Guidelines and the FEMA Rules, and has not been prohibited by the SEBI or any regulatory authority from buying, selling or dealing in units or securities; and

l. any other information which may be relevant to the Application.

5. Each Applicant shall be required to make payment of the entire Application Amount for the Units at the Issue Price, only through electronic transfer to the Designated Account during the Issue Period, along with the Application Form.

6. No payment shall be made by Applicants in cash. Please note that any payment of Application Amount for Units shall be made from the bank account of the relevant Applicant applying for Units. The Application Amount payable on Units to be held by joint holders shall be paid from the bank account of the person whose name appears first in the Application Form. Pending Allotment, all Application Amounts received from Applicants shall be kept by in the Designated Account.

7. Once a duly completed Application Form is submitted by an Applicant on the basis of disclosures in this Letter of Offer, such Application Form constitutes an irrevocable offer and cannot be withdrawn, subject to terms contained therein and this Letter of Offer.

8. Upon receipt of the Application Form and the receipt of Application Amount in the Designated Account, the Investment Manager shall, after Issue Closing Date, determine the number of the Units to be Allotted pursuant to the Issue.

9. Allottees are advised to instruct their respective Depository Participant to accept the Units that may be Allotted to them pursuant to the Issue into their respective demat accounts.

10. The Application Amounts will be transferred to the account of the Trust from the Designated Account only after Allotment of the Units.

Application Process

Application Form

Applicants shall only use the Application Forms provided by the Investment Manager for the purpose of making an Application in terms of this Letter of Offer.

By making an Application for the Units through Application Forms, Applicants will be deemed to have made the following representations and warranties, respectively:

1. The Applicant confirms that it is eligible to participate in this Issue;

2. The Applicant has deposited the Application Amount in the Designated Account;

3. Subject to the terms of the Application Form and this Letter of Offer, the Applicant has no right to withdraw its Application once such Application is submitted; and

4. The Applicant confirms that it is eligible to apply for, and hold, any Units that may be Allotted to the Applicant pursuant to this Issue. The Applicant further confirms that any such Allotment of Units to, and the holding of Units by, the Applicant does not, and shall not, exceed the level permissible as per any law applicable to the Applicant.

APPLICANTS MUST PROVIDE THEIR DEMAT ACCOUNT DETAILS, THEIR DEPOSITORY PARTICIPANT'S NAME, DEPOSITORY PARTICIPANT IDENTIFICATION NUMBER, BENEFICIARY ACCOUNT NUMBER AND BANK ACCOUNT DETAILS IN THE APPLICATION FORM. APPLICANTS MUST ENSURE THAT THE NAME GIVEN IN THE APPLICATION FORM IS EXACTLY THE SAME AS THE NAME IN WHICH THE DEMAT ACCOUNT IS HELD.

Demographic details such as address and bank account details will be obtained from the Depositories as per the demat account details given above.

Instructions for completing the Application Form

Applicants may note that forms not filled completely or correctly as per instructions provided in this Letter of Offer and the Application Form are liable to be rejected. The Applications should adhere to the following:

(i) Applications must be made only in the prescribed Application Form;

(ii) Application Form must be completed in full, in BLOCK LETTERS in ENGLISH and in accordance with the instructions contained herein and in the Application Form. Incomplete Application Forms are liable to be rejected. Applicants must provide details of valid and active DP ID, Client ID and PAN clearly and without error. Invalid accounts, suspended accounts or where such account is classified as invalid or suspended shall not be considered for Allotment. Applicants should note that the Registrar and the Investment Manager will not be liable for errors in data entry due to incomplete or illegible Application Forms; and

(iii) Applicants are required to sign the Application Form. Applicants should ensure that the thumb impressions and signatures other than in the languages specified in the Eighth Schedule to the Constitution of India, are attested by a Magistrate or a Notary Public or a Special Executive Magistrate under official seal.

Submission of Application Form

All Application Forms are required to be duly completed with information including the name of the Applicant, the number of the Units applied for and the Application Amount deposited in the Designated Account, and include details of the bank account from which payment of amount was made as well as a confirmation of funds transfer.

The Application Form is required to be submitted to the Investment Manager electronically at the following address:

MMK Toll Road Private Limited
Attention: Mr. Kaustubh Shevade
Email: kaustubh.shevade@irb.co.in

The Investment Manager is not required to provide any written acknowledgement of the Application Form.

PAN

Each Applicant must mention its Permanent Account Number ("PAN") allotted under the IT Act. Each Applicant is required to submit a copy of its PAN card along with the Application Form. Applicants should not submit the general index registrar number ("**GIR**") instead of the PAN. Applications without this information will be considered incomplete and are liable to be rejected, except from Applicants which are not required to hold a PAN under applicable law.

Mode of Payment

Bank Account for Payment of Application Amount

Application Amounts are required to be remitted in favor of the Designated Account, i.e., "IRB Infrastructure Trust".

Payment Instructions

The payment of Application Amount shall be made by the Applicants in the name of the Designated Account as per the payment instructions provided in the Letter of Offer and the Application Form.

Payments are to be made only through electronic fund transfer. Payments through cheques or cash or any mode other than electronic mode shall be rejected.

Applicants' Demat Account and Bank Account Details

Applicants should note that on the basis of Applicants' PAN, DP ID and Client ID provided by them in the Application Form, the Registrar will obtain from the Depository the demographic details including the Applicants' address and bank account details (the "**Demographic Details**"), from the Depository. The Demographic Details will be used for giving refunds (including through direct credit, NACH, NEFT and RTGS) to the Applicants. It is mandatory to provide the bank account details in the space provided in the Application Form and Application Forms that do not contain such details are liable to be rejected. Accordingly, Applicants are advised to immediately update their bank account details, PAN and Demographic Details as appearing in the records of the Depository Participant and ensure that they are true and correct. Failure to do so could result in delays in credit of refunds to Applicants at their sole risk and none of the Registrar, the Investment Manager or the Trustee will have any responsibility or undertake any liability for this. Accordingly, Applicants should carefully fill in their demat account details in the Application Form.

By signing the Application Form, the Applicant is deemed to have authorized the Depositories to provide to the Investment Manager and the Registrar, on request, the required Demographic Details as available in their records.

The Trustee, the Investment Manager will not be responsible or liable for the delay in the credit of the Units to be issued and transferred pursuant to the Issue due to errors in the Application Form, delay in payment of Application Amount or otherwise on part of the Applicants.

Applications by certain categories of Investors

Each Applicant should check if it is eligible to make an Application under applicable law, including the SEBI Rights Issue Guidelines and the FEMA Rules. Certain categories of Applicants may not be permitted to apply in the Issue or hold Units in excess of the limits specified under applicable law.

The Trustee, the Valuer and the employees of the Valuer who were involved in the valuation of the Project SPVs or the Target SPV are not permitted to apply in the Issue.

Applications by FPIs

Foreign Portfolio Investors are required to comply with the FEMA Rules. In case of Applications by FPIs, the payment should be made in accordance with applicable law, along with documentary evidence in support of the remittance. In case of Applications made by FPIs, a copy of the certificate of registration under the FPI Regulations is required to be attached with the Application Form.

Applications by SEBI registered VCFs and AIFs

The SEBI VCF Regulations prescribe, amongst others, the investment restrictions on VCFs registered with SEBI. Further, the SEBI AIF Regulations prescribe, amongst others, the investment restrictions on AIFs. VCFs and AIFs are subject to certain investment restrictions, including with respect to the percentage of investible funds held in each investee entity and other conditions prescribed by the SEBI. Allotments made in respect of Applications by VCFs and AIFs in this Issue shall be subject to the rules and regulations that are applicable to each of them respectively.

Applications by Banking Companies

Applications may be made by banks if permitted by the RBI and are subject to conditions specified in the Prudential Guidelines – Banks' investment in units of REITs and InvITs dated April 18, 2017. In case of Applications made by banking companies registered with the RBI, certified copies of (i) the certificate of registration issued by the RBI, and (ii) the approval of such banking company's investment committee are required to be attached to the Application Form.

Applications by Provident Funds/Pension Funds

On March 2, 2015, the Ministry of Finance issued a notification allowing investments by non-government provident funds, super-annuation funds and gratuity funds up to 5% in listed or to be listed infrastructure investment trusts, as specified. On June 26, 2015, the Ministry of Labour and Employment issued a notification allowing investments by provident funds up to 5% in listed or to be listed infrastructure investment trusts, as specified. The Pension Fund Regulatory and Development Authority issued circulars dated June 3, 2015, September 2, 2015, November 4, 2016 and May 4, 2017, respectively, allowing investments by national pension funds up to 5% in infrastructure investment trusts, as specified. However such investments by provident funds and pension funds will be subject to, amongst others, the sponsor or in some cases the securities having a minimum of AA or equivalent rating from at least two credit rating agencies registered with SEBI. In case of Applications made by provident funds/ pension funds, subject to applicable law, with minimum corpus of ₹250 million, a certified copy of certificate from a chartered accountant certifying the corpus of the provident fund/pension fund must be attached to the Application Form.

Applications by Mutual Funds

Applications may be made by mutual funds under all its schemes, existing and future, subject to the investment conditions and other restrictions prescribed under the Securities and Exchange Board of India (Mutual Funds) Regulations, 1996 (including, the circular on mutual funds dated February 28, 2017 and any other circulars, notifications and guidelines issued thereunder).

Applications by Insurance Companies

Applications may be made by insurance companies if permitted by the Insurance Regulatory and Development Authority of India in terms of the Investments – Master Circular, as updated by the IRDAI from time to time and the circular dated March 14, 2017 issued by the IRDAI in relation to investment in units of real estate investment trusts (REIT) and infrastructure investment trusts (InvIT).

Applications under Power of Attorney

In case of Applications made pursuant to a power of attorney, a certified copy of the power of attorney or the relevant resolution or authority, as the case may be, along with a certified copy of the memorandum of association and articles of association and/or bye laws must be lodged along with the Application Form. The Investment Manager, in its absolute discretion, reserves the right to relax the above condition of simultaneous lodging of the power of attorney along with the Application Form.

The Parties to the Trust are not liable for any amendment or modification or change to applicable law or regulations, which may occur after the date of this Letter of Offer. Applicants are advised to make their independent investigations and satisfy themselves that they are eligible to apply in the Issue. Applicants are advised to ensure that any single application from them does not exceed the investment limits or maximum number of Units that can be held by them under applicable law or regulation or as specified this Letter of Offer.

Allotment of the Units

In accordance with the InvIT Regulations, the Units will be issued and Allotment shall be made only in dematerialized form to the Allottees.

The minimum Allotment to any investor shall be ₹10 million.

Allotment shall be made in the following manner:

(i) Full Allotment to those Eligible Unitholders who have applied for their Rights Entitlement either in full or in part and also to the Renouncee(s), who has/have applied for the Units renounced in their favor, in full or in part, as adjusted for fractional entitlement.

(ii) Allotment to Eligible Unitholders who have applied for the Units in full to the extent of their Rights Entitlement and have also applied for additional Units shall be made as far as possible on an equitable basis, having due regard to the number of Units held by them on the Record Date, provided there is an undersubscribed portion after making allotment in (i) above.

(iii) Allotment to the Renouncee(s), who having applied for the Units renounced in their favor and also applied for additional Units, provided there is an undersubscribed portion after making full Allotment specified in (i) and (ii) above. The Allotment of such Units may be made on a proportionate basis.

(iv) Allotment to the underwriter appointed for the Issue, if any, at the discretion of the Board of Directors of the Investment Manager. This Issue is not underwritten.

The Investment Manager and the Registrar have entered into:

- Agreement dated January 14, 2020 with NSDL; and
- Agreement dated January 16, 2020 with CDSL.

The Investment Manager shall file an allotment report with the SEBI providing details of the Allottees and the Allotment made within 15 days of the Issue Closing Date.

Refunds

The Investment Manager will ensure that refunds are made to the Applicants, if applicable, in accordance with and subject to applicable law.

SECTION X – OTHER INFORMATION

MATERIAL CONTRACTS AND DOCUMENTS FOR INSPECTION

The following contracts, which are or may be deemed material have been entered into among the relevant parties. These contracts and also the documents for inspection referred to hereunder, may be inspected by Eligible Unitholders at the office of the Trust at New Delhi, from 10:00 A.M. to 5:00 P.M., from the date of this Letter of Offer until the Issue Closing Date, on Working Days.

A. Material Contracts

1. The Framework Agreement, among the Sponsor, the Investment Manager, Bricklayers Investment Pte. Ltd, Chiswick Investments Pte. Ltd, Dangenham Investment Pte. Ltd, Anahera Investment Pte. Ltd and Stretford End Investment Pte. Ltd., dated August 6, 2019, as amended;

2. The Indenture of Trust, between the Sponsor and the Trustee, dated August 27, 2019;

3. The Investment Management Agreement, among the Trustee and the Investment Manager, dated August 27, 2019, as amended;

4. The name licensing agreement among the Sponsor, the Trustee (on behalf of the Trust), the Investment Manager and each of the Project SPVs dated February 13, 2020, as amended.

5. Shareholders' agreement dated August 6, 2019, as amended, among the Sponsor, Croxley and the Investment Manager, as amended;

6. The concession agreement between AETL and NHAI dated September 1, 2015, together with any amendments or supplements thereto;

7. The concession agreement between CGTL and NHAI dated December 9, 2016, together with any amendments or supplements thereto;

8. The concession agreement between IRB HMTL and NHAI dated May 29, 2018, together with any amendments or supplements thereto;

9. The concession agreement between IRB WTL and NHAI dated March 25, 2013, together with any amendments or supplements thereto;

10. The concession agreement between KGTL and NHAI dated February 22, 2018, together with any amendments or supplements thereto;

11. The concession agreement between KTL and NHAI dated June 23, 2014, together with any amendements or supplements thereto;

12. The concession agreement between SYTL and NHAI dated March 3, 2014, together with any amendements or supplements thereto;

13. The concession agreement between UTL and NHAI dated December 9, 2016, together with any amendements or supplements thereto;

14. The concession agreement between YATL and NHAI dated May 30, 2014, together with any amendements or supplements thereto;

15. The concession agreement between PDTPL and NHAI dated June 14, 2021, together with any amendements or supplements thereto;

16. The Project Implementation Agreements, each dated February 3, 2020, among the Trustee (on behalf of the Trust), the Investment Manager, the Project Manager and each of the Project SPVs, as amended;

17. The Debt Novation Agreements dated February 19, 2020, as amended;

18. The Project SPV Shareholder Loan Agreements dated February 19, 2020; and

19. The PDTPL Share Subscription Agreement dated April 7, 2022; and

20. The PDTPL Shareholder Loan Agreement dated April 7, 2022.

B. Material Documents

1. Certificate of registration of the Trust as an infrastructure investment trust dated November 25, 2019 issued by the SEBI and letter dated January 30, 2020 issued by the SEBI;

2. The resolution of the board of directors of the Investment Manager dated April 12, 2022 authorizing this Issue;

3. Consent of the Auditor in relation to the statement of tax benefits dated April 12, 2022, the report on the Special Purpose Consolidated / Combined Financial Information dated April 12, 2022 and the report dated April 12, 2022 on Pro Forma Financial Information included in this Letter of Offer;

4. Consent of MKPS & Associates, statutory auditors of the Target SPV, in relation to PDTPL's financial information for the period from April 15, 2021 to December 31, 2021 and their report thereon included in this Letter of Offer;

5. Consent of the Traffic Consultant, the Registrar and Unit Transfer Agent, Legal Counsel and the Compliance Officer;

6. Consent of the Valuer in relation to the Initial Portfolio Valuation Report and the PDTPL Valuation Report included in this Letter of Offer;

7. The letter from the NHAI dated January 3, 2020 in connection with the transfer of the Project SPVs to the Trust and other matters;

8. Tripartite Agreement dated January 14, 2020, among the Investment Manager (on behalf of the Trust), NSDL and the Registrar and Unit Transfer Agent; and

9. Tripartite Agreement dated January 16, 2020, among the Investment Manager (on behalf of the Trust), CDSL and the Registrar and the Unit Transfer Agent.

Any of the contracts or documents mentioned in this Letter of Offer may be amended or modified at any time if so required in the interest of the Trust or if required by the other parties, without reference to the Unitholders, subject to compliance with applicable law.

DECLARATION

The Investment Manager hereby declares and certifies that all relevant provisions of the InvIT Regulations, including the SEBI Rights Issue Guidelines, issued by the SEBI have been complied with and no statement made in this Letter of Offer is contrary to the provisions of the SEBI Rights Issue Guidelines, the InvIT Regulations, the SCRA, the SEBI Act, or rules, regulations, and guidelines issued thereunder (as the case may be). The Investment Manager further certifies that all the statements and disclosures in this Letter of Offer are material, true, correct, not misleading and are adequate in order to enable the investors to make an informed decision.

For **MMK Toll Road Private Limited**

Mr. Virendra D. Mhaiskar
Non-executive Director
Date: April 13, 2022
Place: Mumbai

DECLARATION

The Investment Manager hereby declares and certifies that all relevant provisions of the InvIT Regulations, including the SEBI Rights Issue Guidelines, issued by the SEBI have been complied with and no statement made in this Letter of Offer is contrary to the provisions of the SEBI Rights Issue Guidelines, the InvIT Regulations, the SCRA, the SEBI Act, or rules, regulations, and guidelines issued thereunder (as the case may be). The Investment Manager further certifies that all the statements and disclosures in this Letter of Offer are material, true, correct, not misleading and are adequate in order to enable the investors to make an informed decision.

For **MMK Toll Road Private Limited**

Mr. Boon Chin Hau
Non-executive Director
Date: April 13, 2022
Place: Singapore

DECLARATION

The Investment Manager hereby declares and certifies that all relevant provisions of the InvIT Regulations, including the SEBI Rights Issue Guidelines, issued by the SEBI have been complied with and no statement made in this Letter of Offer is contrary to the provisions of the SEBI Rights Issue Guidelines, the InvIT Regulations, the SCRA, the SEBI Act, or rules, regulations, and guidelines issued thereunder (as the case may be). The Investment Manager further certifies that all the statements and disclosures in this Letter of Offer are material, true, correct, not misleading and are adequate in order to enable the investors to make an informed decision.

For **MMK Toll Road Private Limited**

Mr. K G Krishnamurthy
Independent Director
Date: April 13, 2022
Place: London

DECLARATION

The Investment Manager hereby declares and certifies that all relevant provisions of the InvIT Regulations, including the SEBI Rights Issue Guidelines, issued by the SEBI have been complied with and no statement made in this Letter of Offer is contrary to the provisions of the SEBI Rights Issue Guidelines, the InvIT Regulations, the SCRA, the SEBI Act, or rules, regulations, and guidelines issued thereunder (as the case may be). The Investment Manager further certifies that all the statements and disclosures in this Letter of Offer are material, true, correct, not misleading and are adequate in order to enable the investors to make an informed decision.

For **MMK Toll Road Private Limited**

Mrs. Ranjana Paranjpe
Independent Director
Date: April 13, 2022
Place: Mumbai

DECLARATION

The Trustee (on behalf of the Trust) hereby declares and certifies that all relevant provisions of the InvIT Regulations, including the SEBI Rights Issue Guidelines, issued by the SEBI have been complied with and no statement made in this Letter of Offer is contrary to the provisions of the SEBI Rights Issue Guidelines, the InvIT Regulations, the SCRA, the SEBI Act, or rules, regulations, and guidelines issued thereunder (as the case may be). The Trustee (on behalf of the Trust) further certifies that all the statements and disclosures in this Letter of Offer are material, true, correct, not misleading and are adequate in order to enable the investors to make an informed decision.

SIGNED BY THE TRUSTEE (ON BEHALF OF THE TRUST)

For **IDBI Trusteeship Services Limited**

Date: April 13, 2022
Place: Mumbai

DECLARATION

The Sponsor hereby declares and certifies that all relevant provisions of the InvIT Regulations, including the SEBI Rights Issue Guidelines, issued by the SEBI have been complied with and no statement made in this Letter of Offer is contrary to the provisions of the SEBI Rights Issue Guidelines, the InvIT Regulations, the SCRA, the SEBI Act, or rules, regulations, and guidelines issued thereunder (as the case may be). The Sponsor further certifies that all the statements and disclosures in this Letter of Offer are material, true, correct, not misleading and are adequate in order to enable the investors to make an informed decision.

For **IRB Infrastructure Developers Limited**

Mr. Virendra D. Mhaiskar
Chairman and Managing Director
Date: April 13, 2022
Place: Mumbai

DECLARATION

The Sponsor hereby declares and certifies that all relevant provisions of the InvIT Regulations, including the SEBI Rights Issue Guidelines, issued by the SEBI have been complied with and no statement made in this Letter of Offer is contrary to the provisions of the SEBI Rights Issue Guidelines, the InvIT Regulations, the SCRA, the SEBI Act, or rules, regulations, and guidelines issued thereunder (as the case may be). The Sponsor further certifies that all the statements and disclosures in this Letter of Offer are material, true, correct, not misleading and are adequate in order to enable the investors to make an informed decision.

For **IRB Infrastructure Developers Limited**

Mrs. Deepali V. Mhaiskar
Whole-time Director
Date: April 13, 2022
Place: Mumbai

DECLARATION

The Sponsor hereby declares and certifies that all relevant provisions of the InvIT Regulations, including the SEBI Rights Issue Guidelines, issued by the SEBI have been complied with and no statement made in this Letter of Offer is contrary to the provisions of the SEBI Rights Issue Guidelines, the InvIT Regulations, the SCRA, the SEBI Act, or rules, regulations, and guidelines issued thereunder (as the case may be). The Sponsor further certifies that all the statements and disclosures in this Letter of Offer are material, true, correct, not misleading and are adequate in order to enable the investors to make an informed decision.

For **IRB Infrastructure Developers Limited**

Mr. Jose Tamariz Martel Goncer
Additional Non-Executive Director
Date: April 13, 2022
Place: Amsterdam, The Netherlands

DECLARATION

The Sponsor hereby declares and certifies that all relevant provisions of the InvIT Regulations, including the SEBI Rights Issue Guidelines, issued by the SEBI have been complied with and no statement made in this Letter of Offer is contrary to the provisions of the SEBI Rights Issue Guidelines, the InvIT Regulations, the SCRA, the SEBI Act, or rules, regulations, and guidelines issued thereunder (as the case may be). The Sponsor further certifies that all the statements and disclosures in this Letter of Offer are material, true, correct, not misleading and are adequate in order to enable the investors to make an informed decision.

For **IRB Infrastructure Developers Limited**

Mr. Carlos Ugarte Cruz Coke
Additional Non-Executive Director
Date: April 13, 2022
Place: Austin, Texas, United States of America

DECLARATION

The Sponsor hereby declares and certifies that all relevant provisions of the InvIT Regulations, including the SEBI Rights Issue Guidelines, issued by the SEBI have been complied with and no statement made in this Letter of Offer is contrary to the provisions of the SEBI Rights Issue Guidelines, the InvIT Regulations, the SCRA, the SEBI Act, or rules, regulations, and guidelines issued thereunder (as the case may be). The Sponsor further certifies that all the statements and disclosures in this Letter of Offer are material, true, correct, not misleading and are adequate in order to enable the investors to make an informed decision.

For **IRB Infrastructure Developers Limited**

Mr. Sunil Talati
Independent Director
Date: April 13, 2022
Place: Ahmedabad

DECLARATION

The Sponsor hereby declares and certifies that all relevant provisions of the InvIT Regulations, including the SEBI Rights Issue Guidelines, issued by the SEBI have been complied with and no statement made in this Letter of Offer is contrary to the provisions of the SEBI Rights Issue Guidelines, the InvIT Regulations, the SCRA, the SEBI Act, or rules, regulations, and guidelines issued thereunder (as the case may be). The Sponsor further certifies that all the statements and disclosures in this Letter of Offer are material, true, correct, not misleading and are adequate in order to enable the investors to make an informed decision.

For **IRB Infrastructure Developers Limited**

Mr. Chandrashekhar S. Kaptan
Independent Director
Date: April 13, 2022
Place: Nagpur

DECLARATION

The Sponsor hereby declares and certifies that all relevant provisions of the InvIT Regulations, including the SEBI Rights Issue Guidelines, issued by the SEBI have been complied with and no statement made in this Letter of Offer is contrary to the provisions of the SEBI Rights Issue Guidelines, the InvIT Regulations, the SCRA, the SEBI Act, or rules, regulations, and guidelines issued thereunder (as the case may be). The Sponsor further certifies that all the statements and disclosures in this Letter of Offer are material, true, correct, not misleading and are adequate in order to enable the investors to make an informed decision.

For **IRB Infrastructure Developers Limited**

Mr. Sandeep J. Shah
Independent Director
Date: April 13, 2022
Place: Mumbai

DECLARATION

The Sponsor hereby declares and certifies that all relevant provisions of the InvIT Regulations, including the SEBI Rights Issue Guidelines, issued by the SEBI have been complied with and no statement made in this Letter of Offer is contrary to the provisions of the SEBI Rights Issue Guidelines, the InvIT Regulations, the SCRA, the SEBI Act, or rules, regulations, and guidelines issued thereunder (as the case may be). The Sponsor further certifies that all the statements and disclosures in this Letter of Offer are material, true, correct, not misleading and are adequate in order to enable the investors to make an informed decision.

For **IRB Infrastructure Developers Limited**

Ms. Priti Salva
Independent Director
Date: April 13, 2022
Place: Mumbai

ANNEXURE A

INITIAL PORTFOLIO VALUATION REPORT

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SUNIT KHANDELWAL
Registered Valuer under Companies (Registered Valuers and Valuation) Rules, 2017
IBBI Registration No. IBBI/RV/05/2018/10426
Asset class: Securities or Financial Assets

Valuation report

Valuation date: 31 December 2021
Report date: 31 January 2022

Communication address:
507 A, 5th floor,
Platinum Tower, Sohna Road,
Sector -47, Gurgaon – 122001
Haryana, India

Registered office:
F 1502, GPL Eden Heights,
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Contents

1. Definitions, abbreviations & glossary of terms 4
2. Background 5
2.1 Brief Background and Purpose 5
3. Sources of Information 6
3.1 Details of Site Visit 7
4. Exclusions and Limitations 8
4.1 Context and Purpose 8
4.2 Restricted Audience 8
4.3 Limitation Clause 9
5. Overview of the 9 SPVs 12
5.1 IRB Westcoast Tollway Limited ("IWTL" or "Goa Kundapur") 12
5.2 Solapur Yedeshi Tollway Limited ("SYTL" or "Solapur Yedeshi") 14
5.3 Yedeshi Aurangabad Tollway Limited ("YATL" or "Yedeshi Aurangabad") 15
5.4 Kaithal Tollway Limited ("KTL" or "Kaithal Rajasthan") 17
5.5 AE Tollway Limited ("AETL" or "Agra Etawah") 18
5.6 Udaipur Tollway Limited ("UTL" or "Udaipur Rajasthan/ Gujarat border") 20
5.7 CG Tollway Limited ("CGTL" or "Gulabpura Chittorgarh") 22
5.8 Kishangarh Gulabpura Tollway Limited ("KGTL" or "Kishangarh Gulabpura") 24
5.9 IRB Hapur Moradabad Tollway Limited ("IHMTL" or "Hapur Moradabad") 26
6. Industry Overview 27
6.1 Indian Economy 27
6.2 Infrastructure Sector in India 27
6.3 Road and Highway Sector in India (Sector background) 28
6.4 Sector Trends 28
6.5 Momentum in Expansion of Roadways 29
6.6 Private Financing under Public Private Partnership (PPP) 29
6.7 Evolution of PPP in road sector in India 30
6.8 Policy Initiatives 31
6.9 Budgetary Outlay for Roads 32
6.10 COVID-19 lockdown 32
6.11 Way Forward (Outlook) 33
7. Valuation Approach 33
8. Valuation Analysis 35
9. Valuation of the SPVs 38
9.1 IRB Westcoast Tollway Limited 38
9.2 Solapur Yedeshi Tollway Limited 40

9.3 Yedeshi Aurangabad Tollway Limited 43
9.4 Kaithal Tollway Limited 45
9.5 AE Tollway Limited 47
9.6 Udaipur Tollway Limited 49
9.7 CG Tollway Limited 51
9.8 Kishangarg Gulabpura Tollway Private Limited 53
9.9 IRB Hapur Moradabad Tollway Private Limited 56
9.10 Valuation Summary 58
10. Annexures 60
10.1 Annexure I IWTL – Table 1: List of one-time sanctions/approvals 62
10.2 Annexure I IWTL – Table 2 List of ongoing material litigations or litigations where financial implication cannot be ascertained 62
10.3 Annexure II SYTL – Table 1: List of one-time sanctions/Approvals 63
10.4 Annexure II SYTL – Table 2: List of ongoing material litigations 63
10.5 Annexure III YATL – Table 1: List of one-time sanctions/approvals 63
10.6 Annexure III YATL – Table 2: List of ongoing material litigations 64
10.7 Annexure IV KTL – Table 1: List of one-time sanctions/approvals 64
10.8 Annexure IV KTL – Table 2: List of ongoing material litigations 64
10.9 Annexure V AETL – Table 1: List of one-time sanctions/approvals 65
10.10 Annexure V AETL – Table 2: List of ongoing material litigations 65
10.11 Annexure VI UTL – Table 1: List of one-time sanctions/approvals 67
10.12 Annexure VI UTL – Table 2: List of ongoing material litigations 67
10.13 Annexure VII CGTL – Table 1: List of one-time sanctions/approvals 68
10.14 Annexure VII CGTL – Table 2: List of ongoing material litigations 68
10.15 Annexure VIII KGTL – Table 1: List of one-time sanctions/approvals 69
10.16 Annexure VIII KGTL – Table 2: List of ongoing material litigations 69
10.17 Annexure IX IHMTL – Table 1: List of one-time sanctions/approvals 69
10.18 Annexure IX IHMTL – Table 2: List of ongoing material litigations 70
10.19 Annexure X – Comparable companies' description 70
10.20 Annexure XI – Parties to the InvIT 70

1. Definitions, abbreviations & glossary of terms

Abbreviations	Definitions/Meanings
AETL	AE Tollway Limited
BOT	Build, Operate and Transfer
BV	Break Up Value
CA	Concession Agreement
CAGR	Compounded Annual Growth Rate
CCM	Comparable Companies Multiple
CGTL	CG Tollway Limited
COD	Commercial Operation Date
D/E ratio	Debt-Equity ratio
DBFOT	Design, Build, Finance, Operate, Transfer
DCF	Discounted Cash Flow
EBIT	Earnings before interest and tax
EBITDA	Earnings before interest, taxes and depreciation and amortization
EPC	Engineering, Procurement and Construction
ETC	Electronic Toll Collection
EV	Enterprise Value
FCFF	Free Cash Flows to Firm
FY	Financial Year ending 31st March
GDP	Gross Domestic Product
GVA	Gross Value Added
HAM	Hybrid-Annuity Model
IHMTL	IRB Hapur Moradabad Tollway Limited
HUDCO	Housing and Urban Development Corporation
IBEF	India Brand Equity Foundation
INR	Indian Rupees
Investment Manager or IM	MMK Toll Road Pvt. Ltd
InvIT	Infrastructure Investment Trust
IRBIDL	IRB Infrastructure Developers Limited
IWTL	IRB Westcoast Tollway Limited
IRR	Internal rate of return
KGTL	Kishangarh Gulabpura Tollway Limited
Km	Kilometer
KTL	Kaithal Tollway Limited
MAT	Minimum Alternative Tax
MDR	Major District roads
MoRTH	Ministry of Road Transport & Highways
NAV	Net Asset Value
NH	National Highway
NHAI	National Highways Authority of India
NHDP	National Highways Development Project
ODR	Other district roads
OMT	Operate-Maintain-Transfer
PAT	Profit After Tax
PBT	Profit before Tax
PCU	Passenger Car Equivalent
PMGSY	Pradhan Mantri Gram Sadak Yojana
PPP	Public Private Partnership
SEBI InvIT Regulations	Securities and Exchange Board of India (Infrastructure Investment Trusts) Regulations, 2014
SH	State Highway
SPV	Special Purpose Vehicle
SYTL	Solapur Yedeshi Tollway Limited
the Management	The management and representatives of the Sponsor
The Trust	IRB Infrastructure Trust
TOT	Toll Operate and Transfer
Trustee	IDBI Trusteeship Services Limited
UTL	Udaipur Tollway Limited
Valuer or I or my or me	Sunit Khandelwal
WACC	Weighted Average Cost of Capital
WPI	Wholesale Price Index
YATL	Yedeshi Aurangabad Tollway Limited
You or Client	IRB Infrastructure Trust (acting through the Investment Manager)

2. Background

2.1 Brief Background and Purpose

1. IRB Infrastructure Developers Limited (referred as “IRBIDL” or “Sponsor”) is one of the largest infrastructure development and construction companies in India in the roads and highways sector. It was incorporated on July 27,1998 and is based in Mumbai, India.
2. IRBIDL’s Build Operate and Transfer (“BOT”) infrastructure development business involves the construction, development, operation and maintenance of road projects.
3. IRB Group’s portfolio (including Private and Public InvIT) comprises 25 projects in all, including 24 highway projects that further include 19 BOT projects, 1 TOT projects and 4 HAM projects and 1 Airport project in Sindhudurg District of Maharashtra. IRBIDL is referred as "the Sponsor”.
4. The management of the Sponsor ("the Management") has informed that it has a registered Indian Infrastructure Investment Trust ("InvIT") under Securities Exchange Board of India (Infrastructure Investment Trusts) Regulations, 2014 ("SEBI InvIT Regulations") named as IRB Infrastructure Trust ("the Trust"). The Trust had undertaken a private placement of units (the “Offering”).
5. The Management further informed that the below Special Purpose Vehicles (hereinafter together referred to as "InvIT Assets", "9 SPVS" or "the SPVs”) were acquired by the Trust and the Trust holds 100% equity interest:
   I. IRB Westcoast Tollway Limited (“IWTL” or “Goa Kundapur”)
   II. Solapur Yedeshi Tollway Limited (“SYTL” or “Solapur Yedeshi”)
   III. Yedeshi Aurangabad Tollway Limited (“YATL” or “Yedeshi Aurangabad”)
   IV. Kaithal Tollway Limited (“KTL” or “Kaithal Rajasthan”)
   V. AE Tollway Limited (“AETL” or “Agra Etawah”)
   VI. Udaipur Tollway Limited (“UTL” or “Udaipur Rajasthan/ Gujarat border”)
   VII. CG Tollway Limited (“CGTL” or “Gulabpura Chittorgarh”)
   VIII. KG Tollway Limited (“KGTL” or “Kishangarh Gulabpura”)
   IX. IRB Hapur Moradabad Tollway Limited (“IHMTL” or “Hapur Moradabad”)
6. As per the SEBI InvIT Regulations, valuation of the InvIT assets is required to evaluate right issue by a Registered Valuer (as defined under section 247 of the Companies Act, 2013) and such valuation report is required to be in compliance with the SEBI InvIT Regulations (“Purpose”).
7. In this regard, the Valuer has been appointed to determine Enterprise Value (“EV”) of the 9 SPVs on a stand-alone basis under the SEBI InvIT Regulations along with equity valuation of the Trust as on 31 December 2021 (“Valuation Date”).

Document Classification: General or Internal use only

3. Sources of Information

We have relied on the following sources of information:

- As provided by the Management:
  - Information on business and profile of the SPVs as provided by the Management.
  - Concession Agreement of each SPV between NHAI and individual SPV.
  - Unaudited financial statements on a standalone basis from the date of operation of individual SPV till 31 December 2021.
  - Unaudited financial statements of the Trust on consolidated basis as on 31 December 2021.
  - Financial projections of the SPVs from FY 2022 till the end of the concession period of the respective SPV as provided by the Management.
  - Income tax returns for AY 2021-22 for 9 SPVs
  - Traffic consultant reports prepared by consultants as noted in the table below for each SPV as provided by the Management. Management has represented that the traffic studies shared are the most recent studies available. Management has further represented that technical due diligence for the SPVs has not been conducted as operations and maintenance (O&M) would be done by IRBIDL (Sponsor and Project Manager) based on a fixed price contract. O&M payments are fixed for 10 years – after that the terms can be renegotiated upon renewal of the project implementation agreements

Traffic consultants for the various SPVs

Sl. No	Name of Project	Short name of SPV	Name of traffic consultant
1	Goa Kundapur	IWTL	Steer
2	Solapur Yedeshi	SYTL	Steer
3	Yedeshi Aurangabad	YATL	Steer
4	Kaithal - Rajasthan	KTL	Steer
5	Agra Etawah	AETL	Steer
6	Udaipur Rajasthan Gujarat	UTL	Steer
7	Gulabpura Chittorgarh	CGTL	Steer
8	Kishangarh Gulabpura	KGTL	Steer
9	Hapur Moradabad	IHMTL	Steer

  - Completion certificates or provisional completion certificates as applicable for the various SPVs
  - Management has represented that out of 9 SPVs which are managed under the Trust, 6 SPVs are fully operational & rest 3 SPVs are under construction. Management has assumed an extension in the end date of concession period with respect to all SPVs to compensate for loss of revenue due to lockdown situation, based on formula as per the provisions of CA ("Concession Agreement") via Policy No. 8.3.33/2020 dated 26 May 2020, as well as on account of Target Traffic - Article 29 of CA. The same have not been approved by NHAI

Concession period assumed by Management(not yet approved by NHAI)

Sl. No	Name of Project	Short name of SPV	Construction Phase	Lane Kms	Scheduled Concession period ends	Management expected concession period ends - 31 December 2021
1	Goa Kundapur	IWTL	Tolling & Under Construction	758	Mar-42	Jan-48
2	Solapur Yedeshi	SYTL	Fully operational	395	Jan-44	Apr-44
3	Yedeshi Aurangabad	YATL	Fully operational	756	Jun-41	Jan-43
4	Kaithal - Rajasthan	KTL	Fully operational	665	Jul-42	Feb-49
5	Agra Etawah	AETL	Fully operational	747	Jul-40	Aug-45
6	Udaipur Rajasthan Gujarat	UTL	Fully operational	683	Sep-38	Feb-43
7	Gulabpura Chittorgarh	CGTL	Fully operational	749	Nov-37	Feb-42
8	Kishangarh Gulabpura	KGTL	Tolling & Under Construction	540	Feb-38	May-42
9	Hapur Moradabad	IHMTL	Tolling & Under Construction	599	May-41	Aug-41

- NHAI in its circular dated 26th May 2020 has decided to provide for assistance in the form of COVID-19 Loan. IRBIDL has applied for COVID-19 Loan for all the 9 SPVs and is awaiting NHAI approval for the same. In any case, the SPVs have already availed the moratorium on interest (Funded Interest Term Loan FITL) and principal on loan from respective lenders, thus the COVID-19 Loan would only replace the FITL as and when received from NHAI. Accordingly, any procedural delay at NHAI for giving the COVID-19 loan approval is not expected to have any adverse impact on the liquidity position of the Sponsor based on understanding of the Trust and the Sponsor.
- Toll rate notification/validation letters for the SPVs
- The list of all the permits and licenses of the individual SPVs as provided by the Management.

➢ The estimates and timing of the proposed major repairs to be carried out by the SPVs as provided by the Management.
➢ Money payable to related parties (INR 3475.8 crores) forming part of non-current liabilities (INR 2,524.6 crores) and current liabilities (INR 951.2 crores) on the Trust combined balance sheet as on Valuation Date and will be settled against amount receivable from NHAI against claim.
➢ Management has represented that other operating income mentioned in the consolidated management business plan is operating in nature and is on DSRA created for each SPV.
➢ Proprietary databases
➢ Site Visits and Physical inspection for all the SPVs
➢ Other industry related information from various publicly available sources
➢ Other discussions with the Management
➢ In addition to the above, we have also obtained such other information and explanations which were considered relevant for the purpose of our analysis. While we have relied on the information, we have not independently verified or audited these information

Please note that with respect to the audited, provisional and projected financial statements, rounding-off of amounts in the underlying financial information could result in immaterial arithmetic differences

3.1 Details of Site Visit

The site visit of the 9 SPVs were conducted during the fortnight ending 15 January 2022. Please refer respective sections of each SPV in the later part of this report for the site photographs of the relevant SPV.

Exclusions and Limitations

3.2 Context and Purpose

The Management has appointed the Valuer to determine the Enterprise Value of the 9 SPVs pursuant to the SEBI InvIT Regulations and also compute the equity value of the Trust which owns these specified 9 SPVs.

This valuation analysis exercise and valuation report are solely for the Purpose mentioned herein in the Report.

3.3 Restricted Audience

This report and the information contained herein are absolutely confidential and are intended for use only in connection with the Purpose set out in the report.

It should not be copied, disclosed, circulated, quoted or referred to, either in whole or in part, in correspondence or in discussion with any other person except to whom it is issued without the written consent of the Valuer. It can however be relied upon and disclosed in connection with any statutory and regulatory filing in connection with the SEBI InvIT Regulations. This report and summary of valuation included herein can be reproduced and included in the statutory filings and may be made available for inspection in the manner specified therein. In the event, if the Client or its management extend the use of the report beyond the Purpose mentioned earlier in the report, with or without the consent of the Valuer, the Valuer will not accept any responsibility to any other party to whom this report may be shown or who may acquire a copy of the report.

It is clarified that this report is not a fairness opinion under any of the stock exchange / listing regulations. In case of any third-party having access to this report, please note that this report is not a substitute for the third party own due diligence / appraisal / enquiries / independent advice that the third party should undertake for its purpose.

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3.4 Limitation Clause

The report is subject to the limitations detailed hereinafter. This Report is to be read in totality, and not in parts, in conjunction with the relevant documents referred to therein.

The scope of the assignment did not include performing audit tests for the purpose of expressing an opinion on the fairness or accuracy of any financial or analytical information that was used during the course of the work. Further, conducting a financial or technical feasibility study was also not covered. During the course of this work, the Valuer has relied upon assumptions and projections related to the Trust and the SPVs made by the management of the Sponsor. These assumptions require exercise of judgment and are subject to uncertainties. Also, the Valuer has relied on the traffic study reports.

Further, this valuation Report is based on the extant regulatory environment and the financial, economic, monetary and business/market conditions, and the information made available to the Valuer or used by the Valuer up to the date hereof, which are dynamic in nature and may change in future, thereby impacting the valuation of the SPVs. Subsequent developments in the aforementioned conditions may affect this Report and the assumptions made in preparing this report and the Valuer shall not be obliged to update, review or reaffirm this report if the information provided to the Valuer changes. The information presented in this valuation Report does not reflect the outcome of any due diligence procedures, which may change the information contained herein and, therefore, the valuation Report materially.

Valuation is not a precise science and the conclusions arrived at in many cases will of necessity be subjective and dependent on the exercise of individual judgment. There is therefore no indisputable single value. While the Valuer has provided an assessment of the value based on an analysis of information available and within the scope of engagement, others may place a different value on the businesses.

Valuation is based on estimates of future financial performance or opinions, which represent reasonable expectations at a particular point in time, but such information, estimates or opinions are not offered as prediction or as assurances that a particular level of income or profit will be achieved, a particular event will occur or that a particular price will be offered or accepted. Actual results achieved during the period covered by the prospective financial analysis will vary from these estimates and the variations may be material.

The realization of these projections is dependent on the continuing validity of the assumptions on which they are based. Since the projections relate to the future, actual results are likely to be different from the projected results in case of events and circumstances not occurring as projected and the differences may be material. The Valuer's work did not constitute a validation of the financial projections of the Trust and the SPVs under consideration and accordingly, the Valuer does not express any opinion on the same. The Valuer has not commented on the appropriateness of or independently verified the assumptions or Information provided to us for arriving at the financial projections. Further, while the Valuer has discussed the assumptions and projections with the management of the Sponsor, Valuer’s reliance on them for the purpose of valuation should not be construed as an assurance about the accuracy of the assumptions or the achievability of the financial projections.

This Report is based on information received from sources mentioned herein and discussions with the management of the Sponsor. This information has not been independently verified by the Valuer. The Valuer has assumed that the Sponsor has furnished all information, which it is aware of concerning the financial statements and respective liabilities, which may have an impact on my report.

The Valuer has not done any independent technical valuation or appraisal or due diligence of the

assets or liabilities of the Trust or a SPV or any of other entity mentioned in this Report and has considered them at the value as disclosed by the Trust in their regulatory filings or in submissions, oral or written, made to me. Nothing has come to the Valuer's knowledge to indicate that the material provided to the Valuer was misstated or incorrect or would not afford reasonable grounds upon which to base my Report.

The Valuer has not made any independent verification with respect to the Sponsor's claim to title of assets or property for the purpose of this valuation. With respect to claim to title of assets or property, the Valuer has solely relied on representations, whether verbal or otherwise, made by the Management to us for the purpose of this Report.

For the present valuation analysis exercise, the Valuer has also relied upon information available in the public domain; however, the accuracy and timeliness of the same has not been independently verified. Further, the Valuer has not verified the publicly available information cited in this Report.

In the particular circumstances of this case, the Valuer shall be liable only to the Sponsor, the Trust and the Investment Manager. The Valuer shall have no liability (in contract or under statute or otherwise) to any other party for any economic loss or damage arising out of or in connection with this engagement, however the loss or damage is caused other than in cases of fraud, gross negligence or wilful misconduct, or on account of any natural calamities, shall be limited to the amount of fees actually received by the Valuer as laid out in the engagement letter, for such valuation work.

Whilst, all reasonable care has been taken to ensure that facts stated in the Report are accurate and opinions given are fair and reasonable, neither the Valuer, nor any of the Valuer's team member shall in any way be responsible for the management content, third party content or other any content sourced from publicly available information, stated herein. Accordingly, the Valuer makes no representation or warranty, express or implied, in respect of the completeness, authenticity or accuracy of such content. The Valuer expressly disclaim any and all liabilities, which may arise based upon such content used in this Report.

This Report does not look into the business / commercial reasons behind the transaction nor the likely benefits arising out of the same. Similarly, it does not address the relative merits of investing in InvIT as compared with any other alternative business transaction, or other alternatives, or whether or not such alternatives, or whether or not such alternatives could be achieved or are available. The assessment of commercial and investment merits of the Trust are sole responsibility of the investors of the Trust and the Valuer does not express opinion on the suitability or otherwise of entering into any financial or other transactions with the Investment Manager, the Trust or the Sponsor.

The Valuer is not advisor with respect to legal tax and regulatory matters for the transaction. No investigation of the SPVs' claim to title or assets has been made for the purpose of this Report and the SPVs' claim to such right have been assumed to be valid. No consideration has been given to liens or encumbrances against the assets beyond the loans disclosed in the accounts. Therefore, no responsibility is assumed for matters of a legal nature.

Except to the extent required under the SEBI InvIT Regulations and other applicable law, the Valuer is not responsible for matters of legal nature including issues of legal title and compliance with local laws in respect of the SPVs and also no consideration has been given to litigation and other contingent liabilities that are not recorded in the financials of the SPVs.

The valuation analysis in this Report should not be construed as investment advice; specifically, and the Valuer do not express any opinion on the suitability or otherwise of entering into any financial or other transactions with the Investment Manager, the Trust or any of the SPVs.

Document Classification: General or Internal use only

The estimate of value contained herein are not intended to represent value of the SPVs at any time other than the dates specifically mentioned for each valuation result, as per the agreed scope of engagement and as required under the SEBI InvIT Regulations.

Our work in preparing the report was undertaken, and our report has been produced in accordance with the terms of engagement between us and the Client. Provision of valuation opinions and consideration of the issues described herein are areas of our regular practice. The services do not represent accounting, assurance, diligence services, or consulting/ tax-related services.

This Valuation Report, its contents, and results herein are specific to (i) the purpose of valuation agreed as per the terms of our engagement along with subsequent discussions with the management; (ii) the date of this Valuation Report, and (iii) are based on the data detailed in the section – Sources of information. An analysis of this nature is necessarily based on the prevailing stock market, financial, economic, and other conditions in general and industry trends in particular, and the information made available to us as of the Valuation Date. Events occurring after the Valuation Date may affect this Valuation Report and the assumptions used in preparing it, and we do not assume any obligation to update, revise or reaffirm this Valuation Report

The outbreak of the COVID-19 pandemic has created significant uncertainty in valuation and accordingly, the Valuer has recommended a degree of caution to the values arrived under current circumstances, as the same may change rapidly depending on the changing market scenario. Due to the outbreak of the COVID-19 pandemic, the valuation exercise undertaken by the Valuer is based on significant assumptions within the valuation approach and methodology, which are based on factors whose outcomes are uncertain and hence, results in lower certainty of the value determined in the Valuation Report, than would otherwise be in this case

Management has represented that the business activities of the Company have been carried out in the normal and ordinary course and that no material adverse change has occurred in operations between the Valuation Date and the date of issue of the Valuation Report

The Valuer is not responsible for updating this Valuation Report because of events or transactions occurring subsequent to the date of issue of this Report

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4. Overview of the 9 SPVs

4.1 IRB Westcoast Tollway Limited ("IWTL" or "Goa Kundapur")

IRB Westcoast Tollway Limited ("**IWTL**") was awarded a grant of INR 536.22 crores from the NHAI during the construction period. For this project, IWTL was engaged to expand the existing two-lane road to a four-lane road in the Goa/ Karnataka Border to Kundapur Section of NH17 (from 93.70 Km to 283.30 Km) in Karnataka under National Highway Development Program Phase IV on a Design-Build-Finance-Operate-Transfer basis. A concession agreement dated March 25, 2013 was entered into between the NHAI and IWTL. The project received a provisional completion certificate and commenced tolling in February 2020.

Concession Period: The concession period for this project is 28 years commencing from March 3, 2014. As per the concession agreement, IWTL is entitled to collect fees from project highway users, subject to the National Highways fee rules. The toll rates are revised annually on April 1st subject to and in accordance with such fee rules.

Operation and Maintenance: IWTL is required to carry out the operation and maintenance of this project, and if required, modify, repair or otherwise make improvements to the project highway in accordance with the concession agreement.

The key details of IRB Westcoast Tollway Limited are as follows:

Particulars	Details
Project name	Goa/Karnataka Border to Kundapur
Name of Concessionaire	IRB Westcoast Tollway Limited
State	Karnataka
NH/ SH	NH 17
PPP mode	Design, Build, Finance, Operate and Transfer ("DBFOT")
Execution of CA	March 25, 2013
Appointed date	March 3, 2014
Scheduled Concession End Date	March 2, 2042
Original Concession period	28 Years
Expected Concession End Date due to actual (estimated) traffic being lower than Target Traffic and covid 19 lockdown as per CA	January 7, 2048
Tollable Length (Kms)	189.6
Toll Plaza	3

The shareholding pattern of IRB Westcoast Tollway Limited as on 31 December 2021 is as follows:

Name of shareholder	No. of Shares held	Stake%
IRB Infrastructure Trust	174,194,297	100
Nominee of IRB Infrastructure Trust	6	Less than 0.01
Total	**174,194,303**	**100**

For the list of approvals and disclosure on litigation please refer relevant annexure related to the above SPV which have been spread between annexure I to IX

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4.2 Solapur Yedeshi Tollway Limited ("SYTL" or "Solapur Yedeshi")

Solapur Yedeshi Tollway Limited ("**SYTL**") was awarded a grant of INR 189 crores from the NHAI during the construction period. For this project, SYTL was engaged to expand the existing two-lane road to a four-lane road in the Solapur to Yedeshi Section of NH-211 from 0.00 Km to 100.00 Km (design length of 98.717 Km) in the State of Maharashtra under National Highway Development Program Phase IV on a Design-Build-Finance-Operate-Transfer basis. A concession agreement dated March 3, 2014 was entered into between the NHAI and SYTL. The project received a final completion certificate in October 2019.

Concession Period: The concession period for this project is 29 years commencing from January 21, 2015. As per the concession agreement, SYTL is entitled to collect fees from project highway users, subject to the National Highways fee rules. The toll rates are revised annually on April 1st subject to and in accordance with such fee rules.

Operation and Maintenance: SYTL is required to carry out the operation and maintenance of this project, and if required, modify, repair or otherwise make improvements to the project highway in accordance with the concession agreement.

The key details of Solapur Yedeshi Tollway Limited are as follows:

Particulars	Details
Project name	Solapur Yedeshi
Name of Concessionaire	Solapur Yedeshi Tollway Limited
State	Maharashtra
NH/ SH	NH 211
PPP mode	Design, Build, Finance, Operate and Transfer ("DBFOT")
Execution of CA	March 3, 2014
Appointed date	January 21, 2015
Provisional Completion certificate date	March 5, 2018
Scheduled Concession End Date	January 20, 2044
Original Concession period	29 Years
Expected Concession End Date due to covid 19 lockdown as per CA	April 20, 2044
Tollable Length (Kms)	98.7
Toll Plaza	2

The shareholding pattern of Solapur Yedeshi Tollway Limited as on 31 December 2021 is as follows:

Name of shareholder	No. of Shares held	Stake%
IRB Infrastructure Trust	98,249,994	100
Nominee of IRB Infrastructure Trust	6	Less than 0.01
Total	**98,250,000**	**100**

For the list of approvals and disclosure on litigation please refer relevant annexure related to the above SPV which have been spread between annexure I to IX

4.3 Yedeshi Aurangabad Tollway Limited ("YATL" or "Yedeshi Aurangabad")

Yedeshi Aurangabad Tollway Limited ("**YATL**") was awarded a grant of INR 558 crores from NHAI during the construction period. For this project, YATL was engaged to expand the existing two-lane road to a four-lane road in the Yedeshi to Aurangabad Section of NH-211 from 100.00 Km to 290.20 Km (design length of 189.09 Km) in the State of Maharashtra under National Highway Development Program Phase IV on a Design-Build-Finance-Operate-Transfer basis. A concession agreement dated May 30, 2014 was entered into between the NHAI and YATL. The project received a final completion certificate in September 2020.

Concession Period: The concession period for this project is 26 years commencing from July 1, 2015. As per the concession agreement, YATL is entitled to collect fees from project highway users, subject to the National Highways fee rules. The toll rates are revised annually on April 1st subject to and in accordance with such fee rules.

Operation and Maintenance: YATL is required to carry out the operation and maintenance of this project, and if required, modify, repair or otherwise make improvements to the project highway in accordance with the concession agreement.

The key details of Yedeshi Aurangabad Tollway Limited are as follows:

Particulars	Details
Project name	Yedeshi Aurangabad
Name of Concessionaire	Yedeshi Aurangabad Tollway Limited
State	Maharashtra
NH/ SH	NH 211
PPP mode	Design, Build, Finance, Operate and Transfer ("DBFOT")
Execution of CA	May 30, 2014
Appointed date	July 1, 2015
Provisional Completion certificate date	March 17, 2018
Scheduled Concession End Date	June 30, 2041
Original Concession period	26 Years
Expected Concession End Date due to covid 19 lockdown as per CA	January 4, 2043
Tollable Length (Kms)	189.1
Toll Plaza	3

The shareholding pattern of Yedeshi Aurangabad Tollway Limited as on 31 December 2021 is as follows:

Name of shareholder	No. of Shares held	Stake%
IRB Infrastructure Trust	215,756,995	100
Nominee of IRB Infrastructure Trust	6	Less than 0.01
Total	**215,757,001**	**100**

For the list of approvals and disclosure on litigation please refer relevant annexure related to the above SPV which have been spread between annexure I to IX.

4.4 Kaithal Tollway Limited ("KTL" or "Kaithal Rajasthan")

Kaithal Tollway Limited ("**KTL**"), was awarded a grant of INR 234 crores from NHAI during the construction period. For this project, KTL was engaged to expand the existing two-lane road to a four-lane road in the Kaithal to Rajasthan Border Section of NH-152/65 from 33.25 Km (design - 0.500 Km) to 241.58 Km (design 165.759 Km i.e. total design length of 166.259 Km) in the State of Haryana under National Highway Development Program Phase IV on a Design-Build-Finance-Operate-Transfer basis. A concession agreement dated June 23, 2014 was entered into between the NHAI and KTL. The project received provisional completion certificates in September 2017 and July 2018 and commenced tolling in September 2017. The project received a final completion certificate in March 2019.

Concession Period: The concession period for this project is 27 years commencing from July 15, 2015. As per the concession agreement, KTL is entitled to collect fees from project highway users, subject to the National Highways fee rules. The toll rates are revised annually on 01 April subject to and in accordance with such fee rules.

Operation and Maintenance: KTL carries out the operation and maintenance of this project, and if required, modify, repair or otherwise make improvements to the project highway in accordance with the concession agreement.

The key details of Kaithal Tollway Limited are as follows:

Particulars	Details
Project name	Kaithal - Rajasthan Border
Name of concessionaire	Kaithal Tollway Limited
State	Haryana
NH	NH- 152/65
PPP mode	Design, Build, Finance, Operate and Transfer ("DBFOT")
Execution of concession agreement date	June 23, 2014
Appointed date	July 15, 2015
Provisional Completion certificate date – I	September 6, 2017
Provisional Completion certificate date – II	July 9, 2018
Completion certificate date	March 29, 2019
Scheduled concession end date	July 14, 2042
Original concession period (yrs)	27 years
Expected Concession End Date due to covid 19 lockdown as per CA	February 6, 2049
Tollable length (Kms)	166.3
Toll plaza (No.)	3

The shareholding pattern of Kaithal Tollway Limited as on 31 December 2021 is as follows:

Name of shareholder	No. of Shares held	Stake%
IRB Infrastructure Trust	327,999,994	100
Nominee of IRB Infrastructure Trust	6	Less than 0.01
Total	**328,000,000**	**100**

For the list of approvals and disclosure on litigation please refer relevant annexure related to the above SPV which have been spread between annexure I to IX

4.5 AE Tollway Limited ("AETL" or "Agra Etawah")

AE Tollway Limited ("**AETL**") was awarded on the basis of a premium of INR 81 crores payable to the NHAI in the first year of concession period increased annually at by an additional 5% as compared to the immediately preceding year. For this project, AETL was engaged to expand the Agra to Etawah Bypass Section of NH-2 from 199.660 Km to 323.525 Km (design length of 124.52 Km) in the State of Uttar Pradesh from four to six lanes under National Highway Development Program Phase V on a design-build-finance-operate-transfer basis. A concession agreement dated September 1, 2015 was entered into between the NHAI and AETL. Being a four to six laning project, tolling commenced in August 2016. The project received a final completion certificate in October 2020.

Concession Period: The concession period for this project is 24 years commencing from August 1, 2016. As per the concession agreement, AETL is entitled to collect fees from project highway users, subject to the National Highways fee rules. The toll rates are revised annually on April 1st subject to and in accordance with such fee rules.

Operation and Maintenance: During the concession period, AETL is required to operate and maintain the facilities relating to this project, and if required, modify, repair or otherwise make improvements to the project highway in accordance with the concession agreement.

The key details of AE Tollway Limited are as follows:

Particulars	Details
Project name	Agra - Ethawah
Name of concessionaire	AE Tollway Limited
State	Uttar Pradesh
NH	NH-2
PPP mode	Build, Operate and Transfer ("BOT")
Execution of concession agreement date	September 1, 2015
Appointed date	August 1, 2016
Provisional Completion certificate date	August 1, 2016
Scheduled concession end date	July 31, 2040
Original concession period (yrs)	24 years
Expected Concession End Date due to covid 19 lockdown as per CA	August 19, 2045
Tollable length (Kms)	124.52
Toll plaza (No.)	2

The shareholding pattern of AE Tollway Limited as on 31 December 2021 is as follows:

Name of shareholder	No. of Shares held	Stake%
IRB Infrastructure Trust	436,499,994	100
Nominee of IRB Infrastructure Trust	6	Less than 0.01
Total	**436,500,000**	**100**

For the list of approvals and disclosure on litigation please refer relevant annexure related to the above SPV which have been spread between annexure I to IX

4.6 Udaipur Tollway Limited ("UTL" or "Udaipur Rajasthan/ Gujarat border")

Udaipur Tollway Limited ("**UTL**") was awarded on the basis of a premium of INR 163.80 crores payable to the NHAI immediately after the third anniversary year of COD and for each subsequent year till the 9th anniversary of COD the premium shall increase by an additional 3% as compared to the previous year. From the 9th anniversary of COD until the end of the concession period the premium shall increase by an additional 8% each year as compared to the previous year. For this project, UTL was engaged to expand the Udaipur Bypass (287.40 Km) to Rajasthan/Gujarat Border (401.20 Km) section of NH-8 in the states of Rajasthan & Gujarat (approx. length 113.80 Km) from four to six lanes under National Highway Development Program Phase V on a design-build-finance-operate-transfer basis. A concession agreement dated 09 December 2016 was entered into between the NHAI and UTL. Being a four to six laning project, tolling commenced in September 2017.

Concession Period: The concession period for this project is 21 years from September 3, 2017. As per the concession agreement, UTL is entitled to collect fees from project highway users, subject to the National Highways fee rules. The toll rates are revised annually on 01 April subject to and in accordance with such fee rules. Being a four to six laning project, tolling commenced from appointed date i.e. 03 September 2017.

Operation and Maintenance: During the concession period, UTL is required to operate and maintain the facilities relating to this project, and if required, modify, repair or otherwise make improvements to the project highway in accordance with the concession agreement.

The key details of Udaipur Tollway Limited are as follows:

Particulars	Details
Project name	Udaipur Gujarat Border
Name of concessionaire	Udaipur Tollway Limited
State	Rajasthan/ Gujarat
NH	NH-8
PPP mode	Design, Build, Finance, Operate and Transfer ("DBFOT")
Execution of concession agreement date	December 9, 2016
Appointed date	September 3, 2017
Provisional Completion certificate date	September 3, 2017
Scheduled concession end date	September 2, 2038
Original concession period (yrs)	21 years
Expected Concession End Date due to covid 19 lockdown as per CA	February 13, 2043
Tollable length (Kms)	113.8
Toll plaza (No.)	1

The shareholding pattern of Udaipur Tollway Limited as on 31 December 2021 is as follows:

Name of shareholder	No. of Shares held	Stake%
IRB Infrastructure Trust	116,799,994	100
Nominee of IRB Infrastructure Trust	6	Less than 0.01
Total	**116,800,000**	**100**

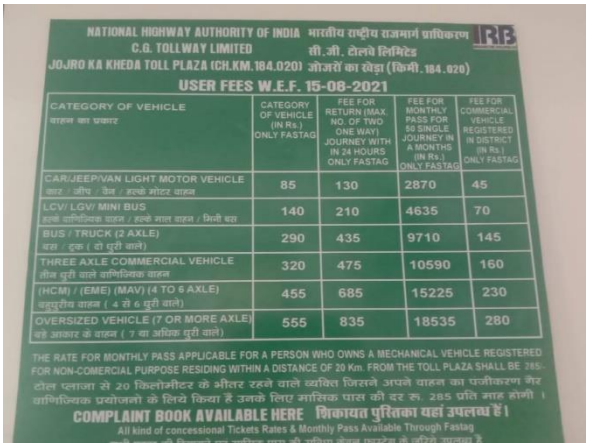
For the list of approvals and disclosure on litigation please refer relevant annexure related to the above SPV which have been spread between annexure I to IX

4.7 CG Tollway Limited ("CGTL" or "Gulabpura Chittorgarh")

CG Tollway Limited ("**CGTL**") was awarded on the basis of a premium of INR 228.60 crores payable to the NHAI immediately after the third anniversary year of COD and for each subsequent year till the 9th anniversary of COD the premium shall increase by an additional 3% as compared to the previous year. From the 9th anniversary of COD until the end of the concession period the premium shall increase by an additional 8% each year as compared to the previous year. For this project, CGTL was engaged to expand the Gulabpura (90.00 Km) to end of Chittorgarh Bypass (214.87 Km) Section of NH-79 in the state of Rajasthan from four to six lanes under National Highway Development Program Phase V on a design-build-finance-operate-transfer basis. A concession agreement dated 09 December 2016 was entered into between the NHAI and CGTL. Being a four to six laning project, tolling commenced in November 2017.

Concession Period: The concession period for this project is 20 years commencing from 04 November 2017. As per the concession agreement, CGTL is entitled to collect fees from project highway users, subject to the National Highways fee Rules. The toll rates are revised annually on 01 April subject to and in accordance with such fee rules.

Operation and Maintenance: During the concession period, CGTL is required to operate and maintain the facilities relating to this project, and if required, modify, repair or otherwise make improvements to the project highway in accordance with the concession agreement.



The key details of CG Tollway Limited are as follows:

Particulars	Details
Project name	Gulabpura Chittorgarh
Name of concessionaire	CG Tollway Limited
State	Rajasthan
NH	NH-79
PPP mode	Build, Operate and Transfer ("BOT")
Execution of concession agreement date	December 9, 2016
Appointed date	November 4, 2017
Provisional Completion certificate date	November 4, 2017
Scheduled concession end date	November 3, 2037
Original concession period (yrs)	20 years
Expected Concession End Date due to covid 19 lockdown as per CA	February 3, 2042
Tollable length (Kms)	124.87
Toll plaza (No.)	2

The shareholding pattern of CG Tollway Limited as on 31 December 2021 is as follows:

Name of shareholder	No. of Shares held	Stake%
IRB Infrastructure Trust	203,499,994	100
Nominee of IRB Infrastructure Trust	6	Less than 0.01
Total	**203,500,000**	**100**

For the list of approvals and disclosure on litigation please refer relevant annexure related to the above SPV which have been spread between annexure I to IX.

4.8 Kishangarh Gulabpura Tollway Limited ("KGTL" or "Kishangarh Gulabpura")

Kishangarh Gulabpura Tollway Limited ("**KGTL**") was awarded on the basis of a premium of INR 186.30 crores payable to the NHAI immediately after the third anniversary year of COD and for each subsequent year till the 9th anniversary of COD the premium shall increase by an additional 3% as compared to the previous year. From the 9th anniversary of COD until the end of the concession period the premium shall increase by an additional 8% each year as compared to the previous year. For this project, KGTL was engaged to expand the Kishangarh (0.83 Km to 36.10 Km of NH 79A and 15.00 KM to 69.73 Km of NH-79) to Gulabpura section of NH 79A and NH 79 in the state of Rajasthan (length 90.00 Km) from four to six lanes under National Highway Development Program Phase V on a design-build-finance-operate-transfer basis. A concession agreement dated 22 February 2017 was entered into between the NHAI and KGTL. Being a four to six laning project, tolling commenced in February 2018.

Concession Period: The concession period for this project is 20 years commencing from 21 February 2018. As per the concession agreement, KGTL is entitled to collect fees from project highway users, subject to the National Highways fee rules. The toll rates are revised annually on 01 April subject to and in accordance with such fee rules.

Operation and Maintenance: During the concession period, KGTL is required to operate and maintain the facilities relating to this project, and if required, modify, repair or otherwise make improvements to the project highway in accordance with the concession agreement.

The key details of Kishangarh Gulabpura Tollway Limited are as follows:

Particulars	Details
Project name	Kishangarh Gulabpura
Name of concessionaire	Krishangarh Gulabpura Tollway Limited
State	Rajasthan
NH	NH-79A & NH-79
PPP mode	Design, Build, Finance, Operate and Transfer ("DBFOT")
Execution of concession agreement date	February 22, 2017
Appointed date	February 21, 2018
Provisional Completion certificate date	February 21, 2018
Scheduled concession end date	February 20, 2038
Original concession period (yrs)	20 years
Expected Concession End Date due to covid 19 lockdown as per CA	May 20, 2042
Tollable length (Kms)	90
Toll plaza (No.)	1

The shareholding pattern of Kishangarh Gulabpura Tollway Limited as on 31 December 2021 is as follows:

Name of shareholder	No. of Shares held	Stake%
IRB Infrastructure Trust	155,499,994	99.99
Nominee of IRB Infrastructure Trust	6	Less than 0.01
Total	**155,500,000**	**100**

For the list of approvals and disclosure on litigation please refer relevant annexure related to the above SPV which have been spread between annexure I to IX

4.9 IRB Hapur Moradabad Tollway Limited ("IHMTL" or "Hapur Moradabad")

IRB Hapur Moradabad Tollway Limited ("**IHMTL**") was awarded on the basis of a premium of INR 31.5 crores payable to the NHAI immediately after the third anniversary year of COD and for each subsequent year until the ninth anniversary of COD the premium will increase by an additional 3% as compared to the previous year. From the ninth anniversary of COD until the end of the concession period the premium will increase by an additional 8% each year as compared to the previous year. For this project, IHMTL was engaged to expand the Hapur Bypass (50.000 Km) to Moradabad (149.867 Km) Section of NH-9 (design length of 99.867 Km) in the state of Uttar Pradesh from four to six lanes under National Highway Development Program Phase V on a design-build-finance-operate-transfer basis. A concession agreement dated May 29, 2018 was entered into between the NHAI and IHMTL. Being a four to six laning project, tolling commenced in May 2019.

Concession Period: The concession period for this project is 22 years commencing from 28 May 2019. As per the concession agreement, IHMTL is entitled to collect fees from project highway users, subject to the National Highways fee rules. The toll rates are revised annually on 01 April subject to and in accordance with such fee rules.

Operation and Maintenance: During the concession period, IHMTL is required to operate and maintain the facilities relating to this project, and if required, modify, repair or otherwise make improvements to the project highway in accordance with the concession agreement.

The key details of IRB Hapur Moradabad Tollway Limited are as follows:

Particulars	Details
Project name	Hapur Moradabad
Name of concessionaire	IRB Hapur Moradabad Tollway Limited
State	Uttar Pradesh
NH	NH-24
PPP mode	Design, Build, Finance, Operate and Transfer ("DBFOT")
Execution of concession agreement date	May 29, 2018
Appointed date	May 28, 2019
Provisional Completion certificate date	May 28, 2019
Scheduled concession end date	May 27, 2041
Original concession period (yrs)	22 years
Expected Concession End Date due to covid 19 lockdown as per CA	August 31, 2041
Tollable length (Kms)	99.87
Toll plaza (No.)	2

The shareholding pattern of IRB Hapur Moradabad Tollway Limited as on 31 December 2021 is as follows:

Name of shareholder	No. of Shares held	Stake%
IRB Infrastructure Trust	371,499,994	100
Nominee of IRB Infrastructure Trust	6	Less than 0.01
Total	**371,500,000**	**100**

For the list of approvals and disclosure on litigation please refer relevant annexure related to the above SPV which have been spread between annexure I to IX

5. Industry Overview

5.1 Indian Economy

India has emerged as the fastest-growing major economy in the world and is expected to be one of the top three economic powers of the world over the next 10-15 years, backed by its strong democracy and partnerships.

Market Size and Growth:

India's GDP (at constant 2011-2012 prices) was estimated at INR 35.73 trillion (US$ 475 billion) for the second quarter of FY21-22, against INR 32.97 trillion (US$ 439 billion) in the second quarter of FY20-21 showing a growth of 8.4 per cent as compared to the 7.4 per cent contraction in the same quarter a year ago.

5.2 Infrastructure Sector in India

The infrastructure sector is a key driver for the Indian economy. The infrastructure sector includes power, bridges, dams, roads, and urban infrastructure development.

Market Size:

According to the Department for Promotion of Industry and Internal Trade (DPIIT), FDIs in the construction development sector (townships, housing, built-up infrastructure, and construction development projects) and construction (infrastructure) activities stood at US$ 26.14 billion and US$ 25.38 billion, respectively, between April 2000 and June 2021.

5.3 Road and Highway Sector in India (Sector background)

India with a total road network of 6.37 million Km comprises national & state highways and urban & rural roads. Out of this approx. 1.71 lakh Kms are State Highways (SHs) and approx. 1.41 lakh Kms are National Highways (NHs) which account for 3 per cent & 2 per cent of the total roads in India, respectively.

National Highways of 5,835 km length have been constructed in the first nine months of FY 2021-22.

Total Roads	63,71,847 km
National Highways	1,40,995 km
State Highways	1,71,039 km
Other Roads	60,59,813 km

5.4 Sector Trends

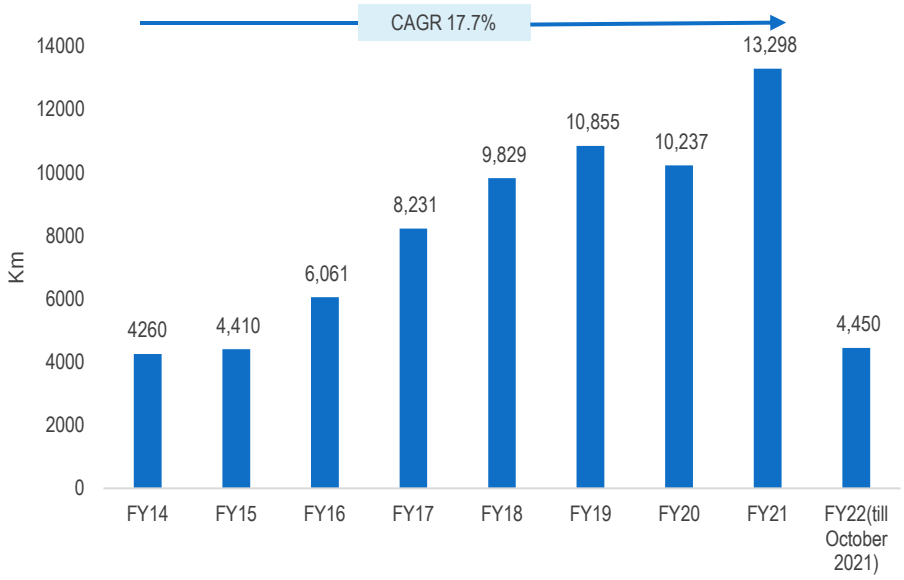
The Government of India has launched major initiatives to upgrade and strengthen National Highways through various phases of the National Highways Development Project (NHDP). The status of various programmes up to 31.12.2021 are as under:

Components / Scheme	Total Length in km	Length completed up to 31.03.2021 in km	Length completed during 01.04.2021 to 31.12.2021 in km	Length Completed up to 31.12.2021 in km
A. BharatmalaPariyojana Phase-I				
Economic Corridors	9,000	1,167	390	1,557
Inter Corridors & Feeder Roads	6,000	348	214	562
National Corridor Efficiency Improvement	5,000	774	238	1,012
Border & International Road Connectivity	2,000	901	219	1,120
Roads	2,000	29	23	52
Expressways	800	267	182	449
Subtotal	**24,800**	**3,486**	**1,266**	**4,752**
Balance road works under NHDP	10,000	1,782	462	2,244
Grand Total	**34,800**	**5,268**	**1,728**	**6,996**
B. Other Schemes				
SARDP-NE (Phase A+Arunachal Pradesh)	6,418	3,828	293	4,121
LWE (including Vijayawada Ranchi Route)	6,085	5,704	37	5,741
EAP(WB+JICA+ADB)	2,855	1,280	126	1,406

Source: https://www.ibef.org/economy/indian-economy-overview; https://www.ibef.org/industry/infrastructure-sector-india.aspx; MoRTH annual report FY 21-22
http://www.news.cn/english/asiapacific/2021-11/30/c_1310343673.htm; https://tradingeconomics.com/india/gdp-constant-prices

5.5 Momentum in Expansion of Roadways

- Highway construction in India increased at 17.7 per cent CAGR between FY14-21. In FY22 (until October), the Ministry of Road Transport and Highways constructed national highways extending 4,450 kms compared with 4,956 kms, as of October 2020.



Source: Road Network in India, ibef.org dated November 2021, https://www.ibef.org/download/Roads-November-2021.pdf

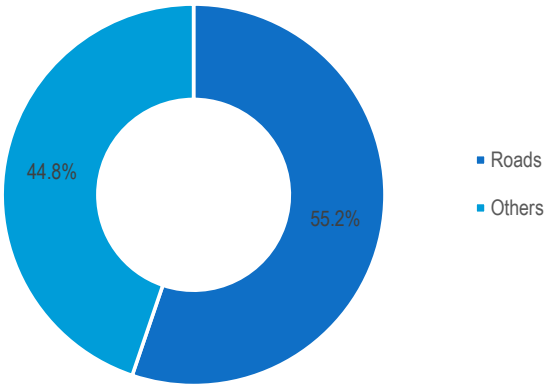
- In May 2021, the Government has set a target of constructing roads worth INR 15 lakh crore (US$ 206 billion) over the next two years.
- The government will use plastic waste for the construction of roads. One of the roads has recently been constructed with plastic waste near Dhaula Kuan (New Delhi) with plans to construct Delhi-Meerut Expressway and Gurgaon-Sohna Road.

5.6 Private Financing under Public Private Partnership (PPP)

The PPP framework was introduced to increase the efficiency of infrastructure projects through long-term collaboration between the public sector and private businesses.

- In FY21, there were 125 PPP projects worth US$ 23.25 billion in India.
- Projects awarded under build-operate-transfer (BOT) were 37.62 per cent of the total awarded projects as of December 2019.
- In August 2020, the Government of India revised the Model Concession Agreement for BOT projects to plug delays by imposing a deadline on the NHAI and incentivizing timely work by concessionaires. According to revised norms, the NHAI will have to hand over 90 per cent of the project land (vacant and ready to build) to private developers, thus creating a more market-friendly sector and attracting more private players.
- In November 2020, L&T Construction bagged a contract to build India's longest river bridge, across the Brahmaputra River connecting Dhubri in Assam to Phulbari in Meghalaya, valued at Rs. 2,500–5,000 crore (US$ 339.76–679.53 million).
- KKR, a global investment firm, announced to acquire the entire stake of Global Infrastructure Partners in Highway Concessions One (HC1) and seven other highway assets totaling 487 kms.

Total PPP Projects in India (as on November 2021)



Source: Road Network in India, ibef.org dated November 2021 https://www.ibef.org/download/Roads-November-2021.pdf

5.7 Evolution of PPP in road sector in India

PPP in the road sector in India has passed through several distinct phases:

- Build- Operate-Transfer:
  It is a form of project financing, wherein a private entity receives a concession from the private or public sector to finance, design, construct, own, and operate a facility stated in the concession contract. This enables the project proponent to recover its investment, operating, and maintenance expenses in the project. But significant improvements in private participation were observed. Private sector participation in BOT projects peaked till Financial Year (FY)12. But a steep decline in PPP participation was observed in FY13 and FY14 with many viable projects unable to attract even a single bid.

- Hybrid Annuity Mode (HAM):
  HAM was introduced to reinvigorate PPP participation in the road sector after interest in BOT projects waned. It has mainly provided advantages to the developers in form of reduction in Initial funding requirements in PPP projects as 60 per cent of the bid project cost is to be arranged by the concessionaire. This reduces the initial equity requirement and encourages participation by mid-sized developers to invest in PPP projects. Further, debt requirements go down from 70 per cent to around 42 per cent of the project cost. The introduction and strong implementation of HAM has seen HAM become the preferred PPP mode in India.

- Toll- Operate- Transfer (TOT)
  TOT is a model for monetising operational national highway projects where investors make a lump sum payment in return for long-term toll collection rights backed by a sound tolling system. Three TOT bundles have been floated by NHAI so far out of which financial closure of one bundle was achieved in August 2018 with the highest bidder bid at least 1.5 times the IECV and for one bundle bid process is ongoing.

  The National Highways Authority of India is looking to tweak the BOT framework as the Government plans to revive the BOT model to make it more attractive to private investors and lenders.

5.8 Policy Initiatives

- The Prime Minister's Gram Sadak Yojana (PMGSY) is a scheme for the development of rural roads in India. The Government of India has succeeded in providing road connectivity to 85 per cent of 178,184 rural habitations. As per Union Budget 2020-21, the Government of India has allocated INR 19,500 crores (US$ 2.79 billion) for PMGSY. As per Union Budget 19-20, 30,000 km of PMGSY roads were built using green technology, waste plastic, and cold-mix technology, thereby reducing carbon footprint.

- The government of India has set up the India Infrastructure Finance Company (IIFCL) to provide long-term funding for infrastructure projects. As per the Union Budget 2019-20, the government proposed to permit investments made by FIIs/FPIs in debt securities issued by Infrastructure Debt Fund – Non-Bank Finance Companies (IDF-NBFCs) to be transferred/sold to any domestic investor within the specified lock-in period.

- The Bhoomi Rashi portal of the Ministry of Road Transport & Highways allows for totally digital and paperless processing of land acquisition cases and has resulted in transparent, quick, corruption-free, and error-free handling of land acquisition cases. With the operation of this Portal, the land acquisition process has been expedited significantly, become error-free and more transparent and the notifications at every stage are being processed on a real-time basis. From 01 April 2018 till 31 December 2020, a total of 6,291 Land Acquisition notifications have been issued and nearly 59,825 hectares of land have been acquired for all National Highway projects.

- In October 2020, a memorandum of understanding (MoU) has been signed with the NHAI by Guru Nanak Dev University (GNDU) to conduct advanced research on various aspects, including highway architecture, protection, and revitalisation, The GNDU will undertake studies on ~137 km length of the National Highways passing through Pathankot, Gurdaspur and Amritsar districts.

- Some of the green initiatives are exemption of electric, ethanol, and methanol vehicles from permit, emission standards for construction equipment vehicles and tractors, linking of PUC data (emission-related data) with the VAHAN database, etc.

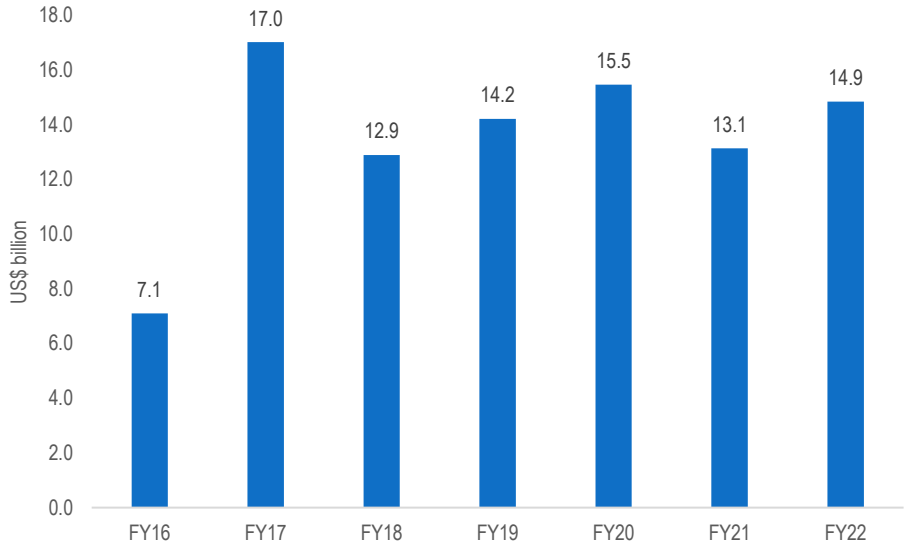
- FASTag is an electronic toll collection system, operated by NHAI. A mobile application has been launched for the purchase of tags and top-up of FASTags. As on 31 December 2020, collectively banks have issued over 2.29 crore FASTags with an average daily ETC transactions of 44.65 lakhs; the average daily collection through ETC has increased to INR 74.32 crore with a penetration of 76 per cent in total fee collection. There are 668 National Highways (NH) fee plazas live with ETC infrastructure in all lanes.

- In October 2021, the Union Cabinet of India approved the PM Gati Shakti National Master Plan including implementation, monitoring, and support mechanism for providing multi-modal connectivity. As a part of the Gati Shakti National Master Plan, the government is planning to launch a geospatial digital platform to facilitate planning and monitoring of projects ranging from telecom networks, gas pipelines to road and railways.

Source: Road Network in India, ibef.org dated November 2021 https://www.ibef.org/download/Roads-November-2021.pdf; MoRTH annual report FY21-22. https://www.ibef.org/industry/infrastructure-sector-india.aspx.

5.9 Budgetary Outlay for Roads

Roadways have been the key focus area for budget allocations over the years. Under the Union Budget 2021-22, the Government of India has allocated Rs. 108,230 crore (US$ 14.85 billion) to the Ministry of Road Transport and Highways.
On October 12, 2020, the government announced that it has constructed 2,921 kms of highways under the Bharatmala Pariyojna. The government envisages building 34,800 kms of highways at a cost of about Rs. 5.35 trillion (US$ 74.15 billion) under the ambitious Bharatmala Pariyojna.
In July 2021, the union minister for Road Transport and Highways laid the foundation stone for 16 National Highway projects in Manipur that will cost US$ 556.67 million to build and will cover a total distance of 298 kms and The Ministry of Road Transport & Highways allocated Rs. 165 crore (US$ 22 million) under the Economic Importance and Inter-State Connectivity Scheme (EIC&ISC) for FY22.
In September 2021, the Ministry of Road Transport and Highways allocated Rs. 7,270 crore (US$ 980.9 million) for road safety programmes in 14 states constitute 85 per cent of the total road fatalities in India
The outlay for roads under respective Union Budgets (USD billion)



Road Network in India, ibef.org dated November 2021 https://www.ibef.org/download/Roads-November-2021.pdf.

5.10 COVID-19 lockdown

- The global construction market size declined from USD 11,217.4 billion in 2019 to USD 10,741.2 billion in 2020. However, the industry is showing signs of recovery since the beginning of 2021 and reaches a market size of USD 13,572.4 billion in 2024, projecting a CAGR of 6.0 per cent between 2020 and 2024.

- The recent spike in COVID-19 cases increases the risk of restrictions on construction activities at the localised level and curtails labour availability at project sites, which could cause short-term disruptions in construction activities. However, an increase in automation in public spaces, government initiatives along with the rising awareness about antibacterial construction materials, is expected to boost the construction industry post-COVID-19 pandemic.

- Given that the sector had faced a more intense effect during the first wave, most companies have improved their preparedness in terms of labour and raw material availability.

Source: https://www.marketwatch.com/press-release/impact-of-covid-19-on-construction-industry-market-revenue-growth-key-players-qualitative-analysis-quantitative-analysis-forecast-up-to-2030-2022-01-20?tesla=y

5.11 Way Forward (Outlook)

- The market for roads and highways has projected a CAGR of 36.16 per cent during 2016-2025, on account of growing government initiatives to improve transportation infrastructure in the country.

- The National Highways Authority of India (NHAI) is expected to award projects worth ~Rs. 2.25 lakh crore (US$ 30.3 billion) with a total length of ~5,000 kms in FY22.

- In the coming years, NHAI's increased delegation autonomy along with the Bharatmala Pariyojana initiative is expected to enable growth in awarding momentum. Overall, more than 61,300 Km of road projects, costing over 6.48 lakh crore, are in progress under the Bharatmala Pariyojana, which will be awarded to the private players in the coming years under different formats.

- A paradigm shift is expected from highway construction/ development to the provision of quality service to highway users, both for freight and passenger transport. Enhanced use of technology applications will be a key requirement here.

- Promoting sustainability will be another significant focus area with increased reliance on e-mobility, use of biofuels, and eco-friendly development/construction. Further, augmenting existing sources of finance to complete the required highway construction in the next five to six years shall also be an important consideration.

- Investment, merger, and acquisition (M&A) activity in the roads sector has picked up pace this year as foreign investors pump in millions of dollars to acquire operating roads and developers look to sell assets to pare debt. About INR 1.4 trillion is estimated to be invested by the private sector between 2018-22 to build new road assets.

6. Valuation Approach

The standard of value used in our analysis is fair value, which is often defined as the price, in terms of cash or equivalent, that a buyer could reasonably be expected to pay, and a seller could reasonably be expected to accept, if the business were exposed for sale on the open market for a reasonable period of time, with both buyer and seller being in possession of the pertinent facts and neither being

under any compulsion to act.

There are several commonly used and internationally accepted methods for determining the fair value of companies, which have been considered in the present case, to the extent relevant and applicable. Accordingly, we have carried out valuation of the SPVs as on 31 December 2021.

It should be understood that the valuation of any company or its assets is inherently subjective and is subject to certain uncertainties and contingencies, all of which are difficult to predict and are beyond our control. In performing our analysis, we made assumptions with respect to industry performance and general business and economic conditions, many of which are beyond the control of the SPVs. In addition, this valuation will fluctuate with changes in prevailing market conditions, the conditions and prospects, financial and otherwise, of the SPVs, and other factors which generally influence the valuation analysis.

The application of any particular method of valuation depends on the purpose for which the valuation is done. Although different values may exist for different purposes, it cannot be too strongly emphasized that a valuer can only arrive at one value for one purpose. Our choice of methodology of valuation has been arrived at using usual and conventional methodologies adopted for transactions of a similar nature and our reasonable judgment, in an independent and bona fide manner is based on our previous experience of assignments of a similar nature.

We have estimated the fair value of equity of the InvIT using Sum of the Parts ("Sum of the Parts") method by adding the individual EV of each SPV and adjusting with below the line items of the consolidated unaudited financials of the Trust as on 31 December 2021. EV of each SPV has been estimated using DCF method under the income approach.

In respect of going concerns, certain valuation techniques have evolved over time and are commonly in vogue. These can be broadly categorised as follows:

Market Price (MP) Method

The market price of an equity share as quoted on a Stock Exchange is generally considered as the value of the equity shares of that company where such quotations are arising from the shares being regularly and freely traded in, subject to the element of speculative support that may be inbuilt in the value of the shares.

Equity shares of the SPVs are not listed on any stock exchange. Hence, this method has not been considered for the purpose of valuation.

Comparable Companies Market Multiple ("CCM") Method

Under this method, the value of the equity shares of a company/ business undertaking is arrived at by using multiples derived from valuations of comparable companies, as apparent through stock market valuations of listed companies. This valuation is based on the principle that market valuations, taking place between informed buyers and informed sellers, incorporate all factors relevant for the assessment of the value of the company.

Relevant multiples need to be chosen carefully and adjusted for differences between the circumstances. We have not considered this method in our valuation analysis in the absence of closely comparable listed companies having similar geographical locations, stage of growth, size, terms and profitability.

Comparable Companies Transaction Multiple ("CTM") Method

Under the CTM method, the value of the equity shares of a company/ business undertaking is arrived at by using the prices implied by reported transactions/ deals of comparable companies.

Relevant multiples need to be chosen carefully and adjusted for differences between the circumstances.

We have not been able to identify any comparable company to the SPVs for which a transaction has taken place in the last one year. We believe that the older transactions are not relevant for our valuation considering share price movements and changes in the macro-economic situation in India. Also, transactions multiples as times tend to be biased due to premium which may be embedded in the price for strategic benefits and synergies which an acquirer may perceive in the target. Accordingly, we have not applied the Comparable Transactions Multiple Method for the valuation of the SPVs.

Net Asset Value (NAV) Method

The asset-based valuation technique is based on the value of the underlying net assets of the business either on a book value basis or realisable value basis or replacement cost basis. The cost approach assumes that a prudent investor would pay no more for an entity than the amount for which he could replace or re-create it or an asset with similar utility. Under a going-concern premise, the cost approach usually is best suited for use in valuing asset-intensive companies, such as investment or real estate holding companies, or companies with unstable or unpredictable earnings.

In the present case of valuing the SPVs, we have not considered this method as the underlying earnings are fairly stable, and a going concern business plan has been provided by the Management.

Discounted Cash Flows (DCF) Method

Under the DCF method, the projected free cash flows to the firm are discounted at the weighted average cost of capital. The sum of the discounted value of such free cash flows is the value of the firm.

Using the DCF analysis involves determining the following:

Estimating future free cash flows:

Free cash flows are the cash flows expected to be generated by the company that is available to all providers of the company's capital — both debt and equity.

Appropriate discount rate to be applied to cash flows, i.e., the cost of capital:

This discount rate, which is applied to the free cash flows, should reflect the opportunity cost to all the capital providers (namely shareholders and creditors), weighted by their relative contribution to the total capital of the company. The opportunity cost to the capital provider equals the rate of return the capital provider expects to earn on other investments of equivalent risk.

The value so computed by discounting the cash flows to the firm is adjusted for net borrowings, surplus asset including investments, minority interests, equity instruments granted as part of the share-based payment, and other matters to arrive at an aggregate equity value of the company.

In the present case, we have been provided with the financial projections of all the 9 SPVs. As such, we have considered this method for valuing the SPVs.

7. Valuation Analysis

Discounted Cash Flow Method (Free Cash Flows to Firm)

Using the DCF analysis involves determining the following:

Estimating future free cash flows:

Free cash flows are the cash flows expected to be generated by each individual SPV and available to the capital providers in each SPV has been estimated based on projected financial information provided by the Management. Projections provided by the Management are only the best estimates of each individual SPV's growth and sustainability of profitability margins. Although we have reviewed the financial forecast provided by the Management for consistency and reasonableness, we have not specifically validated these financial projections and have relied on the estimates provided by the Management.

Appropriate discount rate to be applied to cash flows i.e., the cost of capital:
This discount rate, which is applied to the free cash flows, should reflect the opportunity cost to all the capital providers (namely shareholders and creditors), weighted by their relative contribution to the total capital for each individual SPV. The opportunity cost to the capital provider equals the rate of return the capital provider expects to earn on other investments of equivalent risk.

Arriving at equity value from enterprise value:
The fair value basis of combined equity of the 9 SPVs for this purpose has been determined after taking into consideration all the factors and methodologies mentioned hereinabove. As explained above, we have given 100% weightage to the DCF methodology to arrive at the EV of a specific SPV.

As a next step, we have adopted a sum of parts methodology and arrive at the EV for the entire portfolio of 9 SPVs. Later, we have then made adjustments for debt, debt-like-items, surplus assets, cash and cash equivalents and other adjustments at the Trust level and arrived at the value of 100% interest in equity (on a control, marketable basis) for the Trust.

The key assumptions under the DCF Method

For the DCF analysis, we have relied on the projected financials of the SPVs provided by the Management based on their best estimates on the growth and sustainability of profitability margins of the individual SPVs. Please note that though we have reviewed the financial forecast provided by the Management for consistency and reasonableness based on data available in public domain and traffic consultant reports provided by the Management for each SPV, we have not independently investigated or otherwise verified the data and key inputs estimated by the Management for all the 9 SPVs. Nothing has come to our attention to indicate that the information provided by the Management had material mis-statements or would not afford reasonable grounds upon which to base our Report. The Free Cash Flows to Firm ("FCFF") have been calculated for each individual SPV as on the Valuation Date based on the Financial Projections.

The key assumptions and the basis for the valuation are explained in detail below:

<u>Discounting Factor</u>
The discount rate considered for arriving at the present value of the free cash flows to the firm is the Weighted Average Cost of Capital ("WACC"). The WACC for the SPVs as on the Valuation Date are derived as follows:

WACC= (ke x we) + (kd x (1 – t) x wd)
where,
we = weight of equity in the capital structure

wd = weight of debt in the capital structure

ke = cost of equity

kd = cost of debt, and

t = effective tax rate

Cost of Equity ("ke")

The cost of equity is computed using the Capital Asset Pricing Model (CAPM) as shown below:

ke = rf + β (rm-rf) where

ke = Cost of Equity,

rf = Risk Free Return,

β = Beta, a measure of Market Risk

rm = Market Return

Cost of Equity is estimated using the following factors:

- Risk Free Return (rf) – The risk free rate (rf) is the return on an investment with zero risk where actual returns are equal to the expected return. Rf at 6.80% has been considered for each SPV based on the 10 Year normalized Wholesale Debt Market Zero Coupon Bond Yield as of the Valuation Date

- Beta (β) – Beta has been computed by re-levering the average asset beta of companies in the construction and engineering segment and having more than 50% revenues from the road infrastructure. Beta has been considered based on 2 year weekly trailing Beta of comparable companies, relevered for each of the SPV specific debt to equity ratio and effective taxes. Refer Appendix X for a list of comparable companies

- Debt to Equity Ratio (DER) – The DER of peers displays significant variation owing to difference in the stage of operations and maturity. Accordingly, DER was concluded based on management input for debt-to-equity ratio of each individual SPV over the projected period.

- Income Tax – Effective tax rate has been applied after considering 80IA and 35AD benefits and applicable MAT credit (if any) in the projected period as represented to us by the Management for each SPV.

- Equity Risk Premium (ERP) – ERP is considered at 7.5% for each SPV.

- Alpha - Alpha premium for each individual SPV is based on the valuer's assessment and reflects idiosyncratic risks. Idiosyncratic risks considered are combination of operational parameters like construction phase and credit parameters like credit rating.

Cost of Debt ("kd")

Marginal cost of raising debt for each SPV is considered based on Management input. Management has represented that the debt can be refinanced in the range of 7.25%-7.5% p.a.

Other notes

- Mid-year convention in arriving at the present value of free cash flows is considered appropriate

- Management has represented that the probability of devolvement of contingent liabilities is insignificant and accordingly no adjustment was required to be carried out in the valuation of the 9 SPVs.

Debt: There are external borrowing of INR 9,731.4 crores on the combined balance sheet of the Trust. This has been reduced from the combined EV for the computation of equity value the Trust

Surplus assets: There are security deposits, advance income tax and investments which are a part of the current assets of the Trust. Such items have been considered as surplus assets and have accordingly been removed from current assets. The combined value of such surplus assets is INR 53 crores. This has been added to the combined EV for the computation of equity value of the Trust.

Cash and cash equivalents: There are approximately INR 60.6 crores of cash and cash equivalent on the Trust combined balance sheet. This has been added to the combined EV for the computation of equity value of the Trust.

Other adjustments: Present Value of standalone expenses pertaining to InvIT as on 31 December 2021 amounts to INR 151.8 crores. This has been reduced from the combined EV for the computation of equity value of the Trust.

8. Valuation of the SPVs

8.1 IRB Westcoast Tollway Limited

Key Inputs in Projections:
The key inputs of the projections provided by the Management supported by independent traffic as follows:

a) Revenue

Revenue is expected to grow at an average rate of 8%-9% in the steady state forecasted period based on financial plan provided by management which is based on traffic study.

b) Traffic Volume

Traffic volume as received from the Management supported by traffic study report carried out by Steer dated September 2021 are considered.

c) Toll rates

Toll rates has been estimated as per the recent MoRTH notification and Schedule R of contract agreement. Factor of inflation / growth has been incorporated as per Schedule R. Increase in WPI was calculated based on the WPI numbers are based on the latest year number provided by RBI and forecast are based on the numbers estimated in annual report published by Consensus

- WPI has been projected to grow by 4% for the projected period.

d) Periodic Maintenance & Routine Maintenance Costs

Estimates for projected Periodic Maintenance & Routine Maintenance cost from the Management are considered

DCF Method:

- The key assumptions and other key inputs, mentioned on the previous paragraphs, as provided by the Management are considered in the projections.

- The projections provided by the Management, based on Independent traffic, are only the best estimates of growth and sustainability of profitability margins. The financial forecast provided by the Management were reviewed for consistency and reasonableness and have relied on them.

- The explicit period has been considered from 01 January 2022 to 07 January 2048.

- The tax has been calculated as per the provisions of the Income Tax Act, 1961. The interest expense is adjusted in the same for arriving at the tax computation under FCFF.

- The assumptions for Weighted average cost of capital is as follows:

WACC calculation		
		Basis
Risk free rate of return	*6.8%*	10yrs ZCYC as at 31 December 2021
India risk premium	*7.5%*	Incwert Analysis
Beta	0.9	Peer median of 2 yr weekly beta
Alpha	*1.5%*	Valuer judgement
Cost of Equity	***14.9%***	
Cost of Debt	*7.5%*	Management input
Tax Rate	*17.5%*	Rates as per IT Act as applicable here
After Tax Cost of Debt	***6.2%***	
Debt/Equity	*150.0%*	Management input
Debt to Capital %	*60.0%*	
Equity to Capital %	*40.0%*	
Weighted Average Cost of Capital	***9.7%***	
Marginal tax rate	*17.5%*	*MAT rates as per IT applicable here*

- The Business/ Enterprise Value of IWTL as on 31 December 2021 is arrived at INR 2,417.2 crores

Discounted cash flow													
	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030	FY2031	FY2032	FY2033	FY2034
INR crores	3.0months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months
Net Revenue	23.4	148.0	168.9	185.8	204.3	223.8	246.6	270.0	295.7	323.7	354.9	386.0	421.1
yoy growth	*n/a*	*81.6%*	*15.4%*	*10.0%*	*9.9%*	*9.6%*	*10.1%*	*9.5%*	*9.5%*	*9.5%*	*9.6%*	*8.8%*	*9.1%*
EBITDA	**17.5**	**82.5**	**102.2**	**116.6**	**176.5**	**193.7**	**216.6**	**128.5**	**223.2**	**290.8**	**320.8**	**349.4**	**373.2**
EBITDA margin	*75%*	*56%*	*61%*	*63%*	*86%*	*87%*	*88%*	*48%*	*75%*	*90%*	*90%*	*91%*	*89%*
Depreciation	9.5	31.1	35.9	39.5	43.4	47.6	52.4	57.4	62.8	68.8	75.4	82.0	89.5
EBIT	8.0	51.4	66.3	77.1	133.1	146.1	164.2	71.1	160.3	222.0	245.4	267.4	283.8
EBIT margin	*34%*	*35%*	*39%*	*41%*	*65%*	*65%*	*67%*	*26%*	*54%*	*69%*	*69%*	*69%*	*67%*
Less: tax on EBIT	(1.2)	(9.0)	(11.6)	(13.5)	(23.3)	(25.5)	(28.7)	(12.4)	(28.0)	(38.8)	(42.9)	(46.7)	(49.6)
Change in working capital	19.3	22.8	-	-	-	-	-	-	-	-	-	-	-
Capex	(28.3)	(42.6)	-	-	-	-	-	-	-	-	-	-	-
Free cash flows to the Firm	**7.3**	**53.7**	**90.6**	**103.1**	**153.3**	**168.2**	**187.9**	**116.0**	**195.2**	**252.0**	**277.9**	**302.6**	**323.7**
Continuing value													
Discounting period (mid-period)	0.12	0.75	1.75	2.75	3.75	4.75	5.75	6.75	7.75	8.75	9.75	10.75	11.75
Discount factor	0.99	0.93	0.85	0.78	0.71	0.65	0.59	0.54	0.49	0.45	0.41	0.37	0.34
Present value of cash flows as at 31 December 2021	**7.2**	**50.1**	**77.1**	**80.0**	**108.4**	**108.5**	**110.6**	**62.2**	**95.4**	**112.4**	**113.0**	**112.2**	**109.4**

Discounted cash flow														
	FY2035	FY2036	FY2037	FY2038	FY 2039	FY2040	FY2041	FY2042	FY2043	FY2044	FY2045	FY2046	FY2047	FY2048
INR crores	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	9.3months
Net Revenue	458.4	501.0	544.2	589.8	640.6	696.3	752.8	816.9	883.6	959.3	1034.2	1118.9	1208.3	1009.4
yoy growth	*8.9%*	*9.3%*	*8.6%*	*8.4%*	*8.6%*	*8.7%*	*8.1%*	*8.5%*	*8.2%*	*8.6%*	*7.8%*	*8.2%*	*8.0%*	*n/m*
EBITDA	**254.9**	**461.0**	**505.1**	**549.8**	**451.0**	**600.9**	**708.6**	**770.5**	**834.9**	**908.0**	**980.5**	**1,062.5**	**1,149.1**	**961.3**
EBITDA margin	*56%*	*92%*	*93%*	*93%*	*70%*	*86%*	*94%*	*94%*	*94%*	*95%*	*95%*	*95%*	*95%*	*95%*
Depreciation	97.4	106.5	115.6	125.3	136.1	148.0	160.0	173.6	187.7	203.8	219.7	237.7	256.7	214.5
EBIT	157.5	354.5	389.4	424.5	314.9	453.0	548.7	597.0	647.1	704.2	760.8	824.8	892.4	746.9
EBIT margin	*34%*	*71%*	*72%*	*72%*	*49%*	*65%*	*73%*	*73%*	*73%*	*73%*	*74%*	*74%*	*74%*	*74%*
Less: tax on EBIT	(27.5)	(61.9)	(68.0)	(74.2)	(55.0)	(110.3)	(191.7)	(208.6)	(226.1)	(246.1)	(265.8)	(288.2)	(311.8)	(261.0)
Change in working capital	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Capex	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Free cash flows to the Firm	**227.4**	**399.0**	**437.0**	**475.6**	**396.0**	**490.6**	**516.9**	**561.9**	**608.8**	**661.9**	**714.7**	**774.3**	**837.3**	**700.4**
Continuing value														
Discounting period (mid-period)	12.75	13.75	14.75	15.75	16.75	17.75	18.75	19.75	20.75	21.75	22.75	23.75	24.75	25.63
Discount factor	0.31	0.28	0.26	0.23	0.21	0.19	0.18	0.16	0.15	0.13	0.12	0.11	0.10	0.09
Present value of cash flows as at 31 December 2021	**70.1**	**112.1**	**112.0**	**111.1**	**84.4**	**95.3**	**91.6**	**90.7**	**89.6**	**88.9**	**87.5**	**86.4**	**85.2**	**65.7**

Valuation Conclusion	
Present value of cash flows	2,417.3
Present value of terminal value	-
Release of WC at the end of concession period	(0.1)
Enterprise value	**2,417.2**

8.2 Solapur Yedeshi Tollway Limited

Key Inputs in Projections:

The key inputs of the projections provided by the Management supported by independent traffic as follows:

a) Revenue

Revenue is expected to grow at CAGR of 8% - 9% over a period of 23 years driven by traffic study report and financial plan provided by management.

e) Traffic Volume

Traffic volume as received from the Management supported by traffic study report carried out by Steer dated September 2021 are considered.

f) Toll rates

- Toll rates has been estimated as per the recent MoRTH notification and Schedule R of contract agreement. Factor of inflation / growth has been incorporated as per Schedule R. Increase in WPI was calculated based on the WPI numbers are based on the latest year

number provided by RBI and forecast are based on the numbers estimated in annual report published by Consensus

- WPI has been projected to grow by 4% for the projected period.

b) Periodic Maintenance & Routine Maintenance Costs

Estimates for projected Periodic Maintenance & Routine Maintenance cost from the Management are considered.

DCF Method:

- The key assumptions and other key inputs, mentioned on the previous paragraphs, as provided by the Management are considered in the projections.

- The projections provided by the Management, based on Independent traffic and technical studies, are only the best estimates of growth and sustainability of profitability margins. The financial forecast provided by the Management were reviewed for consistency and reasonableness and have relied on them.

- The explicit period has been considered from 01 January 2022 to 20 April 2044

- The tax has been calculated as per the provisions of the Income Tax Act, 1961. The interest expense is adjusted in the same for arriving at the tax computation under FCFF.

- The assumptions for Weighted average cost of capital is as follows:

WACC calculation		
		Basis
Risk free rate of return	*6.8%*	10yrs ZCYC as at 31 December 2021
India risk premium	*7.5%*	Incwert Analysis
Beta	0.9	Peer median of 2 yr weekly beta
Alpha	*0.5%*	Valuer judgement
Cost of Equity	***13.9%***	
Cost of Debt	*7.5%*	Management input
Tax Rate	*17.5%*	Rates as per IT Act as applicable here
After Tax Cost of Debt	***6.2%***	
Debt/Equity	1.50	Management input
Debt to Capital %	*60.0%*	
Equity to Capital %	*40.0%*	
Weighted Average Cost of Capital	***9.3%***	
Marginal tax rate	*17.5%*	*MAT rates as per IT applicable here*

- The Business/ Enterprise Value of SYTL as on 31 December 2021 is arrived at INR 1,832.5 crores.

Discounted cash flow													
	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030	FY2031	FY2032	FY2033	FY2034
INR crores	3.0months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months
Net Revenue	32.4	113.1	126.8	142.6	157.3	170.2	191.0	209.7	231.7	253.8	279.2	305.2	333.7
yoy growth	*n/a*	*26.6%*	*13.0%*	*12.5%*	*10.3%*	*8.2%*	*12.2%*	*9.8%*	*10.5%*	*9.5%*	*10.0%*	*9.3%*	*9.3%*
EBITDA	**28.4**	**96.1**	**108.9**	**111.4**	**118.3**	**129.3**	**169.4**	**187.0**	**207.9**	**228.7**	**252.8**	**216.5**	**240.4**
EBITDA margin	*88%*	*85%*	*86%*	*78%*	*75%*	*76%*	*89%*	*89%*	*90%*	*90%*	*91%*	*71%*	*72%*
Depreciation	7.2	18.6	21.0	23.6	26.0	28.2	31.6	34.7	38.3	42.0	46.2	50.5	55.2
EBIT	21.2	77.5	88.0	87.8	92.3	101.1	137.8	152.3	169.6	186.7	206.6	166.0	185.2
EBIT margin	*65%*	*69%*	*69%*	*62%*	*59%*	*59%*	*72%*	*73%*	*73%*	*74%*	*74%*	*54%*	*56%*
Less: tax on EBIT	-	(5.8)	(15.4)	(15.3)	(16.1)	(17.7)	(24.1)	(26.6)	(29.6)	(32.6)	(36.1)	(29.0)	(32.4)
Change in working capital	0.7	16.8	-	(5.8)	-	-	-	-	-	-	-	-	-
Capex	0.0	-	-	-	-	-	-	-	-	-	-	-	-
Free cash flows to the Firm	**29.0**	**107.1**	**93.6**	**90.2**	**102.2**	**111.6**	**145.3**	**160.4**	**178.3**	**196.1**	**216.7**	**187.5**	**208.1**
Continuing value													
Discounting period (mid-period)	0.12	0.75	1.75	2.75	3.75	4.75	5.75	6.75	7.75	8.75	9.75	10.75	11.75
Discount factor	0.99	0.94	0.86	0.78	0.72	0.66	0.60	0.55	0.50	0.46	0.42	0.39	0.35
Present value of cash flows as at 31 December 2021	**28.7**	**100.2**	**80.2**	**70.7**	**73.3**	**73.3**	**87.3**	**88.2**	**89.7**	**90.3**	**91.3**	**72.3**	**73.4**

Discounted cash flow											
	FY2035	FY2036	FY2037	FY2038	FY 2039	FY2040	FY2041	FY2042	FY2043	FY2044	FY2045
INR crores	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	0.7months
Net Revenue	364.3	397.3	431.1	470.0	512.5	558.2	603.5	655.9	709.9	774.0	45.8
yoy growth	*9.2%*	*9.1%*	*8.5%*	*9.0%*	*9.0%*	*8.9%*	*8.1%*	*8.7%*	*8.2%*	*9.0%*	*n/m*
EBITDA	**266.6**	**365.3**	**397.7**	**434.9**	**475.6**	**519.4**	**562.9**	**571.0**	**620.9**	**680.3**	**43.1**
EBITDA margin	*73%*	*92%*	*92%*	*93%*	*93%*	*93%*	*93%*	*87%*	*87%*	*88%*	*94%*
Depreciation	60.3	65.7	71.3	77.8	84.8	92.3	99.8	108.5	117.5	128.1	7.6
EBIT	206.3	299.6	326.4	357.1	390.8	427.0	463.0	462.5	503.5	552.3	35.5
EBIT margin	*57%*	*75%*	*76%*	*76%*	*76%*	*77%*	*77%*	*71%*	*71%*	*71%*	*78%*
Less: tax on EBIT	(36.0)	(52.3)	(57.0)	(62.4)	(68.3)	(144.6)	(161.8)	(161.6)	(175.9)	(193.0)	(12.4)
Change in working capital	-	-	-	-	-	-	-	-	-	-	-
Capex	-	-	-	-	-	-	-	-	-	-	-
Free cash flows to the Firm	**230.5**	**313.0**	**340.7**	**372.5**	**407.3**	**374.8**	**401.1**	**409.4**	**445.0**	**487.3**	**30.7**
Continuing value											
Discounting period (mid-period)	12.75	13.75	14.75	15.75	16.75	17.75	18.75	19.75	20.75	21.75	22.27
Discount factor	0.32	0.30	0.27	0.25	0.23	0.21	0.19	0.17	0.16	0.15	0.14
Present value of cash flows as at 31 December 2021	**74.4**	**92.5**	**92.1**	**92.2**	**92.2**	**77.7**	**76.1**	**71.1**	**70.7**	**70.8**	**4.3**

Valuation Conclusion	
Present value of cash flows	1,832.9
Present value of terminal value	-
Release of WC at the end of concession period	(0.4)
Enterprise value	**1,832.5**

8.3 Yedeshi Aurangabad Tollway Limited

Key Inputs in Projections:
The key inputs of the projections provided by the Management supported by independent traffic reports as follows:

a) Revenue

Revenue is expected to grow at an average rate of 8%- 9% in the steady state forecasted period based on financial plan provided by management which is based on traffic study..

g) Traffic Volume

Traffic volume as received from the Management supported by traffic study report carried out by Steer dated September 2021 are considered.

h) Toll rates

- Toll rates has been estimated as per the recent MoRTH notification and Schedule R of contract agreement. Factor of inflation / growth has been incorporated as per Schedule R. Increase in WPI was calculated based on the WPI numbers are based on the latest year number provided by RBI and forecast are based on the numbers estimated in annual report published by Consensus

- WPI has been projected to grow by 4% for the projected period.

b) Periodic Maintenance & Routine Maintenance Costs

Estimates for projected Periodic Maintenance & Routine Maintenance cost from the Management are considered.

DCF Method:

- The key assumptions and other key inputs, mentioned on the previous paragraphs, as provided by the Management are considered in the projections.

- The projections provided by the Management, based on Independent traffic and technical studies, are only the best estimates of growth and sustainability of profitability margins. The financial forecast provided by the Management were reviewed for consistency and reasonableness and have relied on them.

- The explicit period has been considered from 01 January 2022 to 04 January 2043.

- The tax has been calculated as per the provisions of the Income Tax Act, 1961. The interest expense is adjusted in the same for arriving at the tax computation under FCFF.

- The assumptions for Weighted average cost of capital is as follows:

WACC calculation		
		Basis
Risk free rate of return	6.8%	10yrs ZCYC as at 31 December 2021
India risk premium	7.5%	Incwert Analysis
Beta	0.9	Peer median of 2 yr weekly beta
Alpha	0.5%	Valuer judgement
Cost of Equity	**13.9%**	
Cost of Debt	7.5%	Management input
Tax Rate	17.5%	Rates as per IT Act as applicable here
After Tax Cost of Debt	**6.2%**	
Debt/Equity	1.50	Management input
Debt to Capital %	60.0%	
Equity to Capital %	40.0%	
Weighted Average Cost of Capital	**9.3%**	
Marginal tax rate	*17.5%*	*MAT rates as per IT applicable here*

- The Business/ Enterprise Value of YATL as on 31 December 2021 is arrived at INR 3,601 crores

Discounted cash flow													
	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030	FY2031	FY2032	FY2033	FY2034
INR crores	3months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months
Net Revenue	68.5	228.4	254.3	285.2	314.2	342.3	377.4	414.9	454.8	498.5	547.6	596.4	651.8
yoy growth	*n/a*	*27.4%*	*12.4%*	*12.1%*	*10.2%*	*8.9%*	*10.3%*	*9.9%*	*9.6%*	*9.6%*	*9.8%*	*8.9%*	*9.3%*
EBITDA	**62.9**	**204.9**	**229.6**	**234.9**	**256.5**	**281.7**	**347.4**	**383.5**	**421.8**	**463.8**	**511.1**	**448.4**	**496.3**
EBITDA margin	*92%*	*90%*	*90%*	*82%*	*82%*	*82%*	*92%*	*92%*	*93%*	*93%*	*93%*	*75%*	*76%*
Depreciation	14.8	48.1	54.0	60.6	66.7	72.7	80.2	88.1	96.6	105.9	116.3	126.7	138.4
EBIT	48.1	156.8	175.6	174.4	189.8	209.0	267.3	295.4	325.2	357.9	394.8	321.7	357.8
EBIT margin	*70%*	*69%*	*69%*	*61%*	*60%*	*61%*	*71%*	*71%*	*72%*	*72%*	*72%*	*54%*	*55%*
Less: tax on EBIT	(0.3)	(27.4)	(30.7)	(30.5)	(33.2)	(36.5)	(46.7)	(51.6)	(56.8)	(62.5)	(69.0)	(56.2)	(62.5)
Change in working capital	(13.4)	41.7	-	(4.6)	-	-	-	-	-	-	-	-	-
Capex	(0.0)	-	-	-	-	-	-	-	-	-	-	-	-
Free cash flows to the Firm	**49.3**	**219.2**	**198.9**	**199.9**	**223.3**	**245.2**	**300.7**	**331.9**	**365.0**	**401.3**	**442.1**	**392.2**	**433.7**
Continuing value													
Discounting period (mid-period)	0.12	0.75	1.75	2.75	3.75	4.75	5.75	6.75	7.75	8.75	9.75	10.75	11.75
Discount factor	0.99	0.94	0.86	0.78	0.72	0.66	0.60	0.55	0.50	0.46	0.42	0.39	0.35
Present value of cash flows as at 31 December 2021	**48.7**	**205.1**	**170.4**	**156.7**	**160.2**	**161.0**	**180.7**	**182.4**	**183.6**	**184.7**	**186.3**	**151.2**	**153.0**

Discounted cash flow									
	FY2035	FY2036	FY2037	FY2038	FY 2039	FY2040	FY2041	FY2042	FY2043
INR crores	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	9months
Net Revenue	710.9	776.9	844.3	918.2	997.0	1086.6	1176.4	1276.8	1384.7
yoy growth	*9.1%*	*9.3%*	*8.7%*	*8.7%*	*8.6%*	*9.0%*	*8.3%*	*8.5%*	*n/m*
EBITDA	**548.0**	**732.6**	**798.0**	**869.6**	**945.9**	**972.5**	**1,056.9**	**1,151.2**	**######**
EBITDA margin	*77%*	*94%*	*95%*	*95%*	*95%*	*89%*	*90%*	*90%*	*96%*
Depreciation	151.0	165.0	179.3	195.0	211.7	230.8	249.8	271.2	294.1
EBIT	397.0	567.7	618.7	674.6	734.2	741.7	807.0	880.0	#####
EBIT margin	*56%*	*73%*	*73%*	*73%*	*74%*	*68%*	*69%*	*69%*	*74%*
Less: tax on EBIT	(69.4)	(99.2)	(108.1)	(117.9)	(211.4)	(259.2)	(282.0)	(307.5)	(359.4)
Change in working capital	-	-	-	-	-	-	-	-	-
Capex	-	-	-	-	-	-	-	-	-
Free cash flows to the Firm	**478.6**	**633.5**	**689.9**	**751.7**	**734.5**	**713.3**	**774.9**	**843.7**	**963.2**
Continuing value									
Discounting period (mid-period)	12.75	13.75	14.75	15.75	16.75	17.75	18.75	19.75	20.63
Discount factor	0.32	0.30	0.27	0.25	0.23	0.21	0.19	0.17	0.16
Present value of cash flows as at 31 December 2021	**154.5**	**187.2**	**186.6**	**186.0**	**166.4**	**147.8**	**147.0**	**146.4**	**154.6**

Valuation Conclusion	
Present value of cash flows	3,600.7
Present value of terminal value	
Release of WC at the end of concession period	0.3
Enterprise value	**3,601.0**

8.4 Kaithal Tollway Limited

Key Inputs in Projections:
The key inputs of the projections provided by the Management supported by independent traffic study report as follows:

a) Revenue

Revenue is expected to grow at CAGR of 8%-9% over a period of 27 years driven by traffic study report and financial plan provided by management.

i) Traffic Volume

Traffic volume as received from the Management supported by traffic study report carried out by Steer dated September 2021 are considered.

j) Toll rates

- Toll rates has been estimated as per the recent MoRTH notification and Schedule R of contract agreement. Factor of inflation / growth has been incorporated as per Schedule R. Increase in WPI was calculated based on the WPI numbers are based on the latest year number provided by RBI and forecast are based on the numbers estimated in annual report published by Consensus
- WPI has been projected to grow by 4% for the projected period.

b) Periodic Maintenance & Routine Maintenance Costs

Estimates for projected Periodic Maintenance & Routine Maintenance cost from the Management are considered.

DCF Method:

- The key assumptions and other key inputs, mentioned on the previous paragraphs, as provided by the Management are considered in the projections.

- The projections provided by the Management, based on Independent traffic studies, are only the best estimates of growth and sustainability of profitability margins. The financial forecast provided by the Management were reviewed for consistency and reasonableness and have relied on them.

- The explicit period has been considered from 01 January 2021 to 06 February 2049
- The tax has been calculated as per the provisions of the Income Tax Act, 1961. The interest expense is adjusted in the same for arriving at the tax computation under FCFF.

- The assumptions for Weighted average cost of capital is as follows:

WACC calculation		
		Basis
Risk free rate of return	*6.8%*	10yrs ZCYC as at 31 March 2021
India risk premium	*7.5%*	Incwert Analysis
Beta	0.9	Peer median of 2 yr weekly beta
Alpha	*0.5%*	Valuer judgement
Cost of Equity	***13.9%***	
Cost of Debt	*7.5%*	Management input
Tax Rate	*17.5%*	Rates as per IT Act as applicable here
After Tax Cost of Debt	***6.2%***	
Debt/Equity	1.50	Management input
Debt to Capital %	*60.0%*	
Equity to Capital %	*40.0%*	
Weighted Average Cost of Capital	***9.3%***	
Marginal tax rate	*17.5%*	*MAT rates as per IT applicable here*

- The Business/ Enterprise Value of KTL as on 31 December 2021 is arrived at INR 2,522.6 crores

Discounted cash flow													
	FY2022	**FY2023**	**FY2024**	**FY2025**	**FY2026**	**FY2027**	**FY2028**	**FY2029**	**FY2030**	**FY2031**	**FY2032**	**FY2033**	**FY2034**
INR crores	3.0months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months
Net Revenue	31.2	144.2	158.3	173.5	189.5	207.7	228.8	249.6	273.3	299.0	327.4	355.6	386.6
yoy growth	*n/a*	*278.0%*	*9.9%*	*9.6%*	*9.8%*	*9.6%*	*10.1%*	*9.1%*	*9.5%*	*9.4%*	*9.5%*	*8.6%*	*8.7%*
EBITDA	**26.6**	**124.8**	**116.0**	**106.9**	**119.5**	**184.2**	**204.1**	**223.7**	**246.1**	**270.4**	**169.3**	**190.4**	**213.1**
EBITDA margin	*85%*	*87%*	*73%*	*62%*	*63%*	*89%*	*89%*	*90%*	*90%*	*90%*	*52%*	*54%*	*55%*
Depreciation	4.6	19.5	21.4	23.5	25.8	28.3	31.2	34.0	37.2	40.7	44.6	48.4	52.7
EBIT	22.0	105.3	94.6	83.4	93.7	155.9	172.9	189.7	208.9	229.6	124.7	142.0	160.4
EBIT margin	*71%*	*73%*	*60%*	*48%*	*49%*	*75%*	*76%*	*76%*	*76%*	*77%*	*38%*	*40%*	*41%*
Less: tax on EBIT	-	-	(2.9)	(14.6)	(16.4)	(27.2)	(30.2)	(33.1)	(36.5)	(40.1)	(21.8)	(24.8)	(28.0)
Change in working capital	60.2	-	(21.4)	17.7	-	-	-	-	-	-	-	-	-
Capex	(0.0)	-	-	-	-	-	-	-	-	-	-	-	-
Free cash flows to the Firm	**86.8**	**124.8**	**91.8**	**110.0**	**103.2**	**157.0**	**173.9**	**190.5**	**209.6**	**230.2**	**147.5**	**165.6**	**185.1**
Continuing value													
Discounting period (mid-period)	0.12	0.75	1.75	2.75	3.75	4.75	5.75	6.75	7.75	8.75	9.75	10.75	11.75
Discount factor	0.99	0.94	0.86	0.78	0.72	0.66	0.60	0.55	0.50	0.46	0.42	0.39	0.35
Present value of cash flows as at 31 December 2021	**85.9**	**116.8**	**78.6**	**86.2**	**74.0**	**103.0**	**104.4**	**104.7**	**105.5**	**106.0**	**62.1**	**63.9**	**65.3**

Discounted cash flow															
	FY2035	**FY2036**	**FY2037**	**FY2038**	**FY 2039**	**FY2040**	**FY2041**	**FY2042**	**FY2043**	**FY2044**	**FY2045**	**FY2046**	**FY2047**	**FY2048**	**FY2049**
INR crores	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	10.3months
Net Revenue	421.3	460.2	497.7	540.5	586.9	636.3	688.4	745.1	804.5	873.6	941.1	1016.5	1097.7	1186.1	1089.6
yoy growth	*9.0%*	*9.3%*	*8.1%*	*8.6%*	*8.6%*	*8.4%*	*8.2%*	*8.2%*	*8.0%*	*8.6%*	*7.7%*	*8.0%*	*8.0%*	*8.1%*	*n/m*
EBITDA	**386.6**	**423.8**	**459.6**	**500.5**	**544.8**	**497.9**	**543.5**	**592.8**	**753.4**	**819.8**	**884.7**	**957.3**	**1,035.6**	**1,120.7**	**1,031.0**
EBITDA margin	*92%*	*92%*	*92%*	*93%*	*93%*	*78%*	*79%*	*80%*	*94%*	*94%*	*94%*	*94%*	*94%*	*94%*	*95%*
Depreciation	57.4	62.7	67.8	73.6	79.9	86.7	93.8	101.5	109.6	119.0	128.2	138.5	149.5	161.6	148.4
EBIT	329.3	361.1	391.8	426.9	464.9	411.2	449.7	491.3	643.8	700.8	756.5	818.9	886.1	959.1	882.6
EBIT margin	*78%*	*78%*	*79%*	*79%*	*79%*	*65%*	*65%*	*66%*	*80%*	*80%*	*80%*	*81%*	*81%*	*81%*	*81%*
Less: tax on EBIT	(57.5)	(63.1)	(68.5)	(74.6)	(81.2)	(71.9)	(78.6)	(85.8)	(152.3)	(244.9)	(264.4)	(286.1)	(309.6)	(335.2)	(308.4)
Change in working capital	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Capex	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Free cash flows to the Firm	**329.1**	**360.7**	**391.1**	**425.9**	**463.6**	**426.1**	**464.9**	**507.0**	**601.1**	**574.9**	**620.3**	**671.2**	**726.0**	**785.5**	**722.6**
Continuing value															
Discounting period (mid-period)	12.75	13.75	14.75	15.75	16.75	17.75	18.75	19.75	20.75	21.75	22.75	23.75	24.75	25.75	26.67
Discount factor	0.32	0.30	0.27	0.25	0.23	0.21	0.19	0.17	0.16	0.15	0.13	0.12	0.11	0.10	0.09
Present value of cash flows as at 31 December 2021	**106.3**	**106.6**	**105.8**	**105.4**	**105.0**	**88.3**	**88.2**	**88.0**	**95.5**	**83.6**	**82.5**	**81.7**	**80.9**	**80.1**	**67.9**

Valuation Conclusion	
Present value of cash flows	2,522.2
Present value of terminal value	-
Release of WC at the end of concession period	0.4
Enterprise value	**2,522.6**

8.5 AE Tollway Limited

Key Inputs in Projections:
The key inputs of the projections provided by the Management supported by independent traffic study report as follows:

a) Revenue

Revenue is expected to grow at an average rate of 8%-9%% in the steady state forecasted period based on traffic study report and financial plan provided by management.

k) Traffic Volume

Traffic volume as received from the Management supported by traffic study report carried out by Steer dated September 2021 are considered.

l) Toll rates

- Toll rates has been estimated as per the recent MoRTH notification and Schedule R of contract agreement. Factor of inflation / growth has been incorporated as per Schedule R. Increase in WPI was calculated based on the WPI numbers are based on the latest year number provided by RBI and forecast are based on the numbers estimated in annual report published by Consensus

- WPI has been projected to grow by 4% for the projected period.

b) Periodic Maintenance & Routine Maintenance Costs

Estimates for projected Periodic Maintenance & Routine Maintenance cost from the Management are considered.

c) Premium Payable to NHAI

The Premium payable to NHAI is considered as given by the management and validated the same from concession agreement
.

DCF Method:

- The key assumptions and other key inputs, mentioned on the previous paragraphs, as provided by the Management are considered in the projections.

- The projections provided by the Management, based on Independent traffic study, are only the best estimates of growth and sustainability of profitability margins. The financial forecast provided by the Management were reviewed for consistency and reasonableness and have relied on them.

- The explicit period has been considered from 01 January 2022 to 19 August 2045.

- The tax has been calculated as per the provisions of the Income Tax Act, 1961. The interest expense is adjusted in the same for arriving at the tax computation under FCFF.

- The assumptions for Weighted average cost of capital is as follows:

WACC calculation		
		Basis
Risk free rate of return	*6.8%*	10yrs ZCYC as at 31 December 2021
India risk premium	*7.5%*	Incwert Analysis
Beta	0.9	Peer median of 2 yr weekly beta
Alpha	*0.5%*	Valuer judgement
Cost of Equity	***13.9%***	
Cost of Debt	*7.5%*	Management input
Tax Rate	*17.5%*	Rates as per IT Act as applicable here
After Tax Cost of Debt	***6.2%***	
Debt/Equity	1.50	Management input
Debt to Capital %	*60.0%*	
Equity to Capital %	*40.0%*	
Weighted Average Cost of Capital	***9.3%***	
Marginal tax rate	*17.5%*	*MAT rates as per IT applicable here*

- The Business/ Enterprise Value of AETL as on 31 December 2021 is arrived at INR 2,488.4 crores.

Discounted cash flow													
	FY2022	**FY2023**	**FY2024**	**FY2025**	**FY2026**	**FY2027**	**FY2028**	**FY2029**	**FY2030**	**FY2031**	**FY2032**	**FY2033**	**FY2034**
INR crores	3.0months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months
Net Revenue	23.2	121.1	141.8	162.9	186.3	206.2	235.9	266.0	300.3	337.0	379.8	421.7	470.4
yoy growth	*n/a*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
EBITDA	**14.7**	**85.3**	**71.9**	**84.5**	**103.8**	**162.8**	**190.1**	**218.1**	**250.2**	**161.1**	**194.6**	**228.1**	**409.4**
EBITDA margin	*63%*	*70%*	*51%*	*52%*	*56%*	*79%*	*81%*	*82%*	*83%*	*48%*	*51%*	*54%*	*87%*
Depreciation	13.8	37.8	42.5	46.9	51.8	56.2	62.2	68.3	75.3	82.6	91.1	99.4	109.0
EBIT	0.9	47.5	29.4	37.6	52.0	106.6	127.9	149.8	174.9	78.5	103.4	128.7	300.4
EBIT margin	*4%*	*39%*	*21%*	*23%*	*28%*	*52%*	*54%*	*56%*	*58%*	*23%*	*27%*	*31%*	*64%*
Less: tax on EBIT	-	-	-	-	(1.0)	(18.6)	(22.3)	(26.2)	(30.6)	(13.7)	(18.1)	(22.5)	(52.5)
Change in working capital	(40.3)	42.4	(5.4)	-	-	-	-	-	-	-	-	-	-
Capex	(0.0)	-	-	-	-	-	-	-	-	-	-	-	-
Free cash flows to the Firm	**(25.6)**	**127.7**	**66.6**	**84.5**	**102.8**	**144.1**	**167.8**	**192.0**	**219.6**	**147.4**	**176.5**	**205.7**	**356.9**
Continuing value													
Discounting period (mid-period)	0.12	0.75	1.75	2.75	3.75	4.75	5.75	6.75	7.75	8.75	9.75	10.75	11.75
Discount factor	0.99	0.94	0.86	0.78	0.72	0.66	0.60	0.55	0.50	0.46	0.42	0.39	0.35
Present value of cash flows as at 31 December 2021	**(25.3)**	**119.5**	**57.0**	**66.2**	**73.7**	**94.6**	**100.8**	**105.5**	**110.5**	**67.8**	**74.4**	**79.3**	**125.9**

Discounted cash flow												
	FY2035	**FY2036**	**FY2037**	**FY2038**	**FY 2039**	**FY2040**	**FY2041**	**FY2042**	**FY2043**	**FY2044**	**FY2045**	**FY2046**
INR crores	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	4.6months
Net Revenue	522.0	580.6	640.2	706.4	778.8	859.8	942.5	1,032.4	1,129.2	1,241.2	1,350.4	559.7
yoy growth	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*n/m*
EBITDA	**458.0**	**513.2**	**569.8**	**558.9**	**623.7**	**696.7**	**856.9**	**942.5**	**1,034.8**	**1,141.7**	**1,246.2**	**517.4**
EBITDA margin	*88%*	*88%*	*89%*	*79%*	*80%*	*81%*	*91%*	*91%*	*92%*	*92%*	*92%*	*92%*
Depreciation	119.1	130.5	142.0	154.8	168.7	184.2	199.9	217.0	235.4	256.5	277.0	116.0
EBIT	338.9	382.7	427.8	404.1	455.0	512.4	656.9	725.4	799.4	885.2	969.2	401.4
EBIT margin	*65%*	*66%*	*67%*	*57%*	*58%*	*60%*	*70%*	*70%*	*71%*	*71%*	*72%*	*72%*
Less: tax on EBIT	(59.2)	(66.9)	(74.7)	(70.6)	(79.5)	(89.5)	(114.8)	(201.2)	(279.3)	(309.3)	(338.7)	(140.3)
Change in working capital	-	-	-	-	-	-	-	-	-	-	-	-
Capex	-	-	-	-	-	-	-	-	-	-	-	-
Free cash flows to the Firm	**398.8**	**446.4**	**495.1**	**488.3**	**544.2**	**607.1**	**742.1**	**741.3**	**755.4**	**832.4**	**907.6**	**377.2**
Continuing value												
Discounting period (mid-period)	12.75	13.75	14.75	15.75	16.75	17.75	18.75	19.75	20.75	21.75	22.75	23.44
Discount factor	0.32	0.30	0.27	0.25	0.23	0.21	0.19	0.17	0.16	0.15	0.13	0.13
Present value of cash flows as at 31 December 2021	**128.8**	**131.9**	**133.9**	**120.8**	**123.3**	**125.8**	**140.8**	**128.7**	**120.0**	**121.0**	**120.7**	**47.2**

Valuation Conclusion	
Present value of cash flows	2,492.9
Present value of terminal value	-
Release of WC at the end of concession period	(4.6)
Enterprise value	**2,488.4**

8.6 Udaipur Tollway Limited

Key Inputs in Projections:
The key inputs of the projections provided by the Management supported by independent traffic and study report as follows:

a) Revenue

Revenue is expected to grow at an average rate of 8%-9% in the steady state forecasted period based on traffic study report and financial plan provided by management.

m) Traffic Volume

Traffic volume as received from the Management supported by traffic study report carried out by Steer dated September 2021 are considered.

n) Toll rates

- Toll rates has been estimated as per the recent MoRTH notification and Schedule R of contract agreement. Factor of inflation / growth has been incorporated as per Schedule R. Increase in WPI was calculated based on the WPI numbers are based on the latest year number provided by RBI and forecast are based on the numbers estimated in annual report published by Consensus

- WPI has been projected to grow by 4% for the projected period.

b) Periodic Maintenance & Routine Maintenance Costs

Estimates for projected Periodic Maintenance & Routine Maintenance cost from the Management are considered.

c) Premium Payable to NHAI

The Premium payable to NHAI is considered as given by the management and validated the same from concession agreement.

DCF Method:

- The key assumptions and other key inputs, mentioned on the previous paragraphs, as provided by the Management are considered in the projections.

- The projections provided by the Management, based on Independent traffic studies, are only the best estimates of growth and sustainability of profitability margins. The financial forecast provided by the Management were reviewed for consistency and reasonableness and have relied on them.

- The explicit period has been considered from 01 January 2022 to 13 February 2043

- The tax has been calculated as per the provisions of the Income Tax Act, 1961. The interest expense is adjusted in the same for arriving at the tax computation under FCFF.

- The assumptions for Weighted average cost of capital is as follows:

WACC calculation		
		Basis
Risk free rate of return	*6.8%*	10yrs ZCYC as at 31 December 2021
India risk premium	*7.5%*	Incwert Analysis
Beta	0.9	Peer median of 2 yr weekly beta
Alpha	*0.5%*	Valuer judgement
Cost of Equity	***13.9%***	
Cost of Debt	*7.5%*	Management input
Tax Rate	*17.5%*	Rates as per IT Act as applicable here
After Tax Cost of Debt	***6.2%***	
Debt/Equity	1.50	Management input
Debt to Capital %	*60.0%*	
Equity to Capital %	*40.0%*	
Weighted Average Cost of Capital	***9.3%***	
Marginal tax rate	*17.5%*	*MAT rates as per IT applicable here*

- The Business/ Enterprise Value of UTL as on 31 December 2021 is arrived at INR 2,372.4 crores.

Discounted cash flow													
	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030	FY2031	FY2032	FY2033	FY2034
INR crores	3.0months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months
Net Revenue	11.2	117.7	148.4	173.4	194.2	218.8	257.1	289.4	325.1	363.3	406.6	452.3	502.8
yoy growth	*n/a*	*46.6%*	*12.7%*	*9.3%*	*8.0%*	*7.9%*	*10.9%*	*10.5%*	*10.5%*	*10.2%*	*10.5%*	*9.8%*	*9.9%*
EBITDA	**6.4**	**97.5**	**70.3**	**82.4**	**95.0**	**191.1**	**232.7**	**144.5**	**173.6**	**208.9**	**374.0**	**423.7**	**387.4**
EBITDA margin	*57%*	*83%*	*47%*	*48%*	*49%*	*87%*	*90%*	*50%*	*53%*	*57%*	*92%*	*94%*	*77%*
Depreciation	4.8	42.7	48.1	52.5	56.8	61.3	68.0	75.1	83.0	91.4	101.0	110.9	121.9
EBIT	1.6	54.9	22.2	29.9	38.3	129.9	164.7	69.4	90.6	117.5	273.0	312.8	265.5
EBIT margin	*14%*	*47%*	*15%*	*17%*	*20%*	*59%*	*64%*	*24%*	*28%*	*32%*	*67%*	*69%*	*53%*
Less: tax on EBIT	(4.0)	(9.6)	(3.9)	(5.2)	(6.7)	(22.7)	(28.8)	(12.1)	(15.8)	(20.5)	(47.7)	(54.7)	(46.4)
Change in working capital	(62.3)	-	-	38.9	-	-	-	-	-	-	-	-	-
Capex	-	-	-	-	-	-	-	-	-	-	-	-	-
Free cash flows to the Firm	**(59.9)**	**87.9**	**66.4**	**116.1**	**88.3**	**168.4**	**203.9**	**132.3**	**157.7**	**188.4**	**326.3**	**369.1**	**341.1**
Continuing value													
Discounting period (mid-period)	0.12	0.75	1.75	2.75	3.75	4.75	5.75	6.75	7.75	8.75	9.75	10.75	11.75
Discount factor	0.99	0.94	0.86	0.78	0.72	0.66	0.60	0.55	0.50	0.46	0.42	0.39	0.35
Present value of cash flows as at 31 Decemeber 2021	**(59.3)**	**82.3**	**56.9**	**91.0**	**63.4**	**110.6**	**122.5**	**72.8**	**79.4**	**86.7**	**137.5**	**142.3**	**120.3**

Discounted cash flow									
	FY2035	FY2036	FY2037	FY2038	FY 2039	FY 2040	FY 2041	FY 2042	FY 2043
INR crores	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	10.5months
Net Revenue	555.0	617.0	679.7	747.4	823.0	906.5	991.3	1,088.7	1,040.8
yoy growth	*9.5%*	*10.1%*	*9.2%*	*9.2%*	*9.4%*	*9.5%*	*8.8%*	*9.2%*	*n/m*
EBITDA	**433.5**	**466.5**	**647.7**	**714.6**	**789.6**	**871.4**	**954.6**	**1,050.1**	**1,005.4**
EBITDA margin	*78%*	*76%*	*95%*	*96%*	*96%*	*96%*	*96%*	*96%*	*97%*
Depreciation	133.5	146.9	160.5	175.4	191.8	210.0	228.4	249.4	237.4
EBIT	300.1	319.6	487.2	539.2	597.9	661.4	726.2	800.8	768.1
EBIT margin	*54%*	*52%*	*72%*	*72%*	*73%*	*73%*	*73%*	*74%*	*74%*
Less: tax on EBIT	(52.4)	(55.8)	(85.1)	(94.2)	(104.5)	(115.6)	(168.5)	(279.8)	(268.4)
Change in working capital	-	-	-	-	-	-	-	-	-
Capex	-	-	-	-	-	-	-	-	-
Free cash flows to the Firm	**381.1**	**410.7**	**562.6**	**620.4**	**685.2**	**755.8**	**786.1**	**770.3**	**737.0**
Continuing value									
Discounting period (mid-period)	12.75	13.75	14.75	15.75	16.75	17.75	18.75	19.75	20.68
Discount factor	0.32	0.30	0.27	0.25	0.23	0.21	0.19	0.17	0.16
Present value of cash flows as at 31 Decemeber 2021	**123.1**	**121.4**	**152.1**	**153.5**	**155.2**	**156.7**	**149.1**	**133.7**	**117.7**

Valuation Conclusion	
Present value of cash flows	2,368.7
Present value of terminal value	-
Release of WC at the end of concession period	3.6
Enterprise value	**2,372.4**

8.7 CG Tollway Limited

Key Inputs in Projections:
The key inputs of the projections provided by the Management supported by independent traffic study report as follows:

a) Revenue

Revenue is expected to grow at an average rate of 11%-12% in the steady state forecasted period based on traffic study report and financial plan provided by management.

o) Traffic Volume

Traffic volume as received from the Management supported by traffic study report carried out by Steer dated September 2021 are considered.

p) Toll rates

- Toll rates has been estimated as per the recent MoRTH notification and Schedule R of contract agreement. Factor of inflation / growth has been incorporated as per Schedule R. Increase in WPI was calculated based on the WPI numbers are based on the latest year number provided by RBI and forecast are based on the numbers estimated in annual report published by Consensus

- WPI has been projected to grow by 4% for the projected period.

b) Periodic Maintenance & Routine Maintenance Costs

Estimates for projected Periodic Maintenance & Routine Maintenance cost from the Management are considered.

c) Premium Payable to NHAI

The Premium payable to NHAI is considered as given by the management and validated the same from concession agreement.

DCF Method:

- The key assumptions and other key inputs, mentioned on the previous paragraphs, as provided by the Management are considered in the projections.

- The projections provided by the Management, based on Independent traffic study, are only the best estimates of growth and sustainability of profitability margins. The financial forecast provided by the Management were reviewed for consistency and reasonableness and have relied on them.

- The explicit period has been considered from 01 January 2022 to 03 February 2042.

- The tax has been calculated as per the provisions of the Income Tax Act, 1961. The interest expense is adjusted in the same for arriving at the tax computation under FCFF.

- The assumptions for Weighted average cost of capital is as follows:

WACC calculation		
		Basis
Risk free rate of return	*6.8%*	10yrs ZCYC as at 31 March 2021
India risk premium	*7.5%*	Incwert Analysis
Beta	0.9	Peer median of 2 yr weekly beta
Alpha	*0.5%*	Valuer judgement
Cost of Equity	***13.9%***	
Cost of Debt	*7.5%*	Management input
Tax Rate	*17.5%*	Rates as per IT Act as applicable here
After Tax Cost of Debt	***6.2%***	
Debt/Equity	1.50	Management input
Debt to Capital %	*60.0%*	
Equity to Capital %	*40.0%*	
Weighted Average Cost of Capital	***9.3%***	
Marginal tax rate	*17.5%*	*MAT rates as per IT applicable here*

- The Business/ Enterprise Value of CGTL as on 31 December 2021 is arrived at INR 2,371.7 crores.

Discounted cash flow													
INR crores	**FY2022** 3.0months	**FY2023** 12 months	**FY2024** 12 months	**FY2025** 12 months	**FY2026** 12 months	**FY2027** 12 months	**FY2028** 12 months	**FY2029** 12 months	**FY2030** 12 months	**FY2031** 12 months	**FY2032** 12 months	**FY2033** 12 months	**FY2034** 12 months
Net Revenue	175.1	99.3	140.5	168.0	189.9	212.9	255.0	287.6	324.2	361.5	406.4	453.4	504.3
yoy growth	*n/a*	*55.9%*	*14.7%*	*9.0%*	*7.7%*	*6.9%*	*10.6%*	*10.2%*	*10.3%*	*9.8%*	*10.4%*	*9.7%*	*9.7%*
EBITDA	**144.1**	**66.7**	**106.2**	**105.2**	**123.8**	**143.4**	**213.4**	**244.0**	**278.5**	**227.3**	**265.0**	**305.8**	**448.8**
EBITDA margin	*82%*	*67%*	*76%*	*63%*	*65%*	*67%*	*84%*	*85%*	*86%*	*63%*	*65%*	*67%*	*89%*
Depreciation	25.0	39.2	45.0	49.0	52.7	56.3	62.3	68.7	75.8	83.2	91.8	100.7	110.5
EBIT	119.1	27.6	61.2	56.2	71.0	87.1	151.1	175.4	202.8	144.1	173.2	205.0	338.2
EBIT margin	*68%*	*28%*	*44%*	*33%*	*37%*	*41%*	*59%*	*61%*	*63%*	*40%*	*43%*	*45%*	*67%*
Less: tax on EBIT	(5.2)	(4.8)	(10.7)	(9.8)	(12.4)	(15.2)	(26.4)	(30.6)	(35.4)	(25.2)	(30.3)	(35.8)	(59.1)
Change in working capital	(9.5)	-	-	50.0	-	-	-	-	-	-	-	-	-
Capex	-	-	-	-	-	-	-	-	-	-	-	-	-
Free cash flows to the Firm	**129.4**	**61.9**	**95.5**	**145.4**	**111.4**	**128.2**	**187.0**	**213.4**	**243.1**	**202.1**	**234.8**	**269.9**	**389.7**
Continuing value													
Discounting period (mid-period)	0.12	0.75	1.75	2.75	3.75	4.75	5.75	6.75	7.75	8.75	9.75	10.75	11.75
Discount factor	0.99	0.94	0.86	0.78	0.72	0.66	0.60	0.55	0.50	0.46	0.42	0.39	0.35
Present value of cash flows as at 31 December 2021	**128.0**	**58.0**	**81.8**	**114.0**	**79.9**	**84.2**	**112.4**	**117.3**	**122.3**	**93.1**	**98.9**	**104.1**	**137.5**

Discounted cash flow								
INR crores	**FY2035** 12 months	**FY2036** 12 months	**FY2037** 12 months	**FY2038** 12 months	**FY 2039** 12 months	**FY2040** 12 months	**FY2041** 12 months	**FY2042** 10.2months
Net Revenue	560.2	621.0	685.2	755.1	832.6	917.1	1,001.9	930.0
yoy growth	*9.7%*	*9.7%*	*9.2%*	*9.2%*	*9.3%*	*9.3%*	*8.6%*	*n/m*
EBITDA	**493.0**	**513.3**	**572.7**	**636.9**	**761.9**	**842.6**	**924.0**	**860.7**
EBITDA margin	*88%*	*83%*	*84%*	*84%*	*92%*	*92%*	*92%*	*93%*
Depreciation	121.2	132.9	145.1	158.4	173.1	189.2	205.4	189.4
EBIT	371.9	380.4	427.6	478.5	588.8	653.4	718.5	671.3
EBIT margin	*66%*	*61%*	*62%*	*63%*	*71%*	*71%*	*72%*	*72%*
Less: tax on EBIT	(65.0)	(66.5)	(74.7)	(83.6)	(178.9)	(228.3)	(251.1)	(234.6)
Change in working capital	-	-	-	-	-	-	-	-
Capex	-	-	-	-	-	-	-	-
Free cash flows to the Firm	**428.1**	**446.8**	**498.0**	**553.3**	**583.0**	**614.3**	**672.9**	**626.1**
Continuing value								
Discounting period (mid-period)	12.75	13.75	14.75	15.75	16.75	17.75	18.75	19.67
Discount factor	0.32	0.30	0.27	0.25	0.23	0.21	0.19	0.17
Present value of cash flows as at 31 December 2021	**138.2**	**132.0**	**134.7**	**136.9**	**132.0**	**127.3**	**127.6**	**109.4**

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Valuation Conclusion	
Present value of cash flows	2,369.5
Present value of terminal value	-
Release of WC at the end of concession period	2.1
Enterprise value	**2,371.7**

8.8 Kishangarg Gulabpura Tollway Private Limited

Key Inputs in Projections:
The key inputs of the projections provided by the Management supported by independent traffic study report as follows:

a) Revenue

Revenue is expected to grow at CAGR of 8%-9% over a period of 20 years driven by traffic study report and financial plan provided by management.

q) Traffic Volume

Traffic volume as received from the Management supported by traffic study report carried out by Steer dated September 2021 are considered.

r) Toll rates

- Toll rates has been estimated as per the recent MoRTH notification and Schedule R of contract agreement. Factor of inflation / growth has been incorporated as per Schedule R. Increase in WPI was calculated based on the WPI numbers are based on the latest year number provided by RBI and forecast are based on the numbers estimated in annual report published by Consensus

- WPI has been projected to grow by 4% for the projected period.

b) Periodic Maintenance & Routine Maintenance Costs

Estimates for projected Periodic Maintenance & Routine Maintenance cost from the Management are considered.

c) Premium Payable to NHAI

The Premium payable to NHAI is considered as given by the management and validated the same from concession agreement.

DCF Method:

- The key assumptions and other key inputs, mentioned on the previous paragraphs, as provided by the Management are considered in the projections.

- The projections provided by the Management, based on Independent traffic study, are only the best estimates of growth and sustainability of profitability margins. The financial forecast provided by the Management were reviewed for consistency and reasonableness and have relied on them.

- The explicit period has been considered from 01 January 2022 to 20 May, 2042.
- The tax has been calculated as per the provisions of the Income Tax Act, 1961. The interest expense is adjusted in the same for arriving at the tax computation under FCFF.
- The assumptions for Weighted average cost of capital is as follows:

WACC calculation		
		Basis
Risk free rate of return	*6.8%*	10yrs ZCYC as at 31 December 2021
India risk premium	*7.5%*	Incwert Analysis
Beta	0.9	Peer median of 2 yr weekly beta
Alpha	*1.0%*	Valuer judgement
Cost of Equity	***14.4%***	
Cost of Debt	*7.5%*	Management input
Tax Rate	*17.5%*	Rates as per IT Act as applicable here
After Tax Cost of Debt	***6.2%***	
Debt/Equity	1.50	Management input
Debt to Capital %	*60.0%*	
Equity to Capital %	*40.0%*	
Weighted Average Cost of Capital	***9.5%***	
Marginal tax rate	*17.5%*	*MAT rates as per IT applicable here*

- The Business/ Enterprise Value of KGTL as on 31 December 2021s arrived at INR 1,478.4 crores.

Discounted cash flow													
	FY2022	**FY2023**	**FY2024**	**FY2025**	**FY2026**	**FY2027**	**FY2028**	**FY2029**	**FY2030**	**FY2031**	**FY2032**	**FY2033**	**FY2034**
INR crores	3.0months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months
Net Revenue	24.8	184.7	72.6	96.2	109.4	123.1	153.0	183.3	206.9	232.1	262.7	292.9	327.3
yoy growth	*n/m*	*130.9%*	*14.7%*	*11.0%*	*7.2%*	*6.3%*	*11.1%*	*9.8%*	*10.2%*	*9.9%*	*10.6%*	*9.5%*	*9.8%*
EBITDA	**19.4**	**162.0**	**48.7**	**71.3**	**83.2**	**(4.8)**	**124.1**	**153.0**	**175.1**	**198.6**	**227.5**	**151.7**	**186.6**
EBITDA margin	*78%*	*88%*	*67%*	*74%*	*76%*	*(4)%*	*81%*	*83%*	*85%*	*86%*	*87%*	*52%*	*57%*
Depreciation	6.6	29.7	34.1	37.9	40.6	43.1	47.9	52.6	57.9	63.7	70.5	77.2	84.8
EBIT	12.8	132.2	14.6	33.5	42.6	(48.0)	76.2	100.4	117.1	134.9	157.0	74.5	101.8
EBIT margin	*52%*	*72%*	*20%*	*35%*	*39%*	*-39%*	*50%*	*55%*	*57%*	*58%*	*60%*	*25%*	*31%*
Less: tax on EBIT	(2.8)	(23.1)	(2.5)	(5.8)	(7.4)	-	(5.8)	(17.5)	(20.5)	(23.6)	(27.4)	(13.0)	(17.8)
Change in working capital	(12.7)	(7.1)	-	36.0	-	-	-	-	-	-	-	-	-
Capex	(18.9)	-	-	-	-	-	-	-	-	-	-	-	-
Free cash flows to the Firm	**(15.1)**	**131.8**	**46.1**	**101.5**	**75.7**	**(4.8)**	**118.3**	**135.4**	**154.6**	**175.0**	**200.0**	**138.6**	**168.8**
Continuing value													
Discounting period (mid-period)	0.12	0.75	1.75	2.75	3.75	4.75	5.75	6.75	7.75	8.75	9.75	10.75	11.75
Discount factor	0.99	0.93	0.85	0.78	0.71	0.65	0.59	0.54	0.50	0.45	0.41	0.38	0.35
Present value of cash flows as at 31 December 2021	**(14.9)**	**123.2**	**39.4**	**79.1**	**54.0**	**(3.1)**	**70.3**	**73.5**	**76.7**	**79.3**	**82.8**	**52.4**	**58.3**

Discounted cash flow									
	FY2035	FY2036	FY2037	FY2038	FY 2039	FY2040	FY2041	FY2042	FY2043
INR crores	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	1.6months
Net Revenue	363.5	404.4	446.1	491.6	544.2	598.5	657.0	720.9	107.9
yoy growth	*9.5%*	*9.8%*	*9.0%*	*9.1%*	*9.4%*	*9.2%*	*8.8%*	*8.9%*	*-85.1%*
EBITDA	**212.4**	**361.7**	**401.5**	**444.8**	**495.0**	**546.7**	**602.7**	**663.9**	**99.7**
EBITDA margin	*58%*	*89%*	*90%*	*90%*	*91%*	*91%*	*92%*	*92%*	*92%*
Depreciation	92.9	102.0	111.2	121.3	132.8	145.0	157.7	171.8	25.6
EBIT	119.6	259.7	290.3	323.4	362.2	401.8	445.0	492.1	74.1
EBIT margin	*33%*	*64%*	*65%*	*66%*	*67%*	*67%*	*68%*	*68%*	*69%*
Less: tax on EBIT	(20.9)	(45.4)	(50.7)	(56.5)	(63.3)	(78.9)	(155.5)	(172.0)	(25.9)
Change in working capital	-	-	-	-	-	-	-	-	-
Capex	-	-	-	-	-	-	-	-	-
Free cash flows to the Firm	**191.5**	**316.3**	**350.7**	**388.3**	**431.7**	**467.8**	**447.2**	**492.0**	**73.8**
Continuing value									
Discounting period (mid-period)	12.75	13.75	14.75	15.75	16.75	17.75	18.75	19.75	20.32
Discount factor	0.32	0.29	0.26	0.24	0.22	0.20	0.18	0.17	0.16
Present value of cash flows as at 31 December 2021	**60.4**	**91.2**	**92.3**	**93.4**	**94.8**	**93.9**	**82.0**	**82.4**	**11.7**

Valuation Conclusion	
Present value of cash flows	1,473.0
Present value of terminal value	-
Release of WC at the end of concession period	5.31
Enterprise value	**1,478.4**

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8.9 IRB Hapur Moradabad Tollway Private Limited

Key Inputs in Projections:
The key inputs of the projections provided by the Management supported by independent traffic study report as follows:

a) Revenue

Revenue is expected to grow at an average rate of 13% in the steady state forecasted period based on traffic study report and financial plan provided by management.

s) Traffic Volume

Traffic volume as received from the Management supported by traffic study report carried out by Steer dated September 2021 are considered.

t) Toll rates

- Toll rates has been estimated as per the recent MoRTH notification and Schedule R of contract agreement. Factor of inflation / growth has been incorporated as per Schedule R. Increase in WPI was calculated based on the WPI numbers are based on the latest year number provided by RBI and forecast are based on the numbers estimated in annual report published by Consensus

- WPI has been projected to grow by 4% for the projected period.

b) Periodic Maintenance & Routine Maintenance Costs

Estimates for projected Periodic Maintenance & Routine Maintenance cost from the Management are considered.

c) Premium Payable to NHAI

The Premium payable to NHAI is considered as given by the management and validated the same from concession agreement.

DCF Method:

- The key assumptions and other key inputs, mentioned on the previous paragraphs, as provided by the Management are considered in the projections.

- The projections provided by the Management, based on Independent traffic and technical studies, are only the best estimates of growth and sustainability of profitability margins. The financial forecast provided by the Management were reviewed for consistency and reasonableness and have relied on them.

- The explicit period has been considered from 01 January 2022 to 31 August 2041.

- The tax has been calculated as per the provisions of the Income Tax Act, 1961. The interest expense is adjusted in the same for arriving at the tax computation under FCFF.

- The assumptions for Weighted average cost of capital is as follows:

WACC calculation		
		Basis
Risk free rate of return	*6.8%*	10yrs ZCYC as at 31 December 2021
India risk premium	*7.5%*	Incwert Analysis
Beta	0.9	Peer median of 2 yr weekly beta
Alpha	*1.0%*	Valuer judgement
Cost of Equity	***14.4%***	
Cost of Debt	*7.5%*	Management input
Tax Rate	*17.5%*	Rates as per IT Act as applicable here
After Tax Cost of Debt	***6.2%***	
Debt/Equity	1.50	Management input
Debt to Capital %	*60.0%*	
Equity to Capital %	*40.0%*	
Weighted Average Cost of Capital	***9.5%***	
Marginal tax rate	*17.5%*	*MAT rates as per IT applicable here*

- The Business/ Enterprise Value of IHMTL as on 31 December 2021 is arrived at INR 3,792.7 crores.

Discounted cash flow													
	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030	FY2031	FY2032	FY2033	FY2034
INR crores	3months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months
Net Revenue	41.7	268.9	288.6	322.7	356.6	389.5	430.1	471.6	521.1	577.1	635.6	702.7	773.3
yoy growth	*n/a*	*100.0%*	*11.8%*	*11.0%*	*10.7%*	*8.7%*	*9.8%*	*9.1%*	*10.3%*	*10.5%*	*10.0%*	*10.4%*	*9.9%*
EBITDA	**39.7**	**260.5**	**275.4**	**313.6**	**258.0**	**289.9**	**334.7**	**461.1**	**504.9**	**491.6**	**547.3**	**633.9**	**758.7**
EBITDA margin	*95%*	*97%*	*95%*	*97%*	*72%*	*74%*	*78%*	*98%*	*97%*	*85%*	*86%*	*90%*	*98%*
Depreciation	13.1	56.9	63.5	70.5	78.1	84.9	93.2	101.7	112.2	124.0	136.4	150.6	165.5
EBIT	26.5	203.6	211.9	243.1	179.9	205.0	241.5	359.4	392.7	367.5	410.8	483.3	593.2
EBIT margin	*64%*	*76%*	*73%*	*75%*	*50%*	*53%*	*56%*	*76%*	*75%*	*64%*	*65%*	*69%*	*77%*
Less: tax on EBIT	(4.6)	(35.6)	(37.0)	(42.5)	(31.4)	(35.8)	(42.2)	(62.8)	(68.6)	(64.2)	(71.8)	(84.4)	(103.6)
Change in working capital	226.3	(43.8)	-	60.0	-	-	-	-	-	-	-	-	-
Capex	(66.4)	(162.0)	-	-	-	-	-	-	-	-	-	-	-
Free cash flows to the Firm	**195.0**	**19.2**	**238.4**	**331.1**	**226.5**	**254.0**	**292.5**	**398.3**	**436.3**	**427.3**	**475.5**	**549.4**	**655.0**
Continuing value													
Discounting period (mid-period)	0.12	0.75	1.75	2.75	3.75	4.75	5.75	6.75	7.75	8.75	9.75	10.75	11.75
Discount factor	0.99	0.93	0.85	0.78	0.71	0.65	0.59	0.54	0.50	0.45	0.41	0.38	0.35
Present value of cash flows as at 31 December 2021	**192.8**	**17.9**	**203.6**	**258.3**	**161.4**	**165.3**	**173.9**	**216.3**	**216.4**	**193.6**	**196.8**	**207.7**	**226.2**

Discounted cash flow								
	FY2035	FY2036	FY2037	FY2038	FY 2039	FY2040	FY2041	FY2042
INR crores	12 months	12 months	12 months	12 months	12 months	12 months	12 months	5.0months
Net Revenue	846.6	932.0	1,020.0	1,119.8	1,223.3	1,338.5	1,455.6	665.1
yoy growth	*9.4%*	*10.0%*	*9.3%*	*9.7%*	*9.2%*	*9.4%*	*8.7%*	*n/m*
EBITDA	**834.0**	**707.3**	**777.2**	**868.1**	**1,202.3**	**1,324.1**	**1,440.6**	**658.4**
EBITDA margin	*99%*	*76%*	*76%*	*78%*	*98%*	*99%*	*99%*	*99%*
Depreciation	181.0	199.1	217.6	238.7	260.5	284.9	309.7	141.4
EBIT	653.0	508.2	559.6	629.4	941.7	1,039.2	1,130.9	517.0
EBIT margin	*77%*	*55%*	*55%*	*56%*	*77%*	*78%*	*78%*	*78%*
Less: tax on EBIT	(114.1)	(129.1)	(195.5)	(220.0)	(329.1)	(363.1)	(395.2)	(180.7)
Change in working capital	-	-	-	-	-	-	-	-
Capex	-	-	-	-	-	-	-	-
Free cash flows to the Firm	**719.9**	**578.1**	**581.7**	**648.2**	**873.2**	**961.0**	**1,045.4**	**477.8**
Continuing value								
Discounting period (mid-period)	12.75	13.75	14.75	15.75	16.75	17.75	18.75	19.46
Discount factor	0.32	0.29	0.26	0.24	0.22	0.20	0.18	0.17
Present value of cash flows as at 31 December 2021	**227.1**	**166.6**	**153.1**	**155.9**	**191.8**	**192.8**	**191.6**	**82.1**

Valuation Conclusion	
Present value of cash flows	3,791.3
Present value of terminal value	-
Release of WC at the end of concession period	1.4
Enterprise value	**3,792.7**

8.10 Valuation Summary

The derived enterprise value and equity value, based on the valuation approach and methodology as discussed above, as on 31 December 2021 is as under:

FCFF method- Equity value of the Trust

Sl. No	Name of SPV	Short name of SPV	Enterprise value (INR crores)
1	Goa Kundapur	IWTL	2,417.2
2	Solapur Yedeshi	SYTL	1,832.5
3	Yedeshi Aurangabad	YATL	3,601.0
4	Kaithal - Rajasthan	KTL	2,522.6
5	Agra Etawah	AETL	2,488.4
6	Udaipur Rajasthan Gujarat	UTL	2,372.4
7	Gulabpura Chittorgarh	CGTL	2,371.7
8	Kishangarh Gulabpura	KGTL	1,478.4
9	Hapur Moradabad	IHMTL	3,792.7
	Total Enterprise Value	**Total**	**22,876.7**

Computation of fair value of the equity of the Trust

Valuation approach	Method	INR crores	Weight (%)
Income approach	DCF	22,876.7	100%
Market approach	Comparable companies method	n/a	0%
Cost approach	NAV	n/a	0%
Enterprise value for the combined portfolio of 9 SPVs		22,876.7	100%
Less: Debt		(9,731.4)	
Less: Debt-like-items		0.0	
Less: Present value of stand alone expenses pertaining to InvIT as on 31 December 2021		(151.8)	
Add: Cash and cash equivalents		60.6	
Add: Surplus assets		53.0	
Value of 100% interest in equity (on a control, marketable basis)		**13,107.1**	

Notes:

1. *Adjustments for debt, cash & cash equivalents and surplus assets have been made considering provisional and unaudited accounts of InvIT as on 31 December 2021*
2. *Debt of INR 9,731.4 crores includes loan from banks, loan from financial institutions and non-convertible debentures.*
3. *Surplus assets of INR 73.3 crores primarily comprises investments in IDBI liquid fund, ABSL liquid fund and SBI overnight fund, security deposits and current tax assets (net)*
4. *Stand alone expenses pertaining to InvIT has been considered based on Management business plan.*
5. *Management has represented that the probability of devolvement of contingent liabilities is insignificant and accordingly no adjustment was required to be carried out in the valuation of the 9 SPVs.*
6. *Money payable to related parties (INR 3475.8 crores) forming part of non-current liabilities (INR 2,524.6 crores) and current liabilities (INR 951.2 crores) on the Trust combined balance sheet as on Valuation Date and will be settled against amount receivable from NHAI against claim. Hence, the same has not been considered as a Debt-like item based on management representation.*
7. *Management has represented that the liabilities (INR 1,680 crores) forming part of the other working capital shown on the balance sheets of the 9 SPVs as of the Valuation Date of 31 December 2021 will be settled to zero by*

infusion of sponsor debt or being funded separately before the transaction date. As such impact of change in one-time other working capital has not been considered in computation of the free cash flow and the enterprise valuation presented in the table above. Other working capital primarily comprises current tax assets, other financial liabilities, trade payables, provisions, and other current liabilities.

Working capital seperately funded	
IWTL	218.0
YATPL	66.0
SYTPL	25.9
UTPL	269.8
CGTPL	230.4
KGTPL	360.5
HMTPL	509.6
Total (INR crores)	**1680.1**

Fair value of 100% equity interest in the Trust has been computed at INR 13,107.1 crores. Value per fully paid up unit is INR 153.29/- (Indian Rupees One Hundred Fifty-Three Point Two Nine Only) (face value per unit: INR 100/-).

Respectfully submitted,

Sunit Khandelwal
Registered Valuer under Companies (Registered Valuers and Valuation) Rules, 2017
IBBI Registration No. IBBI/RV/05/2018/10426
Asset class: Securities or Financial Assets
Date: 31 January 2022
Place: Gurgaon

9. Annexures

Additional procedures to be complied with in accordance with SEBI InvIT Regulations List of Disclosures

Additional procedures to be complied with in accordance with SEBI InvIT regulations as per Schedule V of the SEBI InvIT Regulations:

a) List of one-time sanctions/approvals which are obtained or pending along with up to date/overdue periodic clearances

As given by the Management, the list of one-time sanctions/approvals which are obtained or pending along with up to date/overdue periodic clearances of all the 9 SPVs are included in earlier sections in the Report and details are mentioned in Annexures.

b) Statement of assets

Management has represented that all assets and liabilities of the 9 SPVs till the date of transfer of assets to InvIT has been taken over by the Trust.

c) Estimates of already carried as well as proposed major repairs & improvements

Past major repairs and improvements as on the Valuation Date

Management has represented that major repairs have not been carried out in the past as the 9 SPVs being transferred have been recently operationalized or are being constructed.

Future estimate of major repairs and improvements as on the Valuation Date

Future estimates of major repairs and improvements as on the Valuation Date (Amt in INR crores)

Name of SPV	FY2022 12mths Forecast	FY2023 12mths Forecast	FY2024 12mths Forecast	FY2025 12mths Forecast	FY2026 12mths Forecast	FY2027 12mths Forecast	FY2028 12mths Forecast	FY2029 12mths Forecast	FY2030 12mths Forecast	FY2031 12mths Forecast	FY2032 12mths Forecast	FY2033 12mths Forecast	FY2034 12mths Forecast
IWTL	-	40.8	40.9	42.5	-	1.3	-	110.6	40.6	-	-	1.6	11.9
SYTL	-	-	-	12.6	19.4	20.3	-	-	-	-	-	61.2	64.3
YATL	-	-	-	24.4	30.5	32.1	-	-	-	-	-	109.8	115.4
KTL	-	-	21.9	45.2	47.6	-	-	-	-	-	128.0	133.7	140.5
AETL	-	-	32.1	39.1	41.1	-	-	-	-	123.1	129.6	135.4	-
UTL	-	-	57.1	69.1	76.5	4.1	-	119.7	125.5	127.5	4.8	-	85.9
CGTL	-	-	-	27.0	28.4	29.9	-	-	-	86.1	90.7	94.7	-
KGTL	-	-	-	-	-	100.4	-	-	-	-	-	104.4	102.0
IHMTL	-	-	4.4	-	89.2	89.9	85.2	-	5.4	74.3	76.7	56.9	2.4

Future estimates of major repairs and improvements as on the Valuation Date (Amt in INR crores)

Name of SPV	FY2035 12mths Forecast	FY2036 12mths Forecast	FY2037 12mths Forecast	FY2038 12mths Forecast	FY 2039 12mths Forecast	FY 2040 12mths Forecast	FY2041 12mths Forecast	FY2042 12mths Forecast	FY 2043 12mths Forecast	FY2044 12mths Forecast
IWTL	166.5	1.9	-	-	148.5	53.2	-	-	-	-
SYTL	67.4	-	-	-	-	-	-	42.1	44.2	46.5
YATL	120.9	-	-	-	-	60.4	63.3	66.5	-	-
KTL	-	-	-	-	-	94.1	98.6	103.6	-	-
AETL	-	-	-	73.5	77.3	81.3	-	-	-	-
UTL	91.2	119.3	-	-	-	-	-	-	-	-
CGTL	8.9	46.3	48.4	50.8	-	-	-	-	-	-
KGTL	110.5	-	-	-	-	-	-	-	-	-
IHMTL	-	211.8	229.5	238.0	7.0	-	-	-	-	-

d) Revenue pendencies including local authority taxes associated with InvIT asset & compounding charges

Management has represented that there are no revenue pendencies including local authority taxes pending to be payable to the Government authorities with respect to all the 9 SPVs.

e) On-going material litigations including tax disputes in relation to the assets

As represented by the Management, the list of the ongoing material litigations of all the 9 SPVs, have been included In Annexures 1 to 9

f) Vulnerability to natural to induced hazards that may not have been covered in town planning/building control

Management has represented that there are no such natural or induced hazards which have been not considered in town planning/building control with respect to all the 9 SPVs.

g) Site Visit Photographs

Site visit of all the 9 SPVs was conducted. Photographs taken during the site visit have been included in earlier sections in the Report.

Caveat to Disclosures in Annexures:

The Valuer has not independently verified the documents related to the disclosures mentioned in the Annexures and have relied on the representation by the Management for the same.

9.1 Annexure I IWTL – Table 1: List of one-time sanctions/approvals

Sl.No	Description	Remarks
A	Permission of State government for extraction of boulders from quarry.	Received
B	Permission of Village Panchayat & Pollution control board for installation of crushers	Received, Applied for renewal
C-1	License for use of explosives.	Received
C-2	Permission of state government for drawing water from Rivers & reservoir.	Not Applicable
D-1	License from Inspector of factories or competent authorities for setting up Batching Plant.	Received
D-2	Clearance from Pollution control board for Setting up Batching Plant	Received
E-1	Permission of Village Panchayat & Pollution control board for Asphalt Plant	Received
E-2	Permission of Village Panchayat & State government for Borrow earth	Received
F-1	Permission of State Government for Cutting of trees	Received
F-2	Any other permits or clearance required under applicable Laws	Labour License taken.

9.2 Annexure I IWTL – Table 2 List of ongoing material litigations or litigations where financial implication cannot be ascertained

Sl. No.	Complainant/Applica	Respondents	Name & Address of the Cour	Brief Description of Case	Status as on date	Financial implications
1	Mr. Sachhidananda Shetty.	The Chief General Manager, Modern Road Makers Pvt. Ltd.	Judicial Magistrate First Class Court, Kundapura.	The plaintiff has filed this suit praying that stay should be given for the stoppage work of NH-66 to set right certain anomalies in the tree cutting tender awarded to him by the NHAI in Kundapur forest division in respect of cutting of reserved categories of trees like teak, Bethonne, Matti, Sandalwood & seasom.	There are no Adverse orders against the company. The matter is pending	Land acquisition and related cost, cutting the necessary trees for road widening work, and related cost, etc are the sole responsibilities of NHAI. Further the concessionaire is not a party in the tender awarded to the plaintiff for cutting of the trees. Hence, there are no financial implications in this matter.
2	Laxman Neelakanth Desai, Goangeri, Majali, Karwar	IRB West Coast Tollway Pvt Ltd,	Civil Judge & JMFC II Court, Karwar	The plaintiff has filed the suit to restrain the defendants from undertaking the blasting of the rocks/hill in unscientific manner as it has caused loss to the plaintiff.	There are no Adverse orders against the company. The matter is pending	The company and plaintiff had mediated the dispute partly and the company has paid a sum of Rs. 175000/- to the plaintiff in the interest of the project. The matter is pending for final determination. As the company has complied with all the necessary provisions and undertaken the work with all safety precautions, the company feels that there are no financial implications in this matter.
3	Venkatramana S	Chief General Manager (IRB), Kumta	JMFC at Bhatkal (O.S. No. 103/2018)	The plaintiff has filed this suit challenging the land acquisition and has prayed that the respondents should be restrained from doing the work against the provisions of the land acquisition act.	There are no Adverse orders against the company. The matter is pending	The responsibility of the entire process of land acquisition and payment of compensation is of NHAI. Hence, that there are no financial implications in this matter.
4	Mr. Vithobha Ganesh Naik	IRB West Coast Tollway Pvt Ltd,	Principal Judge, Karwar	The complainant is alleging that IRB WTL is encroaching upon the Petitioner's land to construct the highway	IRB WTL has received summons from the court. The matter is currently pending.	

9.3 Annexure II SYTL – Table 1: List of one-time sanctions/Approvals

Note. Management has represented that one-time sanctions/approvals are not applicable for SYTL as the project has achieved commercial operational date (COD). These sanctions / approvals are applicable during the construction phase only.

9.4 Annexure II SYTL – Table 2: List of ongoing material litigations

Nil

9.5 Annexure III YATL – Table 1: List of one-time sanctions/approvals

Sl.No	Description	Remarks
A	Permission of the State Government for extraction of boulder from quarry.	Received
B	Permission of Village Panchayat and Pollution Control Board for installation of crusher;	Received
C	License for use of explosives	Received
D	Permission of state government for drawing water from river/reservoir	Received
E	License from the inspector of factories or other competent authority for setting up Batching plant.	Received
F	Clearance of Pollution Control Board for setting up Batching Plant;	Received
G	Clearance of Village Panchayats and Pollution Control Board for Asphalt Plant	Received
H	Permission of Village Panchayat and State Government for borrow areas	Received
I	Permission of State Government for cutting of trees	Received
J	Any other permits or clearances required under Applicable Laws	-

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9.6 Annexure III YATL – Table 2: List of ongoing material litigations

Sl. No	Complainant/Applicant/Plaintiff	Respondents	Name & Address of the Court and case number	Brief Description of Case	Status as on date	Financial implications
	Applicant/ Plaintiff					
1	Shaikh Rafiq and others	IRB Infrastructure Developers Limited and others	Bombay High Court Aurangabad Bench Writ Petition 5410/2015	This matter is pertaining to Yedeshi Aurangabad Project. The petitioner is aggrieved by the award wherein his land is acquired by NHAI, for construction of highway. Hence, the petitioners have prayed not to change the existing alignment of the proposed road widening of NH 211 passing through petitioners village and to restrain respondents from proceeding further with any change in the existing alignment	The matter is pending.	The responsibility of the entire process of land acquisition and payment of compensation is of NHAI. Hence, there are no financial implications on the company.
2	Panditrao Chausalkar and others	IRB Infrastructure Developers Limited And Others	Bombay High Court Aurangabad Bench Writ Petition 92/2017	This matter is pertaining to Yedeshi Aurangabad Project. The petitioner is aggrieved by the award wherein his land is acquired by NHAI, for construction of highway. Hence, the petitioners have prayed that the land acquisition should be set aside, the respondents should be restrained from acquiring the land belonging to the petitioners, etc..	The matter is pending.	The responsibility of the entire process of land acquisition and payment of compensation is of NHAI. Hence, there are no financial implications on the company.
3	Pruthviraj shahane	IRB Infrastructure Developers Limited and others	Civil Judge senior division, Beed. Civil suit number 10/2016	This matter is pertaining to Yedeshi Aurangabad Project. The Plaintiff claims that the electricity poles & DP coming within road alignment / area have been replaced but erected & installed within his private land which has not been acquired.	The matter is pending.	The responsibility of the entire process of land acquisition and payment of compensation is of NHAI. Utility shifting is being done on the land provided by NHAI Hence, there are no financial implications on the company.

9.7 Annexure IV KTL – Table 1: List of one-time sanctions/approvals

Note. Management has represented that one-time sanctions/approvals are not applicable for KTL as the project has achieved commercial operational date (COD). These sanctions / approvals are applicable during the construction phase only.

9.8 Annexure IV KTL – Table 2: List of ongoing material litigations

Sl. No.	Complainant/Applicant/Plaintiff	Respondents	Name & Address of the Court and case number	Brief Description of Case	Status as on date	Financial implications
1	SirsaEagle CHS Ltd. and another	National Highways Authority of India and Others (Kaithal Tollway Pvt. Ltd. is Respondent Number 5)	Punjab and Haryana High Court, Writ Petition Number 27756/2017	The Petitioner has challenged the levy and collection of toll on the project, and has prayed that the notification by which the toll is collected should be quashed and issue the directions for frame policy for the local transporters which may not act against the financial interest of the poor local villagers who travel in busses.	The matter is pending.	Financial implications cannot be ascertained as not mentioned in the petition. Similar writ petition challenging the toll collection on the project was filed in Punjab and Haryana High Court by Azad Singh (reported under closed litigations writ petition number 22648/2017), has been dismissed by the High Court. The concessionaire has been collecting the toll on the project as per the concession agreement and the toll notification. The provisional completion certificate has been issued to the concessionaire as per the terms of the concession agreement. Considering the merits of the case, there are no financial implications in this matter.

9.9 Annexure V AETL – Table 1: List of one-time sanctions/approvals

Sl.No	Description	Remarks
1	Permission from SEIAA for mining of metal stone quarry	Not Applicable
2	Permission of Village Panchayat and Pollution Control Board for installation of crushers	Not Applicable
3	License for use of explosives	Not Applicable
4	Permission of the State Government for drawing water from river/ reservoir	Received
5	License from inspector of factories for setting up batching plant	Renewed
6	Clearance of PCB for setting up batching plant	Received for three base camps
7	Clearance of Village Panchayat and PCB for Asphalt Plant	Received for three base camps
8	Permission of Village Panchayat and State Government to Borrow Earth	Received
9	Permission of State Government for felling of trees	Received
10a	Environment Clearance (EC) from MoEF	Received
10b	Forest Clearance from MoEF&CC	Received
10c	Taj Trapezium Zone Pollution Clearance from Taj Trapezium Zone Pollution (Prevention and Control) Authority	Received
10d	Permission for use of power	Received
10e	Rehabilitation and resettlement	Received

9.10 Annexure V AETL – Table 2: List of ongoing material litigations

Sl. No.	Complainant/Applicant/Plaintiff	Respondents	Name & Address of the Court and case number	Brief Description of Case	Status as on date	Financial implications
1	NHAI	AE Tollway Private Limited	Arbitration is on hold	1. NHAI levied damages on Concessionaire citing delay in fulfilment of Conditions Precedent and achievement of Financial Close as per Concession Agreement. 2. However, the Concessionaire asserted that the damages levied by NHAI are not applicable since the delay in achieving Financial Close was on account of delay by NHAI in appraising the Total Project Cost assessed by the Lenders and eventually NHAI refused to appraise the same. This delay was not attributable to the Concessionaire and it had also affected the fulfilment of Concessionaire's Conditions Precedent as per Clause 4.1.3 (b), (c), (e) & (f) of the Concession Agreement which were all linked to Financial Close. 3. The Concessionaire also put on record that as on Appointed Date (i.e. 01/08/2016), the percentage of vacant land handed over by NHAI to Concessionaire was less than 80% as required under Clauses 10.3.2 & 10.3.5 of the Concession Agreement. 4. Hence, the penalties claimed by NHAI on account of delay in Financial Close may be waived off since this delay cannot be attributed to the Concessionaire. Thus, the dispute was crystallised. As per the Clause number 44.3 of the Concession Agreement, the arbitration was invoked. 5. The matter was referred to (**Conciliation Committee of Independent Expert**) CCIE-1 for Conciliation. The issue was whether 80% of vacant land was available to the Concessionaire at the time of Financial Close/ Appointed Date. Concessionaire submitted land acquisition officer's CALA (**Competent Authority of Land Acquisition**) record confirming less than 80% of land availability at the time of Financial Close/ Appointed Date. 6. In the final meeting it was directed by the CCIE-1 to jointly inspect the CALA record and verify the land status as on Financial Close/Appointed Date. Even after Concessionaire followed up several times, NHAI did not deploy their representative for the joint inspection.	Since there was no response, the Concessionaire had intimated to NHAI stating that the CALA record submitted by the Concessionaire is genuine and dispute is therefore settled amicably. NHAI has not responded to this. In the meantime, the arbitration has been kept on hold.	Rs 37.4 Crore + Interest
2	Hakim Singh Yadav and others	AE Tollway Private Limited	High Court of Allahabad	The petitiner filed a writ petition before the High Court of Allahabad against the Sponsor and others (the "Respondents") in relation to the drainage system for the road asset operated by AETL. AETL had crystallised dispute and requested NHAI to take up the matter of payment of premium with proportionate reduction of revenue losses (the figures under dispute are excess payment of Premium of Rs. 12.84 Cr and outstanding payment of Premium including interest of Rs.55.34 Cr as on June 07, 2021) on account of Covid and delay in completion of construction as a dispute and for amicable settlement though Conciliation. Since no written settlement reached between the Parties, the AETL on 14.03.2022 invoked arbitration as per Clause 44.3 of the Concession Agreement. The matter is pending.		
3						

9.11 Annexure VI UTL – Table 1: List of one-time sanctions/approvals

Sl.No	Description	Remarks
A	Permission of State government for extraction of boulders from quarry.	Received
B	Permission of Village Panchayat & Pollution control board for installation of crushers	Received
C	License for use of explosives	Received
D	Permission of the state government for drawing water from river/reservoir	Applied for approval
E	License from inspector of factories or other competent authority for setting up Batching Plant	Received
F	Clearance of pollution control board for setting up Batching plant	Received
G	Clearance of village Panchayats & pollution control board for asphalt plant	Received
H	Permission of village panchayat & state government for borrow earth	Received
I	Permission of state government for cutting of trees	Received
J	Any other permits or clearances under applicable laws	Labour License taken.

9.12 Annexure VI UTL – Table 2: List of ongoing material litigations

Sl. No.	Complainant/Applicant/Plaintiff	Respondents	Name & Address of the Court and case number	Brief Description of Case	Status as on date	Financial implications
1	Hiteshkumar Ramanlal Gandhi (Shift Incharge Khandiobri Toll)	Bhairulal Salvi (Bus Driver) Dist - Bhilwada.	FIR number 0299 dated 18/11/2017, Kherwada Police Station Tah – Kherwara, Dist – Udaipur State – Rajasthan	Bus driver Mr. Bhairulal Salvi has damaged the toll booths by pelting the stone & created violence in smooth tolling operations at Khandiobri Toll.	The matter is being investigated by the police.	The FIR is filed against the Bus driver, by the employee of the company. The FIR is filed by the employee of the company against the bus driver. There are no proceedings against the company.

9.13 Annexure VII CGTL – Table 1: List of one-time sanctions/approvals

Sl.No	Description	Remarks
A	Permission of State government for extraction of boulders from quarry.	Received
B	Permission of Village panchayat& Pollution control board for installation of crushers	Received
C	License for use of explosives.	Received
D	Permission of state government for drawing water from Rivers & reservoir.	Not applicable
E	License from Inspector of factories or competent authorities for setting up Batching Plant.	Received
F	Clearance from Pollution control board for Setting up Batching Plant	Received
G	Permission of Village panchayat& Pollution control board for Asphalt Plant	Received
H	Permission of Village panchayat& State government for Borrow earth	Received
I	Permission of State Government for Cutting of trees	Received
J	Any other permits or clearance required under applicable Laws	

9.14 Annexure VII CGTL – Table 2: List of ongoing material litigations

Sl. No.	Complainant/Applicant/Plaintiff	Respondents	Name & Address of the Court and case number	Brief Description of Case	Status as on date	Financial implications
1	Shri Azad Sharma & Other	NHAI and others (The Manager, IRB is respondent number 7)	Lok Adalat, Bhilwara	The plaintiff has filed case challenging the collection of toll without completion of six lane. Plaintiff /Petitioners have prayed that collection of toll shall be stopped until works of six lanes are completed and toll collected in the name of six laning shall be returned with interest.	The matter is pending	The company is collecting the toll as per the toll notification and concession agreement with NHAI. Since, the project consists from 4 laining to 6 laining, hence, during the construction period, the company collects only 75% of the prescribed toll amount as per the toll fee notification. These toll rates are fixed for construction period. The company has good case on merits. The company has not violated any of the concession agreement provisions and hence, there are no financial implications in the matter.

9.15 Annexure VIII KGTL – Table 1: List of one-time sanctions/approvals

Sl.No	Description	Remarks
A	Permission of the State Government for extraction of boulder from quarry.	Received
B	Permission of Village Panchayat and Pollution Control Board for installation of crusher.	Received
C	License for use of explosives	Received
D	Permission of state government for drawing water from river/reservoir	Not Applicable
E	License from the inspector of factories or other competent authority for setting up Batching plant.	Received
F	Clearance of Pollution Control Board for setting up Batching Plant;	Received
G	Clearance of Village Panchayats and Pollution Control Board for Asphalt Plant	Received
H	Permission of Village Panchayat and State Government for borrow areas.	Received
I	Permission of State Government for cutting of trees	Received
J	Any other permits or clearances required under Applicable Laws	-

9.16 Annexure VIII KGTL – Table 2: List of ongoing material litigations

Nil

9.17 Annexure IX IHMTL – Table 1: List of one-time sanctions/approvals

Sl.No	Description	Remarks
A	Permission of the state for extraction of boulder from the quarry	Not applicable
B	Permission of Village Panchayat & pollution control board for installation of crushers	Not applicable
C	License for use of explosives	Not applicable
D	Permission of the state government for drawing water from river/reservoir	Received
E	License from inspector of factories or other competent authority for setting up Batching Plant	Received
F	Clearance of pollution control board for setting up Batching plant	Received
G	Clearance of village Panchayats & pollution control board for asphalt plant	Received
H	Permission of village panchayat & state government for borrow earth	Received
I	Permission of state government for cutting of trees	Received
J	Any other permits or clearances under applicable laws	Not applicable

9.18 Annexure IX IHMTL – Table 2: List of ongoing material litigations

Nil

9.19 Annexure X – Comparable companies' description

List of comparable companies
Sadbhav Engineering Limited
MEP Infrastructure Developers Limited
IRB Infrastructure Developers Limited
Ashoka Buildcon Limited

9.20 Annexure XI – Parties to the InvIT

- IRB Infrastructure Trust ("the Trust")
- IRB Infrastructure Developers Limited (in its capacity as "Sponsor" of the Trust)
- MMK Toll Road Private Limited (in its capacity as "Investment Manager" of the Trust) &
- IDBI Trusteeship Services Limited (as the "Trustee" of the Trust)

**********END OF REPORT**********

ANNEXURE B

TRAFFIC REPORTS

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Report
September 2021

Agra - Etawah and Hapur – Moradabad Traffic and Revenue Due Diligence

IRB Infrastructure Developers Limited
Our ref: 24073601
Client ref: Tiger

steer

Report
September 2021

Agra - Etawah and Hapur – Moradabad Traffic and Revenue Due Diligence

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Table of Contents

Disclaimer ..... **x**

Glossary Items ..... **xii**

1 Introduction **1**

The assignment 1

Our approach 2

Evolution of Covid19 pandemic in India in FY21 and FY22 3

Contents of this Report 5

2 The Assets **6**

Introduction 6

Asset Context 6

Strategic network 10

Concession and tolling details 12

Key economic activities 14

3 Traffic description **16**

Introduction 16

Historical trends 16

Key findings of the TVC data analysis 34

Key findings of origin-destination analysis 38

Conclusions 53

4 Socio Economic Context **55**

Introduction 55

Population growth 55

Economic Indicators 56

Industrial Production 56

Vehicle ownership 57

Summary 60

5 Traffic growth analysis **61**

Introduction 61

Estimation of background elasticities 62

Forecasts for growth drivers 65

6 Forecasts: Base year AADT and Impacts 68

Introduction 68

Seasonal Correction Factors 68

Base year (FY21 and FY22) traffic 70

Estimation of FY21 Normalised and FY22* (no Covid19, hypothetical) 70

Assumptions on 3rd Wave of Covid19 infections 71

Month on Month comparison of FY22* and FY22 estimated 71

Estimation of Q4 FY22 71

FY23 Estimation and base AADT for forecast 73

Analysis of potential impacts 75

Upside and Downside Cases 95

Traffic and Revenue Forecasts - upside scenario 97

Traffic and Revenue Forecasts - downside scenario 103

Target traffic and modification of concession period 113

Summary outlook 114

Figures

Figure 1: Daily Reported Covid 19 cases in India 4

Figure 2.1 Asset context: Agra - Etawah 7

Figure 2.2: Typical cross-sections and toll plazas on the Assets 7

Figure 2.3 Asset context: Hapur - Moradabad 9

Figure 2.4: Typical cross-sections and toll plazas on the Assets 9

Figure 2.5: Asset location in the regional network context 11

Figure 3.1 Vehicle share (%): AE - Gurau 17

Figure 3.2 Vehicle share (%): AE - Tundla 18

Figure 3.3 Revenue share (%): AE 19

Figure 3.4 Vehicle share (%): HM - Brijghat 21

Figure 3.5 Vehicle share (%): HM - Joya 22

Figure 3.6 Revenue shares (%): HM 23

Figure 3.7 ETC penetration: AE - Tundla 27

Figure 3.8 ETC penetration: AE - Gurau 28

Figure 3.9 ETC penetration: HM - Brijghat 28
Figure 3.10 ETC penetration: HM - Joya 29
Figure 3.11 CJV toll segmentation: AE - Gurau 29
Figure 3.12 MAV toll segmentation: AE - Gurau 30
Figure 3.13 CJV toll segmentation: AE - Tundla 31
Figure 3.14 MAV toll segmentation: AE - Tundla 31
Figure 3.15 CJV toll segmentation: HM - Brijghat 32
Figure 3.16 MAV toll segmentation: HM - Brijghat 32
Figure 3.17 CJV toll segmentation: HM - Joya 33
Figure 3.18 MAV toll segmentation: HM - Joya 33
Figure 3.19: Vehicle share comparison - AE 35
Figure 3.20: Vehicle share comparison - HM 36
Figure 3.21 TVC vs TMS – AE Gurau 36
Figure 3.22 TVC vs TMS – AE Tundla 37
Figure 3.23 TVC vs TMS – HM Brijghat 37
Figure 3.24 TVC vs TMS - HM Joya 38
Figure 3.25 Zonal distribution: AE - Tundla 40
Figure 3.26 Zonal distribution: AE - Gurau 41
Figure 3.27 Zonal distribution: HM - Brijghat 42
Figure 3.28 Zonal distribution: HM - Joya 42
Figure 3.29 Zonal influence: AE - Tundla 43
Figure 3.30 Zonal influence: AE - Gurau 43
Figure 3.31 Zonal influence: HM - Brijghat 44
Figure 3.32 Zonal influence: HM - Joya 44
Figure 3.33 Commodity distribution: AE - Tundla 46
Figure 3.34 Commodity distribution: AE - Gurau 47
Figure 3.35 Commodity distribution: HM - Brijghat 48
Figure 3.36 Directional commodity distribution: HM - Joya 49
Figure 3.37 Trip length distribution: AE - Tundla 51
Figure 3.38 Trip length distribution: AE - Gurau 51
Figure 3.39 Trip length distribution: HM - Brijghat 52
Figure 3.40 Trip length distribution: HM - Joya 52

Figure 4.1: Annual growth - Index of Industrial Production 57
Figure 4.2: Car ownership in India per 1,000 population 58
Figure 4.3: Per capita income 58
Figure 5.1: FY21-40 GDP forecast 65
Figure 5.2: Forecasts for India GDP, GSDP Western UP 67
Figure 6.1: FY22* (no Covid19, Hypothetical) vs FY22 Estimated: AE Gurau 72
Figure 6.2: FY22* (no Covid19, Hypothetical) vs FY22 Estimated: AE Tundla 72
Figure 6.3: FY22* (no Covid19, Hypothetical) vs FY22 Estimated: HM Brijghat 73
Figure 6.4: FY22* (no Covid19, Hypothetical) vs FY22 Estimated: HM Joya 73
Figure 6.5: Asset route shown against the regional network context 76
Figure 6.6: CJV toll segmentation evolution – AE Gurau 82
Figure 6.7: MAV toll segmentation evolution – AE Gurau 82
Figure 6.8: CJV toll segmentation evolution – AE Tundla 83
Figure 6.9: MAV toll segmentation evolution – AE Tundla 83
Figure 6.10: CJV toll segmentation evolution – HM Brijghat 84
Figure 6.11: MAV toll segmentation evolution – HM Brijghat 84
Figure 6.12: CJV toll segmentation evolution – HM Joya 85
Figure 6.13: MAV toll segmentation evolution – HM Joya 85
Figure 6.14: Final AADT forecast including Upside and Downside scenarios – AE Gurau 110
Figure 6.15: Final Revenue forecast including Upside and Downside scenarios – AE Gurau ... 110
Figure 6.16: Final AADT forecast including Upside and Downside scenarios – AE Tundla 111
Figure 6.17: Final Revenue forecast including Upside and Downside scenarios – AE Tundla .. 111
Figure 6.18: Final AADT forecast including Upside and Downside scenarios – HM Brijghat 112
Figure 6.19: Final Revenue forecast including Upside and Downside scenarios– HM Brijghat 112
Figure 6.20: Final AADT forecast including Upside and Downside scenarios – HM Joya 113
Figure 6.21: Final Revenue forecast including Upside and Downside scenarios– HM Joya 113

Tables

Table 1.1: Scope of work and sources of data 1
Table 1.2: Data collection schedule 3
Table 2.1: Time, lane configuration on each route between Delhi and Lucknow 12
Table 2.2: Summary of concession 13

Table 2.3: Single toll rates on the Asset (INR), applicable April 2021 to March 2022 14
Table 3.1: Historical evolution in AADT by vehicle class: AE - Gurau 16
Table 3.2: Historical evolution in AADT by vehicle class: AE - Tundla 18
Table 3.3: Historical revenue evolution by class (in INR crores): AE 19
Table 3.4: Historical evolution in AADT by vehicle class: HM - Brijghat 20
Table 3.5: Historical evolution in AADT by vehicle class: HM - Joya..... 21
Table 3.6: Historical evolution in revenue by vehicle class (INR crores): HM 22
Table 3.7: Traffic evolution during FY20, FY21 – AE Gurau 24
Table 3.8: Traffic evolution during FY20, FY21 – AE Tundla 24
Table 3.9: Traffic evolution during FY20, FY21 – HM Brijghat 25
Table 3.10: Traffic evolution during FY20, FY21 – HM Joya 25
Table 3.11: Typical ticket types sold at NHAI plazas..... 26
Table 3.12: Timeline of national ETC implementation 26
Table 3.13: %age of Transactions via Fast Tag at each of the toll plaza, March 2021 27
Table 3.14: Data collection schedule 34
Table 3.15: WADT at Asset 35
Table 3.16: Sample rates for OD data..... 39
Table 3.17: Zone aggregations for zonal influence analysis 40
Table 3.18: Aggregate commodity categories 45
Table 3.19: Directional commodity distribution – AE Tundla..... 46
Table 3.20: Directional commodity distribution – AE Gurau..... 47
Table 3.21: Directional commodity distribution – HM Brijghat 48
Table 3.22: Directional commodity distribution – HM Joya 50
Table 3.23: Average trip lengths..... 50
Table 4.1: CAGR of population in India..... 55
Table 4.2: Population Growth in India (2001 – 2011)..... 56
Table 4.3: Local Population Growth (2001 – 2011) 56
Table 4.4: GDP/GSDP index (2012=100)..... 59
Table 5.1: Identified growth drivers to model traffic growth..... 62
Table 5.2: Forecast and background elasticities for the Agra Etawah Asset..... 63
Table 5.3: Forecast and background elasticities for the Hapur Moradabad Asset 64
Table 6.1: Key intermediate and final outputs in the forecast 68

Table 6.2: Adopted SCF: AE Gurau 69

Table 6.3: Adopted SCF: AE Tundla 69

Table 6.4: Adopted SCF: HM Brijghat 70

Table 6.5: Adopted SCF: HM Joya 70

Table 6.6: FY22N Base AADT estimates compared to FY21 Actuals and FY22 Estimated – AE Gurau 74

Table 6.7: FY22N Base AADT estimates compared to FY21 Actuals and FY22 Estimated – AE Tundla 74

Table 6.8: FY22N Base AADT estimates compared to FY21 Actuals and FY22 Estimated – HM Brijghat 74

Table 6.9: FY22N Base AADT estimates compared to FY21 Actuals and FY22 Estimated – HM Joya 75

Table 6.10: Summary of impacts - AE 75

Table 6.11: Summary of impacts - HM 75

Table 6.12: LoS Improvement Impact - AE 77

Table 6.13: Impact of Agra Lucknow Expressway post 100% tolling - AE 77

Table 6.14: HM: LoS Improvement 77

Table 6.15: Bareilly – Sitapur Four Laning impact - HM 78

Table 6.16: Rudrapur-Rampur Four Laning impact - HM 78

Table 6.17: Impact of Ganga Expressway (trips excluding Delhi NCR) 79

Table 6.18: Impact of Ganga Expressway (only Delhi NCR trips) - AE 79

Table 6.19: Trip factors for the forecast years – AE Gurau 80

Table 6.20: Trip factors for the forecast years – AE Tundla 80

Table 6.21: Trip factors for the forecast years – HM Brijghat 81

Table 6.22: Trip factors for the forecast years – HM Joya 81

Table 6.23: Toll segmentation FY22 onwards – AE Gurau 82

Table 6.24: Toll segmentation FY22 onwards – AE Tundla 83

Table 6.25: Toll segmentation FY22 onwards – HM Brijghat 84

Table 6.26: Toll segmentation FY22 onwards HM Joya 85

Table 6.27: Overloading assumptions from FY22 onwards 86

Table 6.28: Tolling lengths for toll evolution 87

Table 6.29: WPI growth forecast assumptions 87

Table 6.30: Revenue reconciliation summary 88

Table 6.31: PCU factors 88

Table 6.32: Final (background plus impacts) AADT forecast – AE Gurau 89

Table 6.33: Final (background plus impacts) AADT CAGR (%) – AE Gurau 89

Table 6.34: Final (background plus impacts) revenue (INR crores) forecast – AE Gurau 90

Table 6.35: Final (background plus impacts) revenue CAGR (%) – AE Gurau 90

Table 6.36: Final (background plus impacts) AADT forecast – AE Tundla 90

Table 6.37: Final (background plus impacts) AADT CAGR (%) – AE Tundla 91

Table 6.38: Final (background plus impacts) revenue (INR crores) forecast – AE Tundla 91

Table 6.39: Final (background plus impacts) revenue CAGR (%) – AE Tundla 91

Table 6.40: Final (background plus impacts) AADT forecast – HM Brijghat 92

Table 6.41: Final (background plus impacts) AADT CAGR (%) – HM Brijghat 92

Table 6.42: Final (background plus impacts) revenue (INR crores) forecast – HM Brijghat 93

Table 6.43: Final (background plus impacts) revenue CAGR (%) – HM Brijghat 93

Table 6.44: Final (background plus impacts) AADT forecast – HM Joya 93

Table 6.45: Final (background plus impacts) AADT CAGR (%) – HM Joya 94

Table 6.46: Final (background plus impacts) revenue (INR crores) forecast – HM Joya 94

Table 6.47: Final (background plus impacts) revenue CAGR (%) – HM Joya 94

Table 6.48: Summary of assumptions for upside and downside cases 95

Table 6.49: Summary of impacts on the AE asset – upside scenario 96

Table 6.50: Summary of impacts on the HM asset– upside scenario 96

Table 6.51: Summary of impacts on the AE asset – downside scenario 96

Table 6.52: Summary of impacts on the HM asset– downside scenario 97

Table 6.53: Final (background plus impacts) AADT forecast for upside scenario – AE Gurau ... 97

Table 6.54: Final (background plus impacts) AADT CAGR (%) for upside scenario – AE Gurau . 98

Table 6.55: Final (background plus impacts) revenue (INR crores) forecast for upside scenario – AE Gurau 98

Table 6.56: Final (background plus impacts) revenue CAGR (%) for upside scenario – AE Gurau 99

Table 6.57: Final (background plus impacts) AADT forecast for upside scenario – AE Tundla .. 99

Table 6.58: Final (background plus impacts) AADT CAGR (%) for upside scenario – AE Tundla 99

Table 6.59: Final (background plus impacts) revenue (INR crores) forecast for upside scenario – AE Tundla 100

Table 6.60: Final (background plus impacts) revenue CAGR (%) for upside scenario – AE Tundla 100

Table 6.61: Final (background plus impacts) AADT forecast for upside scenario – HM Brijghat 100

Table 6.62: Final (background plus impacts) AADT CAGR (%) for upside scenario – HM Brijghat 101

Table 6.63: Final (background plus impacts) revenue (INR crores) forecast for upside scenario – HM Brijghat 101

Table 6.64: Final (background plus impacts) revenue CAGR (%) for upside scenario – HM Brijghat 102

Table 6.65: Final (background plus impacts) AADT forecast for upside scenario – HM Joya... 102

Table 6.66: Final (background plus impacts) AADT CAGR (%) for upside scenario – HM Joya. 102

Table 6.67: Final (background plus impacts) revenue (INR crores) forecast for upside scenario – HM Joya 103

Table 6.68: Final (background plus impacts) revenue CAGR (%) for upside scenario – HM Joya 103

Table 6.69: Final (background plus impacts) AADT forecast for downside scenario – AE Gurau 103

Table 6.70: Final (background plus impacts) AADT CAGR (%) for downside scenario – AE Gurau 104

Table 6.71: Final (background plus impacts) revenue (INR crores) forecast for downside scenario – AE Gurau 104

Table 6.72: Final (background plus impacts) revenue CAGR (%) for downside scenario – AE Gurau 105

Table 6.73: Final (background plus impacts) AADT forecast for downside scenario – AE Tundla 105

Table 6.74: Final (background plus impacts) AADT CAGR (%) for downside scenario – AE Tundla 105

Table 6.75: Final (background plus impacts) revenue (INR crores) forecast for downside scenario – AE Tundla 106

Table 6.76: Final (background plus impacts) revenue CAGR (%) for downside scenario – AE Tundla 106

Table 6.77: Final (background plus impacts) AADT forecast for downside scenario – HM Brijghat 106

Table 6.78: Final (background plus impacts) AADT CAGR (%) for downside scenario – HM Brijghat 107

Table 6.79: Final (background plus impacts) revenue (INR crores) forecast for downside scenario – HM Brijghat 107

Table 6.80: Final (background plus impacts) revenue CAGR (%) for downside scenario – HM Brijghat 108

Table 6.81: Final (background plus impacts) AADT forecast for downside scenario – HM Joya 108

Table 6.82: Final (background plus impacts) AADT CAGR (%) for downside scenario – HM Joya 108

Table 6.83: Final (background plus impacts) revenue (INR crores) forecast for downside scenario – HM Joya 109

Table 6.84: Final (background plus impacts) revenue CAGR (%) for downside scenario – HM Joya 109

Table 6.85: Target Traffic 114

Appendices

A Top 10 OD Pairs

B Detailed forecasts

C Data collection exercise

D Vehicle Classification Chart

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Traffic Consultant developed the relationships in the models used to produce the forecasts for the projects based on data available through May 2021. Since March 2020, the outbreak of the virus known as COVID- 19 has spread throughout the world and has been defined by the World Health Organization as a "pandemic". As of the date of distribution of the Reports, the COVID19 outbreak is having a material impact on global economic and political affairs including having a significant impact on all the transportation industries, including toll road traffic, where in particular vehicle volumes have fallen in response to quarantine and self-care measures that governments have been imposing as a response to the different waves of infection rates in different parts of the country. The situation remains dynamic and is subject to significant change. In this challenging context, Traffic Consultant has produced base forecasts (directly produced from models using a combination of pre-COVID19 and post-COVID19 views) with a view on a possible scenario for the traffic forecasts based on an assumption of recovery from the COVID19-related traffic decrease. However, it is important to note that this is only one view, and there continues to remain uncertainty as to the short-term, intermediate or prolonged effects of and responses to the COVID19 pandemic on the projects. All of these effects could impact the COVID19-related aspects of the Reports.

As a result, no assurance can be provided by Traffic Consultant that the scenarios and assumptions Traffic Consultant has identified will prove to be accurate. Given the uncertainty inherent in this unprecedented pandemic, Traffic Consultant advises that all readers of the Reports consider the Reports in the context of their own assessment of the COVID19 outbreak and its current and potential impacts before making final decisions related to the projects.

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Glossary Items

Acronym	Meaning
AADT	Annual Average Daily Traffic
ADT	Average Daily Traffic
CAGR	Compound Annual Growth Rate
CJV	Cars / Jeeps / Vans
COD	Commercial Operations Date
Covid19	Coronavirus Pandemic
DPR	Detailed Project Report
DME	Delhi Mumbai Expressway
WDFC	Western Dedicated Freight corridor
ETC/ FASTag	Electronic Toll Collection via FASTag
FY	Financial Year
GDP	Gross Domestic Product
GJC	Generalised Journey Cost
GQ	Golden Quadrilateral
GSDP	Gross State Domestic Product
HCM	Heavy Commercial Vehicles
IAOI	Immediate Area of Influence
AE	Agra – Etawah
HM	Hapur - Moradabad
LCV	Light Commercial Vehicles
LoS	Level of Service
MAV	Multi Axle Vehicle
MLCV	Mini LCV
NE	National Expressway
NH	National Highway
NHAI	National Highways Authority of India
NHDP	National Highways Development Project
OD	Origin Destination
PCI	Per Capita Income
PCOD	Partial Commercial Operations Date
PCU	Passenger Car Unit
RNP	Registered Number Plate
RoS	Rest of State
SCF	Seasonality Correction Factors
SH	State Highway
T&R	Traffic and Revenue
TMS	Traffic Management System
TP	Toll plaza

Acronym	Meaning
TVC	Traffic Volume Count
VOC	Vehicle Operating Costs
VOT	Value of Time
WADT	Weekly Average Daily Traffic
WDFC	Western Dedicated Freight corridor
YTD	Year to Date

1 Introduction

The assignment

1.1 IRB Infrastructure Developers Limited (the "Client") has commissioned Steer Davies Gleave India Private Limited ("Steer") for a traffic due diligence to be carried out on Agra – Etawah ("AE") and Hapur – Moradabad ("HM") referred to as the "Assets" in the report.

1.2 Our scope of work for the traffic and revenue forecasts process includes:

Table 1.1: Scope of work and sources of data

Scope of work	Data source
• Review of historical Traffic Management System (TMS) data, Origin-Destination (OD) data, previous reports and documents	Provided by client
• Historical analysis and forecasts for baseline growth, including – Background growth, – Seasonality	Historical toll plaza data provided by Client and benchmarks from Assets in the vicinity wherever long time series historical data was not available
• Validation of TMS data using independent Traffic Volume Counts (TVC) counts • Validation of Revenue reported in FY21	• TMS data provided by Client • TVC counts independently undertaken by Steer • Revenue reconciliation using toll plaza traffic and ticket type data to calculate revenue and reconciling it with toll plaza reported revenue.
• OD analysis to understand growth drivers – Zonal influence and top OD pairs – Commodity distribution – Trip length distribution	Origin Destination surveys undertaken by Steer
• Analysis of upcoming network improvements and other developments, that may have future impacts on traffic	Secondary research and our in-house experience of working in the vicinity of the Assets. Impact analysis based on Generalised Journey Cost spreadsheet-based analysis
• Historical revenue analysis and forecasts for revenue estimation, including – Toll segmentation and trip factors, – Overloading shares,	Calculated from historical data provided by Client
• Final traffic growth forecasts including baseline growth rates and potential future impacts	Elasticity based base growth and potential impacts from secondary research and our in-house experience of working in the vicinity of the Assets.
• Toll revenue estimation for the entire concession including toll evolution	Toll evolution based on toll notification published by NHAI and WPI line based on

Scope of work	Data source
	forecast published by Consensus and RBI (FY23)
• Target traffic estimation	The target traffic calculation is based on the clause as per the concession agreement.

1.3 This report presents our draft T&R forecasts.

Our approach

1.4 The information related to the traffic, concession agreements, toll notifications, toll calculations, and all other relevant data required was provided by the client in the virtual data room. The key traffic data file used by us for the analysis from the data room is the monthly historical data for each of the Asset for each category of vehicles.

1.5 To understand the current traffic on the Assets, we have analysed traffic data from multiple independent sources, these are presented below, further approach to analysis is detailed below:

- Assembled traffic/revenue data for up-to-date representation of the performance of the project roads. Client-provided TMS data starting from
  - AE: August 2016 up till May 2021
  - HM: June 2019 up till May 2021
- Review of Concession agreement and toll notifications provided by client
- To arrive at the base position, Asset-wise traffic data required for analysis was used from the monthly traffic and revenue files shared by the client. To gain confidence in the traffic data, and validate the TMS data, 7 days (24 hours) traffic volume counts (TVC) were undertaken by an independent agency at all the toll plaza locations. The TMS data for the same dates was requested from the client which was then compared to the TVC data collected.
- Revenue Reconciliation: We undertook revenue reconciliation, by building up revenue from the traffic reported by each of the toll plaza and subsequently match it to the reported revenue using the prevalent toll rates and reported segmentation/toll-frequencies, this is a key part of our analysis to validate the segmentation/toll-frequency assumptions and the AADT reported for each of the toll plaza.

1.6 The estimation of future traffic demand on the Assets was undertaken through:

- Detailed assessment of the asset performance from traffic and revenue perspective based on the site visit observation, discussions with the toll plaza managers and client team.
- The OD survey data was cleaned and analysed to determine the key commodity drivers of the traffic on the asset. This information was further utilised in developing the views on the forecasts of traffic on this corridor. Outputs from OD data such as zonal influence, trip lengths, and commodity distribution are presented in this report.
- Developing a bespoke growth model for each asset/plaza/toll class to forecast year-on-year traffic growth from FY21 to the end of each concession period.
- Investigating the elasticity of historic traffic growth compared to state (GSDP) and national (GDP) growth. Where historic data is limited, we have benchmarked the asset against our Steer knowledge base (e.g., similar asset types in the same state), to derive appropriate elasticities
- Applying our elasticities to independent GDP/GSDP forecasts.

- Identifying and analysing the potential impacts of any relevant changes to the competitive position of each asset – these include impacts of changes to road network including expressways and opening of competitive modes of travel.
- Identifying and analysing any other potential impacts to traffic and revenue on each asset – these include axle load norms, FASTag implementation
- Considering changes in trends of segmentation over time and making suggestions for changes in exemptions in the future
- Preparing traffic and revenue forecast for the Asset for the complete length of concession. The analysis here includes the specific impacts of toll, network, or other exogenous factors specific to the asset. We have developed a set of forecasting assumptions for three scenarios: a base case and upside and downside scenarios.

Table 1.2: Data collection schedule

Toll Plaza	TMS Data	7-day videography-based TVC		1-day OD survey	
		Start date	**End date**	**Start date**	**Start time**
AE Gurau	August 2016-May 2021	9th June 2021	16th June 2021	9th June 2021	0800 hrs
AE Tundla		9th June 2021	16th June 2021	10th June 2021	0800 hrs
HM Brijghat	June 2019-May 2021	9th June 2021	16th June 2021	9th June 2021	0800 hrs
HM Joya		9th June 2021	16th June 2021	10th June 2021	0800 hrs

Evolution of Covid19 pandemic in India in FY21 and FY22

1.7 On 24 March FY20, the Central government announced a nationwide 21-day lockdown which was extended for another three weeks until May 3rd. Further extensions until May 17th and again until May 31 featured relaxations in 'green' and 'orange' zones. Starting 8th June 2021, 'Unlock' phases began. States have also taken their own measures, with Central guidelines being the minimum expected restrictions from States. The tolling across all highways in India was stopped between 25th Mar and 20th Apr for national highways. These lockdowns resulted in significant disruptions to traffic, with a reduction of both commuting trips to work (as people were required to work from home or stay at home) and leisure trips (due to the closure of various entertainment venues, places of worship, tourist destinations, etc.). Goods movements, while still impacted, continued to a lesser extent due to a need to supply essential goods such as food, etc.

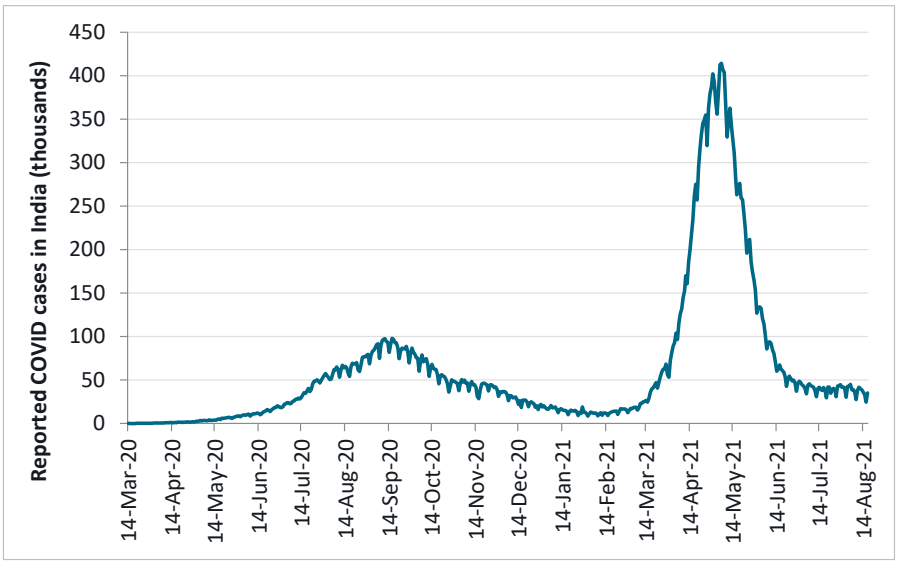
1.8 The traffic volumes since then gradually started recovering on most Assets in India, with varying extent. By Q3 of FY21 traffic levels were already at par FY20 AADT numbers and even higher in some cases. Q4 of FY21 was largely unimpacted by COVID and toll plazas reported stabilised traffic numbers for the quarter.

1.9 Data from various roads across the country indicates that the largest impact on traffic was experienced between the months of March 2020 and May 2020, with the rest of the months showing volumes surpassing FY20 levels for most months of FY21. It is important to note that FY20 itself was a subdued year due to the nosedive in Indian economic growth to lowest in a decade (4.0% in FY20 relative to a FY10-20 average of 6.5%). The recovery of traffic in Q3 FY21 was being driven by two factors - a release of pent-up demand in certain vehicle categories, as well as, underlying long-term growth trends in various sectors of the economy which are contributing to the growth of commercial traffic across the road network. We believe that the pent-up demand was most confined till the October-November FY21 period which coincides with the Diwali festival related increase in traffic levels.

1.10 The traffic trends observed on most of the India toll roads during Q4FY21, showed sustained traffic levels as were witnessed in Q3FY21, which reflected sustained demand revival in the Indian economy. These traffic levels reflected the longer-term trends of a strong economic recovery, in segments like auto manufacturing, road construction, energy consumption /production etc., are more stable and are driving the growth over and above FY20 levels and are expected to continue as more segments of the economy, like hospitality, tourism, etc., recover fully from the pandemic.

1.11 Last week of March 2021 onwards, another spike in COVID cases was observed which gradually kept increasing to reach a peak value of 415,000 daily cases by 6th May 2021. The figure below presents the daily reported Covid19 cases in India up-to 14th August 2021.

Figure 1: Daily Reported Covid 19 cases in India



Source: Steer analysis, https://data.COVID19india.org/

1.12 This second wave of Covid19 was accompanied by various local and state level night curfews and lockdowns starting from April until end of June. The second wave of Covid19, although had a higher infection rate, the movement of traffic and goods was not impacted by the same magnitude as the first wave when whole country went under strict lockdown for two quarters. This can be attributed to the fact that almost all the restrictions were localised or at state level. Moreover, there was no restriction on movement of goods vehicles and other services. As the industries and agricultural activities continued to operate, the truck traffic did not fall as steeply as it did in Q1 FY21.

1.13 There is also a behavioral shift of passengers towards personal mobility due to perceptions of safety and reduction of public transport services which we have been observed across the road network. This shift is expected to sustain and continue in the short term as such perception shifts for longer periods of time could result in more permanent changes in passenger choices. For example, once a family starts using a personal CJV for inter-urban travel to avoid public transport during the pandemic period over 1-2 years, it is likely that they continue using their personal vehicles even as the pandemic recedes. In our analysis around the short/medium-term impact of this pandemic, we have included assumptions around the above, as well as longer-term impacts of the pandemic.

Contents of this Report

1.14 The report has been divided into 6 chapters, including Chapter 1 providing an introduction:

- Chapter 2 describes the key characteristics of the Asset and its surrounding road network, primarily based on site visits;
- Chapter 0 summarises the current and historical traffic on the Asset, including results from the TMS, TVC and OD analysis;
- Chapter 4 discusses the socio-economic context of the corridor and region/state containing the Asset;
- Chapter 5 summarises our approach and results on estimating background traffic demand growth; and
- Chapter 6 summarises our key forecasting assumptions, assessment of network impacts, and presents our traffic and revenue forecasts for the Asset.

2 The Assets

Introduction

2.1 This chapter provides a description of the Assets, based on primary data (from site visits), our understanding of the region and network surrounding the Asset. We cover the strategic network context, followed by key economic activities and network developments around the Asset.

Asset Context

Agra – Etawah (AE)

2.2 Agra – Etawah is a part of the Golden Quadrilateral (GQ), that connects Delhi in the north to Kolkata in the east on the NH19 (Old NH2) corridor. The Golden Quadrilateral is the longest road project in India and the fifth-longest highway in the world, connecting four major cities: Delhi, Mumbai, Chennai, and Kolkata[1]. The Asset also connects large industrial and urban clusters of Kanpur and Lucknow to Delhi and Mathura.

2.3 The Asset is a 124.52 km six-lane road, forming part of the section between Agra and Etawah in Uttar Pradesh. The Asset has achieved PCOD in Aug-2016 and COD in Nov-2020, subsequently the toll rates have been increased to reflect the new alignment which has the Firozabad by-pass. There are 2 toll plazas on the asset and are located at:

- TP1 Tundla, TP2 Gurau

2.4 The Asset passes through the key cities of Agra, Firozabad, and Etawah in the state of Uttar Pradesh and key settlements en-route include Agra, Tundla, Firozabad, Shikohabad, Sirsaganj, and Jaswantnagar. The Asset traverses through heavy urban and semi urban settlements and large population centers.

2.5 Agra is home to the Taj Mahal[2], is a world UNESCO heritage site and one of the 7 wonders of the world, is a key tourism attractor. The Asset also caters to the demand generated by several major tourist attractions existing on ends of the Asset. Mathura, Fatehpur Sikri and other towns in the region are home to several historical monuments, places of worship and heritage sites.

2.6 This Asset primarily caters to three different types of strategic movements:

- **Short-distance trips** undertaken largely by passenger vehicles for work/business trips wherein the movement is predominantly local between the cities (Agra, Tundla, Firozabad, Etawah) and districts present along the Asset.
- **Medium-distance trips** undertaken largely by the zones along the Asset and towards Delhi NCR or Kanpur and Lucknow regions.

[1] https://www.livemint.com/Opinion/EePbspl9MAyct3cBcOxbQI/Build-it-and-they-will-come.html

[2] Taj Mahal, UNESCO, https://whc.unesco.org/en/list/252

- **Long-distance trips**, mainly by MAVs, catering to the long distance movement between Delhi including northern states (Punjab, Haryana, Rajasthan) and Lucknow and east.

Figure 2.1 Asset context: Agra - Etawah

Source: Steer cartography using OpenStreetMap data

2.7 Steer had conducted a site visit on Assets between 8th June 2021 and 10th June 2021 to oversee traffic surveys being conducted on the Assets and to get better understanding of Assets and their surrounding network. The figure below shows a typical cross-section of the Assets and its toll plazas as captured during site visits.

Figure 2.2: Typical cross-sections and toll plazas on the Assets

Source: Steer site visit

Hapur – Moradabad

2.8 Hapur – Moradabad, is part of the NH9 corridor that connects Delhi to Moradabad and lies on the strategic Delhi-Lucknow corridor. It is also part of the direct link between the northern states and east India and Nepal. It also connects Delhi to the state of Uttarakhand, which is a key tourism and industrial cluster in the country, and to Lucknow which further connects to NH27 for the east west movements.

2.9 The Asset is a 100-km six-lane highway currently under capacity expansion from 4 lanes to 6 lanes located in Uttar Pradesh. The Asset achieved PCOD on 01-June-2019 and is expected to achieve Full COD (full commercial operation date) by March-2022. There are two toll plazas on the asset these are:

- TP1 Brij Ghat, TP2 Joya

2.10 The section has one end in Moradabad which acts as a source and sink of traffic due to major industries in the city in the metal and export business. The west-end of the Asset, Hapur, has medium and small-scale industries in including papadum, paper, textiles, and steel tube production. Hapur is an important commercial centre for grains, jaggery, and potato etc

2.11 Apart from catering to the Agra – Lucknow corridor and the long-distance movement between the northern and eastern states, the Asset is a key route for the tourist movements towards Uttarakhand from Delhi and Western Uttar Pradesh which drives a significant part of the CJV traffic on the corridor. Religious places such as Brijghat and Garh Mukteshwar attract a lot of religious tourist traffic as well.

2.12 The Asset primarily caters to three different types of strategic movements:

- **Short-distance trips** undertaken largely by passenger vehicles for work/business trips wherein the movement is predominantly local between the cities and districts present along as well as nearby these sections.
- **Medium-distance trips** undertaken largely by the trips plying between the local zones and towards Delhi NCR regions or towards the business/religious centres of Uttarakhand.
- **Long-distance trips**, predominantly by MAVs, ply between Punjab/northern states, northern Delhi NCR and towards Uttarakhand, eastern states as well as Nepal.

Figure 2.3 Asset context: Hapur - Moradabad

Source: Steer cartography using OpenStreetMap data

2.13 Steer had conducted a site visit on Assets between 9th June 2021 and 11th June 2021 to oversee traffic surveys being conducted on the Assets and to get better understanding of Assets and their surrounding network. The figure below shows a typical cross-section of the Assets and its toll plazas as captured during site visits.

Figure 2.4: Typical cross-sections and toll plazas on the Assets

Source: Steer site visit

Strategic network

2.14 The Assets are located in the state of Uttar Pradesh and cater to the long-distance east-west movement as well as the medium-distance Delhi- Lucknow movement. The Agra-Etawah Asset facilitates the east-west movement primarily between the eastern states and southern parts of Delhi NCR and Rajasthan whereas the Hapur-Moradabad Asset facilitates the east-west movement primarily between the eastern states/Uttarakhand/ Nepal and Haryana/Punjab/ northern Rajasthan.

2.15 The Delhi-Lucknow corridor is an important traffic contributor on both the Assets. The corridor has a healthy mix of both industrial and agricultural activities along the corridor. Being in the plains of the delta created by river Ganga, the land along the corridor is highly fertile which supports significant agricultural activity. Industries like leather and textile are located Agra and Kanpur, Brass manufacturing in Moradabad, special economic zones based industrial development Rudrapur/Rampur area (in the state of Uttarakhand), and glass based manufacturing located in Firozabad as some of industrial settlements in the region. As a result, these Assets have a distinct industrial character with a large share of traffic movements being good vehicles serving many of these industries.

2.16 The figure below illustrates other alternate routes available to long-distance users while travelling between Delhi and Lucknow.

- AE Asset: Delhi-Faridabad-Agra-Kanpur-Lucknow via NH19 (NH2).
- HM Asset: Delhi-Moradabad-Bareilly-Sitapur-Lucknow via NH 24
- AR 1: Delhi-Ghaziabad-Aligarh-Kannauj-Lucknow via NH34.
- AR 2: Delhi-Agra (via Yamuna Expressway)-Lucknow (via Agra-Lucknow expressway)
- AR 3: via the upcoming Ganga Expressway

Figure 2.5: Asset location in the regional network context

Source: Steer cartography using OpenStreetMap data

2.17 As can be seen from the above map there are as of today four key corridors for movement between Delhi and Lucknow. The road, rail, and air network on these two nodes (Delhi and Lucknow) is well developed, as both Delhi and Uttar Pradesh (with Lucknow as state capital) are large population centres with dense settlements all along each of these corridors. These are in-turn supported by accompanies agriculture and industrial activity.

2.18 The movement on each of these corridors are well established since all these corridors have been in existence for quite a while now. The most recent developments have been on the two expressways which have been built. i.e., the Yamuna Expressway[3] (YE) and the Agra-Lucknow[4] (AL) expressway, these serve as direct connection between Delhi and Lucknow. YE was commissioned in 2012 and AL in Nov'2016. The NH34 section between Aligarh and Kanpur are undergoing expansion from 2 lanes to 4 lanes.

2.19 The NH19 corridor on which AE is located, supports the movement between the southern parts of Delhi, Faridabad, Mathura, to Kanpur and Lucknow. Beyond Lucknow the traffic heads to the eastern part of country all the way up to West Bengal and north eastern states. Some of

[3] http://yamunaexpresswayauthority.com/ewaysf.html

[4] http://upeida.up.gov.in/en/page/agra-lucknow-expressway

the traffic originating north of Delhi uses the eastern/Western Peripheral Expressway to access these locations. However, a large proportion of traffic originating from north of Delhi also appears on NH9 corridor.

2.20 The NH9 corridor on which HM is located, caters to the movement between Delhi to Moradabad, Uttarakhand, and Lucknow. Like NH19, traffic travelling beyond Lucknow (using NH530 and NH30), gets access to cities such as Gorakhpur, Faizabad, Basti (in UP) and north eastern states using the NH27. The traffic destined to Nepal also uses the Asset.

2.21 NH34 and YE-AL routes serve the captive traffic of the hinterland with the largest proportion of traffic between Delhi-Lucknow using the NH19 and NH9 corridors (a small proportion of long-distance movements do appear on NH34 and Expressway alternates). These two corridors mainly fulfil the demand of cities such as Ghaziabad, Aligarh, and Kanpur.

2.22 The following table summarises the key time (based on Google Map estimates for cars) and cost (toll) metrics for the abovementioned routes.

Table 2.1: Time, lane configuration on each route between Delhi and Lucknow

Route	Sub Route	Distance (Km)	No. of Lanes	Time (Car)*
AE: Asset Del- Agra – Lucknow	Del-Agra	217	6	4h 44 min
	Agra-Lucknow	354	4+6	6h 50 min
	Total	**571**		**11h 34 min**
HM Asset: Del--Moradabad- Bareilly - Sitapur-Lucknow	Del-Moradabad	169	4	3 h 44 min
	Moradabad-Bareilly	120	4	2h 10 mins
	Bareilly-Sitapur	164	4	3 h 18 min
	Sitapur-Lucknow	92	4	2 h 4 min
	Total	**545**		**11 h 16 min**
AR1: Del-Aligarh-Lucknow	Del-Aligarh	147	4	3 h 30 min
	Aligarh-Mainpuri	132	2	3 h 42 min
	Mainpuri-Kannauj	95	2	2 h 34 min
	Kannauj-Kanpur	84	2	2 h 23 min
	Kanpur-Lucknow	83	4	2 h 19 min
	Total	**541**		**14 h 28 min**
AR2: Del – Yamuna Expressway-Agra Lucknow Expressway – Lucknow	Del-Agra	207	6	2h 53 min
	Agra-Lucknow	327	6	4h 15 min
	Total	**534**		**7h 8 min**

Source: Steer analysis, *time estimates as per traffic based google projections and may vary for peak and non-peak hours

Concession and tolling details

2.23 Agra-Etawah achieved PCOD in August 2016 and FCOD in November 2020, whereas Hapur-Moradabad achieved PCOD in June 2019 and is expected to achieve FCOD by March 2022. Post upgradation, both the Assets will be six-laned roads with a total of four toll plazas (two toll plazas per Asset).

- AE: Tundla and Gurau

- HM: Brijghat and Joya

2.24 All the four plazas are mainline plazas, and all the sections operate on the system of open tolling where the toll rates are fixed irrespective of the distance travelled by the user. There are no through tickets issued by the toll plaza, therefore users of the toll plaza are expected to pay toll for the plaza which they are crossing. All toll plazas on the Assets have FASTag collection on all lanes for mandatory electronic tolling. The toll plazas also have Weigh in Motion (WIM) on all lanes and one Static Weigh Bridges (SWB) for each plaza to keep check on overloading on the Assets.

2.25 The road users having valid FASTag installed on their respective vehicles approach the FASTag lanes where the installed RFID readers detect the tag and deduct toll charges equalling single trip or for Local/monthly pass/discounts wherever applicable. In case, the RFID reader is not able to detect the FASTag, handheld devices are used to read the vehicle's tag. Further, in cases where FASTag is blacklisted or not working, the user can only buy single cash ticket and are charged twice the single trip fare. The users crossing toll plaza twice within 24 hours automatically get return discount.

2.26 Like the other National Highway plazas, the Assets have Single, Return, Local Commercial, Local Personal, Monthly and Local Monthly tickets. Single toll rates and categories on each of the toll plaza are presented in the table below.

Table 2.2: Summary of concession

	Particulars
State	Uttar Pradesh
Highway and lane configuration	Agra – Etawah: NH2/NH19 Hapur – Moradabad: NH9
Toll plazas	• Tundla at KM 224+950 (Agra - Etawah) • Gurau at KM 285+200 (Agra - Etawah) • Brijghat at KM 90+661 (Hapur – Moradabad) • Joya at KM 123+875 (Hapur – Moradabad)
Tollable Length (km) as per concession agreement, applicable	• Tundla: 42.816 km • Gurau: 78.950 km • Brijghat: 48.558 km • Joya: 44.046 km
Commencement of operations*	• Agra - Etawah: PCOD/FCOD: 1st Aug'16/31st Oct'20 • Hapur - Moradabad: PCOD/FCOD: 1st June'19/31st Mar'22
Operated by Client since	• Agra – Etawah - June 2019 • Hapur – Moradabad – August 2016
Concession period	• Agra – Etawah – 30 years • Hapur – Moradabad – 22 years
Last year of concession	• Agra – Etawah – FY46 • Hapur – Moradabad – FY22

Source: Client data

2.27 Tolls are collected for the toll categories and rates as shown in the following table. The toll plazas have dedicated ETC/FASTag lanes for electronic tolling.

Table 2.3: Single toll rates on the Asset (INR), applicable April 2021 to March 2022

Type of Vehicle	Tundla	Gurau	Brijghat*	Joya*
CJV	90	100	55	70
LCV	145	160	90	110
Bus/Truck	305	330	195	230
3A	335	360	210	250
MAV/ HCM/EME	480	520	305	360
OSV	585	630	370	440

Source: NHAI Revision of User fee Rate w.e.f 01.04.2021 (*HM operating at 75% toll rates till end of FY22)

Key economic activities

Agra Etawah

Industrial Influence

2.28 Agra – Etawah (AE) is located on National Highway 19 (NH2). NH2 runs over 1,465 kms and connects some of the major states of Delhi, Haryana, Uttar Pradesh with the eastern states of Bihar, Jharkhand and West Bengal. This highway also connects the capital, Delhi with cities like, Mathura, Agra, Kanpur, Allahabad, Durgapur and later stretches to connect to Kolkata, all these cities have major industrial centres.

2.29 In vicinity of AE section, Firozabad is the key industrial center known for its glass related manufacturing. The Agra-Lucknow corridor is a traditionally industrial one with industries like leather and textile located in Agra as well as Kanpur.

2.30 Agra also has several medium and small-scale industries and is one of the prime centers of the handloom, plastic pallets and automotive spares, in addition to being a key tourist destination because of the Taj Mahal. Numerous major tourist attractions also exist on ends of the Agra – Etawah section. Agra, Mathura, Fatehpur Sikri and other towns in the region are home to several historical monuments, places of worship and heritage sites.

2.31 Mathura is a popular tourist place because of its religious importance. There are several industries in Mathura such as chemical, manufacturing, production. It also has a refinery which is owned and operated by the state-run Indian Oil Corporation in Uttar Pradesh since 1982. IOCL has recently announced a future strategic plan to use the wind power generated electricity from Rajasthan to produce green hydrogen units in Mathura refinery.

2.32 Shikhohabad is situated in Firozabad district of Uttar Pradesh and lies between the two plazas of AE. The district has been generating major portion of their revenue through the glass industries, agriculture and handicraft products are the other two major revenue generators. Rice, maize, barley are the main crops cultivated here.

2.33 Etawah district's economy strives majorly on agro-based industries. Production of cotton yarn comes under the large-scale industries, there are multiple small scale production units for flour, rice, plastic products textile and leather products. Around 49 units of chemical industries producing, ayurvedic medicines, detergents, chalks are also present in this district.

Tourism Influence

2.34 Several major tourist attractions exist in and around the Asset, with both Delhi and Agra being two of the three nodes part of the Golden Triangle (Delhi, Agra, Jaipur) – one of India's most popular tourist packages for international tourists. Delhi, Agra, Fatehpur Sikri and other towns in the region are home to several historical monuments and heritage sites, including the famed Taj Mahal (Agra).

2.35 Religious tourism and pilgrimage sites include Surajkund, Badkhal Lake, ISKON temple (all in and around Central NCR), and Banke Bihari, and other major temples of Mathura and Vrindavan.

Hapur – Moradabad

Industrial Influence

2.36 In vicinity of the Hapur – Moradabad section, Moradabad is a major industrial city and export hub along the asset. Its handicrafts industry accounts for more than 40% of total handicraft exports from India. It is also known for brass manufacturing and exports. Hapur district is on the Ganges river and is in the state of Uttar Pradesh. It is known for the manufacturing centers of stainless steel, steel pipes, sewing machines, paper and wood products. It also has medium and small-scale industries in including papadum, paper, textiles and steel tube production. Hapur is an important commercial center for grains, jaggery, and potato etc.

2.37 State of Uttarakhand is also a key industrial area served by the HM Asset. Rudrapur industrial area setup under the special economic zones scheme has attracted several pharma and automobile industries to the region. Formation of SIDCUL (State Infrastructure and Industrial Development Corporation of Uttarakhand Limited) has propelled the town into the forefront of industrial activity and has attracted companies[5].

2.38 Apart from industrial influence of the Uttarakhand region, agricultural is a key component of economic activity in the region, as the Asset lies in the ganga plains with sugarcane, wheat and rice as the major crops grown in the area. During the site visit, it was observed that there are several agri-processing industries which are in the vicinity of the Asset including sugar mills, vegetable oil mills and other associated food-produce processing industries.

2.39 Local industrial belts of Gajraula and Amroha also contribute to the MAV traffic on the road.

Tourism Influence

2.40 Hill stations of Nainital, Ranikhet, Mukteshwar among others are famous tourist destinations for residents of west UP and Delhi, and HM provides key access to these hill stations, thereby aiding the passenger traffic on the Asset.

[5] Industries in Rudrapur, http://vbeltworld.com/RudrapurIndustries.jsp

3 Traffic description

Introduction

3.1 This chapter outlines the current traffic and revenues on the Asset, as well as our analysis of origin-destination (OD) data and traffic count data. This covers data which was collected as a part of this study and previous studies, as well as data provided by the Client.

3.2 Traffic demand data is generally collected and analysed to understand the volume and vehicle composition of demand currently using the Asset, while OD data is used to obtain a better understanding of travel patterns, trip lengths, trip purposes and areas of influence in the vicinity of the Asset, as well as the commodities being moved by goods vehicles. This analysis, combined with our understanding of the Asset (based on our site visits), enables us to identify the key drivers of demand on the Asset.

3.3 Actual toll plaza data is used as the basis from which the current/base year annual average daily traffic (AADT) is established. This data is typically provided by the Client and independently analysed and validated by us using traffic volume count (TVC) information.

Historical trends

Agra – Etawah (AE)

3.4 The following figures indicate the historical variation in traffic volume at each of the toll plazas, in terms of vehicle shares and total AADT.

3.5 The Asset had achieved Commercial Operation Date (COD) in November 2020 and the toll rates have been increased. Earlier the Asset was operating at 75% tolling during the construction period.

3.6 The Asset was under upgradation from four to six lanes between FY18 and FY20. During this period there were blockages and diversions along the route which had resulted in longer travel times on the asset. The traffic grew significantly after construction completion in FY20. Opening of Firozabad bypass further reduced travel times on the Asset and aided traffic movement. This resulted in traffic in FY21 growing significantly despite Covid19.

Table 3.1: Historical evolution in AADT by vehicle class: AE - Gurau

Vehicle Class	FY17	FY18	FY19	FY20	FY21	CAGR FY17-20	CAGR FY20-21	CAGR FY17-21
CJV	2,675	2,006	2,393	2,478	3,304	(2.5%)	33.3%	5.4%
LCV	1,290	1,357	1,288	1,148	1,190	(3.8%)	3.6%	(2.0%)
Bus	443	674	638	497	476	3.9%	(4.3%)	1.8%
2A	605	725	713	912	1,083	14.6%	18.7%	15.6%
3A	1,340	1,234	1,049	931	981	(11.4%)	5.3%	(7.5%)
MAV	1,836	1,971	1,580	1,449	1,960	(7.6%)	35.2%	1.6%

Vehicle Class	FY17	FY18	FY19	FY20	FY21	CAGR FY17-20	CAGR FY20-21	CAGR FY17-21
OSV	4	4	5	7	8	18.3%	10.9%	16.4%
Total	**8,195**	**7,969**	**7,666**	**7,424**	**9,001**	**(3.2%)**	**21.3%**	**2.4%**
PCU	**20,060**	**20,824**	**18,656**	**17,778**	**21,564**	**(3.9%)**	**21.3%**	**1.8%**

Source: Steer analysis of the Client data

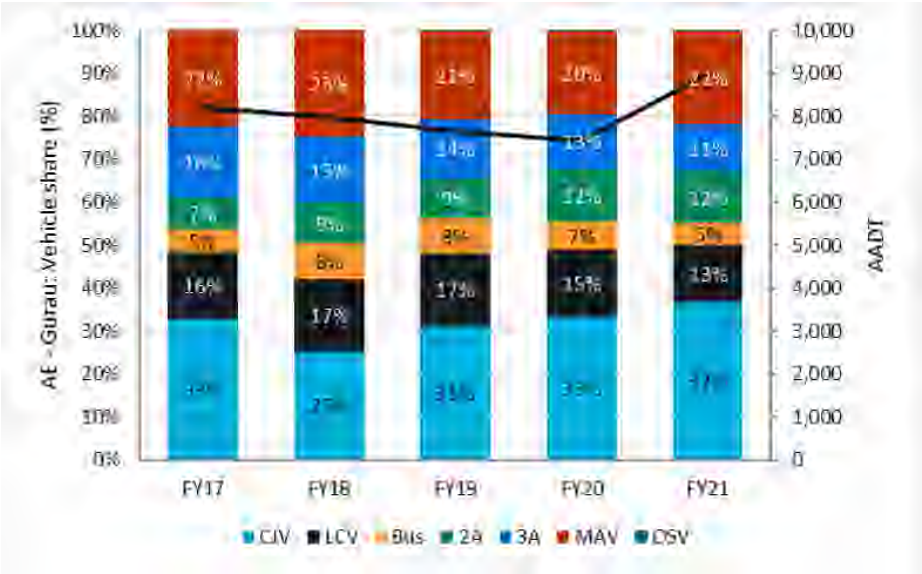
3.7 Gurau toll plaza, being in close vicinity of the urban centre of Etawah, is dominated by CJVs which make up ~30% share of the total traffic. The category observed a negative CAGR of 2.5% from FY17-20 as the Asset was under construction. This was followed by a considerable increase in traffic numbers in the pandemic affected year of FY21 with an increase of 33%. This increase showcases the captive nature of the corridor as well as its healthy growth potential in the future. Overall, the Asset witnessed a PCU growth of 2% over the FY17-21 period mainly driven by the ramp up in traffic observed post construction completion.

3.8 Due to Covid19 the bus networks have still not come back to pre-Covid19 levels, once the impact of Covid19 related restrictions reduce it is expected that the Bus volumes will return to the levels seen in FY19 and more.

3.9 The LCV- 2A category has historically been affected by classification issues because of similar size and look of the vehicle. In the recent years the preference of 2A trucks is increasing as well. This has resulted in the recent years for traffic numbers to show more 2A's than LCV. That is why the 2A category has grown to the order of 16%, whereas LCV's have seen 2% drop.

3.10 Serving the strategic movement of Agra – Lucknow, the Asset caters to local as well as state-centric industrial demands. 3A/MAVs volumes are trending closer to the FY18 volumes in FY21 after a drop observed during the construction period. most of this ramp up has been observed post upgradation of the Asset as well as opening of Firozabad bypass, in a year was affected by Covid19 related curbs and lockdowns. 3As saw a slightly slower growth in traffic levels in FY21 as compared to MAVs which can be attributed to the shift towards MAVs over the years.

Figure 3.1 Vehicle share (%): AE - Gurau



Source: Steer analysis of the Client data

Table 3.2: Historical evolution in AADT by vehicle class: AE - Tundla

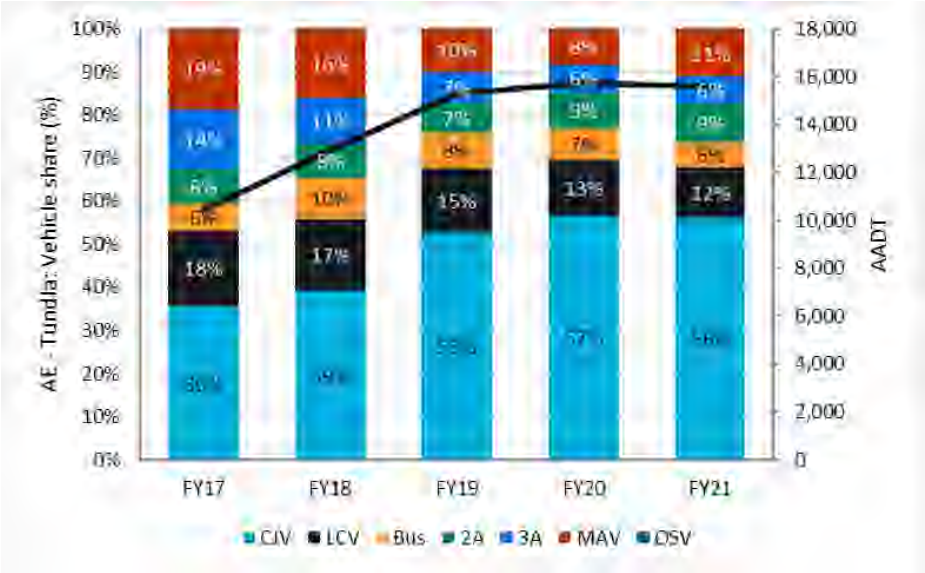
Vehicle Class	FY17	FY18	FY19	FY20	FY21	CAGR FY17-20	CAGR FY20-21	CAGR FY17-21
CJV	3,707	5,082	8,084	8,939	8,751	34.1%	(2.1%)	24.0%
LCV	1,842	2,154	2,287	2,029	1,840	3.3%	(9.3%)	(0.0%)
Bus	648	1,235	1,262	1,155	865	21.2%	(25.1%)	7.5%
2A	837	1,018	1,033	1,342	1,425	17.0%	6.2%	14.2%
3A	1,454	1,385	1,133	994	977	(11.9%)	(1.7%)	(9.5%)
MAV	1,935	2,068	1,518	1,277	1,713	(13.0%)	34.2%	(3.0%)
OSV	3	1	3	7	8	36.1%	14.5%	30.3%
Total	**10,426**	**12,943**	**15,320**	**15,742**	**15,579**	**14.7%**	**(1.0%)**	**10.6%**
PCU	**24,009**	**28,538**	**28,643**	**28,231**	**29,054**	**5.5%**	**2.9%**	**4.9%**

Source: Steer analysis of the Client data

3.11 Agra, the west end of the Asset, being a major generator and attractor of traffic, benefits the Tundla toll plaza as it observes the higher traffic volumes than Gurau with total PCU levels reaching close to 30,000 PCUs in FY21.

3.12 Tundla plaza, apart from catering to the traffic coming from the east and plying on the Asset, also caters to the CJV movement from Etah and Mainpuri which enters the Asset at Tundla, bypassing Gurau, in order to reach Agra. The urban and touristic nature of Agra is the reason behind the increase in CJV traffic on Tundla as it grew at a CAGR of 24%. CJV traffic decreased in FY21 on Tundla which was due to Covid19 related restrictions on tourism activity in Agra. The same is true for buses as well as the category grew from FY17-19 with simultaneous decrease in FY20-21. The toll plaza has witnessed a 5% PCU CAGR mainly driven by the growth in CJV's over that period.

Figure 3.2 Vehicle share (%): AE - Tundla



Source: Steer analysis of the Client data

3.13 Apart from connecting the Agra – Lucknow traffic, Tundla plaza become a key point in connecting the industries in Firozabad/Shikhohabad to Delhi NCR, Rajasthan, and Haryana. 2As truck volume grew from FY17-21 with the industries along the Asset as well as in its vicinity. Similar to Gurau plaza, 3A-MAV traffic has witnessed a rebound in FY21, post construction completion of the Asset, despite Covid19 related disruptions observed in Q1 and Q2 of FY21

3.14 The table below show the category-wise reported revenue for the Asset from FY17. In terms of revenue, in FY20, 32% of asset's revenue was generated from the heavy truck traffic followed by CJVs. This shows that the largest drivers in demand along the corridor are CJVs and MAVs and growth in these classes will drive future revenue growth.

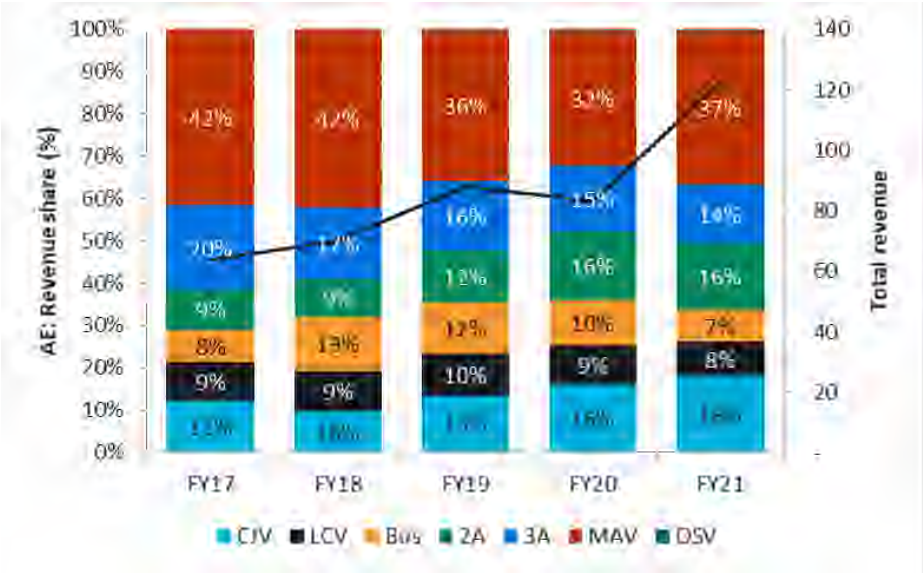
Table 3.3: Historical revenue evolution by class (in INR crores): AE

Vehicle Class	FY17	FY18	FY19	FY20	FY21	CAGR FY17-20
CJV	7.7	6.9	11.7	13.4	22.1	20.2%
LCV	5.9	6.5	8.9	7.8	10.1	9.6%
Bus	4.8	9.1	10.5	8.7	9.1	21.8%
2A	6.0	6.2	10.7	13.7	19.5	31.9%
3A	12.7	11.9	14.5	12.8	16.9	0.3%
MAV	26.4	29.5	31.5	26.8	44.9	0.5%
OSV	0.1	0.0	0.1	0.2	0.2	45.4%
Total	**63.6**	**70.2**	**88.0**	**83.4**	**122.8**	**9.5%**

Source: Steer analysis of the Client data

3.15 FY21 observed a stark increase in revenue levels even when the traffic patterns were affected by Covid19 related lockdowns and restrictions. This growth was due to the increase in tolls in FY21 as the Asset had achieved FCOD and was permitted to operate with 100% tolling. During construction, the Asset was operating with 75% tolling.

Figure 3.3 Revenue share (%): AE



Source: Steer analysis of the Client data

Hapur – Moradabad (HM)

3.16 The HM Asset forms part of the Delhi-Lucknow movement. It is also part of the direct link between north and east India and Nepal. The Asset achieved Partial Commercial Operation Date (PCOD) on 01st June 2019 and is expected to achieve Commercial Operation Date (COD) by March 2022.

3.17 The Asset is relatively newer as the operations started in May 2019. The first full year of tolling is FY21, which was impacted by the Covid19 related lockdowns, therefore the growth trends presented in the table below might not be an actual representation of the historical traffic growth on the Asset.

Table 3.4: Historical evolution in AADT by vehicle class: HM - Brijghat

Vehicle Class	FY20	FY21	CAGR FY20-21
CJV	15,968	17,858	11.8%
LCV	3,656	3,299	(9.8%)
Bus	2,010	1,666	(17.1%)
2A	1,293	1,429	10.5%
3A	1,324	1,160	(12.4%)
MAV	1,755	1,718	(2.1%)
OSV	2	3	42.1%
Total	**26,008**	**27,131**	**4.3%**
PCU	**43,239**	**43,309**	**0.2%**

Source: Steer analysis of the Client data

3.18 Brijghat toll plaza caters to short distance Simbhaoli, Delhi-Moradabad movements in addition catering to the religious significance of Brijghat itself. The plaza observed a healthy traffic growth of 4.3% from FY20-21 which was majorly driven by growth in CJVs as the category grew at a CAGR of 11.8%. The plaza saw a healthy increase in CJVs as it caters to the demands of the urban centre of Hapur. Moreover, the plaza also caters to the tourism traffic of Delhi NCR, Haryana, Rajasthan travelling to the religious centre of Garh Mukteshwar, a place of holy importance in the Hindu mythology. Additionally, the Asset becomes a vital key for the tourism traffic travelling to hills of Uttarakhand from Delhi NCR.

3.19 The recent commissioning of Delhi-Meerut expressway (NH9) has resulted in significant improvement of level of service on the corridor between Delhi and Hapur which is also resulting in positive impact on traffic on this Asset. This asset has over 2,000 buses at Brijghat and 1,600 buses at Joya toll plaza serving the densely populated region of western Uttar Pradesh and connecting it to Delhi NCR. Buses saw a decline in FY21 in comparison to FY20 owing to Covid19 restrictions.

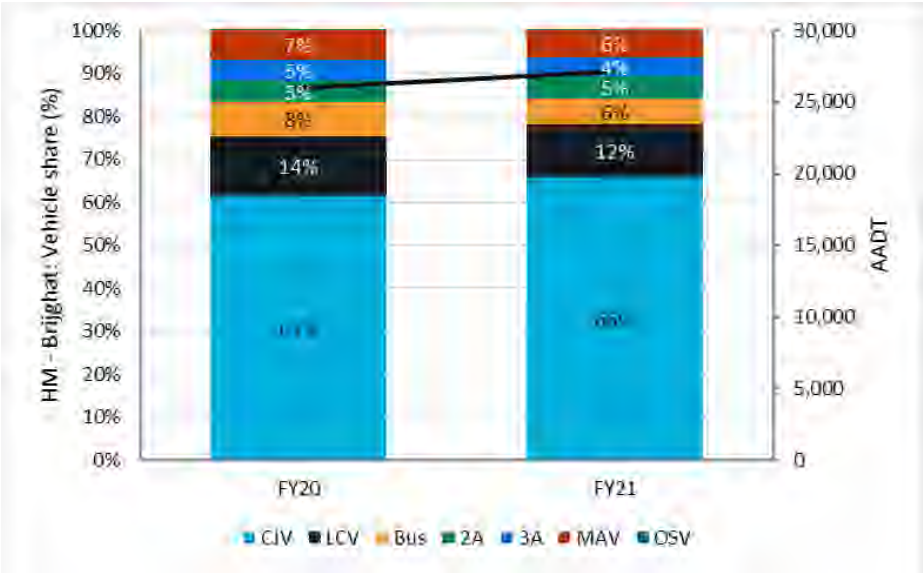
3.20 The decline in LCV shares and a subsequent increase in 2As can be attributed to the vehicle reclassification with FASTag implementation. The increase in 2As is also supported by the growth of local industries in Moradabad, Gajraula, and Amroha.

3.21 3A MAV traffic volumes are trending at around 2900-3000 levels in FY21, which were 6% lower than observed in FY20, however since construction is still ongoing on the Asset, it is expected that the volumes will pick up from FY21 levels. The plaza observes higher 3A/MAVs as compared to Joya because of the presence of industrial belt in Gajraula and Amroha districts.

Moreover, a portion of 3A/MAVs gets diverted on SH51 towards Sambhal and Chandausi and hence, only appear at Brijghat plaza of the Asset.

3.22 Overall, despite Covid19 related restrictions, construction on the Asset and reduced tourism activity on the toll plaza has maintained a flat PCU profile growing by 0.2% in FY21, thereby showing robust performance in FY21.

Figure 3.4 Vehicle share (%): HM - Brijghat



Source: Steer analysis of the Client data

3.23 The following tables and figures indicate the historical variation in traffic volume at HM - Joya toll plaza, in terms of vehicle shares and total AADT and PCU.

Table 3.5: Historical evolution in AADT by vehicle class: HM - Joya

Vehicle Class	FY20	FY21	CAGR FY20-21
CJV	10,682	11,917	11.6%
LCV	2,488	2,385	(4.1%)
Bus	1,466	1,379	(5.9%)
2A	1,019	1,093	7.3%
3A	1,148	1,117	(2.7%)
MAV	1,379	1,439	4.4%
OSV	2	5	174.4%
Total	**18,183**	**19,333**	**6.3%**
PCU	**31,522**	**32,754**	**3.9%**

Source: Steer analysis of the Client data

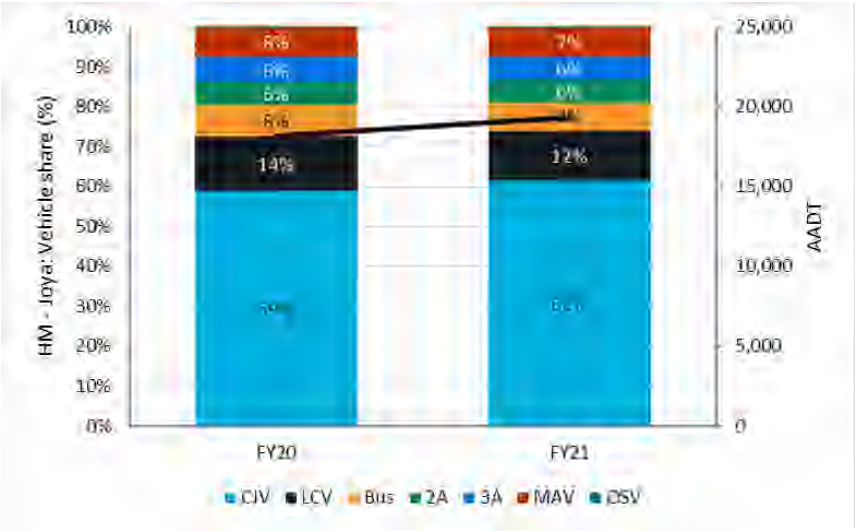
3.24 Joya plaza observed a healthy traffic growth of 6.3% from FY20-21 which was majorly driven by growth in CJVs as the category grew at a CAGR of 11.6%. The plaza saw a healthy increase in CJVs as the it caters to the demands of the urban centre of Moradabad. Moreover, the Asset becomes a vital key for the traffic travelling to hills of Uttarakhand from Delhi NCR.

3.25 The decline in LCV shares and a subsequent increase in 2As can be attributed to the vehicle reclassification with FASTag implementation. The increase in 2As is also supported by the growth of local industries in Moradabad, Gajraula, and Amroha.

3.26 Buses saw a decline in FY21 in comparison to FY20 owing to Covid19 induced lockdowns. Due to Covid19, the bus networks have still not come back to pre-Covid19 levels and hence, the category shows negative growth. The decrease can also be attributed to the behavioural shift of traffic towards personal mobility due to Covid19 related safety concerns.

3.27 3A MAV traffic volumes are trending at around 2500-2600 levels in FY21, similar to volumes observed in FY20, however since construction is still ongoing on the Asset, it is expected that the volumes will pick up from FY21 levels. MAVs grew at a positive CAGR of 4.4% from FY20-21 as the export hub of Moradabad grew over the years. The plaza observes lesser 3A/MAVs than Brijghat as a small portion of 3A/MAVs gets diverted on SH51 towards Sambhal and Chandausi and also serve the local industries in Amroha and Gajraula, and hence only appears at Brijghat plaza of the Asset.

Figure 3.5 Vehicle share (%): HM - Joya



Source: Steer analysis of the Client data

3.28 The table below show the category-wise reported revenue for the Asset from FY20. In terms of revenue, in FY20, 34% of asset's revenue was generated from the heavy truck traffic followed by CJVs. This shows that the largest drivers in demand along the corridor are CJVs and MAVs and growth in these classes will drive future revenue growth. As discussed earlier, the Asset is currently under construction and operating at 75% of FY20 toll rates. Once the construction finishes by March 2022, the toll rates will be revised, resulting in higher revenue realisation from the trips on the corridor.

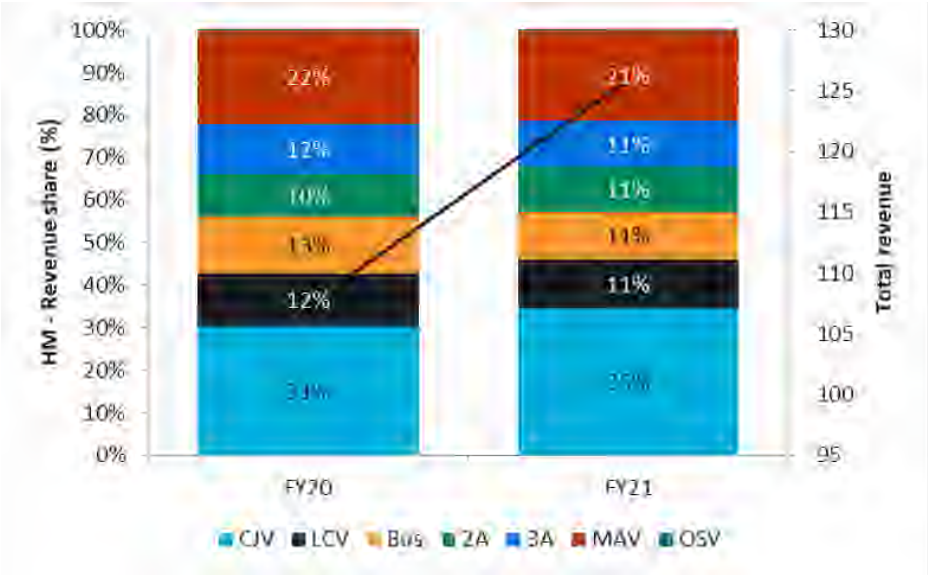
Table 3.6: Historical evolution in revenue by vehicle class (INR crores): HM

Vehicle Class	FY20	FY21	CAGR FY20-21
CJV	33	44	32.9%
LCV	13	14	9.3%
Bus	14	14	(0.3%)
2A	11	13	23.8%

Vehicle Class	FY20	FY21	CAGR FY20-21
3A	13	13	4.9%
MAV	24	27	14.1%
OSV	0	0	90.8%
Total	**107**	**126**	**17.3%**

Source: Steer analysis of the Client data

Figure 3.6 Revenue shares (%): HM



Source: Steer analysis of the Client data

Impact of Covid19 on traffic and subsequent recovery of traffic volumes

3.29 On 24th March 2020, the Central government announced a nationwide 25-days lockdown which was extended for another three weeks until May 3. As previously mentioned, all toll operations were suspended from 26th March – 19th April 2020. Further extensions until May 17 and again until May 31 featured relaxations in 'green' and 'orange' zones. Starting 8 June 2020, 'Unlock' phases began. States have also taken their own measures, with Central guidelines being the minimum expected restrictions from States.

3.30 In direct relation to these 'Lockdown' and 'Unlock' phases, traffic on roads across the country dropped significantly in the last week of March 2020 continuing into April and May 2020. While traffic for MAVs had a quick recovery in June back to FY20 AADT levels, the other vehicle classes have seen longer recovery trends. However, as we can see Q3 and Q4FY21 levels have been higher as compared to FY20, a pattern that has been witnessed on other Assets as well. The onset of the second wave of Covid19 infections has impacted traffic in April and May 2021 as compared to FY21N. Where CJV's have seen larger impacts as compared to 3A+ MAV traffic.

Agra - Etawah

3.31 Traffic profile for AE – Gurau is as summarized in the table below:

Table 3.7: Traffic evolution during FY20, FY21 – AE Gurau

	FY20	Q1FY21	Q2FY21	Q3FY21	Q4FY21	FY21	Apr-21	May-21
CJV	2,478	2,217	3,028	3,846	3,578	3,304	4,316	3,337
LCV	1,148	944	1,282	1,444	920	1,187	787	578
Bus	497	223	492	583	509	476	453	316
2A	912	575	1,026	1,275	1,302	1,088	1,194	848
3A	931	728	867	1,114	1,116	984	931	684
MAV	1,449	1,606	1,665	2,267	2,184	1,971	2,135	1,833
Total	**7,417**	**6,292**	**8,361**	**10,529**	**9,609**	**9,010**	**9,816**	**7,597**
PCU	**17,745**	**15,436**	**19,600**	**25,129**	**23,568**	**21,598**	**22,838**	**17,998**

Source: Steer Analysis

3.32 As we see from the table above, by Q2FY21, the Asset exceeded the FY20 PCU levels. FY21 being impacted by Covid19 related restriction in Q1FY21, even then the full FY21 is trending higher than FY20 levels. This can be attributed to the improved level of service provided by completion of construction on the Asset The impact of second wave of Covid19 is evident in specifically May 2021, specifically for passenger vehicles such as CJVs and buses.

3.33 Traffic profile of AE - Tundla is as discussed below:

Table 3.8: Traffic evolution during FY20, FY21 – AE Tundla

	FY20	Q1FY21	Q2FY21	Q3FY21	Q4FY21	FY21	Apr-21	May-21
CJV	8,939	4,400	8,621	11,056	9,369	8,751	9,121	6,732
LCV	2,029	1,441	2,080	2,218	1,357	1,838	1,190	854
Bus	1,155	297	839	1,100	1,053	865	923	600
2A	1,342	785	1,391	1,676	1,652	1,432	1,529	1,066
3A	994	608	923	1,126	1,135	980	958	668
MAV	1,277	1,215	1,572	1,942	1,995	1,717	2,010	1,634
Total	15,735	8,746	15,425	19,119	16,561	15,583	15,731	11,554
PCU	28,199	17,100	28,270	34,831	31,904	29,067	30,181	22,369

Source: Steer Analysis

3.34 As we see from the table above, by Q2FY21, the Asset reached to the FY20 PCU levels, with the full FY21 being impacted by Covid19 related restriction in Q1FY21. The impact of second wave of Covid19 is evident in specifically May 2021 (where PCU count has decreased by almost 25%), specifically for passenger vehicles such as CJVs and buses and commercial goods such as 2A and 3A trucks.

3.35 The construction completion coupled with sustained economic recovery in Q3FY21 onwards have helped the Asset surpass FY20 traffic volumes. This performance is expected to continue in FY22 despite the impact of 2nd wave of Covid19 related restrictions.

Hapur - Moradabad

3.36 The traffic profile of HM - Brij Ghat is as discussed below:

Table 3.9: Traffic evolution during FY20, FY21 – HM Brijghat

	FY20	Q1FY21	Q2FY21	Q3FY21	Q4FY21	FY21	Apr-21	May-21
CJV	15,968	8,295	16,199	22,128	21,570	17,858	21,693	15,539
LCV	3,656	2,742	3,790	3,882	2,406	3,299	2,088	1,520
Bus	2,010	547	1,641	2,072	2,073	1,666	1,875	929
2A	1,293	957	1,343	1,598	1,649	1,429	1,534	1,147
3A	1,324	813	1,070	1,411	1,214	1,160	1,068	753
MAV	1,755	1,336	1,596	1,912	1,874	1,718	1,792	1,392
Total	26,006	14,691	25,639	33,003	30,786	27,128	30,050	21,280
PCU	43,231	25,374	41,228	51,799	48,419	43,297	46,320	32,571

Source: Steer Analysis

3.37 As we see from the table above, by Q2FY21, the Asset reached closer to the FY20 PCU levels, with the full FY21 being impacted by Covid19 related restriction in Q1FY21. The impact of second wave of Covid19 is evident in specifically May 2021 (where PCU count has decreased by almost 30%), specifically in passenger vehicles such as CJVs and buses.

3.38 The traffic profile of HM - Joya is as discussed below:

Table 3.10: Traffic evolution during FY20, FY21 – HM Joya

	FY20	Q1FY21	Q2FY21	Q3FY21	Q4FY21	FY21	Apr-21	May-21
CJV	10,682	5,796	10,912	14,503	14,297	11,917	13,267	8,713
LCV	2,488	2,076	2,853	2,699	1,641	2,385	1,422	1,013
Bus	1,466	480	1,365	1,727	1,669	1,379	1,524	731
2A	1,019	770	1,071	1,193	1,214	1,093	1,135	815
3A	1,148	808	1,023	1,335	1,183	1,117	1,047	734
MAV	1,379	1,106	1,343	1,593	1,584	1,439	1,479	1,142
Total	18,181	11,036	18,567	23,049	21,588	19,329	19,873	13,148
PCU	31,515	20,059	31,610	38,483	36,086	32,734	33,172	22,212

Source: Steer Analysis

3.39 Like the other toll plaza, by Q2FY21, the Asset reached to the FY20 PCU levels, with the full FY21 being impacted by Covid19 related restriction in Q1FY21. The impact of second wave of Covid19 is evident in specifically May 2021 (where PCU count has decreased by almost 30%), specifically in passenger vehicles such as CJVs and buses and commercial goods such as LCV and 3A trucks.

3.40 Overall the Asset has registered significant recovery in traffic levels in Q3 and Q4FY21 as compared to FY20. This performance is expected to continue in FY22 despite the impact of 2nd wave of Covid19 related restrictions.

Toll Frequencies

3.41 Toll frequency or segmentation is typically the share of each ticket category recorded for a particular vehicle type. Each vehicle category has different segmentation. As a part of historical analysis, we calculate the toll frequency for each vehicle category from the monthly data shared by the client. The most common ticket categories observed on a typical National Highway concession are: Single, Return, Monthly, Local and Exempt. Given the local nature of

traffic, some assets offer custom made local passes to attract the local commuters to opt for these category passes instead of evading toll. Brief description of different ticket-types is given in table below.

3.42 Understanding the toll frequency gives insights into the nature of traffic. CJVs generally have higher shares of return passes or monthly passes, while heavy trucks mostly have single tickets since they travel long distance. However, this varies from asset to asset or even toll plaza to toll plaza. The asset catering to short distance local traffic generally observes high share of return or other local monthly passes while the asset catering to strategic long-distance traffic generally observes high share of single ticket traffic.

3.43 The following are the types of tickets being sold at the plazas of the Asset.

Table 3.11: Typical ticket types sold at NHAI plazas

Category	Description
Single	Allows the vehicle to cross the toll plaza once
Return	Daily pass for crossing the toll plaza multiple times within 24 hours. Charged 1.5 times the single toll
Monthly	Monthly pass
Local Personal	Discounted monthly pass only for private cars of residents within 20km radius of toll plaza
Local Commercial	50% discount on single trips for commercial vehicles registered in the local district
Exemptions	Officially exempted vehicles like ambulance, police cars, key political personnel etc.

3.44 In addition to the above ticket categories, a special category pass of "Local Monthly" is also being sold on the Asset. This pass has been issued by the toll plazas individually and the toll plaza is deciding on the toll for such special passes.

FASTag implementation

3.45 Government of India has introduced (and more recently, mandated) Electronic Toll Collection (ETC) across National Highways in India, collected via "FASTag". The timeline of ETC implementation is presented in the following table.

Table 3.12: Timeline of national ETC implementation

Date	ETC Development
2014	FASTag system set up as a pilot on the Ahmedabad to Mumbai stretch of the Golden Quadrilateral, in November 2014 it was also implemented on the Delhi to Mumbai stretch of the Quadrilateral.
December 2019	FASTag is made mandatory on all National Highways with only one lane on either side keep as a Cash lane, cash users entering ETC lanes were charged double the toll.
February 2021	FASTag is made mandatory for all vehicles at every toll plaza in the country starting 15th Feb 2021

Source: NHAI.gov.in and Wikipedia

3.46 Generally, over the period the shares of single/return/monthly tickets tend to stabilise within 2-3 years of asset operations. Only in the cases where trip patterns are expected to change significantly due to urban expansion is where we expect these shares to change over the

period or due to some external events impacting the trip patterns. During the last one year, two key events impacted the traffic patterns throughout the country: Covid19 and FASTag implementation.

3.47 With the FASTag implementation in December 2019, it was ensured that only FASTag users benefited from discounted tickets such as return/monthly and cash users were only allowed to buy single tickets, thus leading to a drastic increase in single ticket users. However, with the increase in proportion in transaction via FASTag, it was observed that traffic patterns have begun to return to their initial segmentation.

Impact of FASTag implementation

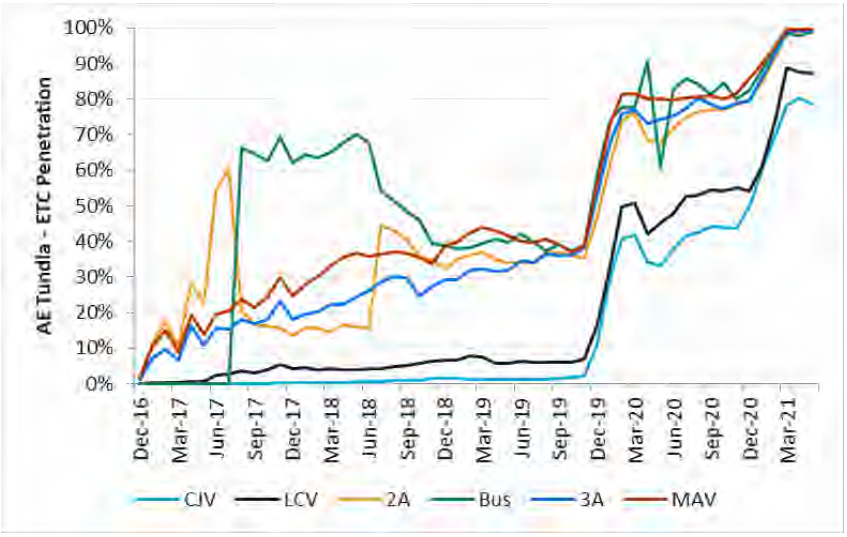
3.48 As discussed earlier, FY20-21 saw an increased use of FASTag. The increase FASTag ensured efficient tolling operations as well as increased compliance. By March 2021, FASTag penetration increased significantly across various vehicle types. The table below presents the reported percentage of transactions via FASTag.

Table 3.13: %age of Transactions via Fast Tag at each of the toll plaza, March 2021

Toll Plaza	CJV	LCV	2A	Bus	3A	MAV	OSV
AE - Gurau	84.0%	91.5%	99.2%	98.3%	99.3%	99.7%	95.8%
AE - Tundla	78.4%	88.7%	98.8%	98.5%	99.0%	99.5%	94.3%
HM - Brijghat	83.1%	82.0%	97.1%	98.0%	98.1%	98.5%	96.5%
HM - Joya	83.7%	83.7%	96.9%	98.4%	97.7%	98.8%	99.2%

Source: Steer Analysis

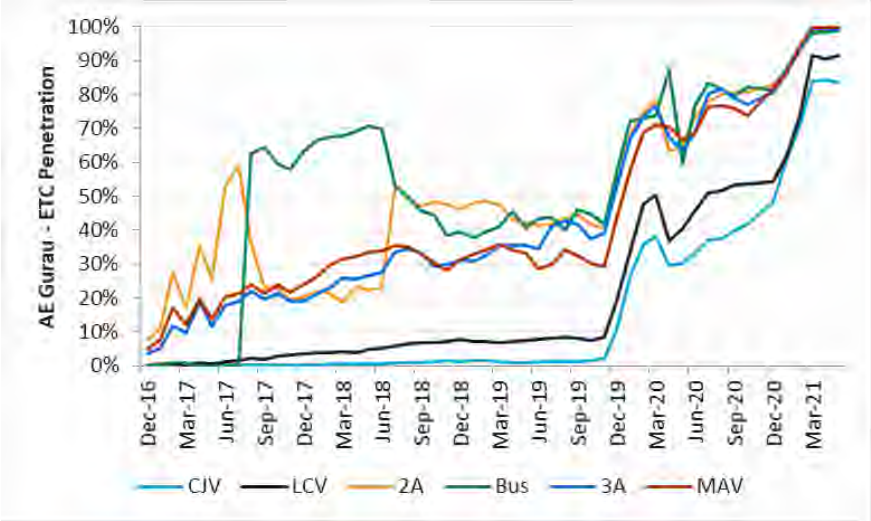
Figure 3.7 ETC penetration: AE - Tundla



Source: Steer analysis of the Client data

3.49 AE Tundla toll plaza caters to the traffic moving between Delhi, Lucknow and also feeds to long distance traffic apart from catering to the local demands. FASTag allows the users to have a seamless movement. This is the reason for the overall increase in FASTag transactions across all vehicle categories. It can be concluded that long-distance movement can be associated to have a direct and positive impact on ETC transactions.

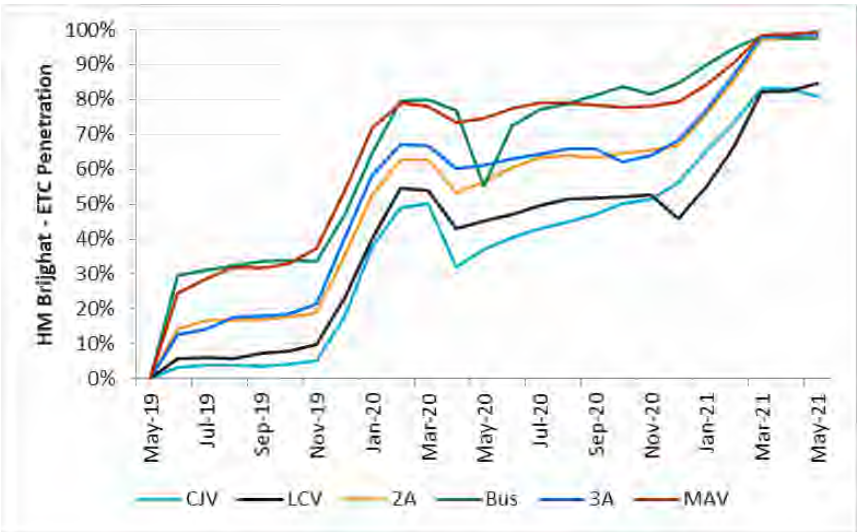
Figure 3.8 ETC penetration: AE - Gurau



Source: Steer analysis of the Client data

3.50 AE Tundla and AE Gurau toll plaza witness a similar trend in the ETC penetration as the nature of traffic is comparable on these toll plazas. Gurau also cater to long-distance traffic between the western states of Rajasthan, Punjab and Uttar Pradesh, Kolkata and subsequently other eastern regions. It has been noticed that trucks traveling long distances usually have higher ETC penetration levels as FASTag permits seamless and time-efficient movement.

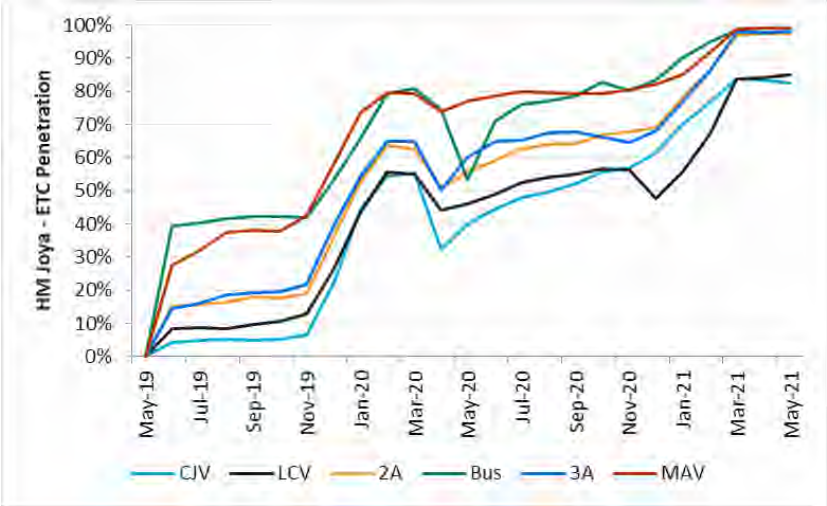
Figure 3.9 ETC penetration: HM - Brijghat



Source: Steer analysis of the Client data

3.51 Similar to AE toll plazas, HM also caters to the traffic moving between Delhi, Lucknow and also feeds to long distance traffic apart from catering to the local demands. FASTag allows the users to have a seamless movement. This is the reason for the overall increase in FASTag transactions across all vehicle categories. It can be concluded that long-distance movement can be associated to have a direct and positive impact on ETC transactions.

Figure 3.10 ETC penetration: HM - Joya



Source: Steer analysis of the Client data

3.52 CJVs and LCVs observed a dip in ETC shares of transaction in May 2021 across all the plazas. Since the Assets saw a drop in long-distance CJV/LCV traffic because of Covid19 related lockdowns and hence, mostly local traffic was plying on the Assets. Generally, the local movement results in multiple CJV/LCV trips though the plaza. To save on tolls, these CJV/LCVs do not have FASTag installed as they cross the plaza as exemptions. The same is the reason for high exemption shares in May 2021 across these plazas as discussed in the above sections.

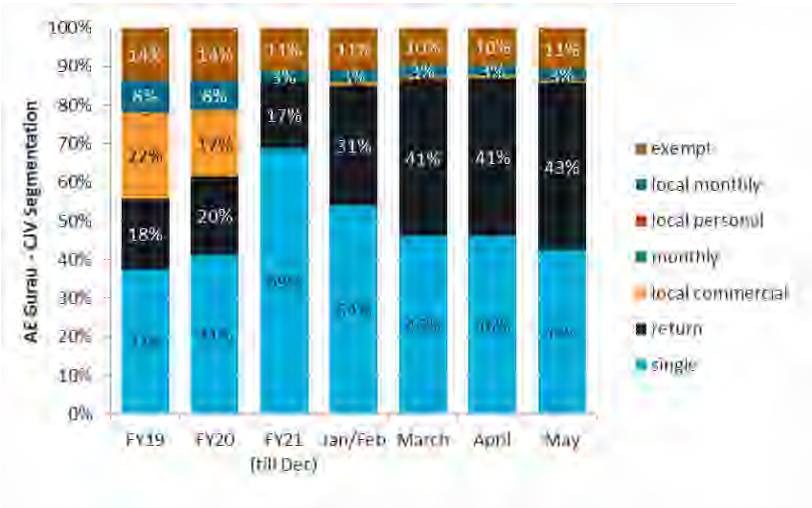
3.53 It is expected that as regional lockdowns are lifted and the travel curbs are relaxed, the long-distance movement traffic will once again appear at the Assets leading to better shares of ETC transaction levels and lowered exemptions.

Toll plaza wise evolution of Segmentation

Agra-Etawah

3.54 Following figures indicate the classification of the total toll tickets by ticket type i.e. single, return, local personal, local commercial, monthly and exempt for CJV and MAV vehicles.

Figure 3.11 CJV toll segmentation: AE - Gurau



Source: Steer analysis of the Client data

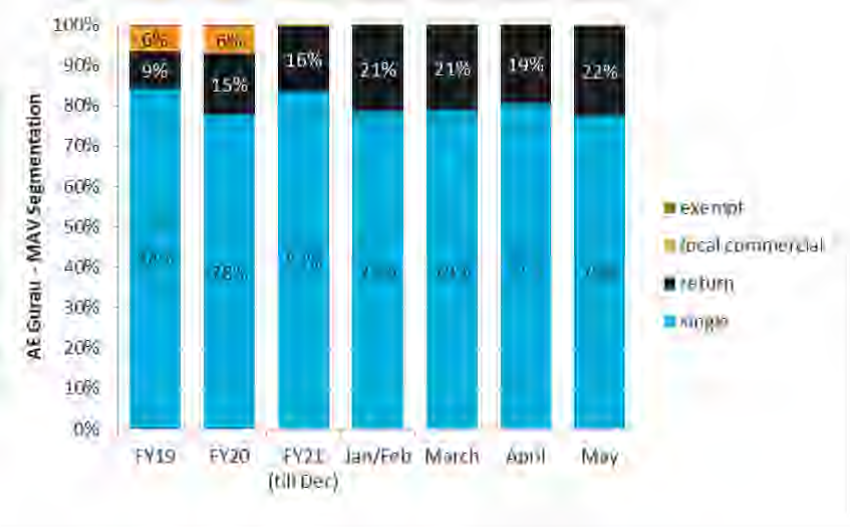
3.55 On AE Gurau, the single tickets increased from 37% in FY19 to 69% during FY21 while return shares decreased till March 2021. This shift can be attributed to gradual implementation of FASTag norms from 2019.

3.56 The CJVs have seen almost 10% traffic contributing to exemptions. These levels are well within acceptable ranges for CJV's since they are very close to large urban centres, and local users do result in exemptions and non-toll paying users.

3.57 MAVs are observed to have high share of single tickets which is aligned to observation of MAVs doing medium to long distance trips on the asset. The level of exemptions reported in MAVs is negligible. Similar to CJVs, the share of local commercial tickets decreased after FY20 as the share of FASTag amongst users was relatively lower on the Asset.

3.58 The increase of 7% in Return tickets from FY21 to May 2021 is due to implementation of FASTag over the years, allowing trucks to avail return-journey discounts.

Figure 3.12 MAV toll segmentation: AE - Gurau

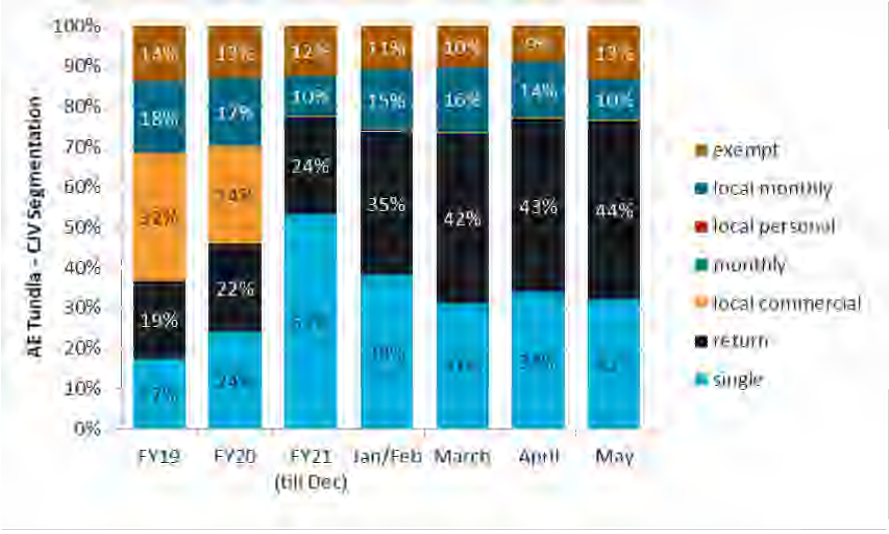


Source: Steer analysis of the Client data

3.59 On AE Tundla, the single tickets increased from 17% in FY19 to 53% during FY21 while return shares decreased till February 2021. This shift can be attributed to gradual implementation of FASTag norms from 2019. After FASTag was mandated in December 2019, the share of local commercial tickets decreased after FY20 the share of FASTag amongst users was relatively lower on the Asset.

3.60 The CJVs have seen almost 10-12% traffic contributing to exemptions. These levels are well within acceptable ranges for CJV's since they are very close to large urban centres, and local users do result in exemptions and non-toll paying users.

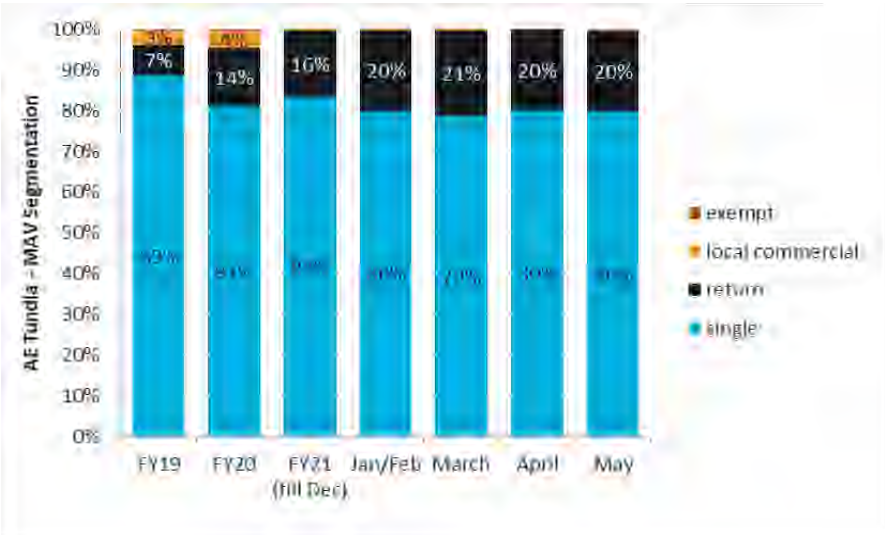
Figure 3.13 CJV toll segmentation: AE - Tundla



Source: Steer analysis of the Client data

3.61 CJV exemptions grew from to 13% in May 2021 which can be attributed to the fact that the Asset saw a drop in long-distance traffic because of Covid19 related lockdowns as well as state border restriction in Uttar Pradesh and hence, mostly local traffic was plying on the Asset. Hence, the increase in level of exemptions is influenced by local factors and got increased with increase in the share of local traffic on the Asset. However, it is expected once these restrictions are removed, the traffic patterns are expected to stabilise back to March 2021 levels.

Figure 3.14 MAV toll segmentation: AE - Tundla



Source: Steer analysis of the Client data

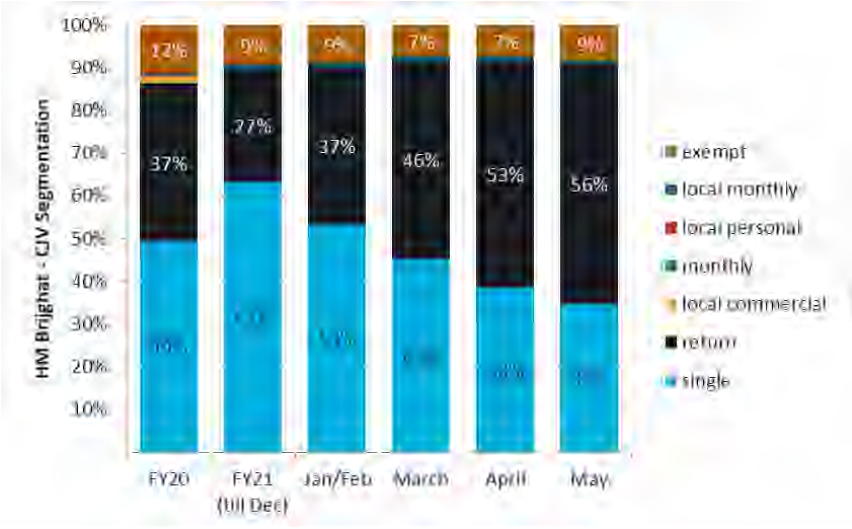
3.62 MAVs are observed to have high share of single tickets which is aligned to observation of MAVs doing medium to long distance trips on the asset. The level of exemptions reported in MAVs is negligible. Similar to CJVs, the share of local commercial tickets decreased after FY20 as the share of FASTag amongst users was relatively lower on the Asset.

3.63 The increase of 6% in Return tickets from FY21 to May 2021 is due to implementation of FASTag over the years, allowing trucks to avail return-journey discounts.

Hapur - Moradabad

3.64 CJV and MAV segmentation for HM Asset is presented below:

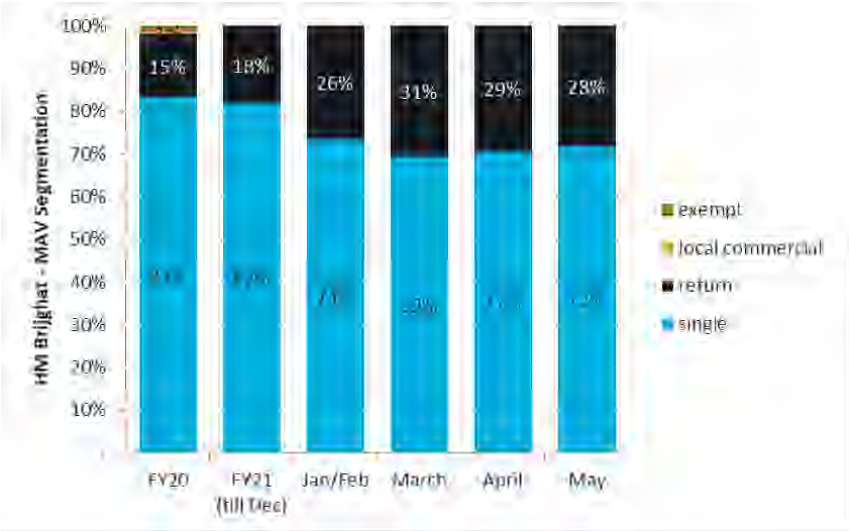
Figure 3.15 CJV toll segmentation: HM - Brijghat



Source: Steer analysis of the Client data

3.65 Like plazas on AE, on HM Brijghat, the single tickets increased from 49% in FY20 to 63% during FY21 while return shares decreased till February 2021. This shift can be attributed to gradual implementation of FASTag norms from 2019. As FASTag implementation was mandated on 15th Feb 2021, the CJV vehicles (who did not have access to FASTag) had no other option than buying single tickets to use the Asset. However, by March FY21 onwards single trips have deceased with corresponding increase in return trips with increase FASTag compliance. The CJVs have seen almost 9% traffic contributing to exemptions. which is well within acceptable limits for semi-urban/urban corridors

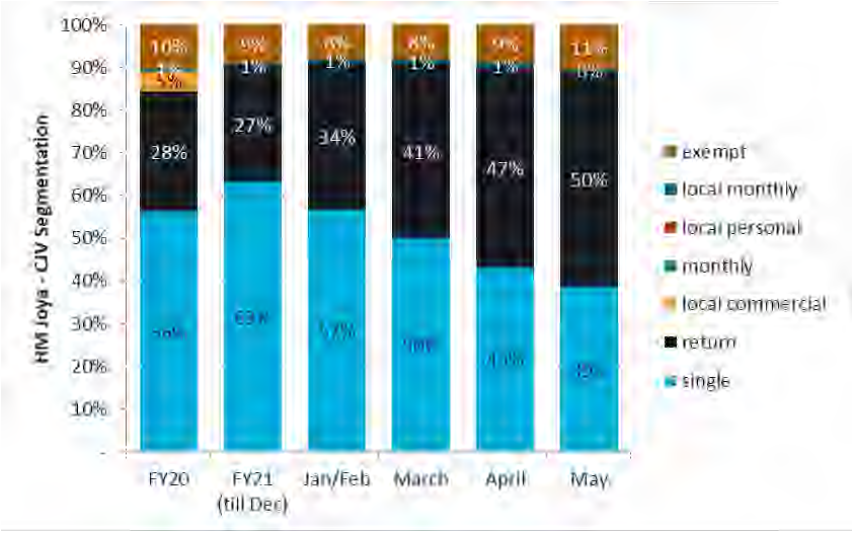
Figure 3.16 MAV toll segmentation: HM - Brijghat



Source: Steer analysis of the Client data

3.66 MAVs are observed to have high share of single tickets which is aligned to observation of MAVs doing medium to long distance trips on the Asset. The level of exemptions reported in MAVs is negligible. An increase of 13% in Return tickets from FY20 (15%) to May 2021 (28%) is due to implementation of FASTag over the years, allowing trucks to avail return-journey discounts.

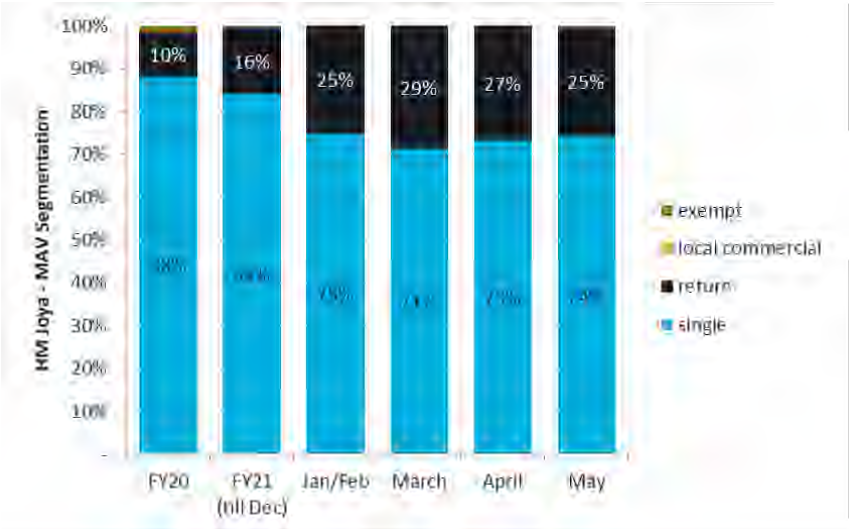
Figure 3.17 CJV toll segmentation: HM - Joya



Source: Steer analysis of the Client data

3.67 On HM Joya, the CJV single tickets increased from 56% in FY20 to 63% during FY21 while return shares decreased till February 2021. Almost 9% traffic contribute to exemptions in the CJV category

Figure 3.18 MAV toll segmentation: HM - Joya



Source: Steer analysis of the Client data

3.68 MAVs are observed to have high share of single tickets which is aligned to observation of MAVs doing medium to long distance trips on the Asset. The level of exemptions reported in MAVs is negligible. An increase of 15% in Return tickets from FY20 to May 2021 is due to implementation of FASTag over the years, allowing trucks to avail return-journey discounts. .

Data Collection exercise

3.69 To validate and inform various inputs used in our forecasting, we undertook primary data collection on the Asset, comprising the surveys listed in the table below. OD survey data was collected on behalf of the Client, TVC surveys were commissioned by Steer with a third party.

3.70 OD data collection typically involves manual data entry by enumerators based on oral surveys with road users crossing toll plazas, which Steer also commissioned with a third party. TVC data collection involves video-graphic capture of traffic passing crossing the toll plazas, followed by manual counting. Steer site visit was also undertaken at the time of the surveys to ensure the quality of the data being captured and to gain a perspective of the traffic profile of the toll plaza users.

Table 3.14: Data collection schedule

Toll Plaza	7-day videography-based TVC		1-day OD survey	
	Start date	End date	Start date	Start time
AE – Gurau	9th June	16th June	9th June	0800 hrs
AE – Tundla	9th June	16th June	10th June	0800 hrs
HM – Brijghat	9th June	16th June	9th June	0800 hrs
HM - Joya	9th June	16th June	10th June	0800 hrs

Source: Steer

3.71 It should be noted that, in our experience, traffic on national highways shows variation across the week due to the economic activities surrounding each road. To derive a representative TVC count considering daily variation, three-day to seven-day traffic counts are generally recommended, and hence, in order to fully understand the impact of this weekly fluctuation on the Asset, we collected seven-day counts at each toll plaza.

Key findings of the TVC data analysis

WADT estimates

3.72 Taking a simple average of the seven-day TVC counts, we obtained the following weekly average daily traffic (WADT) for each toll plaza. This WADT excludes non-tollable vehicle such as tractors, two-wheelers, bullock-carts, etc., but includes officially exempt vehicles such as police cars, ambulances, emergency response vehicle, government vehicle and other vehicle types officially allowed as 'exempted' under the concession agreement.

3.73 The TVC data is directly used for base year AADT and splits between vehicle types, in cases where TMS is not available. In cases where TMS is the main source of historical data, just like our Asset, the TVC data is used to validate TMS data and estimate the unreported violations.

3.74 Additionally, TVC counts are also used to identify traffic on alternates, feeders, and diversions as well as study the daily and hourly variation on the Asset.

3.75 During the site visits, our team makes sure that the cameras are located at a location where complete tollable traffic is captured. Additionally, emphasis is laid on positioning camera at such a location that the traffic from local leakages or bypass is also captured, if any.

3.76 In order to check the reliance of the TVC data, several checks are applied before using it in our analysis. Directional counts are verified by matching the sum of both the directions with the

total counts. The table below present the 7day average (WADT) of independent counts undertaken by Steer.

Table 3.15: WADT at Asset

Toll Plaza	CJV	Mini LCV	LCV	Bus	2 Axle	3 Axle	MAV	Total	PCU
AE - Gurau	3,057	731	1,086	554	777	851	2,320	9,377	22,405
AE - Tundla	8,358	1,445	1,533	1,001	1,049	838	2,077	16,301	30,113
HM - Brijghat	18,159	1,998	3,237	2,007	610	948	1,559	28,518	42,725
HM - Joya	11,825	1,381	2,237	1,569	512	896	1,318	19,738	31,423

Source: Steer analysis of TVC data

TVC (Total Volume Count) v/s TMS (Traffic Management System) v/s Schedule-N

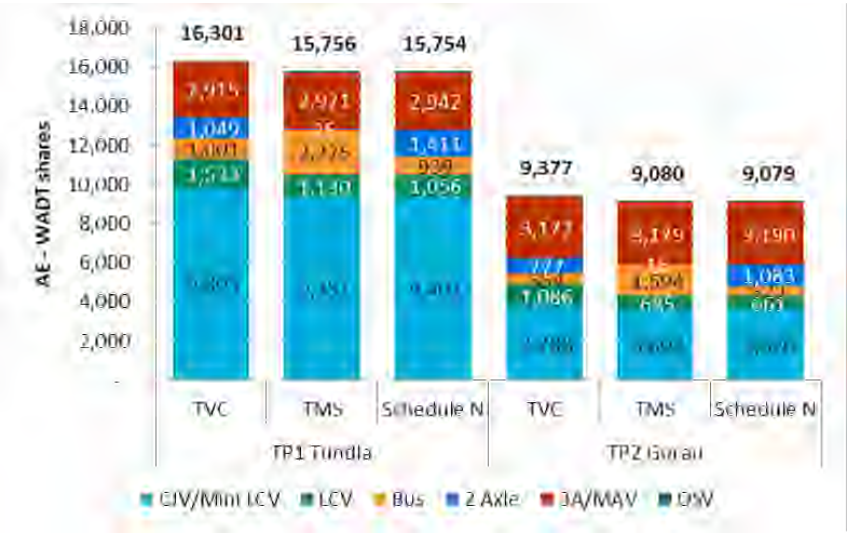
3.77 The below analysis compares the three sources of data:

- Independent 7-day video-based counts (TVC)
- Toll Plaza data (TMS)
- Schedule N (reported to NHAI by Client on a weekly basis)

3.78 This analysis is undertaken to verify independently the data being reported by toll plaza. It is a key step in our analysis to validate the traffic that the toll plaza is recording and its accuracy. Since the onset of FASTag there have been classification issues within the TMS due to nature of the tag issued to various vehicle types, hence Schedule-N data is also being used to validate the reporting of the data by the respective toll plaza.

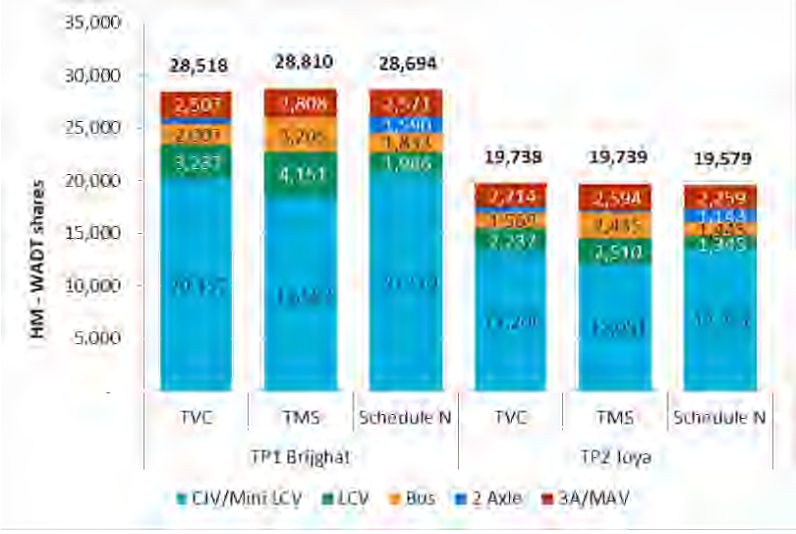
3.79 The figure below compares the vehicle wise shares as recorded by TVC, TMS, and Schedule-N.

Figure 3.19: Vehicle share comparison - AE



Source: Steer analysis of TVC counts, Schedule N and TMS data

Figure 3.20: Vehicle share comparison - HM



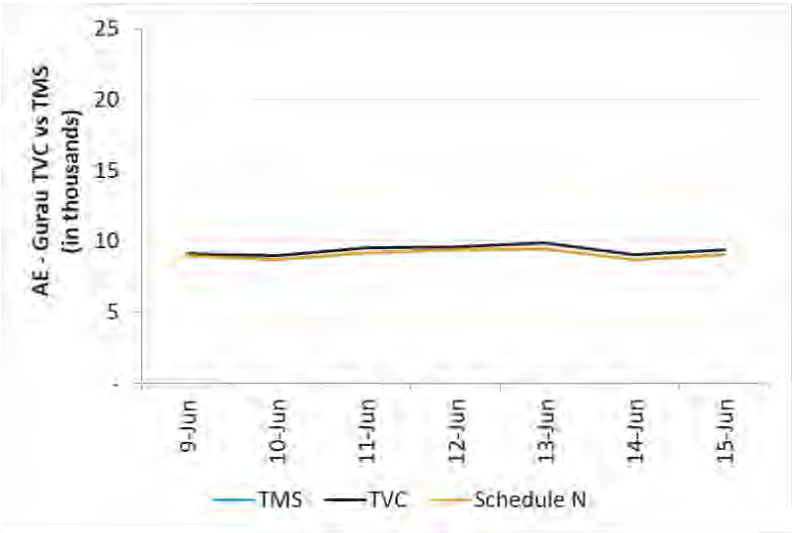
Source: Steer analysis of TVC counts, Schedule N and TMS data

3.80 WADT TVC is slightly higher (within 1-2%) than TMS for the toll plazas on AE and HM as well. However, there are visible variations observed between the 2A, Bus, and LCV category between the TVC and TMS data.

3.81 As discussed, the 2A and Bus category is tolled together. Further, the LCV and 2A category are visually very similar and thereby resulting in misclassification with one category being counted in another. For most LCV's and 2A trucks the only way to classify them correctly is by verifying the tonnage allowed for these vehicles to carry. With the implementation of FASTag and high level of FASTag penetration for this category the systems are now reporting the true vehicle types as they are registered. Therefore, since the total 2A+Bus+LCV volumes match between Schedule-N and TVC, Schedule-N splits are considered reasonable.

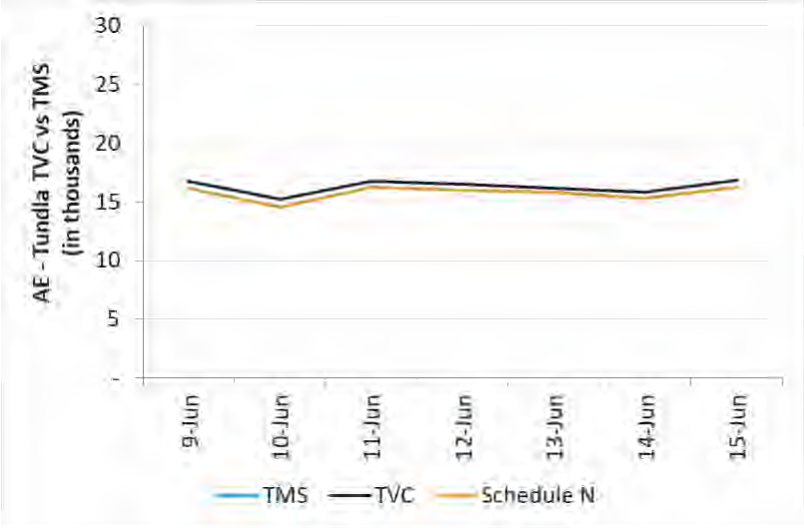
3.82 The following figures show the comparison between the daily traffic observed by TVC and TMS for the toll plazas.

Figure 3.21 TVC vs TMS – AE Gurau



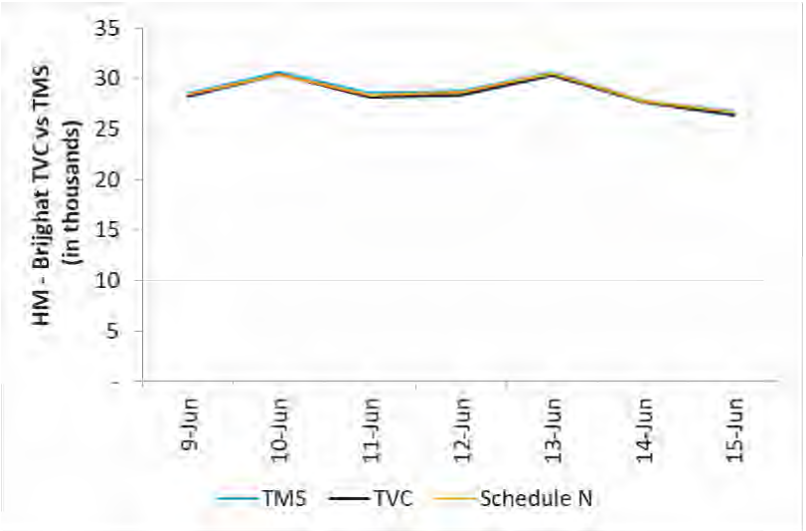
Source: Steer analysis of TVC counts, Schedule N and TMS data

Figure 3.22 TVC vs TMS – AE Tundla



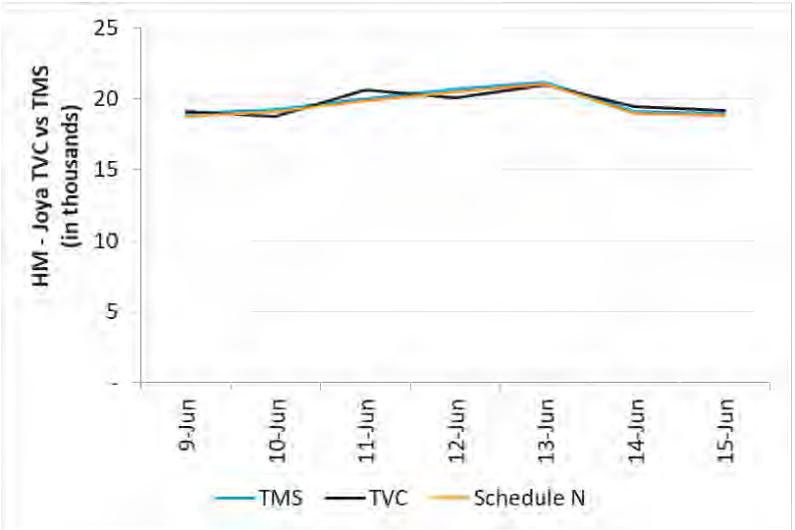
Source: Steer analysis of TVC counts, Schedule N and TMS data

Figure 3.23 TVC vs TMS – HM Brijghat



Source: Steer analysis of TVC counts, Schedule N and TMS data

Figure 3.24 TVC vs TMS - HM Joya



Source: Steer analysis of TVC counts, Schedule N and TMS data

3.83 As we can see from the above graphs the daily profile on a total level is a very good fit between the TMS and the independent counts undertaken. This gives further confidence on the recording and reporting capability of the TMS systems installed on the toll plazas.

3.84 **Considering the smaller variation between the TVC and TMS data for the largest revenue generators-CJV and 3A+MAVs, and an overall good fit in the traffic volumes, TVC-TMS analysis gives us the confidence that the base year traffic calculated using the Client data forms a reliable base year traffic estimate.**

Key findings of origin-destination analysis

Overview

3.85 OD surveys were conducted using on the toll plaza locations across all 4 toll plazas interviews for 24 hours at each toll location, typically starting at 8 AM and finishing at same time on the following day. Each toll lane had an interviewer filling OD records with supervisor monitoring them to minimise errors in data collected. This was accompanied by Steer staff visiting the toll plaza to ensure the data is being collected to quality and standards required to understand the traffic patterns on the Asset.

3.86 Data collected was segregated into vehicle types, origin area, origin zone, destination area, destination zones, commodity being carried, total load, and frequency of travel. The zones were further segmented into Internal, Rest of State, and External zones. The zones were also used to calculate the trip distances of the traffic plying on the Asset.

3.87 Before using the data for final analysis, the data is first cleaned, and numerous checks are applied. Some of these checks include verifying that the zones are physically apart as well as these zones are located within a reasonable distance and boundary. Reliability checks are also used which confirms that the sample rates are 30-50% for passenger and 50-70% for goods. Sanity checks includes verifying the sanctity of direction wise origin and destination as well as establishing that the share of empty vehicles is in line with the site visit observations (not more than 50% in any case). The final check includes matching the OD numbers with the TVC counts of the particular day and substantiating that the OD numbers aren't greater than the TVC counts.

3.88 Origin-destination (OD) analysis enables the understanding of the nature of traffic movement on the Asset. We have analysed the regional drivers of demand based on the following analysis:

- Zonal influence
- Commodity distribution
- Top OD pairs
- Trip length distribution

3.89 While zonal analysis and the list of top OD pairs help to understand 'where' people and goods travel, commodity distribution sheds light on 'what' goods get transported on this asset. Trip length distribution shows 'how far' vehicles and people travel, and goods get transported. This set of analysis is used to estimate key drivers of traffic and aid in making informed forecasting assumptions related to traffic demand elasticities, growth drivers and exogenous impacts.

Sample rates

3.90 Sample rates help understand the reliability of OD data. They are calculated by dividing OD samples by the TVC count observed on the same date for each vehicle category at the toll plaza. The table below presents the sample rates for key vehicle type aggregations at the toll plaza. We believe that the sample rates of the OD data are reasonable for the analysis required.

Table 3.16: Sample rates for OD data

Vehicle type	AE - Tundla	AE - Gurau	HM - Brijghat	HM - Joya
CJV	8%	37%	13%	18%
Bus	41%	76%	33%	67%
MLCV	8%	31%	23%	20%
LCV	29%	61%	43%	58%
2A	72%	79%	78%	60%
3A	81%	84%	62%	57%
MAV	63%	77%	62%	69%

Source: Steer analysis of OD data

3.91 Sample rates achieved on goods vehicles (LCV and above) are very good and more than 60-65% in all categories. CJV users are traditionally difficult to interview primarily because their waiting times have reduced significantly due to FASTag implementation and the reluctance to stop and answer questions due to Covid19 related concerns

Zone Categories

3.92 To facilitate better interpretation of key regional drivers of traffic as determined by their OD zones, and influenced by various towns, cities, states, and regions in the vicinity of the Asset, we have aggregated zonal data as described in the table below. The methodology behind this aggregation of zones may vary as per the characteristics displayed by the different Assets being studied.

Table 3.17: Zone aggregations for zonal influence analysis

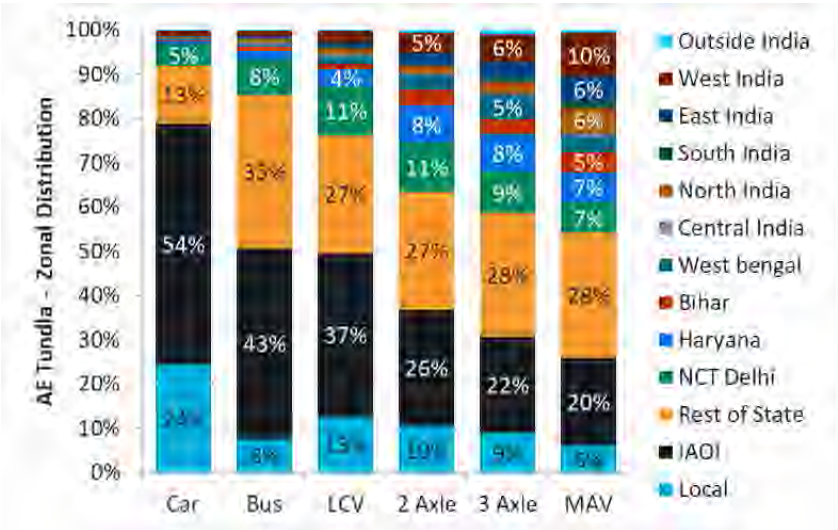
Aggregate Zone	Description
Local	Local zones are those that fall on or very close to the Asset.
IAOI	IAOI zones are the locations which generate traffic and lie within approximately 75-150 km distance from the Asset.
NCT Delhi	Rest of the cities/Districts in the state that Asset lies in (other than Local/IAOI)
Haryana	Haryana
Bihar	Bihar
West Bengal	West Bengal
Central India	Madhya Pradesh
north India	Uttarakhand, Haryana, Punjab, Jammu and Kashmir
South India	Andhra Pradesh, Kerala, Tamil Nadu, Telangana, Karnataka
east India	Arunanchal Pradesh, Assam, Bihar, Jharkhand, Manipur, Meghalaya, Mizoram, Nagaland, Odisha, Tripura, Sikkim, Chhattisgarh
West India	Gujarat, Rajasthan
Outside India	Nepal, Bangladesh, Bhutan

Source: Steer analysis

Zonal influence

3.93 The zonal influence is the contribution of the zone or the zonal aggregation to trips by a vehicle type. This section presents the zonal influence[6] at the toll plaza for the Asset, based on zonal aggregation listed in the previous sub-section. it should be noted that zonal influence is analysed on trip ends and not trips.

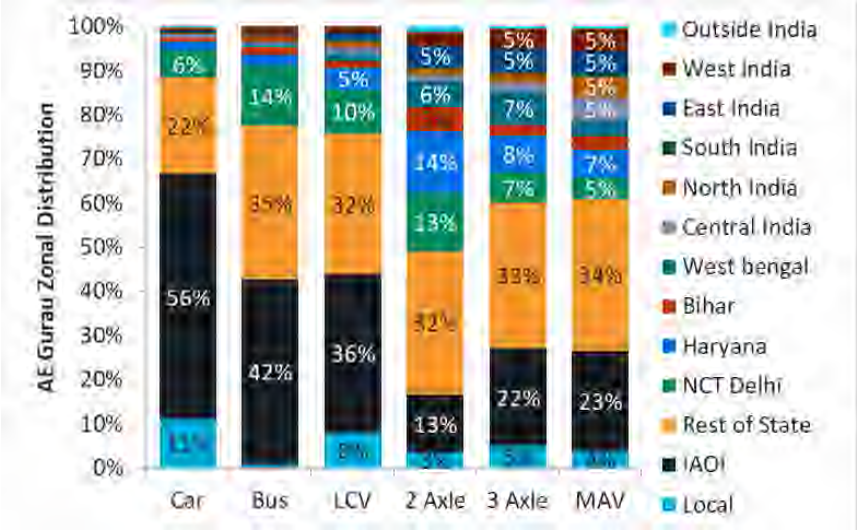
Figure 3.25 Zonal distribution: AE - Tundla



Source: Steer Analysis of OD data

[6] For example, if out of 100 trips at a toll plaza on an Asset, 10 trips are between Hyderabad and Delhi and 90 trips are between Hyderabad and Chennai, then zonal influence of Hyderabad would be 50% since one end of all trips are at Hyderabad. Likewise, zonal influence of Delhi and Chennai would be 5% and 45%, respectively.

Figure 3.26 Zonal distribution: AE - Gurau



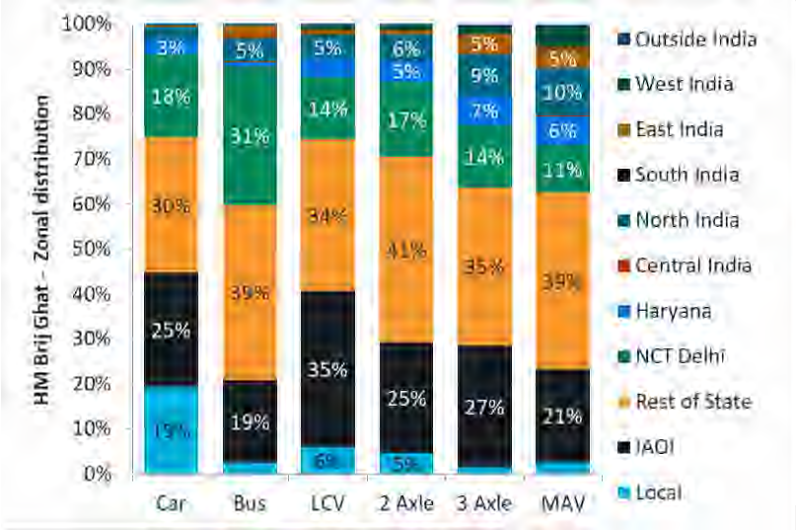
Source: Steer Analysis of OD data

3.94 On AE toll plazas, almost 70%-80% of CJV traffic has origin and/or destination points on/close to the Asset (local+IAOI). Apart from this, around 15%-20% movements have origin and/or destination within UP. This is in line with the understanding of the Asset where several major tourist attractions exist on ends of the Asset. Also, Agra, Mathura, Fatehpur Sikri and other towns in the region are home to large population settlements. Share of bus trips originating close to the Asset (local+IAOI) is between 40%-50%. As state buses usually travel within the state/from nearby states, share of Rest of State is around 35%.

3.95 Agra-Lucknow is a traditional industrial corridor with industries such as leather and textile. 2A+3A+MAV vehicles passing through the Asset have around 30%-35% of the trips with origin and/or destination within UP (Rest of State) while around 20% of the movements have origin and/or destination closer to the Asset (IOAI). Delhi and Haryana accounts for around 5%-7% each while 5%-6% of the trips have remaining part of north India as zonal influence. Majority of these movements have origin/destination to/from parts of north India and moving towards /from UP and eastern India (including West Bengal).

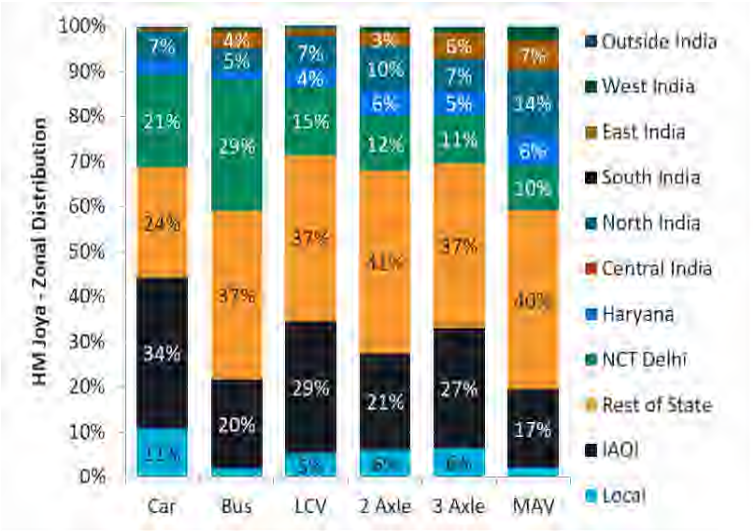
3.96 On HM toll plazas, share of CJVs with origin and/or destination points close to the Asset is around 45% (Local+IAOI). Zonal influence of rest of the UP is between 25%-30% (Rest of State). Therefore, UP is contributing around 70%-75% of the total CJV trips. For this Asset, zonal influence of Delhi is around 20%, signifying a significant portion of trips are to/from Delhi. The zonal influence of Delhi is higher for buses (around 30%), primarily due to proximity of the Asset to Delhi and people commuting regularly to/from Delhi.

Figure 3.27 Zonal distribution: HM - Brijghat



Source: Steer Analysis of OD data

Figure 3.28 Zonal distribution: HM - Joya



Source: Steer Analysis of OD data

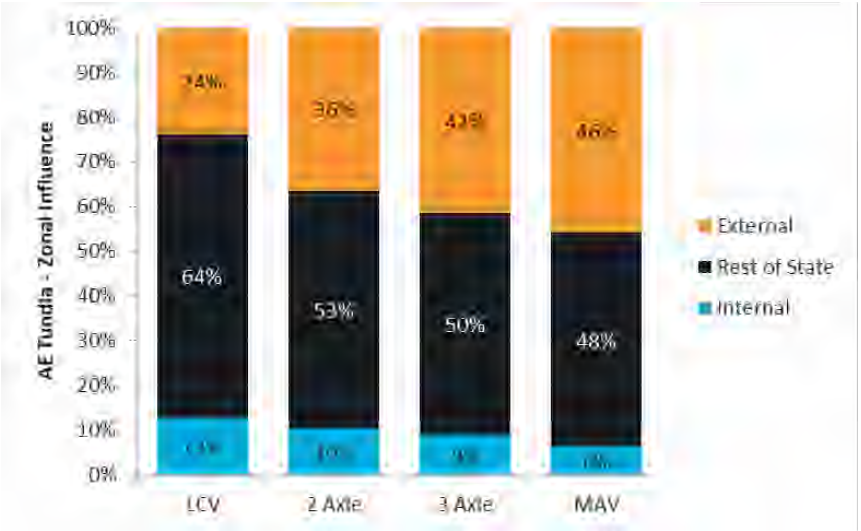
3.97 For 2A+3A+MAV, zonal influence of location around the Asset (IAOI) is between 20%-30%. This is primarily due to the Asset being close to Moradabad which acts as source of traffic due to major industries in the city in the metal and export business. Zonal influence of the Rest of the State is about 35%-40% due to movement to Agra, Shikhohabad etc. Due to improvement of Delhi-Hapur alignment, Delhi and Haryana are also an important zones, cumulatively contributing around 15%-20%. Similarly, north India also account for 5%-10% of the trips.

Internal External analysis

3.98 Internal-External analysis helps in identifying the trips which have both an origin and destination on or near the Asset i.e. local/IAOI zones (Internal-Internal or I-I), any one end on the Asset (Internal-External or I-E), or neither end on the Asset i.e. through trips (External-External or E-E). RoS here represents areas within the state which are neither local nor IAOI. 'Internal' zones

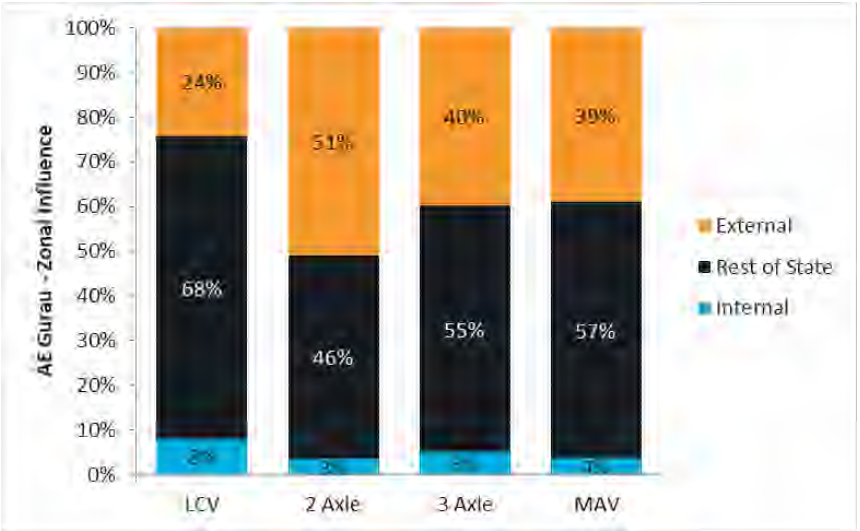
are those that were analysed as 'local' and 'IAOI' in the zonal influence analysis, i.e. lying on the Asset, while 'External' zones are areas lying outside the state.

Figure 3.29 Zonal influence: AE - Tundla



Source: Steer Analysis of OD data

Figure 3.30 Zonal influence: AE - Gurau



Source: Steer Analysis of OD data

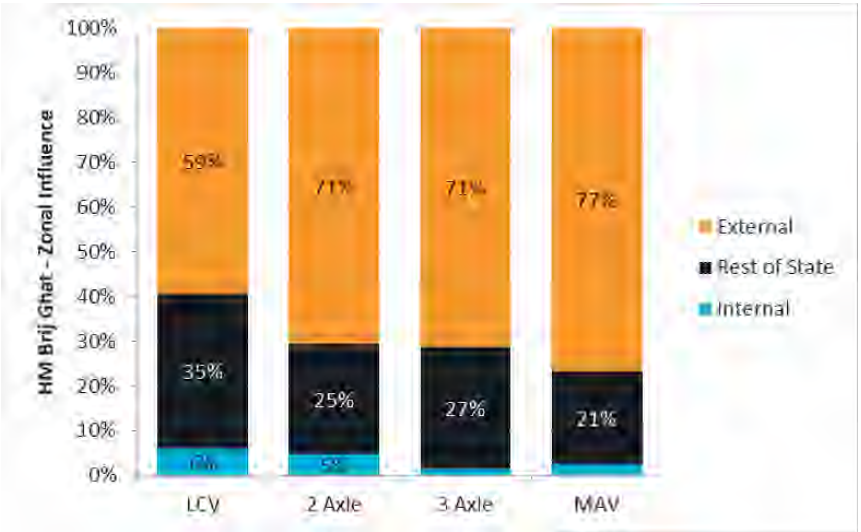
3.99 Most of the Internal movements are local movements with origin and/or destination as Firozabad, Tundla etc. These are movements with the focus of meeting local demand as well as maintaining supply chain of the nearby industrial centres. However, such movements are limited and account for around 10% of the total trips.

3.100 Zonal influence of Rest of State is between 45%-60% of the total movements while external is around 25%-45% of the total movements. These movements are primarily to industrial centres within UP such as Agra, Kanpur, Etawah etc and outside the state to north India (including Delhi NCR, Haryana, Punjab etc) and parts of east India (including West Bengal, states of north east India). Cities within UP are major industrial centres of the State and witness movement of metals (including iron, scrap etc), oil and gas products, automobiles etc.

3.101 Overall, the state of UP has significant influence on the traffic observed at both plazas. This is validated by both zonal influence and internal external analysis.

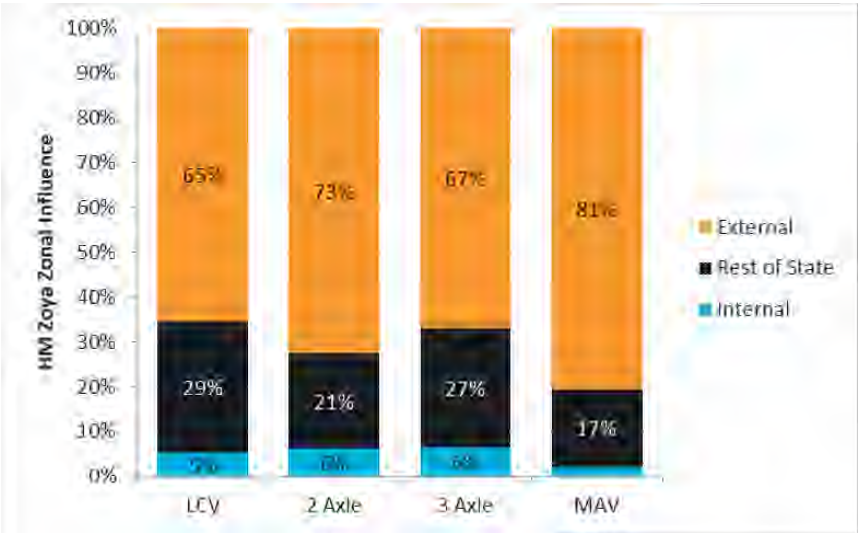
3.102 The below figures present the Zonal influence for HM Asset.

Figure 3.31 Zonal influence: HM - Brijghat



Source: Steer Analysis of OD data

Figure 3.32 Zonal influence: HM - Joya



Source: Steer Analysis of OD data

3.103 Share of internal movements is 5% or less across vehicle categories at both the toll plazas of this Asset. Movement to/from Rest of State accounts for almost 25%-35% of the trip ends.

These movements are mainly to/from areas around Hapur and Pilkhua. These are industrial clusters for stainless steel pipes, wood and paper products.

3.104 Share of external movement as zonal influence is almost 65% - 80% of the total trip ends. These trips have origin and/or destination points around Delhi NCR (including Ghaziabad, Noida etc), Rudrapur, Haryana, Uttarakhand etc. Due to proximity of Delhi NCR and improvement of connectivity to Hapur from Delhi, Delhi NCR is one major segment of the external trips.

Commodity distribution

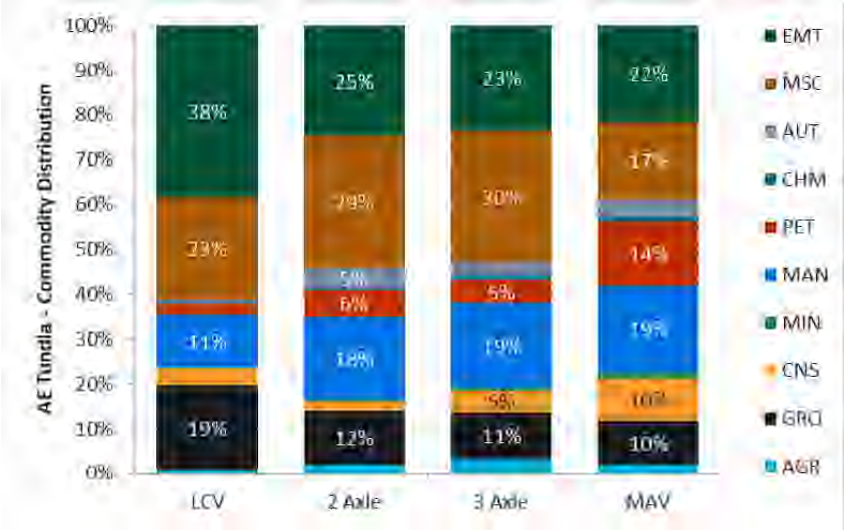
3.105 We have grouped various commodities into aggregate categories for ease of interpretation, as shown in the table below. The charts in the following sub-section present information in terms of aggregate commodity categories.

Table 3.18: Aggregate commodity categories

Commodity Description	Code	Combined codes used for charts
Agricultural Products / Cash crops (Wheat, Rice, Sugar cane, Maize etc.)	AGR	AGR
Perishable Items (Fruits, vegetables, milk, meat, fish etc.)	PER	
Cattle Food / Livestock (sheep, goat, cow, cattle food etc)	LIV	
Building Material / Construction (Cement, Lime, Brick etc)	CNS	CNS
Container	CTR	CTR
Empty	EMT	EMT
Groceries / Food items (Soap, Salt, Sugar, Pulses, Spices, Biscuits, bread, cool drinks, beer etc.)	GRO	GRO
Machinery / Spare parts	MAC	MAC
Steel / Metal (Iron, steel etc)	STL	MAN
Chemicals / Fertilizers (Acids, Fertilizers etc.)	CHM	
Manufacturing (Electronic items, Medicine, Leather, Wine, Rubber/ Tyre, Plastics, Cloth, Paper etc.)	MAN	
Automobiles (Finished products)	AUT	
Basic / Fabricated Metals (steel, iron)	MET	
Raw Wood, Cork & Wood Products, Fern	WUD	
Mining Minerals (Coal, Gypsum, Cobalt etc.)	MIN	MIN
Miscellaneous (Parcel, Courier, Household items etc.)	MSC	MSC
Passengers	PAS	
Petroleum Products (Oil, LPG, CNG, etc.)	PET	PET
Sand	SND	SND
Stone (Kota stone, marble, Granite, Aggregate stone etc.)	STN	STN
Cement	CMT	CMT

Source: Steer Analysis

Figure 3.33 Commodity distribution: AE - Tundla



Source: Steer Analysis of OD data

3.106 Among all the vehicle types, the largest proportion of goods being carried belong to the miscellaneous category, which includes parcels, couriers and groceries that are mainly transported from warehouses in Delhi, NCR, Agra, Bilaspur to Lucknow, Kanpur, Bihar, Kolkata and many other eastern regions. It was observed that, Manufacturing goods have the next highest share in the commodities, which comprise of wires, pipes, and other electronic goods that are being transported from industrial centres of Delhi-NCR, Mathura, Jaipur, Firozabad to Etawah, Kolkata, Kanpur etc. For MAV category, Petroleum makes up a large segment which is transported from the refineries of Mathura, Punjab, Agra, Ahmedabad towards Gorakhpur, Bihar, Kanpur, and Construction items make 10% of the total commodity share for MAV category which incorporates items such as, tiles, cement that are being transported from Jaipur, Agra, Mathura to Firozabad, Shikhoabad, Jharkhand.

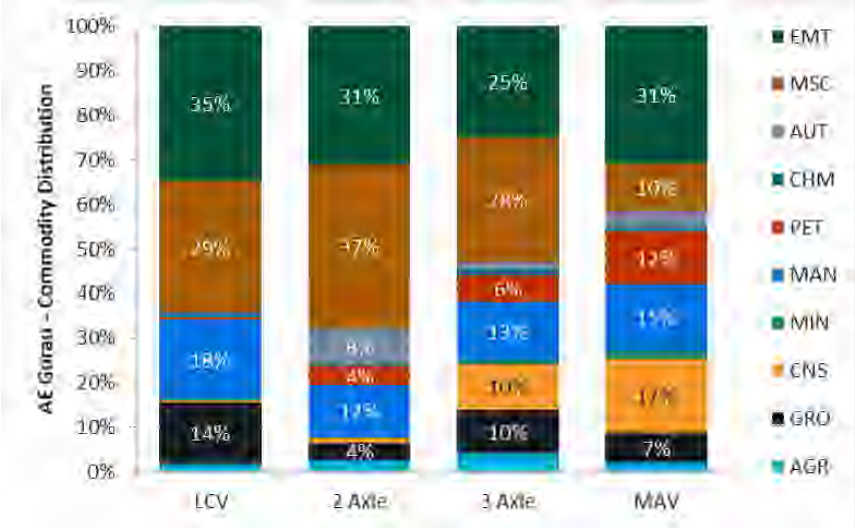
Table 3.19: Directional commodity distribution – AE Tundla

Agra to Etawah					Etawah to Agra			
LCV	2 Axle	3 Axle	MAV		LCV	2 Axle	3 Axle	MAV
1.4%	0.8%	2.9%	1.7%	Agriculture	0.3%	3.4%	3.6%	2.4%
11.2%	8.3%	8.8%	11.2%	Groceries	26.0%	15.7%	12.9%	7.7%
3.4%	2.3%	6.2%	12.0%	Construction	4.1%	2.1%	2.9%	7.1%
0.3%	0.5%	0.5%	0.4%	Mineral	0.3%	0.3%	0.7%	2.6%
18.0%	18.3%	16.9%	16.4%	Manufacturing	5.4%	18.6%	21.4%	22.0%
3.7%	10.1%	7.2%	20.9%	Petroleum	1.3%	1.6%	2.5%	7.0%
-	0.3%	1.3%	1.6%	Chemicals	-	0.3%	0.7%	0.3%
1.4%	8.8%	4.3%	7.1%	Automobile	0.6%	0.5%	0.7%	0.8%
32.0%	36.2%	33.5%	17.9%	Miscellaneous	14.6%	22.0%	24.3%	16.2%
28.6%	14.6%	18.2%	10.7%	Empty	47.3%	35.4%	30.4%	33.9%

Source: Steer Analysis of OD data

3.107 The direction wise distribution of commodities for each vehicle types helps to gauge a better understanding of the distribution as per the direction of goods movement. As for Agra to Etawah, petroleum is more than 20% of the total share whereas for Etawah to Agra, manufacturing items make up for more than 22% of the share, as there in a major truck movement from industrial areas of Delhi-NCR. It is noticed that the percentage of empty trucks substantially increases in Etawah to Agra direction, and this is compensated by the movement of fully loaded trucks carrying petroleum, miscellaneous, construction items in Agra to Etawah direction.

Figure 3.34 Commodity distribution: AE - Gurau



Source: Steer Analysis of OD data

3.108 AE Gurau exhibits a similar commodity distribution as was observed on Tundla toll plaza. Under MAV, substantial portion of construction items that are transported from Gwalior, Rajasthan, Punjab to Kanpur, Allahabad, Etawah. Manufacturing section is significantly high for 3-Axle and MAV, which comprises of powder, tiles, bricks. Movement of these goods is observed to be originating from Punjab, Rajasthan, Shikhohabad towards Etawah, Jhansi. Petroleum also consists more than 10% of the total MAV distribution, from Mathura, Bhatinda to Sultanpur, Gorakhpur.

Table 3.20: Directional commodity distribution – AE Gurau

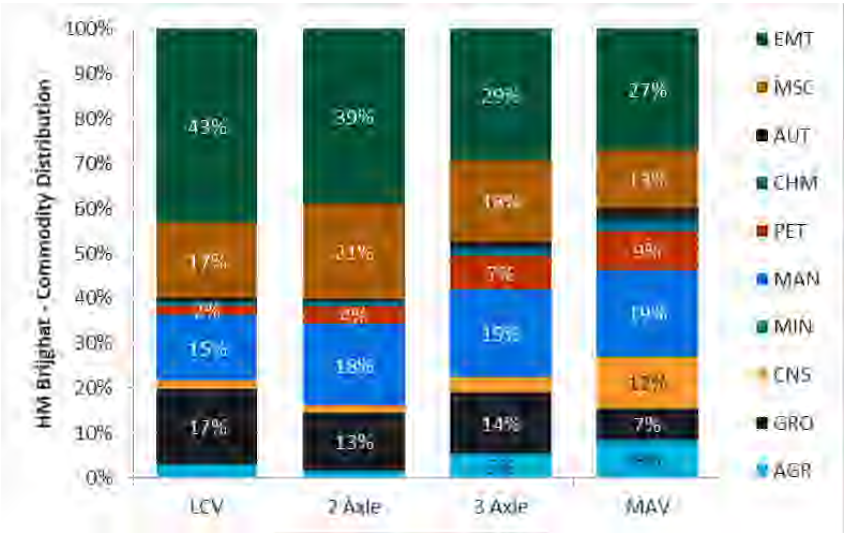
Agra to Etawah					Etawah to Agra			
LCV	2 Axle	3 Axle	MAV		LCV	2 Axle	3 Axle	MAV
0.5%	0.6%	1.1%	0.9%	Agriculture	2.9%	5.1%	7.6%	3.1%
10.4%	4.3%	10.8%	9.9%	Groceries	16.3%	3.4%	8.9%	4.0%
0.3%	0.6%	3.3%	7.1%	Construction	0.6%	2.0%	18.2%	24.6%
-	-	-	-	Mineral	0.6%	-	2.0%	3.4%
25.5%	14.4%	12.5%	10.3%	Manufacturing	11.8%	8.5%	13.5%	18.2%
1.1%	7.1%	8.3%	18.9%	Petroleum	0.4%	1.0%	4.0%	6.4%
0.5%	-	1.7%	1.0%	Chemicals	0.6%	0.3%	0.7%	0.7%
0.8%	15.6%	2.5%	7.8%	Automobile	0.2%	0.3%	0.7%	0.6%
37.0%	44.8%	35.0%	14.5%	Miscellaneous	23.9%	27.3%	19.5%	7.0%

Agra to Etawah					Etawah to Agra			
23.9%	12.6%	24.7%	29.8%	Empty	42.7%	51.9%	25.1%	31.9%

Source: Steer Analysis of OD data

3.109 As previously discussed, AE Gurau also displays a wide range of commodities being carried. However, for this particular asset, manufacturing goods comprise a large proportion for Etawah to Agra as these goods are coming from Kanpur, Lucknow, and Allahabad. The movement of petroleum is distinctly higher for the direction Agra to Etawah as trucks carry gas/petroleum related goods from IOCL refinery in Mathura. Agricultural products movement on Etawah to Agra is significant, commodities such as rice, wheat and maize are transported from Etawah, Allahabad, Bihar to Delhi, Haryana, Punjab.

Figure 3.35 Commodity distribution: HM - Brijghat



Source: Steer Analysis of OD data

3.110 HM Brijghat observes a substantial percentage of miscellaneous goods across all the vehicle categories, and it consist of groceries and couriers being carried from Ghaziabad, Meerut, Delhi to Moradabad, Bareilly, Rudrapur (in Uttarkhand). For both, 3 Axle and MAV category, manufacturing proportion is up to 19% and it majorly consists of paper, cloth, plastic that is transported from Meerut, Ghaziabad, Chandigarh to Moradabad, Lucknow, Uttarakhand. 12% of MAVs also carry construction goods, the movement of which is majorly from cement industries in Sikandrabad and Meerut. It also includes construction powder being transported from Delhi NCR and parts of Rajasthan.

Table 3.21: Directional commodity distribution – HM Brijghat

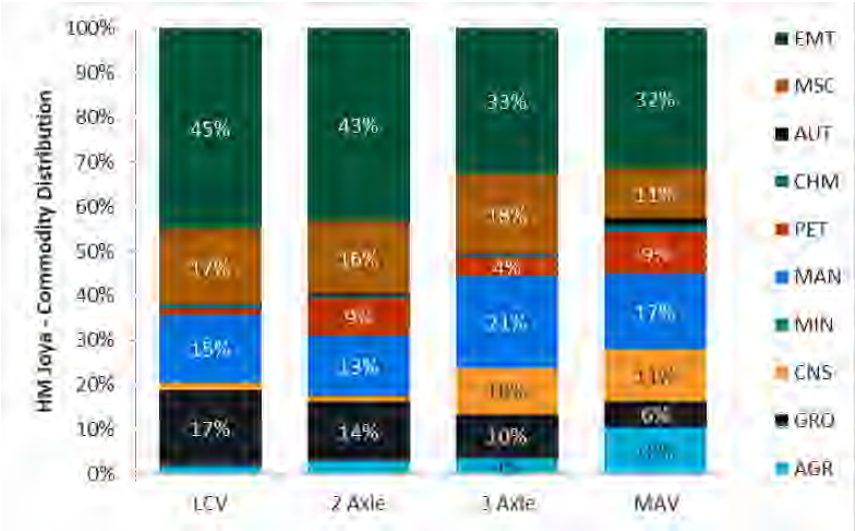
Hapur to Moradabad					Moradabad to Hapur			
LCV	2 Axle	3 Axle	MAV		LCV	2 Axle	3 Axle	MAV
3.9%	3.0%	4.6%	4.4%	Agriculture	2.2%	0.7%	6.0%	13.1%
14.6%	11.9%	9.2%	8.8%	Groceries	19.3%	13.8%	17.1%	5.2%
2.5%	3.5%	5.7%	11.5%	Construction	0.8%	0.3%	1.7%	11.5%
-	-	-	0.2%	Mineral	-	-	0.6%	0.2%
19.5%	20.3%	17.3%	19.2%	Manufacturing	8.7%	16.4%	20.8%	18.8%

Hapur to Moradabad					Moradabad to Hapur			
3.3%	4.5%	8.8%	11.2%	Petroleum	0.6%	3.7%	6.3%	5.6%
1.6%	1.5%	2.1%	3.2%	Chemicals	0.3%	1.0%	1.7%	2.5%
1.0%	0.5%	0.4%	1.7%	Automobile	0.3%	0.3%	1.7%	2.3%
20.7%	30.2%	25.8%	13.6%	Miscellaneous	11.8%	15.1%	12.3%	12.7%
32.9%	24.8%	26.1%	26.1%	Empty	56.1%	48.7%	31.9%	28.1%

Source: Steer Analysis of OD data

3.111 The direction-based commodity distribution for HM Brijghat is similar for manufacturing, construction items for MAV category. The overall proportion for miscellaneous goods being moved in Hapur to Moradabad direction is substantially higher than in the opposite direction as trucks get loaded at the warehouses of Delhi NCR and move towards east to cater to the demands. Manufacturing goods observe comparable and considerable shares in both the directions as the Asset caters to the industrial centres of Delhi NCR/Haryana in the west as well as centres of Uttarakhand, West Bengal, Assam etc. in the east.

Figure 3.36 Directional commodity distribution: HM - Joya



Source: Steer Analysis of OD data

3.112 HM Joya exhibits a similar trend to the Brijghat toll plaza as it observes a substantial percentage of miscellaneous goods across all the vehicle categories, and it consist of groceries and couriers being conveyed from Ghaziabad, Meerut, Delhi to Moradabad, Bareilly, Rudrapur. For both, 3 Axle and MAV category, manufacturing proportion is increased to 21% and 17% respectively and it majorly consists of paper, cloth, plastic that is transported from Meerut, Ghaziabad, Chandigarh to Moradabad, Lucknow, Uttarakhand and vice versa. 11% of MAVs also carry construction goods, the movement of which is majorly from cement industries in Sikandrabad and Meerut. It also includes construction powder being transported from Delhi NCR and parts of Rajasthan.

Table 3.22: Directional commodity distribution – HM Joya

Hapur to Moradabad					Moradabad to Hapur			
LCV	2 Axle	3 Axle	MAV		LCV	2 Axle	3 Axle	MAV
0.9%	2.9%	1.4%	6.3%	Agriculture	2.8%	2.8%	6.8%	13.4%
17.7%	15.4%	7.8%	6.3%	Groceries	16.4%	11.3%	12.3%	5.8%
1.8%	0.6%	11.2%	5.2%	Construction	1.6%	2.1%	9.1%	15.9%
-	-	-	0.8%	Mineral	-	-	-	-
19.8%	13.7%	22.4%	18.3%	Manufacturing	10.1%	12.7%	18.3%	15.7%
1.5%	10.9%	4.4%	11.8%	Petroleum	1.1%	5.6%	3.7%	7.4%
1.1%	0.6%	0.7%	1.6%	Chemicals	0.2%	-	0.5%	1.6%
0.4%	1.1%	0.3%	3.1%	Automobile	0.1%	-	-	0.6%
19.7%	20.0%	22.8%	12.3%	Miscellaneous	13.8%	12.0%	11.4%	9.9%
37.1%	34.9%	28.9%	34.3%	Empty	53.7%	53.5%	37.9%	29.7%

Source: Steer Analysis of OD data

3.113 The commodity distribution for HM Joya carry similar proportions for manufacturing, construction items for MAV category. The overall proportion for miscellaneous goods being moved in Hapur to Moradabad direction is substantially higher than in the opposite direction as trucks get loaded at the warehouses of Delhi NCR and move towards east to cater to the demands. Manufacturing goods observe comparable and considerable shares in both the directions as the Asset caters to the industrial centres of Delhi NCR/Haryana in the west as well as centres of Uttarakhand, West Bengal, Assam etc. in the east. The share of Agricultural goods is higher on Moradabad to Hapur route as corn and maize products get transported from Kashipur, Moradabad, Bihar, Nepal to Delhi NCR, Punjab, Haryana.

Trip length analysis

3.114 Trip-length distribution provides the distance-based profile of various vehicle categories. This aids in validating assumptions around the share of macro-economic drivers, inputs from zonal influence and toll segmentation. For ease of interpretation, we have categorised distances into 5 groups – local (0-65km), short-distance (65-300 km), medium-distance (300-500 km), long-distance (500-1000 km) and very-long-distance (+1,000 km). The trip distances were derived as driving distances from Google Distance Matrix Tool based on zonal coordinates for OD pairs.[7]

3.115 The following table states the average trip lengths of traffic plying on the Assets across the four toll plazas.

Table 3.23: Average trip lengths

	CJV	Mini LCV	LCV	2 Axle	3 Axle	MAV
AE Gurau	231	278	481	804	752	689
AE Tundla	163	198	434	556	701	795

[7] Google Distance API is a tool that is available on a chargeable basis from Google Maps Platform. Link: https://developers.google.com/maps/documentation/distance-matrix/start. Travel distance and time information for driving/transit under various congestion scenarios can be extracted through this tool by using macro-enabled Excel, R, etc.

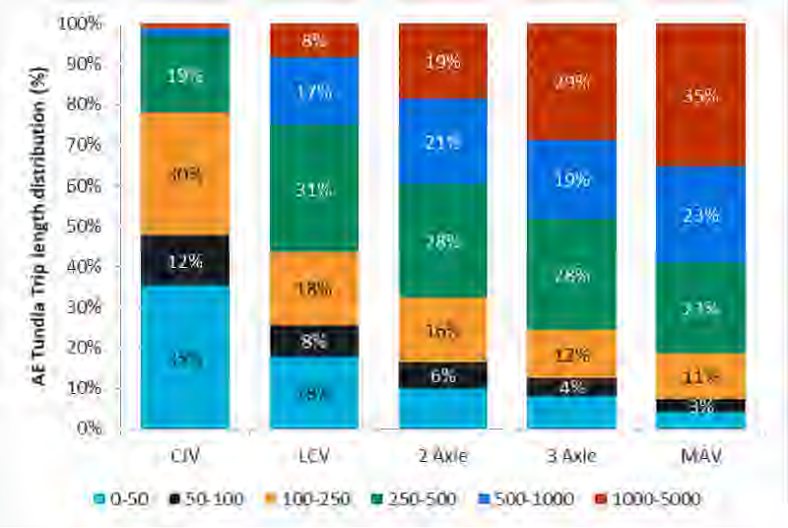
	CJV	Mini LCV	LCV	2 Axle	3 Axle	MAV
HM Brijghat	168	190	288	287	420	468
HM Joya	230	247	291	373	428	540

Source: Steer analysis of OD data

3.116 CJV, MLCV, LCV average trip lengths are within 300 kms, as these trips a predominantly local and within the state. For 2A, 3A, and Mav categories due to a mix of both local and long-distance movement of the traffic, the averages are lower and in the range of 500-800 kms. This is essentially because upto 30-40% of the trips are within state and short distance, bringing the overall averages down.

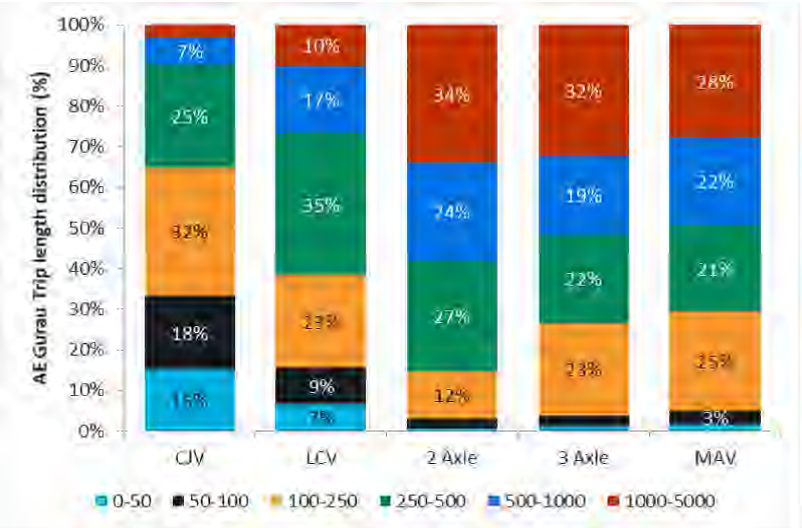
3.117 The trip length proportions for each vehicle type for each of the toll plaza is discussed below.

Figure 3.37 Trip length distribution: AE - Tundla



Source: Steer Analysis of OD data

Figure 3.38 Trip length distribution: AE - Gurau

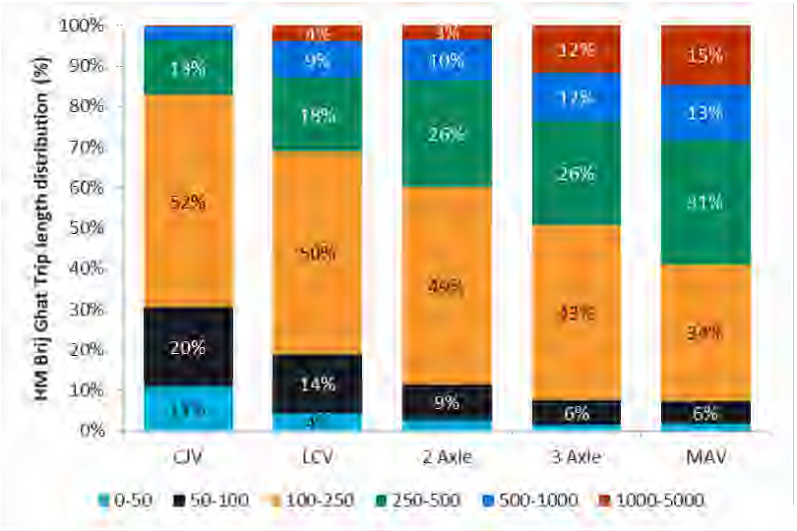


Source: Steer Analysis of OD data

3.118 At AE Toll plaza, share of CJVs travelling short distance trips, for less than 250kms, is in the range of 65%-75%. This is primarily due to presence of historical monuments, tourist destinations and other attractions of the region across this Asset. Around 20%-25% of the trips are in the range of 250km-500km, which primarily are to/from Delhi NCR, parts of Haryana and Punjab and moving towards Agra, Lucknow, Kanpur etc.

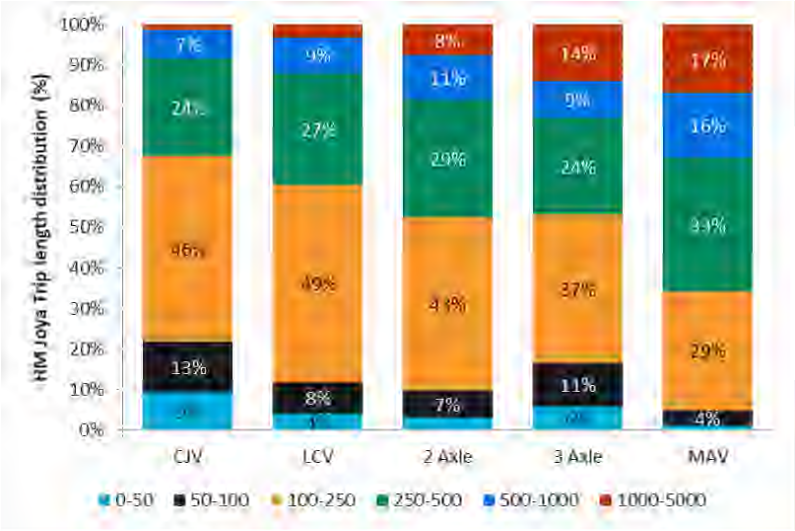
3.119 For 2A,3A and MAV movements, 40%-60% of the trips are for less than 250kms while similar share of trips is for more than 500kms. This trend is observed as the Asset is around few major industrial hubs and movements to/from these industrial hubs are either to major markets such as Delhi NCR and parts of Haryana or through movements which are connecting points of north India to parts of UP, West Bengal, north east India etc. This confirms the understanding gained from site visits and secondary research of the Asset characteristics.

Figure 3.39 Trip length distribution: HM - Brijghat



Source: Steer Analysis of OD data

Figure 3.40 Trip length distribution: HM - Joya



Source: Steer Analysis of OD data

3.120 For HM toll plaza, share of CJV movements which are less than 250kms, is around 70%-80%. These movements are primarily for local movement of people in and around the city and commute to/from Delhi NCR. The trip length distribution further confirms the important of Delhi NCR and parts of UP. Share of long-distance trips (more than 500kms) is only 5%-10% as the Asset is primarily used for local commute of people within and to adjoining States.

3.121 For 2A,3A and MAV trips, share of short distance trips (less than 250kms) and trips between 250-500kms is symmetrical (between 30%-40% each) due to presence of major industrial clusters and markets around the Asset and adjoining parts of the nearby States and UTs. Long distance trips (more than 500kms) are around 30%-40% and are through movements which are covering movement of cargo from/ to north India and UP and eastern parts of India.

Conclusions

3.122 In summary, the Assets are relatively newer with operations starting for AE in FY17 and for HM in FY20. Even with Covid19 impacting traffic patterns and ongoing construction on HM Asset reducing the level of service, the vehicle types contributing the most in revenue have seen positive growth (except 3A, where we believe some axle shifts are taking place between 3A and MAV) trend as compared to FY20. These growth rates represent the growth of the Assets.

3.123 The presence of tourism centres at Agra and Garhmukteshwar and industrial centres at Agra, Hapur, and Moradabad in the vicinity of the Assets adds to the captive nature of the traffic for both CJV and goods vehicles which feed into the consumption demand generated by these centres.

3.124 Reassuringly, the TVC shows minimal variation on the TMS, especially at the total levels only showing differences of within 2%. These differences are well within the acceptable limits and reinsures the fact that the systems installed on the toll plaza are robust and are correctly capturing the traffic volumes currently appearing on the toll plaza.

3.125 The OD analysis found that in terms of zonal influence, CJVs, LCVs, and buses on all the plazas observe similar trends, where the Uttar Pradesh influences more than 70% of the trips on both the Assets. On AE, Agra-Lucknow is a traditional industrial corridor with industries such as leather and textile. 2A+3A+MAV vehicles passing through the Asset have around 30%-35% of the trips with origin and/or destination within UP (Rest of State) while around 20% of the movements have origin and/or destination closer to the Asset (IOAI). Delhi and Haryana accounts for around 5%-7% each while 5%-6% of the trips have remaining part of north India as zonal influence. Majority of these movements have origin/destination to/from parts of north India and moving towards /from UP and eastern India (including West Bengal).

3.126 On HM, for 2A+3A+MAV, zonal influence of location around the Asset (IAOI) is between 20%-30%. This is primarily due to the Asset being close to Moradabad which acts as source of traffic due to major industries in the city in the metal and export business. Zonal influence of the Rest of the State is about 35%-40% due to movement to Agra, Shikhohabad etc. Due to improvement of Delhi-Hapur alignment, Delhi and Haryana is also an important zone, cumulatively contributing around 15%-20%. Similarly, north India also account for 5%-10% of the trips.

3.127 On AE, the zonal influence of Rest of State is between 45%-60% of the total movements while external is around 25%-45% of the total movements. These movements are primarily to industrial centres within UP such as Agra, Kanpur, Etawah etc and outside the state to north India (including Delhi NCR, Haryana, Punjab etc) and parts of east India (including West Bengal, states of north east India). Cities within UP are major industrial centres of the State and witness movement of metals (including iron, scrap etc), oil and gas products, automobiles etc.

3.128 On HM, the share of external movement as zonal influence is almost 65% - 80% of the total trip ends. These trips have origin and/or destination points around Delhi NCR (including Ghaziabad, Noida etc), Rudrapur, Haryana, Uttarakhand etc. Due to proximity of Delhi NCR and improvement of connectivity to Hapur from Delhi, Delhi NCR is one major segment of the external trips.

3.129 The key commodities across these plazas are miscellaneous goods (parcels, couriers) from warehouses along in Delhi NCR, petroleum and related commodities from IOCL refinery at Mathura, construction related goods from Uttar Pradesh, Rajasthan, Gujarat. The Assets being located in vicinity of numerous industrial areas, comprising of all, small, medium, and large-scale industries, the commodity distribution includes a considerable share of Manufacturing goods as well. Moreover, both the Assets become key connectors in transportation of goods traversing the east – west movement.

3.130 On AE plazas, for 2A,3A and MAV movements, 40%-60% of the trips are for less than 250kms while similar share of trips is for more than 500kms. This trend is observed as the Asset is around few major industrial hubs and movements to/from these industrial hubs are either to major markets such as Delhi NCR and parts of Haryana or through movements which are connecting points of north India to parts of UP, West Bengal, north east India etc. This confirms the understanding gained from site visits and secondary research of the Asset characteristics.

3.131 On HM plazas, for 2A,3A and MAV trips, share of short distance trips (less than 250kms) and trips between 250-500kms is symmetrical (between 30%-40% each) due to presence of major industrial clusters and markets around the Asset and adjoining parts of the nearby States and UTs. Long distance trips (more than 500kms) are around 30%-40% and are through movements which are covering movement of cargo from/ to north India and UP and eastern parts of India.

4 Socio Economic Context

Introduction

4.1 The growth of traffic on existing (brownfield) roads depends on, firstly, how fast the background travel demand grows (background growth); and secondly, how successful the Asset is in attracting that traffic (traffic capture). Background travel demand is driven by the socio-economic conditions of the region where the Asset is located and conditions on a national scale. These include:

- Changes in factors such as population, economic growth (regional and national) and industrial production; and
- Other local factors such as strategic port growth, and growth in local industries near the Assets.

4.2 In turn, the change in the competitive position of the Asset (and thus of the traffic capture it will achieve) derives from how the service offered and the prices charged on the Asset change in comparison to competing roads; and whether any new competing road facilities are available.

4.3 In this chapter, we assess the socio-economic indicators relevant to traffic growth on the Assets.

Population growth

National Level

4.4 The total population in India has grown at a Compound Annual Growth Rate (CAGR) of 1.5% since 2000, decreasing over the years, as shown in the table below. The World Bank forecasts this growth to decrease to 0.6% CAGR by the 2030-45 period.

Table 4.1: CAGR of population in India

Years	CAGR		
	Total Population (m)	Rural Population (m)	Urban Population (m)
1970 - 1985	2.3%	1.9%	3.8%
1985 - 2000	2.0%	1.7%	2.9%
2000 - 2015	1.5%	1.0%	2.6%
2015 – 2030*	1.0%	0.3%	2.3%
2030 – 2045*	0.6%	-0.3%	1.9%

Source: World Bank Data on Health Nutrition and Population Statistics, *forecast population growth

4.5 Uttar Pradesh, the most populated state of India represents 17% of the country's population, with the total state population of 200 million (2011 Census). The rate of growth of the urban population in Uttar Pradesh has been consistently higher than that of the total population, indicating a trend towards urban agglomeration. However, the state largely remains rural with the share of urban population being 23% as compared to 31% in case of India.

4.6 The table below shows population evolution in Uttar Pradesh compared to that of the country.

Table 4.2: Population Growth in India (2001 – 2011)

State	2001 Population (m)			2011 Population (m)			CAGR (2001 – 2011)		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Uttar Pradesh	166	132	35	200	155	44	1.8%	1.7%	2.6%
India	1,028.7	742.6	286.1	1,210.9	833.7	377.1	1.6%	1.2%	2.8%

Source: Census 2011 Data

Table 4.3: Local Population Growth (2001 – 2011)

Region	2001 Population (m)	2011 Population (m)	CAGR (2001 – 2011)
Agra	3.62	4.42	2.0%
Ghaziabad*	3.29	4.68	3.6%
Moradabad	3.81	4.77	2.3%

Source: Census 2011 Data, Hapur lies in Ghaziabad district

4.7 The growth of the local population, i.e., of Agra and Moradabad, are of more direct relevance to the Assets. Both these cities have observed healthy growth in population in the last decade indicating that the Assets are expected to continue serving the local consumption demand. However, due to the complexities of the patterns in which urbanisation takes place, and the very dynamic nature of local population migration (which are very difficult to forecast with accuracy), we do not use population growth as a proxy for understanding future travel demand growth on the Assets. It has been included in this section simply to provide a general context of the region in which the Assets are located.

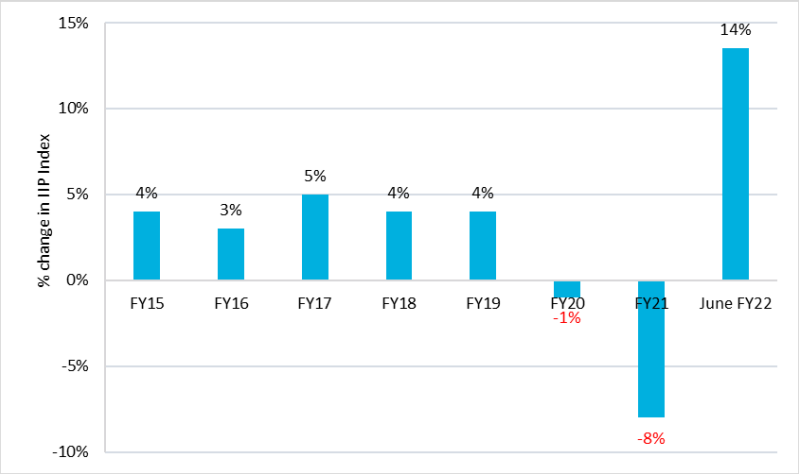
Economic Indicators

Industrial Production

4.8 The Index of Industrial Production (IIP) is a composite indicator that measures the short-term changes in the volume of production for a basket of industrial products. The IIP data tracks the manufacturing activity in different sectors of an economy, with mining, manufacturing, and electricity being the three broad sectors in which IIP constituents fall.

4.9 At an annual level, the IIP was growing on an average of 4% between FY15-19, before being hit by liquidity crisis and overall economic slowdown in FY20. Post that, the IIP shrank by over 8% in FY21, due to a decline in economic activities in the wake of global lockdowns introduced to curb coronavirus pandemic. However, with the gradual opening of economy and rebound observed in demand, the IIP on a month-on-month grew by +28.6% in May 2021 and 13.5% in June 2021, as per the latest available data, indicting a revival in economic growth.

Figure 4.1: Annual growth - Index of Industrial Production



Source: Central Statistical Organisation (CSO)

4.10 Since the IIP data in India is released only at a national level and not at the state level, we do not use IIP growth as a proxy for understanding future travel demand growth on the Assets. Also, availability of long-term forecast is the key for using an indicator as a growth driver, while long-term forecast for IIP are not available we refrain from using it to forecast traffic.

Vehicle ownership

4.11 Car ownership in India has traditionally been very low, however this is slowly changing with the increasing per capita income levels. Between 2007-17, number of cars per 1,000 people has more than doubled and increased at a CAGR of about 11%. The corresponding ownership rates for urban cities like Delhi, Mumbai, Bengaluru, and Chennai are over 100 cars per 1,000 people. The region where the Assets lie is highly rural, therefore the car ownership is lower in the state is lower than the India average.

4.12 India overall also stands at a very nascent stage in the vehicle saturation curve, offering a huge potential, as the income per capita of India and the region itself grow further, we expect the car ownership levels to increase. As per the India Energy Outlook, the car ownership is projected to grow steeply to 175 cars per 1,000 population by 2040 in India[8].

[8] https://www.gita.org.in/Attachments/Reports/IndiaEnergyOutlook_WEO2015.pdf

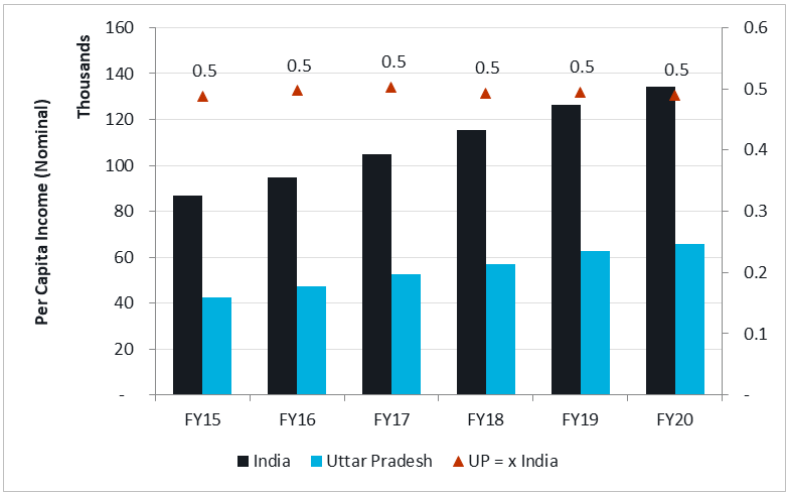
Figure 4.2: Car ownership in India per 1,000 population

Source: Central Statistical Organisation (CSO)

Per Capita Income (PCI)

4.13 The per capita income of the state where the Assets lie i.e., Uttar Pradesh is half as compared to the national average. In dollar terms, PCI of just $1,000 per head indicates that the state is at a very early stage of consumption curve. Going forward, we therefore expect local consumption to be strong with increasing per capita income which would drive the growth in both passenger and commercial traffic on the Assets.

Figure 4.3: Per capita income



Source: Central Statistical Organisation (CSO)

4.14 However, given the difficulty in obtaining granular district level PCI data, it is not advisable to use this as a growth driver. Also, the long-term forecast for PCI is not available, we therefore refrain from using it to forecast traffic.

GDP and GSDP Growth

4.15 The Indian economy has grown at a CAGR of 6.6% during FY12-20, aided by a strong growth in the services/tertiary sector. The economic growth of Uttar Pradesh (GSDP)[9] has been slower than the country overall. Uttar Pradesh approximately contributes 8% to the India's GDP. In terms of per capita income, Uttar Pradesh has lower per capita income than the country.

4.16 Uttar Pradesh is the most populous state in India with a population of ~200 million people. The state has a large pool of skilled, semi-skilled and unskilled labour. Uttar Pradesh is also considered the largest consumer base in the country. The tertiary sector has the highest sectoral contribution to the state GDP followed by the secondary and primary sectors, with shares remaining stable during the past five years.

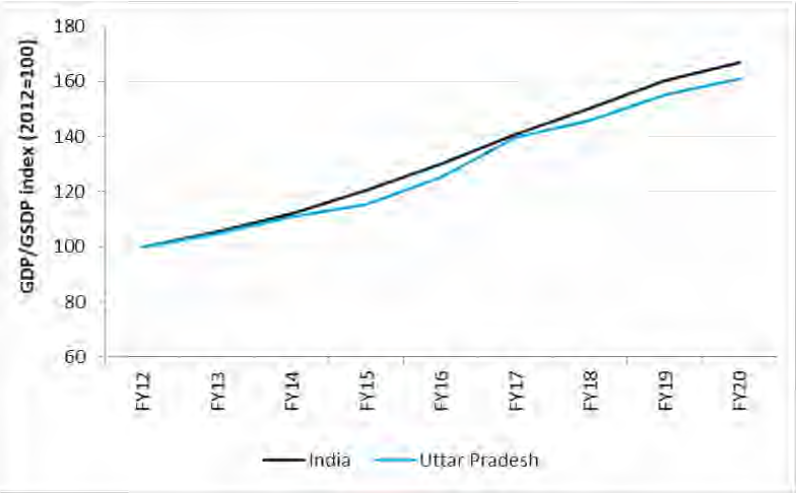
4.17 The tourism and transport sector constitute a majority of the state's tertiary sector. Uttar Pradesh is considered as a favoured tourist destination in India, with key tourist attractions being Agra, Varanasi, Mathura and Prayagraj. In 2019, the state attracted the highest domestic tourist in the country with a share of 23% in domestic tourist arrivals. The state holds third position in the country in foreign tourist arrivals with over 4.74 million[10] visitors.

4.18 In secondary sector, the state has key industrial areas in Khurja (ceramic); Moradabad (metals); Meerut, Bareilly, Mirzapur and Lucknow (handloom & handicrafts); Kanpur and Noida (leather and tannery). The state has an Indian oil corporation refinery in Mathura.

4.19 The state has fertile Gangetic land with a large share of population dependent upon agriculture sector for the livelihood. The key primary industries in the state include food processing, crop production and horticulture. The state is mainly known for production of wheat, sugarcane, potato, and mango.

4.20 Uttar Pradesh's GSDP CAGR was 6.1% between FY12-20 and its relative share to the national GDP was around 8% in FY20.

Table 4.4: GDP/GSDP index (2012=100)



Source: Central Statistical Organisation (CSO)

[9] GSDP is the Gross State Domestic Product i.e., the GDP equivalent for a particular state, it is the final value of goods and services produced by a particular state

[10] Tourism Statistics 2020

4.21 The official historical GDP and GSDP data for India are released by the Central Statistical Organisation (CSO). The GDP forecasts for India are available from various reliable sources such as Oxford and Consensus, but the GSDP forecasts for the same are not published. However, using the past trends for the relationship between GDP and GSDP, we can develop reasonable GSDP forecasts.

4.22 Therefore, in our view, GDP is the best source to be used as a growth driver for long term forecasts of traffic.

Summary

4.23 For any indicator to be used as a growth driver to forecast traffic, a reliable source of historical and forecast available for that indicator is the key requirement. Of the key socioeconomic indicators discussed above GDP seems to be the only growth driver for which reliable data is available both in terms of historical and forecast data, therefore, to forecast traffic we would be using GDP/GSDP as our key growth drivers.

Indicator	Remarks
GDP/GSDP	Available annually ***National level reliable historical and forecast available***
Population/Urbanisation	Revised every 10 years, last available 2011. Population estimates are not available annually, making it difficult to run regressions. Also, the very dynamic nature of local population migration (which are very difficult to forecast with accuracy), we do not use population growth as a proxy for understanding future travel demand growth on the Asset. *Forecast available but historical data is a constraint*
Per Capita income	National and state level per capita historical data is available, but future estimates for the same are not to base traffic growth on. *Historical data available but forecast data is a constraint*
IIP Index (Industrial production)	Unlike GDP, reliable IIP forecast are not available, also the IIP data is only available at national levels and not for each state individually.
Vehicle ownership	Vehicle ownership at India level is available latest for 2017. At state level, not all states release their vehicle ownership data annually making it difficult for consistency. A lot of research organisations have published forecast at national level, but a reliable estimate is not available.

Source: Steer analysis

5 Traffic growth analysis

Introduction

5.1 In this chapter, we present our approach, assumptions around estimation of elasticities and forecast assumptions of Macro parameters for each vehicle category on the Asset.

5.2 Traffic growth is commonly related to a variety of macro-economic and industry- or commodity-specific factors (hereafter referred to as 'traffic growth drivers'). These growth drivers are typically identified from the results of the OD data analysis and the site visits that help us appreciate the nature of traffic movement – 'what' travels 'where' and 'why'.

5.3 On Assets where long time series historical data is available, to understand the historical traffic trends in relation to these growth drivers, we typically carry out regression analysis, to determine the historical relationship between traffic belonging to each major vehicle category and its macroeconomic growth driver at the toll plaza. The dynamics of traffic demand is the dependent variable while the dynamics of one or more identified growth drivers are the independent or explanatory variables. This is the primary approach to determine the elasticity relationships. However, for Asset under consideration where only limited historical data is available, we have adopted an approach which is explained in detail in the sections below.

5.4 While working on several Assets across the country where historical data is available, it has been observed that typically, growth of passenger and light commercial vehicles like cars, buses and LCVs which have relatively shorter trip lengths (<200-250 km) is more closely linked to the local economic growth drivers where the toll road is located. These categories are generally driven by the demand driven by local production/consumption centres and are in most cases captive to the toll plazas. Local factors coupled with tourism driven demand is often seen as the key driver for consumption of goods and services in the areas. Therefore, we typically link the growth rate of these vehicle categories with GSDP growth rates of the state where the asset is located as that is closest proxy of the local economic activity in the region.

5.5 Whereas Heavy vehicle traffic like 3-axle trucks (sometimes 2A trucks as well) and MAVs tend to have a much longer average trip lengths (>350-500 km) and serve multiple economic activity centres located along an Asset as well beyond the Asset across multiple states of the country. For these vehicle categories we therefore assume these vehicle categories to grow in line with the national GDP. This is because most light goods vehicles tend to travel shorter distances within the state, whereas a significant proportion of heavy vehicles carry commodities for long - distances across the country and have much longer trip lengths. These commodities also tend to be part of industry ecosystems whose demand-supply relationships are scattered across the country and therefore relate more with GDP growth. Therefore, using the OD data trip lengths of various vehicle types and the commodity carried by these goods vehicles form the basis for estimating the elasticity relationships.

Estimation of background elasticities

Overview

5.6 For brownfield Assets, where sufficient historical traffic evolution is available, it is common practice to use regression model analysis to determine the relationship, expressed as elasticity, between traffic growth and key socioeconomic drivers. This relationship is then applied to assumptions of future socio-economic evolution to estimate future traffic growth.

5.7 As for the Assets under consideration, the tolling started recently in FY18, in addition they were undergoing construction (4 to 6 laning) with various network changes resulting in shifts from the Assets therefore a consistent historical trend was not available. Therefore, we undertook a benchmarking analysis in order to estimate our forecast elasticities. Sources used include our understanding of the Asset, outputs of the OD data analysis (commodity distribution, key OD pairs, Trip length analysis) and our understanding of the benchmark Assets in the region having similar traffic profiles, which give us reasonable confidence to the relationships proposed.

5.8 In terms of selection of growth drivers for vehicle types, in general we have assumed state GSDP as the key driving factor for the passenger traffic given this traffic is generally driven by the local economies of the cities and state containing the Asset. As discussed earlier in Chapter 2 and Chapter 3, through the site visit observations and further corroborated by the OD data analysis, it was confirmed that the heavy commercial vehicles (2A, 3A, MAV) on this Asset ply long-distance catering to multiple economic centres along and beyond the Asset corridor. Therefore, their underlying growth can be reasonably considered to be governed by the general economies of several states or nation as whole.

5.9 The forecast elasticities are assumed to remain constant over the concession period as the logistics sector in still in early stages of development in India (95% of trucks still owned by operators owning less than 5 trucks). Car ownership levels are still around 22+ per 1000 people, and it is likely to take a few years before the market reaches maturity. These trends are based on a long-term understanding of historical relationships and an overall outlook on the growth of the region and the country.

5.10 The below table presents the growth drivers identified to model the forecast background traffic growth rates across all toll plazas.

Table 5.1: Identified growth drivers to model traffic growth

Vehicle type	GDP India	State GSDP
Car		100% GSDP Western UP
LCV		100% GSDP Western UP
Bus		100% GSDP Western UP
2A	100%	
3A	100%	
MAV	100%	

Source: Steer analysis of Client data

5.11 The sections below detail out the reasoning for selection of respective growth driver(s) for each vehicle category.

Table 5.2: Forecast and background elasticities for the Agra Etawah Asset

Vehicle Category	Proposed	Growth Driver	Comments
CJV	AE Gurau: 1.0 AE Tundla: 1.1	GSDP Western UP	Car traffic is largely driven by the local demand and tourism from Agra, Mathura and Fatehpur Sikri. CJVs are expected to grow with 1.0 elasticity on the asset as the car ownership levels continue to increase in the region in future years. With The presence of a large tourism centre at Agra and industrial/educational centre at Firozabad, CJV traffic is expected to grow at a higher rate with a 1.1 relationship to Western UP's GSDP.
Buses	AE Gurau: 0.5 AE Tundla: 0.5	GSDP Western UP	Buses are primarily a mix of public and private inter-city buses. It seems that buses currently are serving local intercity demand. As these cities grow, the buses are also expected to respond to the increasing demand however only at a muted rate.
LCV	AE Gurau: 0.5 AE Tundla: 0.5	GSDP Western UP	LCV have been observed to carry a mix of commodities over medium to long distance trips with trip lengths up to 500km in addition to catering to the local demand. LCV/2A/3A have emerged as preferred modes with emergence of high value low tonnage economics. LCV/2A trucks are observed to be carrying such materials including courier, parcel etc on this corridor between Agra, Kanpur and Lucknow and local areas in-between. Further both LCV and 2A have also serving the manufactured local products from Agra and Firozabad. Therefore we believe that the LCV/2A category will continue to grow in the future. 2A trucks have comparatively longer trip lengths with some share of Petroleum and Automotive related commodities as compared to LCVs, therefore higher elasticity of 0.6 has been assumed for 2A vehicles.
2A	AE Gurau: 0.6 AE Tundla: 0.6	GDP	
3A	AE Gurau: 0.7 AE Tundla: 0.7	GDP	The asset is part of the traditional Golden Quadrilateral with MAV doing long distance movements catering to the New Delhi and north India towards eastern parts of India. The Assets benefit from agricultural, groceries and industrial movement from industries along the corridor and in the vicinity. More than 30% of MAVs are doing more than 500km trips while 40-45% doing an average trip length of more than 1000 kms just aids the fact that this asset has significant long distance traffic and is expected to have a closer growth relationship with national GDP. Therefore an assumption of 0.9 to GDP has been assumed for the forecasts.
MAV	AE Gurau: 0.9 AE Tundla: 0.9	GDP	

Source: Steer analysis

Table 5.3: Forecast and background elasticities for the Hapur Moradabad Asset

Vehicle Category	Proposed	Growth Driver	Comments
CJV	HM Brijghat:1.1 HM Joya: 1.0	GSDP Western UP	Car traffic is largely driven by the local demand and tourism from Agra, Mathura and Fatehpur Sikri. CJVs are expected to grow with 1.0 elasticity on the asset as the car ownership levels continue to increase in the region in future years. With The presence of a large tourism centre at Agra and industrial/educational centre at Firozabad, CJV traffic is expected to grow at a higher rate with a 1.1 relationship to Western UP's GSDP.
Buses	HM Brijghat: 0.5 HM Joya: 0.5	GSDP Western UP	Buses are primarily a mix of public and private inter-city buses. It seems that buses currently are serving local intercity demand. As these cities grow, the buses are also expected to respond to the increasing demand however only at a muted rate.
LCV	HM Brijghat: 0.5 HM Joya: 0.5	GSDP Western UP	LCV have been observed to carry a mix of commodities over medium to long distance trips with trip lengths up to 500km in addition to catering to the local demand. LCV/2A/3A have emerged as preferred modes with emergence of high value low tonnage economics. LCV/2A trucks are observed to be carrying such materials including courier, parcel etc on this corridor between Agra, Kanpur and Lucknow and local areas in-between. Further both LCV and 2A have also serving the manufactured local products from Agra and Firozabad. Therefore we believe that the LCV/2A category will continue to grow in the future. 2A trucks have comparatively longer trip lengths with some share of Petroleum and Automotive related commodities as compared to LCVs, therefore higher elasticity of 0.6 has been assumed for 2A vehicles. The asset is part of the traditional Golden Quadrilateral with MAV doing long distance movements catering to the New Delhi and north India towards eastern parts of India. The Assets benefit from agricultural, groceries and industrial movement from industries along the corridor and in the vicinity. More than 30% of MAVs are doing more than 500km trips while 40-45% doing an average trip length of more than 1000 kms just aids the fact that this asset has significant long distance traffic and is expected to have a closer growth relationship with national GDP. Therefore an assumption of 0.9 to GDP has been assumed for the forecasts.
2A	HM Brijghat: 0.6 HM Joya: 0.5	GDP	
3A	HM Brijghat:0.6 HM Joya: 0.6	GDP	
MAV	HM Brijghat: 0.8 HM Joya: 0.8	GDP	The asset is part of the traditional Golden Quadrilateral with MAV doing long distance movements catering to the New Delhi and north India towards eastern parts of India. The Assets benefit from agricultural, groceries and industrial movement from industries along the corridor and in the vicinity. Further, an average trip length of more than 1000 kms for MAVs just aids the fact that this asset has significant long distance traffic and is expected to have a closer growth relationship with national GDP. Therefore an assumption of 0.8 to GDP has been assumed for the forecasts.

Source: Steer analysis

Forecasts for growth drivers

5.12 Following the discussion in Chapter 4 on the nature of economic activity in the state of Uttar Pradesh, in this section, we describe the assumptions in relation to forecasts of the key macro-economic drivers of traffic growth. Particularly, we have based our forecast on GDP and GSDP projections provided by the Client.

National GDP

5.13 India's GDP and the relevant state GSDPs are the primary macroeconomic variables that have been modelled to drive our traffic growth forecasts.

5.14 After the last period of economic slowdown in FY11-12, the country has been experiencing an economic downturn since late FY19 with the FY20 reporting 4% GDP growth. India's GDP growth declined as domestic investment and consumption demand were already under stress because of the liquidity crunch before Covid-19. Related events to the economic slowdown include reduced growth rates in automobile sales and production, liquidity crunch, rising number of non-performing assets, lower manufacturing outputs and lower rural consumption. Furthermore, the last months of FY20 and FY21 have been affected by Covid19, with impacts on industry (economic activity) and society (social activity). This bias has been addressed in terms of base traffic estimation by normalising the traffic projections for FY21 (as described in Chapter 6) and we based our forecast on the GDP projections as shown in figure below.

5.15 There was a substantial impact of the covid-19 outbreak on the Indian economy during the first two quarters of FY21. The growth momentum eventually picked up in Q3-Q4 FY21. A sharp rebound is expected in FY22 with economy projected to grow by 9.4%. In the long term, Indian GDP would reduce gradually after 2030, to reach 5% by 2030 and 4.5% by FY40.

5.16 Our national GDP forecasts are a blend of published forecasts by independent sources such as Consensus, World Bank, IMF, OECD, and RBI.

Figure 5.1: FY21-40 GDP forecast

Source: Steer analysis of GDP forecast by various organisations.
Average of long-term forecast of Consensus, OECD, Oxford and short-term forecast of IMF and World Bank

Normalisation of FY22 GDP and FY23 GDP

5.17 To arrive at the FY22 normalized position, we have assumed that the Q4FY22 would be a normal period, with no further impact of Covid-19. However, we cannot directly use FY22-Q4 estimates because of inherent seasonality attached to it. In India, it is typically observed that during the first half of the financial year (April-September) the GDP growth and contribution to overall GDP is generally lower than the annual average. Widespread monsoon-related disruptions result in subdued economic activity in this period. The second half of the financial year (October-March) typically shows a gradual pick-up in economic activity as the monsoon recedes and construction, mining and agricultural activities start ramping. The agricultural harvest season coupled with the festive season around Diwali boosts the consumer spend in the second half of the financial year.

5.18 We have analysed how Q4 grew with respect to annual GDP for the last five years and have taken an average of FY16 and FY18 and excluding FY17, FY19 and FY20 as they were impacted years due to demonisation and slowdown in Indian Economy.

5.19 The Q4 grew on an average of 1.22 times the annual GDP, applying this factor to the FY22-Q4 estimates, we have arrived at FY22 normalised GDP position of 5.4%.

Quarter	FY16	FY17*	FY18	FY19*	FY20	FY22
Q1	7.6%	8.7%	6.1%	7.6%	5.4%	18.5%
Q2	8.0%	9.7%	5.3%	6.5%	4.6%	7.9%
Q3	7.2%	8.6%	6.7%	6.3%	3.3%	7.2%
Q4	9.1%	6.3%	8.9%	5.8%	3.0%	6.6%
FY	8.0%	8.3%	6.8%	6.5%	4.0%	9.5%
Q4 factor wrt to FY	**1.14**	**0.76**	**1.31**	**0.89**	**0.74**	
Adopted Q4 factor wrt to FY	**1.22**					
Normalised FY22	**5.4%**					
Normalised FY23	**5.9%**					

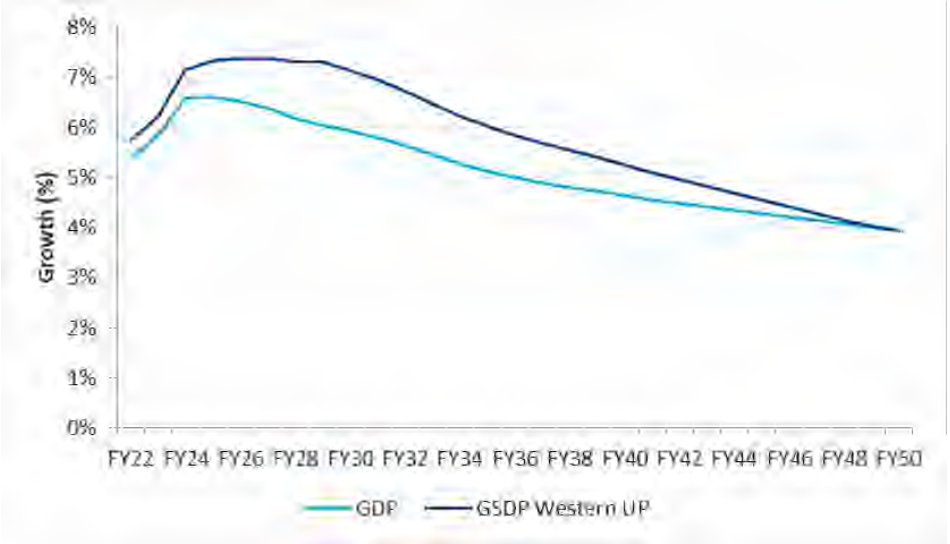
Source: RBI for FY22 estimates, and historical Quarter on Quarter GDP have been sourced from MOSPI (Ministry of Statistics and Programme Implementation, Central Statistical Organisation), *FY17 and FY19 have been ignored due to exogenous impacts such as Demonetisation and slowdown the economy in FY19

Western Uttar Pradesh GSDP

5.20 By comparing historic trends of regional GSDP growth with the national GDP growth we have established GSDP projections for each state. We assumed that as the Indian economy grows, the states which have historically grown at a faster pace will, over 10 years, see a slowdown in GSDP growth, tending to the national average, whereas the states that have grown slower than the national GDP will begin to pick-up and grow faster. The GDP-GSDP gap would partially converge by 2040, and fully converge by 2049.

5.21 The western UP GSDP is expected to grow faster than the national GDP and is expected to start converging towards national average by 2048. The chart below shows the forecast growth lines for GDP and UP GSDP.

Figure 5.2: Forecasts for India GDP, GSDP Western UP



Source: Steer analysis of historical State GSDP data and India GDP projections

6 Forecasts: Base year AADT and Impacts

Introduction

6.1 Following the discussion on our forecast of background growth rates in the previous chapter, this chapter first covers the forecasting assumptions around base year AADT and potential network impacts on traffic growth on the Asset. Thereafter, we present our assumptions around toll segmentations, trip factors and evolution of toll rates for the forecast period which are used to forecast revenues as derived from forecast traffic. In the final section, this chapter summarises traffic growth rates for the forecast years.

6.2 The following table lists key intermediate and final outputs that have presented in previous Chapters and in this chapter.

Table 6.1: Key intermediate and final outputs in the forecast

Forecast	Final outputs	Intermediate outputs	Inputs	Chapter
Traffic	Base year AADT	ADT, SCF estimate for base year	Historical SCF and year-to-date AADT	Chapter 3, 6
	Background traffic growth	Background forecast elasticity	Background historical elasticities with respect to growth drivers	Chapter 5, Appendix C
		Forecasts for growth drivers	Historical performance of growth drivers along with Client's GDP line	Chapter 4, 5, Appendix C
	Impact growth rates and staging	Impacts	Chapters 6	Chapters 6
Revenue	Annual/daily revenue forecasts	Forecast toll segmentation: Trip frequencies and trip factors	Historical trip frequencies	Chapter 3, 6
			Historical trip factors	Chapter 6
		Future toll rates	Toll evolution	Chapter 6

Source: Steer

Seasonal Correction Factors

6.3 Traffic on any Asset varies on a month-on-month level. Such variations maybe due to monsoons (typically Jul to Sept) or due to festivals in the region. For e.g. It is observed that typically the truck traffic during the first half of the financial year (April-September) is generally lower than the annual average, mainly because of peak summer season followed by monsoons affecting the freight movement patterns in large parts of the country in the July-September period. In addition to these there may be other seasonal variations specific to the Asset.

6.4 In order to normalise for these variations across the year to provide an AADT estimate, Seasonality Correction Factors (SCF) are used. SCFs are estimated to convert the monthly traffic numbers to an AADT level while accounting for seasonal variation due to local/national festivals, weather changes and/or temporary external impacts. These are typically estimated using historical data for each plaza and vehicle category over multiple years. An SCF >1 means that the traffic for the month is lower than the annual average and vice-versa.

6.5 Historical traffic data was available for all toll vehicle categories starting August 2016 for Agra Etawah and June 2019 for Hapur-Moradabad up-to June 2022 for both asset. Therefore, in absence of longer-term historical data to arrive at the SCF, we have benchmarked our SCF from various sources:

- Assets in the vicinity, south or north of the Asset carrying very similar traffic profiles
- SCF from toll plaza data
- Site observations and information provided by the toll plaza to validate SCF assumptions (such as traffic volume drop during monsoon months).

6.6 The below table presents the assumptions in SCF used to estimate the AADT:

Table 6.2: Adopted SCF: AE Gurau

Vehicle Category	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
CJV	0.97	1.01	0.95	1.11	1.11	1.25	1.06	0.92	1.00	1.01	0.82	0.93
LCV	0.95	1.01	1.05	1.12	1.12	1.01	0.94	0.95	0.98	1.03	0.92	0.98
Bus	0.94	0.96	0.95	1.15	1.10	1.05	1.01	0.97	1.05	1.06	0.94	0.93
2A	1.04	1.02	1.04	1.01	1.06	0.96	0.96	1.01	1.06	1.08	0.98	0.94
3A	0.99	0.99	1.02	1.18	1.16	1.00	0.96	0.95	0.94	0.99	0.93	0.97
MAV	1.02	1.04	1.05	1.15	1.11	1.00	0.92	0.90	0.93	1.01	0.96	1.00

Source: Steer analysis of various sources

Table 6.3: Adopted SCF: AE Tundla

Vehicle Category	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
CJV	1.03	1.07	0.98	1.08	1.08	1.19	1.06	0.93	0.98	0.98	0.83	0.92
LCV	0.96	1.00	1.03	1.09	1.09	0.99	0.95	0.96	1.00	1.05	0.93	1.00
Bus	0.97	0.99	0.99	1.12	1.08	1.03	0.99	0.95	1.02	1.03	0.95	0.94
2A	1.04	1.02	1.02	1.00	1.10	0.98	0.96	0.99	1.05	1.07	0.97	0.98
3A	0.99	0.99	1.03	1.12	1.11	0.99	0.95	0.95	0.97	1.02	0.95	0.99
MAV	1.01	1.02	1.05	1.13	1.09	1.00	0.93	0.91	0.97	1.02	0.96	1.00

Source: Steer analysis of various sources

Table 6.4: Adopted SCF: HM Brijghat

Vehicle Category	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
CJV	0.98	0.95	0.83	1.08	1.16	1.16	1.05	0.96	0.99	1.06	0.93	0.95
LCV	0.88	0.86	0.91	1.07	1.17	1.01	0.99	1.04	1.05	1.11	1.02	1.00
Bus	1.01	1.02	1.01	1.05	1.10	1.04	0.97	0.91	1.01	1.03	1.02	0.91
2A	0.93	0.93	0.95	1.08	1.16	0.94	0.91	1.02	1.10	1.07	1.00	1.03
3A	1.00	0.93	1.05	1.21	1.19	0.99	0.86	0.88	0.97	1.02	1.01	1.02
MAV	1.00	0.93	1.05	1.21	1.19	0.99	0.86	0.88	0.97	1.02	1.01	1.02

Source: Steer analysis of various sources

Table 6.5: Adopted SCF: HM Joya

Vehicle Category	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
CJV	0.98	0.95	0.83	1.08	1.16	1.16	1.05	0.96	0.99	1.06	0.93	0.95
LCV	0.88	0.86	0.91	1.07	1.17	1.01	0.99	1.04	1.05	1.11	1.02	1.00
Bus	1.01	1.02	1.01	1.05	1.10	1.04	0.97	0.91	1.01	1.03	1.02	0.91
2A	0.93	0.93	0.95	1.08	1.16	0.94	0.91	1.02	1.10	1.07	1.00	1.03
3A	1.00	0.93	1.05	1.21	1.19	0.99	0.86	0.88	0.97	1.02	1.01	1.02
MAV	1.00	0.93	1.05	1.21	1.19	0.99	0.86	0.88	0.97	1.02	1.01	1.02

Source: Steer analysis of various sources

Base year (FY21 and FY22) traffic

6.7 The impact of Covid19 caused steep fluctuations on traffic numbers throughout the year and have therefore made it extremely difficult to estimate an actual base traffic level for FY21 and the impact of 2nd wave in Q1FY22 has disrupted normal travel patterns in FY22 as well. Additionally, these fluctuations in traffic were widely different across different assets depending their locations, commodities carried, and the overall nature of traffic being served by the asset. Therefore, an approach to estimate a base AADT number for FY21 and FY22 (normalised) must be used, which not only accounts for the impact of Covid19 related national lockdowns, but also the localised restrictions, and traffic profile on each asset.

6.8 The methodology and assumptions taken to estimate FY21 and FY22 is discussed in the following sections.

Estimation of FY21 Normalised and FY22* (no Covid19, hypothetical)

6.9 After the initial drop in traffic volumes across categories in Q1 , gradual recovery to pre-Covid19 levels (FY20) was seen on Assets starting Q2FY21 (refer chapter 3) except on KG. Some of this recovery was related to the pent-up demand that was witnessed across Assets. However, the increased traffic volume levels sustained in Q3FY21 and Q4FY21 as well (refer chapter 3). This reflected a sustained economic recovery and therefore a normalised FY21N base traffic has been estimated based on the Jan-Feb-March of FY21 after adjusting for seasonality.

6.10 **FY22 if no 2nd wave (FY22*)**: FY22* AADT (no Covid19, Hypothetical) has been estimated to arrive at an FY22 AADT position assuming a normal FY22 (no further Covid19 waves of infection in FY22). FY22* was estimated based on a normalised FY22 GDP (as discussed in chapter 4) to elasticity relationship. This estimation was undertaken to compare the FY22 estimates to actual outturn for Q1FY22.

Assumptions on 3rd Wave of Covid19 infections

6.11 As we have already seen the third wave of Covid19 infections in other countries (UK, USA, Israel, Russia), it is prudent to assume that a 3rd wave of Covid19 infections is likely to occur in India too. Its impact will depend on individual states' preparedness and level of vaccination throughout the country. We have, after compiling information from various sources, taken an assumption for the timing of the 3rd wave, and assumed that its magnitude will, in general be smaller than the 2nd wave of infections. ***Note here that this is one of several scenarios that may unfold as the Covid-19 pandemic is currently still unpredictable in terms of its spread due to various variants, the impact of the vaccination programme in different parts of a region, and most importantly the response from local/regional/state/national authorities due to increased rates of infections remains unpredictable. The scenario outlined below is considered to be a reasonable outcome based on information currently available, however the exact outturn remains unpredictable due to the factors outlined above.***

6.12 As per the latest evidence available from public sources, the 3rd wave of infections is expected to peak during the months of October and November 2021. However, the number of cases in third wave are expected to be lower, due to external interventions like vaccinations, and the lockdowns to be more regional. Further the length of the third wave is expected to be 6 weeks as compared to 10-12 weeks during the second wave. Therefore, the overall impact on traffic of 3rd wave is expected to be half of the impact that was seen on Asset in the second wave with a faster recovery back to FY22* levels by Dec'2021.

Month on Month comparison of FY22* and FY22 estimated

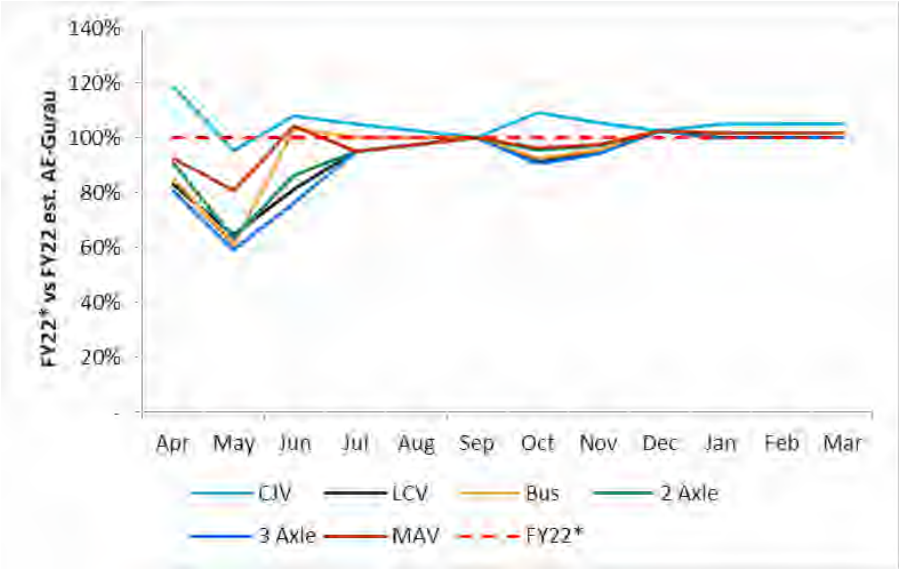
6.13 Actual toll plaza data was available up to May-21, and three weeks of June 2021 was also made available. A comparison between FY22* and outturn traffic was undertaken to evaluate the impact of 2nd wave of Covid19. Based on the methodology stated above This comparison is used as an indicator to estimate the magnitude of third wave of Covid19 also to affirm that Q4 of FY22 is likely to follow a pattern largely unimpacted by lockdowns, movement restrictions etc. The assumption for a normal Q4FY22 is considered to be reasonable as the number of cases go down, vaccination rates go up, and normal economic activity resumes.

Estimation of Q4 FY22

6.14 Q4FY22 is likely to follow the pattern from FY21 and is estimated to stabilize at the FY22* estimated numbers. This Q4 traffic level for each asset is used as a proxy to get a FY22 normalized or FY22N position. Note here the F22N and FY22* will be the same as it is assumed that Q4 of FY22* will become the basis of estimating FY22N. As these AADT levels are expected to be free of COVID related fluctuations, they serve as a stable base position for traffic for the Asset.

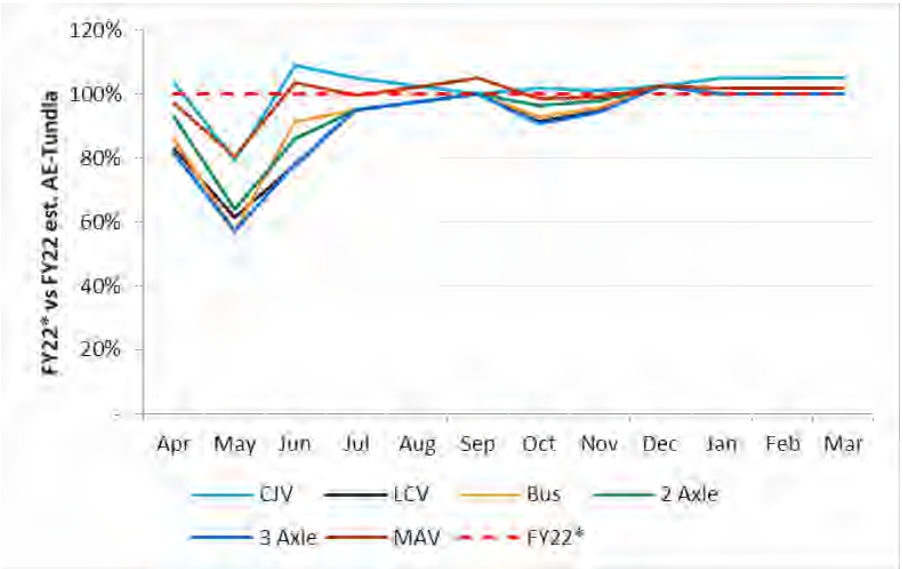
6.15 The output of above analysis is presented below charts.

Figure 6.1: FY22* (no Covid19, Hypothetical) vs FY22 Estimated: AE Gurau



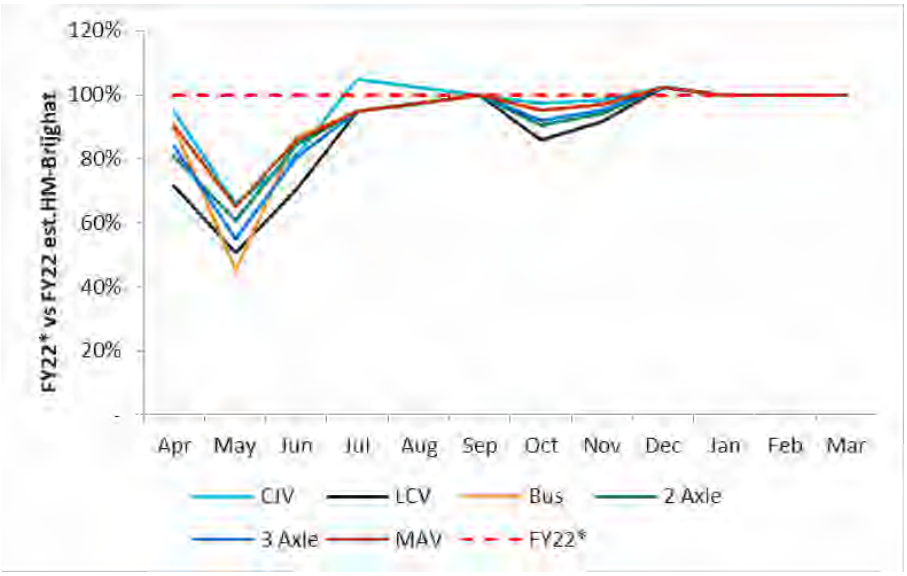
Source: Steer Analysis

Figure 6.2: FY22* (no Covid19, Hypothetical) vs FY22 Estimated: AE Tundla



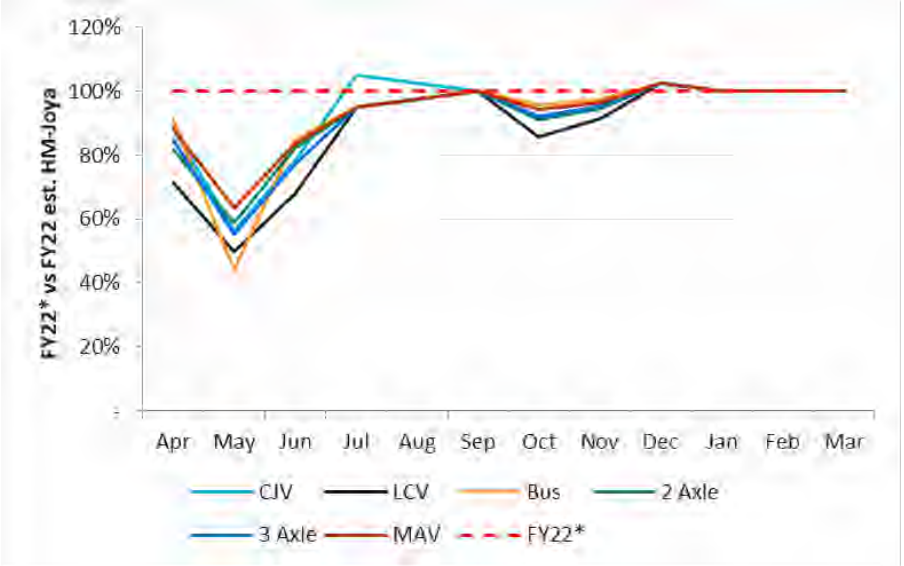
Source: Steer Analysis

Figure 6.3: FY22* (no Covid19, Hypothetical) vs FY22 Estimated: HM Brijghat



Source: Steer Analysis

Figure 6.4: FY22* (no Covid19, Hypothetical) vs FY22 Estimated: HM Joya



Source: Steer Analysis

6.16 As we can see from the charts above, the impact of 2nd wave of Covid19 is expected to subside by May with traffic recovery back to FY22* levels by end of Q2FY22 levels. The impact of third wave is expected to be lower than the impact of 2nd wave with recovery back to FY22* levels by Dec'2021. The rest of the months assuming no further waves of Covid19 are expected to return to FY22*/FY22N levels.

FY23 Estimation and base AADT for forecast

6.17 These FY22N AADT are then used to estimate a FY23 AADT position, with an underlying assumption of no further COVID waves. FY23 then becomes the basis of all future forecasts which again start to follow the GDP and elasticity-based growth pattern for traffic.

Base year AADT

6.18 Based on the methodology discussed above, the tables below present the FY22N for each of the toll plaza:

Table 6.6: FY22N Base AADT estimates compared to FY21 Actuals and FY22 Estimated – AE Gurau

	FY20	FY21	FY21N	FY22	FY22*	FY22N
	Actual	**Actual**	**Q4 N**	**Estimated**	**No Covid**	**Q4 N**
CJV	2,478	3,304	3,332	3,693	3,518	3,694
LCV	1,148	1,187	877	833	902	902
Bus	497	476	487	468	498	498
2A	912	1,088	1,317	1,265	1,360	1,360
3A	931	984	1,101	1,042	1,143	1,143
MAV	1,449	1,971	2,244	2,294	2,353	2,400
Total	**7,417**	**9,010**	**9,358**	**9,595**	**9,773**	**9,996**
PCU	**17,745**	**21,598**	**23,460**	**23,590**	**24,459**	**24,847**

Source: Steer Analysis, FY22* if 2nd Covid wave had happened

Table 6.7: FY22N Base AADT estimates compared to FY21 Actuals and FY22 Estimated – AE Tundla

	FY20	FY21	FY21N	FY22	FY22*	FY22N
	Actual	**Actual**	**Q4 N**	**Estimated**	**No Covid**	**Q4 N**
CJV	8,939	8,751	8,517	9,199	9,089	9,543
LCV	2,029	1,838	1,347	1,270	1,385	1,385
Bus	1,155	865	1,021	968	1,044	1,044
2A	1,342	1,432	1,653	1,592	1,707	1,707
3A	994	980	1,116	1,055	1,158	1,158
MAV	1,277	1,717	1,980	2,058	2,077	2,118
Total	**15,735**	**15,583**	**15,635**	**16,143**	**16,459**	**16,955**
PCU	**28,199**	**29,067**	**30,820**	**31,212**	**32,236**	**32,877**

Source: Steer Analysis, FY22* if 2nd Covid wave had happened

Table 6.8: FY22N Base AADT estimates compared to FY21 Actuals and FY22 Estimated – HM Brijghat

	FY20	FY21	FY21N	FY22	FY22*	FY22N
	Actual	**Actual**	**Q4 N**	**Estimated**	**No Covid**	**Q4 N**
CJV	15,968	17,858	21,059	21,398	22,524	22,524
LCV	3,656	3,299	2,509	2,255	2,581	2,581
Bus	2,010	1,666	2,030	1,926	2,089	2,089
2A	1,293	1,429	1,701	1,601	1,756	1,756
3A	1,324	1,160	1,234	1,162	1,274	1,274
MAV	1,755	1,718	1,906	1,861	1,988	1,988
Total	**26,006**	**27,128**	**30,439**	**30,203**	**32,212**	**32,212**
PCU	**43,231**	**43,297**	**48,294**	**47,223**	**50,699**	**50,699**

Table 6.9: FY22N Base AADT estimates compared to FY21 Actuals and FY22 Estimated – HM Joya

	FY20	FY21	FY21N	FY22	FY22*	FY22N
	Actual	**Actual**	**Q4 N**	**Estimated**	**No Covid**	**Q4 N**
CJV	10,682	11,917	13,981	13,718	14,763	14,763
LCV	2,488	2,385	1,711	1,530	1,758	1,758
Bus	1,466	1,379	1,635	1,548	1,680	1,680
2A	1,019	1,093	1,252	1,169	1,285	1,285
3A	1,148	1,117	1,203	1,131	1,242	1,242
MAV	1,379	1,439	1,611	1,561	1,681	1,681
Total	**18,181**	**19,329**	**21,393**	**20,657**	**22,411**	**22,411**
PCU	**31,515**	**32,734**	**36,067**	**34,582**	**37,589**	**37,589**

Source: Steer Analysis, FY22* if 2nd Covid wave had happened

Analysis of potential impacts

Summary of alternate routes and planned changes

6.19 The section below details the impacts which we believe would affect traffic on the Asset during the concession period. As discussed in earlier Chapters, in order to assess the impacts on the Asset, whether positive or negative, we have studied developments (alternate roads, feeder roads and regulatory) in the surrounding road network.

Summary of impact assessments

6.20 The following table lists the impacts considered on the AE Asset.

Table 6.10: Summary of impacts - AE

Impact	Year of impact	Probability/scale of impact	Impact (+/-)
LoS Improvement	FY23 onwards	High/low	+ve
Ganga Expressway (trips excluding Delhi NCR)	FY27 onwards	High/Low	-ve
Ganga Expressway (only Delhi NCR trips)	FY27 onwards	High/Low	-ve
Agra Lucknow Expressway post 100% tolling	FY23 onwards	Medium/High	+ve

Source: Steer Analysis

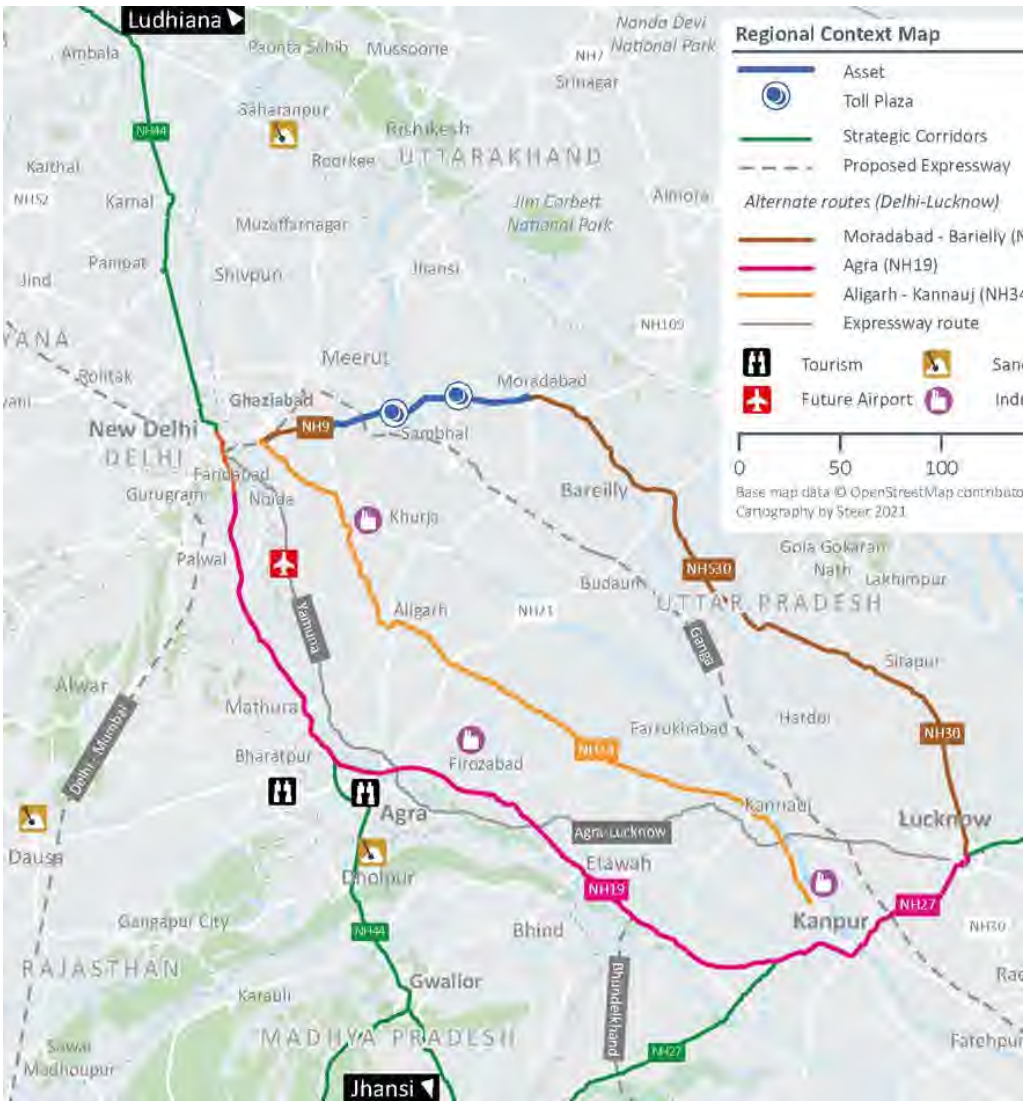
6.21 The following table lists the impacts considered on the HM Asset.

Table 6.11: Summary of impacts - HM

Impact	Year of impact	Probability/scale of impact	Impact (+/-)
LoS Improvement	FY23 onwards	High/Medium	+ve
Bareilly – Sitapur Four Laning	FY24 onwards	High/Medium	+ve
Ganga Expressway (excluding Delhi NCR)	FY27 onwards	High/Medium	-ve
Ganga Expressway (only Delhi NCR trips)	FY27 onwards	High/Medium	-ve
Rudrapur-Rampur Four Laning	FY23 onwards	High/Low	+ve

6.22 The network context in which these upgrades are planned can be analysed in conjunction with the network map below.

Figure 6.5: Asset route shown against the regional network context



Source: Steer analysis and cartography

6.23 The subsections below include a narrative of each of the improvements, and impacts associated from each of these on our traffic forecasts. Please note that all traffic volumes for impacts were estimated as impact rates applied on FY22 AADT.

AE: LoS Improvement

6.24 The Asset had recently completed construction and achieved COD in FY22. Post the upgrade to 6 lanes, with better ride quality and level of service, it is expected that the more local traffic covering short distances will start using the Asset resulting in increased traffic on the Asset.

6.25 The in-scope traffic includes all the trips with Origins and destinations located on Asset, Immediate Area of Influence and trips originating in Agra and Etawah districts. The impact is included from FY23.

Table 6.12: LoS Improvement Impact - AE

	CJV	LCV	2A	3A	MAV
Impact % (AE-Gurau)	3.0%	2.0%	0.2%	0.5%	0.6%
Impact % (AE-Tundla)	1.2%	1.3%	1.0%	0.9%	0.6%

Source: Steer Analysis

AE: Agra Lucknow Expressway post 100% tolling

6.26 The Agra–Lucknow Expressway is a 302 km long, 6-lane wide access-controlled expressway which runs parallel to asset. It is a competing route for long distance traffic moving between Agra and Lucknow.

6.27 Currently, the toll rates on expressway are tolled at 75% of actual toll rates. The toll rates are expected to be revised to 100% in FY23. The asset would become cheaper for traffic moving between Agra/north and Lucknow/east. The impact is included from FY23.

Table 6.13: Impact of Agra Lucknow Expressway post 100% tolling - AE

	2A	3A	MAV
Impact % (AE_Tundla)	2.5%	4.3%	5.5%
Impact % (AE_Gurau)	3.1%	4.4%	4.9%

Source: Steer Analysis

HM: LoS Improvement

6.28 The Asset is currently under construction and is expected to achieve COD in FY22. Once the construction in completed, the asset would provide improved level of service with reduced travel times for all the local trips which have at least origin or destination trip end on the asset.

6.29 The in-scope traffic includes all the trips with origins and destinations located on Asset, Immediate Area of Influence and trips originating in Hapur, Moradabad, and Amroha districts. The impact is included from FY23.

Table 6.14: HM: LoS Improvement

	CJV	LCV	2A	3A	MAV
Impact % (HM-Brijghat)	2.4%	5.2%	2.2%	4.2%	3.7%
Impact % (HM-Joya)	2.2%	4.9%	1.9%	4.6%	3.3%

Source: Steer Analysis

HM: Bareilly – Sitapur Four Laning

6.30 The Bareilly- Sitapur section in south of Asset is currently under construction for four laning. It is currently under construction and is expected to achieve COD in FY23[11].

6.31 Once the construction in completed, the Asset would provide improved level of service with reduced travel times for long distance traffic. The in-scope traffic includes all the trips with Origins & Destinations in Delhi/north and Lucknow/east. The impact is included from FY23.

Table 6.15: Bareilly – Sitapur Four Laning impact - HM

	CJV	LCV	2A	3A	MAV
Impact % (HM-Brijghat)		0.4%	0.2%	2.1%	2.9%
Impact % (HM-Joya)		0.3%	0.2%	2.1%	3.7%

Source: Steer Analysis

HM: Rudrapur-Rampur Four Laning

6.32 The Rudrapur-Rampur section in south of Asset is currently under construction for four laning. It is currently under construction and is expected to achieve COD in FY23. Once the construction in completed, the Asset would provide improved level of service with reduced travel times for long distance traffic moving on asset to/from Uttarakhand. The in-scope traffic includes all the trips with Origins & Destinations in Hapur/West/north and Rudrapur/east. The impact is included from FY24.

Table 6.16: Rudrapur-Rampur Four Laning impact - HM

	CJV	LCV	2A	3A	MAV
Impact % (HM-Brijghat)	0.2%	0.7%	0.5%	0.8%	0.8%
Impact % (HM-Joya)	0.4%	0.9%	0.5%	0.6%	1.2%

Source: Steer Analysis

AE and HM: Ganga Expressway

6.33 Ganga Expressway is 594 km long, 6-lane wide greenfield expressway in the state of Uttar Pradesh, India. It will connect Bijauli village near Hapur district with Judapur Dandu village on NH-19 in Prayagraj District. Ganga Expressway's land acquisition for about 6,556 hectares started in December 2020. As of July 11, 2021 – 82.04% of it has been acquired. In March 2021, UPEIDA invited tenders (RFQ & RFP) for the expressway's development through 4 groups each consisting of 3 packages. The current technical bid opening date is October 25, 2021.[12] It is expected to be completed by FY26.

6.34 Once the construction in completed, the Asset would provide improved level of service with reduced travel times for long distance trips between Haryana/ north India and Lucknow/east. The in-scope traffic includes all the trips with Origins & Destinations either in Haryana/north India and Lucknow/east. The impact is included from FY27.

6.35 The impact of Ganga expressway is further divided into two separate impacts including:

[11] https://www.jagran.com/uttar-pradesh/bareilly-city-four-companies-will-complete-the-construction-work-of-bareilly-sitapur-highway-20715175.html

[12] https://themetrorailguy.com/upeida-ganga-expressway-information-route-map-status/

- Impact on long distance traffic excluding trips from Delhi NCR and West Bengal
- Impact on long distance traffic including trips from Delhi NCR and West Bengal

6.36 This approach has been undertaken because route choices for traffic moving between north India towards Lucknow and further east differs from trips originating in Delhi NCR and destined in Lucknow and east. As discussed in Chapter 2, the long distance traffic from north has following alternative options to reach Lucknow and continue further east:

For Hapur Moradabad

- Via Hapur Moradabad asset, traffic coming from north can take can reach Hapur either through eastern Peripheral expressway or Karnal-Meerut route before continuing further towards Lucknow.
- Alternatively, traffic can get onto Ganga expressway Hapur to continue further towards Lucknow and east.

For Agra Etawah

- Via Western Peripheral expressway, traffic coming from north of Kundli can exit near Palwal to continue on NH19 until Agra before taking the asset to continue towards Lucknow and east.

6.37 But for trips having origins and destinations in Delhi NCR and West Bengal or east, Ganga expressway will have higher impact on Hapur Moradabad asset as compared to Agra Etawah. This is due to fact that Ganga expressway is much faster as compared to existing route using the Hapur Moradabad asset. The section in south of asset is still incomplete and slower. Ganga expressway will therefore be more attractive for traffic that is currently on the Hapur Moradabad asset. However, for Agra Etawah asset, the GJC analysis shows that impact will be lower are asset is relatively faster that Hapur Moradabad between Delhi and Lucknow and therefore is more competitive in comparison to Ganga expressway. Therefore, impact of Ganga expressway will be lower on Agra Etawah.

Trips excluding Delhi NCR

Table 6.17: Impact of Ganga Expressway (trips excluding Delhi NCR)

	CJV	LCV	2A	3A	MAV
Impact % (AE-Gurau)	(0.2%)	(0.7%)	(0.4%)	(0.3%)	(0.8%)
Impact % (AE-Tundla)	(0.1%)	(0.4%)	(0.3%)	(0.3%)	(0.9%)
Impact % (HM-Brijghat)	(0.5%)	(1.5%)	(1.3%)	(1.4%)	(2.5%)
Impact % (HM-Joya)	(0.8%)	(2.2%)	(1.8%)	(1.4%)	(3.0%)

Source: Steer analysis

Only for Delhi NCR trips

Table 6.18: Impact of Ganga Expressway (only Delhi NCR trips) - AE

	CJV	LCV	2A	3A	MAV
Impact % (AE-Gurau)	(1.5%)	(5.0%)	(3.3%)	(1.7%)	(1.1%)
Impact % (AE-Tundla)	(0.6%)	(3.2%)	(2.6%)	(1.7%)	(1.3%)
Impact % (HM-Brijghat)	(1.7%)	(2.5%)	(2.9%)	(3.7%)	(4.2%)
Impact % (HM-Joya)	(2.6%)	(3.6%)	(4.0%)	(3.8%)	(4.9%)

Source: Steer Analysis

Revenue forecasting assumptions

6.38 To forecast the revenues for a particular financial year, the traffic forecast for each vehicle type is converted into tickets sold, which is then multiplied with the corresponding toll rate, which grows over the years as defined in the Concession Agreement. While "trip factors" provide the conversion factor to the former, i.e. traffic (trips) to tickets sold, "toll segmentation" provides the latter i.e. the breakup of trips paying each ticket type. This section discusses assumptions related to trip factors, toll segmentation and toll rates for the forecast period.

Trip factors

6.39 As discussed in chapter 3, a user can by different type of tickets to pay toll depending on the vehicle type. Apart from the Single trips, trips such as Return, Monthly, Local Commercial, Local Personal, Local Monthly are discounted tickets that are offered to the users. The revenue realised from these discounted trips is lower than a single trip fare. Therefore, in order to calculate the revenue for the trips made on discounted tickets (or passes) a trip factor is applied to calculate revenue realised from that particular pass sold.

6.40 The monthly passes allow 50 trips to the user at a discounted rate. Since the Asset has not achieved Full COD, and travel patterns on the Asset are still nascent, these discounted categories have not yet stabilised. Therefore, a standard assumption of 45 has been taken as the trip factors for such categories where historical data is not available. Once full tolling is undertaken on the Asset, the trip factors for these categories are expected to stabilise. However, as a starting assumption it is reasonable to assume that each pass sold will be utilised more than 90% (or 45 trips per pass).

6.41 Trip factors are used to calculate the revenue for the trips made on passes such as return, local personal, monthly passes. The trip factors assumed are based on the latest FY21 data available and listed in the table below:

Table 6.19: Trip factors for the forecast years – AE Gurau

Ticket category	CJV	LCV	Bus	2A	3A	MAV	OSV
Single	1	1	1	1	1	1	1
Return	2	2	2	2	2	2	2
Monthly	45	45	45	45	45	45	45
Local Commercial	1	1	1	1	1	1	1
Local Personal	1	1	1	1	1	1	1
Local monthly	500	34	45	45	45	45	45
Violations	1	1	1	1	1	1	1
Exemptions	1	1	1	1	1	1	1

Source: Steer analysis of Client TMS data

Table 6.20: Trip factors for the forecast years – AE Tundla

Ticket category	CJV	LCV	Bus	2A	3A	MAV	OSV
Single	1	1	1	1	1	1	1
Return	2	2	2	2	2	2	2
Monthly	45	45	45	45	45	45	45
Local Commercial	1	1	1	1	1	1	1

Ticket category	CJV	LCV	Bus	2A	3A	MAV	OSV
Local Personal	1	1	1	1	1	1	1
Local monthly	233	269	29	45	45	45	45
Violations	1	1	1	1	1	1	1
Exemptions	1	1	1	1	1	1	1

Source: Steer analysis of Client TMS data

Table 6.21: Trip factors for the forecast years – HM Brijghat

Ticket category	CJV	LCV	Bus	2A	3A	MAV	OSV
Single	1	1	1	1	1	1	1
Return	2	2	2	2	2	2	2
Monthly	45	45	45	45	45	45	45
Local Commercial	1	1	1	1	1	1	1
Local Personal	1	1	1	1	1	1	1
Local monthly	45	45	45	45	45	45	45
Violations	1	1	1	1	1	1	1
Exemptions	1	1	1	1	1	1	1

Source: Steer analysis of Client TMS data

Table 6.22: Trip factors for the forecast years – HM Joya

Ticket category	CJV	LCV	Bus	2A	3A	MAV	OSV
Single	1	1	1	1	1	1	1
Return	2	2	2	2	2	2	2
Monthly	45	45	45	45	45	45	45
Local Commercial	1	1	1	1	1	1	1
Local Personal	1	1	1	1	1	1	1
Local monthly	45	45	45	45	45	45	45
Violations	1	1	1	1	1	1	1
Exemptions	1	1	1	1	1	1	1

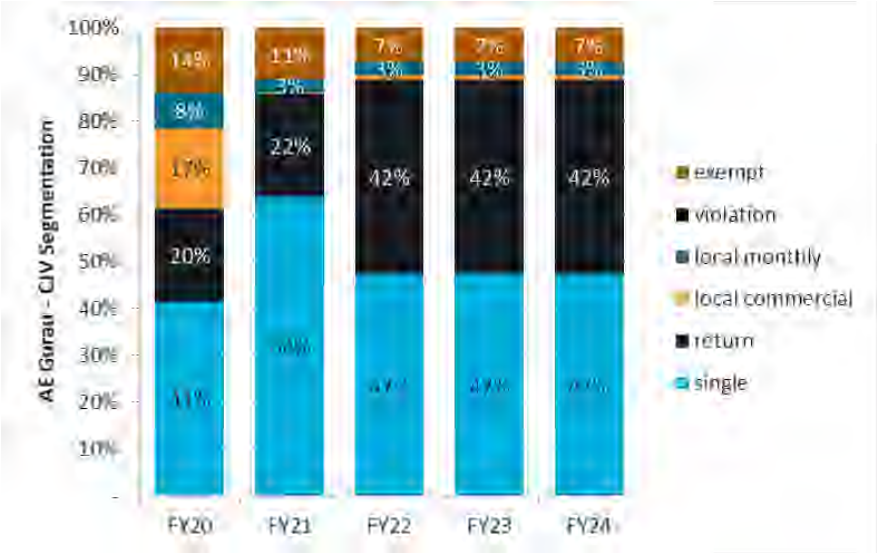
Source: Steer analysis of Client TMS data

Toll segmentation

6.42 Toll segmentation on the Asset has been discussed in detail in chapter 3. Segmentation trends have largely been stabilising over the last few months post the mandatory implementation of fast tag 15th Feb 2021 onwards indicating a reduction in the share of exemptions and violations due to FASTag implementation and penetration. By March 2021, it was observed that for most vehicle types as the penetration of fast tag increased the trip patterns for vehicle types were normalised within Single and Return category across the vehicle categories. April and May 2021 were impacted by Covid19 related restrictions leading to substantial reduction in traffic again disrupting traffic patterns. Therefore, the segmentation observed in March 2021 has been taken as a starting point to estimate the future segmentation.

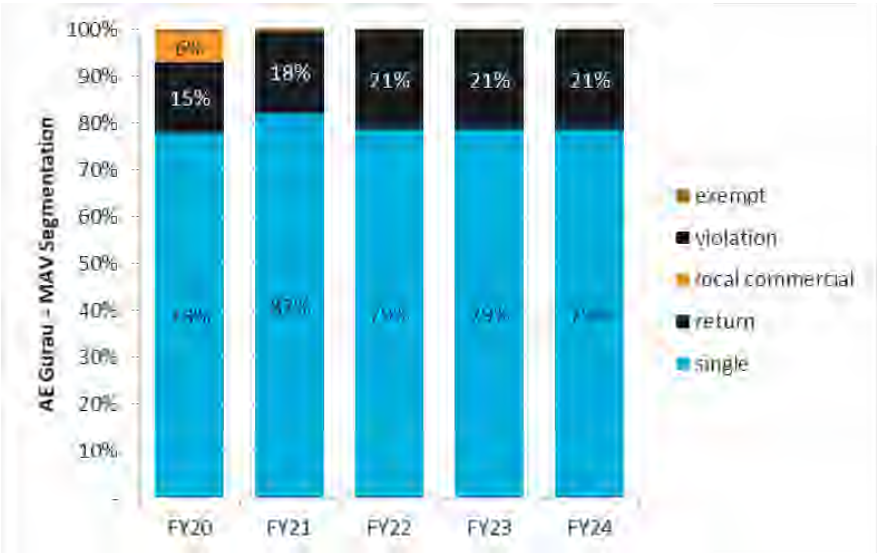
6.43 The toll segmentation adopted in the future years for calculating revenue is presented below for all the vehicle types and toll plazas.

Figure 6.6: CJV toll segmentation evolution – AE Gurau



Source: Steer analysis

Figure 6.7: MAV toll segmentation evolution – AE Gurau



Source: Steer analysis

Table 6.23: Toll segmentation FY22 onwards – AE Gurau

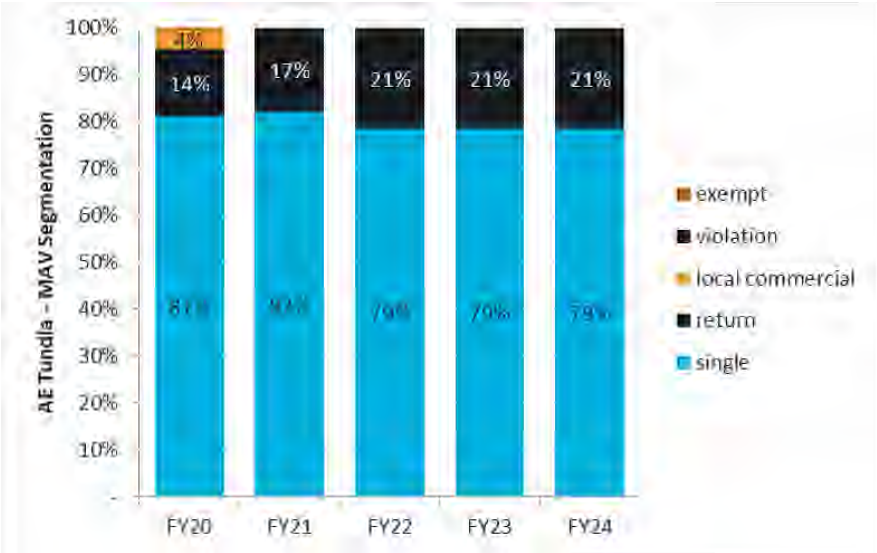
Ticket type	CJV	Bus	LCV	2A	3A	MAV
Single	47.3%	30.0%	66.4%	85.9%	88.4%	78.7%
Return	41.6%	69.5%	29.8%	13.7%	11.2%	21.2%
Monthly	-	-	-	-	-	-
Local commercial	0.9%	0.4%	0.3%	0.0%	0.2%	-
Local personal	-	-	-	-	-	-
Local monthly	2.9%	-	-	-	-	-

Ticket type	CJV	Bus	LCV	2A	3A	MAV
Exemptions	7.3%	0.2%	3.6%	0.4%	0.2%	0.1%
Violations	-	-	-	-	-	-

Source: Steer analysis

Figure 6.8: CJV toll segmentation evolution – AE Tundla

Figure 6.9: MAV toll segmentation evolution – AE Tundla



Source: Steer analysis

Table 6.24: Toll segmentation FY22 onwards – AE Tundla

Ticket type	CJV	Bus	LCV	2A	3A	MAV
Single	32.1%	19.0%	56.6%	74.8%	77.8%	78.7%
Return	43.5%	80.4%	37.4%	24.2%	21.8%	21.1%
Monthly	-	-	-	-	-	-
Local commercial	0.2%	0.3%	1.6%	0.5%	0.1%	0.1%
Local personal	-	-	-	-	-	-

Ticket type	CJV	Bus	LCV	2A	3A	MAV
Local monthly	16.4%	-	0.1%	-	-	-
Exemptions	7.8%	0.3%	4.3%	0.5%	0.2%	0.2%
Violations	-	-	-	-	-	-

Source: Steer analysis

Figure 6.10: CJV toll segmentation evolution – HM Brijghat

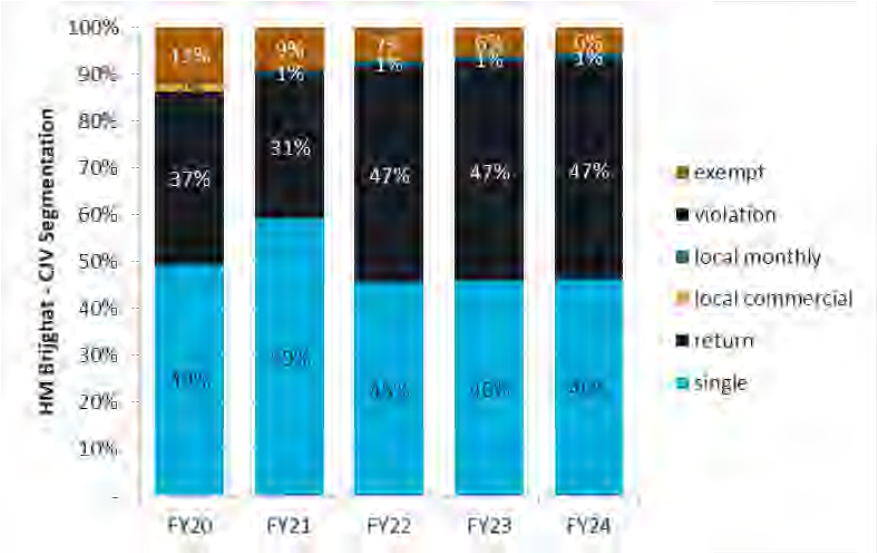
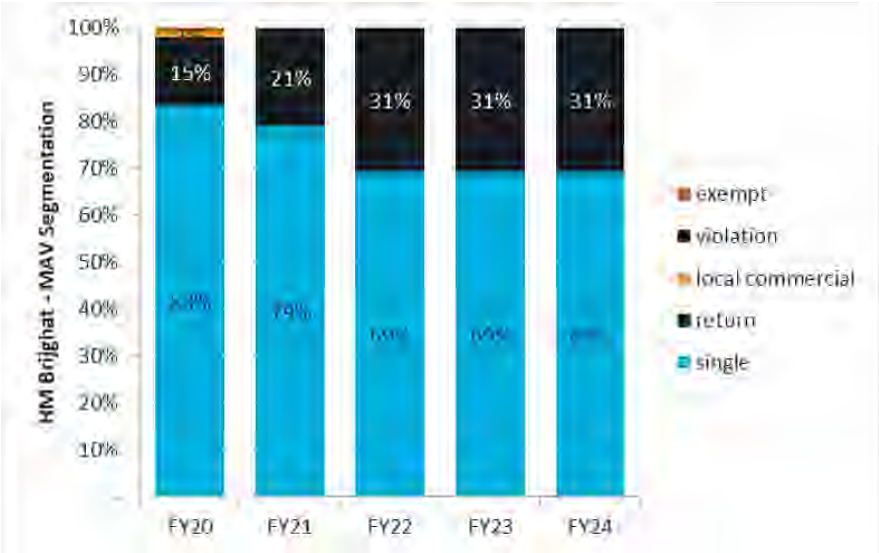


Figure 6.11: MAV toll segmentation evolution – HM Brijghat



Source: Steer analysis

Table 6.25: Toll segmentation FY22 onwards – HM Brijghat

Ticket type	CJV	Bus	LCV	2A	3A	MAV
Single	45.4%	11.5%	47.8%	54.7%	73.2%	69.3%
Return	46.5%	88.0%	48.8%	44.4%	26.7%	30.6%
Monthly	-	-	-	-	-	-
Local commercial	-	-	-	-	-	-

Ticket type	CJV	Bus	LCV	2A	3A	MAV
Local personal	-	-	-	-	-	-
Local monthly	1.0%	-	-	0.1%	0.1%	-
Exemptions	7.1%	0.5%	3.5%	0.8%	0.1%	0.1%
Violations	-	-	-	-	-	-

Source: Steer analysis

Figure 6.12: CJV toll segmentation evolution – HM Joya

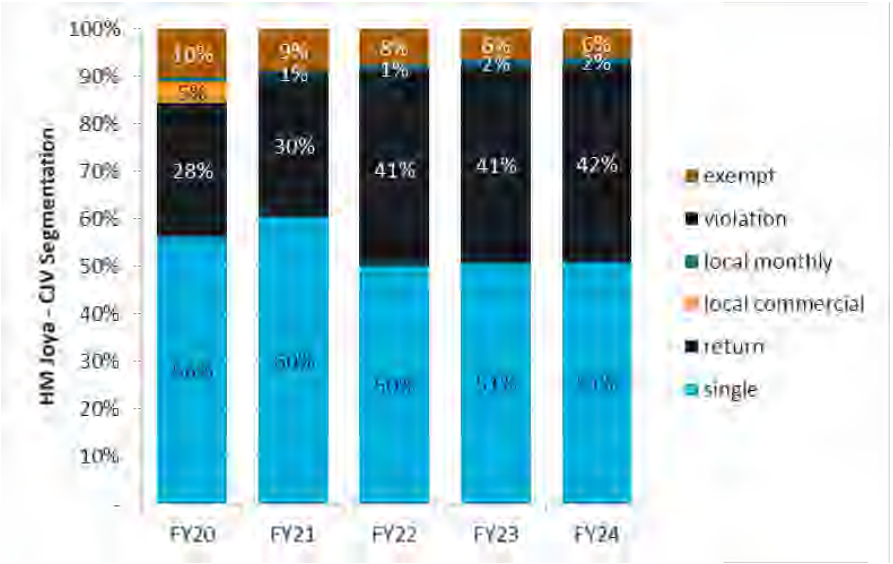
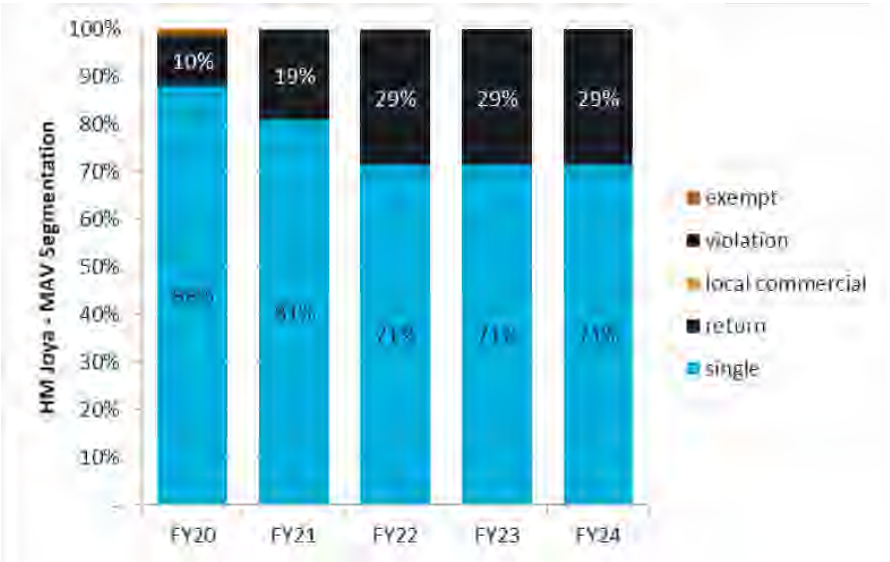


Figure 6.13: MAV toll segmentation evolution – HM Joya



Source: Steer analysis

Table 6.26: Toll segmentation FY22 onwards HM Joya

Ticket type	CJV	Bus	LCV	2A	3A	MAV
Single	50.1%	12.8%	55.3%	60.7%	70.7%	71.3%
Return	41.0%	86.8%	41.4%	38.5%	28.9%	28.6%

Ticket type	CJV	Bus	LCV	2A	3A	MAV
Monthly	-	-	-	-	-	-
Local commercial	0.0%	0.0%	-	0.0%	0.2%	-
Local personal	-	-	-	-	-	-
Local monthly	1.4%	-	-	-	-	-
Exemptions	7.6%	0.3%	3.3%	0.7%	0.1%	0.1%
Violations	-	-	-	-	-	-

Source: Steer analysis

6.44 Based on our analysis of recent trends in FASTag penetration rates by vehicle class, we believe that this will largely peak by FY23 for light vehicles and 2A after which it will remain stable. Heavy vehicles, already showing 90-95% of penetration already. Whilst FASTag has become mandatory for all vehicles at all toll plazas as of February 2021, in reality we still anticipate a small percentage of vehicles to continue to pay via cash and other mode of payment. A full shift to FASTag will be extremely difficult and unlikely, explaining FASTag targets being set to below 100%.

Overloading

6.45 As per our discussion with the Client, on the Asset there is a requirement under the CA to install WIM and static weighbridge to charge overloading. In our experience, overloading is a common practice and is expected to continue at low levels. It is further known that except few specific Assets, concessionaires are only able to charge out up to 2x the toll rate as overloading penalty[13], irrespective of the level of overloading. Therefore, we assume that the overloaded vehicles on the Assets will be charged twice the toll fee as penalty plus the single ticket they would otherwise pay for their ticket type at the toll plaza. Furthermore, overloading shares, benchmarked using other Assets on which the client is currently able to collect overloading charges, currently Garua plaza is reporting overloading in historical data, same assumptions have been adopted for both Brijghat and Joya, toll plazas for HM Asset.

6.46 The table shows the assumptions for share of overloaded vehicles.

Table 6.27: Overloading assumptions from FY22 onwards

Vehicle type	Single ticket
3A	0.9%
MAV	1.0%

Source: Assumptions based on benchmarking

Toll evolution

6.47 Based on the concession agreement and the toll notification, we see that base toll rates increase every year based on WPI-linked inflation to provide us unrounded toll rates. These are rounded as per the CA and toll notifications to estimate the rounded toll rates charged to the road user. We have used actual toll rates from FY20 and FY21 toll notifications to validate

[13] Latest overloading policy mandates 2x,4x,6x, 8x and 10x penalty charges if the user is 20%, 40%,60%,80% or 100% overloaded respectively.

the modelling of the toll evolution. Since construction is ongoing on the Asset the tolling lengths are currently difference than the final tolling lengths which will be applicable post June 2022. These existing toll lengths and revised toll lengths are presented in the table below:

Table 6.28: Tolling lengths for toll evolution

	Toll Lengths (FCOD)			
Length (km)	**Gurau**	**Tundla**	**Brijghat**	**Joya**
Road length excluding bypass	71.150	31.176	34.541	41.895
Structure on road	0.780	1.164	1.4017	0.215
Converted length of structures	7.800	11.640	14.017	2.151
Net Tollable length	78.950	42.816	48.558	44.046

Source: Steer analysis of toll notifications and concession agreement (CA)

6.48 Increase in WPI was calculated based on the WPI numbers are based on the latest year number provided by RBI and forecast are based on the numbers estimated in annual report published by Consensus, as shown in the table below. The upward trend in inflation is expected to continue in the medium term, before gradually tapering to 4.0% in the long term.

Table 6.29: WPI growth forecast assumptions

Financial year	WPI growth (%)
FY22	2.0%
FY23	9.2%
FY24	4.8%
FY25	5.1%
FY26	4.6%
FY27	4.6%
FY28	4.6%
FY29	4.6%
FY30	4.6%
FY31	4.6%
FY32	4.5%
FY33	4.5%
FY34	4.5%
FY35	4.4%
FY36	4.4%
FY37	4.4%
FY38	4.3%
FY39	4.3%
FY40	4.3%
FY41	4.2%
FY42	4.2%
FY43	4.1%

Financial year	WPI growth (%)
FY44	4.1%
FY45	4.1%
FY46	4.0%
FY47	4.0%

Source: RBI, Annual report by Consensus

Revenue reconciliation

6.49 As part of validating the traffic data provided by the Client, as well as our assumptions around toll segmentation and trip factors, we have reconciled the actual reported revenue for FY21 for the Asset. To reconcile we have used the reported segmentation, and FY21 AADT (actual) and compared it with the reported revenue.

6.50 Due to the mandatory implementation of FASTag, all cash trips had to pay penalty fare. In our segmentation we do not assume any penalty in the future years as the revenue from penalty fares is currently being claimed by NHAI. In addition, several special local passes (local monthly) are being issued on a toll plaza level to deal with local users not willing to pay toll. The usage for these local passes' changes on a month-to-month basis hence larger differences in reconciliation is observed.

6.51 Therefore, the delta is more between the reported revenue and the modelled revenue for FY2021. However, we believe our segmentation assumptions are robust although variation on HM is 2.1% while the variation on AE is only 0.2%. This is mainly due to the penalties and local passes trip data shared by toll plaza.

6.52 The comparison, as shown in the table below, shows revenues overall within acceptable differences and therefore the model shows a good fit with the forecast assumptions.

Table 6.30: Revenue reconciliation summary

Assets	Steer modelled revenue (INR Cr)	Reported revenue (INR Cr)	Difference (%)
AE	122.78	123.08	(0.2%)
HM	124.40	127.09	(2.1%)

Source: Steer comparison between modelled and reported revenue

PCU factor assumption for forecasts

6.53 The PCU factors considered are given in the table below.

Table 6.31: PCU factors

Vehicle Category	PCU Factor
CJV	1.0
LCV	1.5
Bus	3.0
2A	3.0
3A	3.0
MAV	4.5

Vehicle Category	PCU Factor
OSV	4.5

Source: Steer analysis

6.54 Based on the traffic and revenue-related forecast assumptions discussed above, we have modelled the traffic and revenue forecasts for the forecast period for the Assets. The table below presents the MADT/PCU and revenue forecast growth rates and CAGRs on this Assets. Further, Appendix B presents the AADT and revenues for the forecast period.

6.55 Please note that below tables present the normalised traffic for FY21 and FY22 (FY21N and FY22N) as detailed above. FY22 also includes the exogenous impacts assumed in FY22.

AE - Gurau

Table 6.32: Final (background plus impacts) AADT forecast – AE Gurau

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY40	FY43	FY46
CJV	3,304	2,982	4,253	5,986	8,029	9,402	10,871	12,424
Mini LCV	0	713	848	1,009	1,172	1,269	1,366	1,461
Bus	476	604	784	932	1,082	1,172	1,262	1,350
LCV	1,190	902	1,095	1,303	1,512	1,638	1,763	1,886
2A	1,083	1,254	1,508	1,795	2,090	2,273	2,462	2,656
3A	981	1,143	1,463	1,792	2,139	2,358	2,587	2,827
MAV	1,960	2,400	3,286	4,259	5,341	6,052	6,815	7,633
OSV	8	8	11	14	17	20	22	25
AADT	**9,001**	**10,004**	**13,247**	**17,090**	**21,383**	**24,184**	**27,148**	**30,262**
PCU's	**21,564**	**24,883**	**32,843**	**41,735**	**51,516**	**57,861**	**64,582**	**71,675**

Source: Steer analysis

Table 6.33: Final (background plus impacts) AADT CAGR (%) – AE Gurau

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY40	FY40-FY43	FY22-FY46
CJV	7.4%	7.1%	6.1%	5.4%	5.0%	6.1%
Mini LCV	3.5%	3.5%	3.0%	2.7%	2.5%	3.0%
Bus	5.4%	3.5%	3.0%	2.7%	2.5%	3.4%
LCV	4.0%	3.5%	3.0%	2.7%	2.5%	3.1%
2A	3.8%	3.5%	3.1%	2.8%	2.7%	3.2%
3A	5.1%	4.1%	3.6%	3.3%	3.1%	3.8%
MAV	6.5%	5.3%	4.6%	4.3%	4.0%	4.9%
OSV	5.7%	5.3%	4.6%	4.3%	4.0%	4.8%
AADT	**5.8%**	**5.2%**	**4.6%**	**4.2%**	**3.9%**	**4.7%**
PCU's	**5.7%**	**4.9%**	**4.3%**	**3.9%**	**3.7%**	**4.5%**

Source: Steer analysis

Table 6.34: Final (background plus impacts) revenue (INR crores) forecast – AE Gurau

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY40	FY43	FY46
CJV	6.6	8.5	15.5	27.8	46.8	63.9	83.6	109.9
Mini LCV	0.0	2.0	3.1	4.7	6.8	8.6	10.5	12.9
Bus	3.3	6.0	10.1	15.3	22.3	27.8	34.3	42.0
LCV	4.4	4.7	7.3	11.0	16.0	20.0	24.6	30.3
2A	8.7	14.5	22.8	34.4	50.3	62.8	78.2	96.5
3A	8.8	14.8	24.7	38.1	57.7	73.1	91.7	114.9
MAV	24.8	43.7	77.3	127.3	201.4	262.9	338.4	434.0
OSV	0.1	0.2	0.3	0.5	0.8	1.0	1.3	1.7
Total Revenue	**56.6**	**94.4**	**161.0**	**259.2**	**402.0**	**520.2**	**662.5**	**842.1**

Source: Steer analysis

Table 6.35: Final (background plus impacts) revenue CAGR (%) – AE Gurau

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY40	FY40-FY43	FY22-FY46
CJV	12.8%	12.4%	11.0%	11.0%	9.3%	11.3%
Mini LCV	8.8%	8.7%	7.8%	8.1%	6.8%	8.0%
Bus	11.1%	8.6%	7.9%	7.6%	7.3%	8.5%
LCV	9.3%	8.7%	7.7%	7.8%	7.1%	8.1%
2A	9.4%	8.6%	7.9%	7.7%	7.6%	8.2%
3A	10.8%	9.1%	8.6%	8.2%	7.8%	8.9%
MAV	12.1%	10.5%	9.6%	9.3%	8.8%	10.0%
OSV	11.5%	10.4%	9.6%	9.3%	8.8%	9.9%
Total Revenue	**11.3%**	**10.0%**	**9.2%**	**9.0%**	**8.4%**	**9.5%**

Source: Steer analysis

AE - Tundla

Table 6.36: Final (background plus impacts) AADT forecast – AE Tundla

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY40	FY43	FY46
CJV	8,751	8,136	11,910	17,318	23,901	28,420	33,329	38,587
Mini LCV	0	1,407	1,675	1,993	2,313	2,505	2,696	2,885
Bus	865	1,099	1,426	1,697	1,970	2,134	2,297	2,457
LCV	1,840	1,385	1,616	1,922	2,231	2,417	2,601	2,783
2A	1,425	1,652	2,007	2,386	2,778	3,021	3,271	3,530
3A	977	1,158	1,490	1,823	2,176	2,399	2,632	2,876
MAV	1,713	2,118	2,923	3,772	4,731	5,361	6,037	6,761
OSV	8	8	11	14	18	20	22	25

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY40	FY43	FY46
AADT	**15,579**	**16,963**	**23,058**	**30,925**	**40,117**	**46,276**	**52,885**	**59,903**
PCU's	**29,054**	**32,914**	**43,983**	**56,950**	**71,699**	**81,423**	**91,793**	**1,02,773**

Source: Steer analysis

Table 6.37: Final (background plus impacts) AADT CAGR (%) – AE Tundla

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY40	FY40-FY43	FY22-FY46
CJV	7.9%	7.8%	6.7%	5.9%	5.5%	6.7%
Mini LCV	3.5%	3.5%	3.0%	2.7%	2.5%	3.0%
Bus	5.4%	3.5%	3.0%	2.7%	2.5%	3.4%
LCV	3.1%	3.5%	3.0%	2.7%	2.5%	3.0%
2A	4.0%	3.5%	3.1%	2.8%	2.7%	3.2%
3A	5.2%	4.1%	3.6%	3.3%	3.1%	3.9%
MAV	6.7%	5.2%	4.6%	4.3%	4.0%	5.0%
OSV	5.7%	5.3%	4.6%	4.3%	4.0%	4.8%
AADT	**6.3%**	**6.0%**	**5.3%**	**4.9%**	**4.6%**	**5.4%**
PCU's	**6.0%**	**5.3%**	**4.7%**	**4.3%**	**4.1%**	**4.9%**

Source: Steer analysis

Table 6.38: Final (background plus impacts) revenue (INR crores) forecast – AE Tundla

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY40	FY43	FY46
CJV	14.7	17.5	33.1	62.4	107.8	147.4	196.3	262.7
Mini LCV	0.0	3.0	4.6	7.2	10.4	13.0	15.9	19.6
Bus	5.6	9.8	16.4	24.9	36.4	45.3	55.7	68.5
LCV	6.2	6.3	9.6	14.5	21.3	26.6	32.7	40.1
2A	10.7	17.2	27.0	41.2	60.2	75.4	93.1	115.5
3A	8.2	13.3	22.3	34.6	52.0	65.8	82.9	103.5
MAV	20.6	35.1	63.0	103.1	162.5	212.3	273.9	351.1
OSV	0.1	0.2	0.3	0.5	0.7	1.0	1.2	1.6
Total Revenue	**66.1**	**102.3**	**176.4**	**288.3**	**451.4**	**586.8**	**751.8**	**962.6**

Source: Steer analysis

Table 6.39: Final (background plus impacts) revenue CAGR (%) – AE Tundla

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY40	FY40-FY43	FY22-FY46
CJV	13.5%	13.5%	11.6%	11.0%	10.0%	11.9%
Mini LCV	8.9%	9.1%	7.8%	7.6%	6.9%	8.1%
Bus	11.0%	8.7%	7.9%	7.6%	7.1%	8.5%
LCV	8.9%	8.5%	8.0%	7.6%	7.2%	8.0%

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY40	FY40-FY43	FY22-FY46
2A	9.5%	8.8%	7.9%	7.8%	7.3%	8.3%
3A	10.8%	9.2%	8.5%	8.2%	8.0%	8.9%
MAV	12.4%	10.4%	9.5%	9.3%	8.9%	10.1%
OSV	11.4%	10.4%	9.6%	9.3%	8.8%	9.9%
Total Revenue	**11.5%**	**10.3%**	**9.4%**	**9.1%**	**8.6%**	**9.8%**

Source: Steer analysis

HM - Brijghat

Table 6.40: Final (background plus impacts) AADT forecast – HM Brijghat

Vehicle Type	FY21	FY22	FY25	FY28	FY32	FY35	FY40	FY42
CJV	17,858	20,291	25,935	32,217	43,142	52,652	70,799	78,847
Mini LCV	0	2,232	2,472	2,754	3,162	3,467	3,975	4,178
Bus	1,666	2,059	2,279	2,540	2,916	3,198	3,666	3,853
LCV	3,299	2,581	3,024	3,275	3,724	4,083	4,682	4,920
2A	1,429	1,786	2,083	2,261	2,568	2,820	3,251	3,430
3A	1,160	1,274	1,533	1,656	1,878	2,062	2,377	2,508
MAV	1,718	1,988	2,488	2,752	3,250	3,680	4,445	4,773
OSV	3	3	3	4	4	5	6	6
AADT	**27,131**	**32,215**	**39,818**	**47,459**	**60,644**	**71,967**	**93,202**	**1,02,516**
PCU's	**43,309**	**50,711**	**61,841**	**71,655**	**88,621**	**1,03,065**	**1,29,713**	**1,41,286**

Source: Steer analysis

Table 6.41: Final (background plus impacts) AADT CAGR (%) – HM Brijghat

Vehicle Type	FY22-FY25	FY25-FY28	FY28-FY32	FY32-FY35	FY35-FY40	FY22-FY42
CJV	8.5%	7.5%	7.6%	6.9%	6.1%	7.0%
Mini LCV	3.5%	3.7%	3.5%	3.1%	2.8%	3.2%
Bus	3.5%	3.7%	3.5%	3.1%	2.8%	3.2%
LCV	5.4%	2.7%	3.3%	3.1%	2.8%	3.3%
2A	5.3%	2.8%	3.2%	3.2%	2.9%	3.3%
3A	6.4%	2.6%	3.2%	3.2%	2.9%	3.4%
MAV	7.8%	3.4%	4.2%	4.2%	3.9%	4.5%
OSV	5.1%	5.1%	4.7%	4.2%	3.9%	4.4%
AADT	**7.3%**	**6.0%**	**6.3%**	**5.9%**	**5.3%**	**6.0%**
PCU's	**6.8%**	**5.0%**	**5.5%**	**5.2%**	**4.7%**	**5.3%**

Source: Steer analysis

Table 6.42: Final (background plus impacts) revenue (INR crores) forecast – HM Brijghat

Vehicle Type	FY21	FY22	FY25	FY28	FY32	FY35	FY40	FY42
CJV	28.3	33.2	89.5	129.4	206.4	291.6	496.0	601.3
Mini LCV	0.0	3.7	8.5	11.1	15.1	19.2	27.8	31.9
Bus	9.0	11.3	25.4	32.7	45.3	57.1	82.6	95.0
LCV	9.3	7.3	17.7	22.0	30.1	38.0	55.3	63.4
2A	8.8	11.2	26.4	33.1	45.2	57.2	83.3	96.0
3A	8.1	9.1	22.7	28.3	38.6	48.7	71.1	82.1
MAV	17.4	20.4	52.3	67.0	95.7	123.9	189.6	222.6
OSV	0.0	0.0	0.1	0.1	0.1	0.2	0.3	0.3
Total Revenue	**81.0**	**96.1**	**242.7**	**323.6**	**476.6**	**635.9**	**1,006.1**	**1,192.6**

Source: Steer analysis

Table 6.43: Final (background plus impacts) revenue CAGR (%) – HM Brijghat

Vehicle Type	FY22-FY25	FY25-FY28	FY28-FY32	FY32-FY35	FY35-FY40	FY22-FY42
CJV	39.1%	13.1%	12.4%	12.2%	11.2%	15.6%
Mini LCV	32.6%	9.0%	8.1%	8.3%	7.7%	11.4%
Bus	31.1%	8.8%	8.4%	8.0%	7.7%	11.2%
LCV	34.5%	7.5%	8.2%	8.1%	7.8%	11.4%
2A	33.3%	7.8%	8.1%	8.1%	7.8%	11.4%
3A	35.7%	7.6%	8.1%	8.0%	7.9%	11.6%
MAV	36.9%	8.6%	9.3%	9.0%	8.9%	12.7%
OSV	33.0%	10.3%	9.7%	9.1%	8.9%	12.6%
Total Revenue	**36.2%**	**10.1%**	**10.2%**	**10.1%**	**9.6%**	**13.4%**

Source: Steer analysis

HM - Joya

Table 6.44: Final (background plus impacts) AADT forecast – HM Joya

Vehicle Type	FY21	FY22	FY25	FY28	FY32	FY35	FY40	FY42
CJV	11,917	13,220	16,563	19,983	25,991	31,168	40,826	45,035
Mini LCV	0	1,544	1,709	1,904	2,186	2,397	2,749	2,889
Bus	1,379	1,656	1,833	2,043	2,345	2,572	2,948	3,099
LCV	2,385	1,758	2,059	2,199	2,488	2,729	3,129	3,288
2A	1,093	1,310	1,493	1,572	1,739	1,880	2,118	2,215
3A	1,117	1,242	1,498	1,616	1,832	2,012	2,320	2,448
MAV	1,439	1,681	2,117	2,322	2,734	3,095	3,739	4,014
OSV	5	5	5	6	7	8	10	11

Vehicle Type	FY21	FY22	FY25	FY28	FY32	FY35	FY40	FY42
AADT	**19,333**	**22,415**	**27,277**	**31,646**	**39,323**	**45,861**	**57,838**	**62,996**
PCU's	**32,754**	**37,609**	**45,383**	**51,355**	**61,992**	**71,014**	**87,294**	**94,248**

Source: Steer analysis

Table 6.45: Final (background plus impacts) AADT CAGR (%) – HM Joya

Vehicle Type	FY22-FY25	FY25-FY28	FY28-FY32	FY32-FY35	FY35-FY40	FY22-FY42
CJV	7.8%	6.5%	6.8%	6.2%	5.5%	6.3%
Mini LCV	3.5%	3.7%	3.5%	3.1%	2.8%	3.2%
Bus	3.5%	3.7%	3.5%	3.1%	2.8%	3.2%
LCV	5.4%	2.2%	3.1%	3.1%	2.8%	3.2%
2A	4.5%	1.7%	2.6%	2.6%	2.4%	2.7%
3A	6.4%	2.6%	3.2%	3.2%	2.9%	3.4%
MAV	8.0%	3.1%	4.2%	4.2%	3.9%	4.4%
OSV	5.1%	5.1%	4.7%	4.2%	3.9%	4.4%
AADT	**6.8%**	**5.1%**	**5.6%**	**5.3%**	**4.7%**	**5.3%**
PCU's	**6.5%**	**4.2%**	**4.8%**	**4.6%**	**4.2%**	**4.7%**

Source: Steer analysis

Table 6.46: Final (background plus impacts) revenue (INR crores) forecast – HM Joya

Vehicle Type	FY21	FY22	FY25	FY28	FY32	FY35	FY40	FY42
CJV	13.7	15.7	34.9	48.2	75.0	103.1	172.4	209.1
Mini LCV	0.0	1.8	3.6	4.6	6.3	7.9	11.6	13.4
Bus	5.1	6.1	12.3	15.8	21.9	27.6	40.1	45.9
LCV	4.8	3.6	7.3	9.1	12.3	15.6	22.5	26.1
2A	4.5	5.6	11.5	13.9	18.6	23.1	33.1	37.7
3A	5.4	6.1	13.1	16.4	22.4	28.3	41.4	47.7
MAV	9.9	11.9	26.9	34.0	48.5	62.8	96.0	112.5
OSV	0.0	0.0	0.1	0.1	0.1	0.2	0.3	0.3
Total Revenue	**43.4**	**50.8**	**109.7**	**142.1**	**205.0**	**268.5**	**417.3**	**492.7**

Source: Steer analysis

Table 6.47: Final (background plus impacts) revenue CAGR (%) – HM Joya

Vehicle Type	FY22-FY25	FY25-FY28	FY28-FY32	FY32-FY35	FY35-FY40	FY22-FY42
CJV	30.6%	11.4%	11.7%	11.2%	10.8%	13.8%
Mini LCV	25.3%	8.5%	8.2%	7.9%	7.9%	10.5%
Bus	26.3%	8.5%	8.5%	8.0%	7.8%	10.6%
LCV	26.7%	7.8%	7.9%	8.2%	7.6%	10.5%

Vehicle Type	FY22-FY25	FY25-FY28	FY28-FY32	FY32-FY35	FY35-FY40	FY22-FY42
2A	27.4%	6.6%	7.5%	7.5%	7.4%	10.0%
3A	28.7%	7.8%	8.1%	8.1%	7.9%	10.8%
MAV	31.4%	8.1%	9.2%	9.0%	8.9%	11.9%
OSV	27.8%	10.2%	9.8%	9.1%	8.8%	11.9%
Total Revenue	**29.3%**	**9.0%**	**9.6%**	**9.4%**	**9.2%**	**12.0%**

Source: Steer analysis

Upside and Downside Cases

Upside and Downside scenario assumptions

6.56 We have developed our base case scenario considering a balanced view on the risks associated with input assumptions around GDP growth and traffic growth elasticities. There is always a risk that the outturn values of these inputs will vary as compared to the assumptions taken due to exogenous impacts, e.g. GDP growth could be influenced both positively and negatively by the impact of monsoons, export-import balances, political changes etc.

6.57 Similarly, traffic growth elasticities could be influenced by increased efficiencies achieved by technology, large shifts in commodity prices globally, changes in local manufacturing practices. However, at this stage we consider that the base case represents a central case scenario given the risks of variation of input assumptions.

6.58 To account for the possible variations in the growth drivers, we are also presenting the forecasts for an Upside (optimistic) and a Downside (pessimistic) scenario. These scenarios are defined by the following variations from the base assumptions:

Table 6.48: Summary of assumptions for upside and downside cases

Asset	Input	Upside	Downside
Macro Assumptions			
AE & HM	GDP/GSDP	+1% every year	-1% every year
AE & HM	WPI	+1% every year	-1% every year
AE & HM	Elasticities	+ 10%	- 10%

Source: Steer analysis

6.59 Further, network developments are highly dependent on governmental directions, policies, legal and financial measure which might result in early or delayed completion of developments discussed in previous section of this Chapter. Therefore, we have included an Upside (optimistic) and a Downside (pessimistic) case for impacts below. However, at this stage, we consider that the base case represents a central case scenario given the risks of variation of input assumptions.

Impacts-Upside Case

6.60 The upside case impacts included in forecasts are summarised in below.

Table 6.49: Summary of impacts on the AE asset – upside scenario

Impact	Year	Gurau	Tundla
LoS Improvement	FY23 onwards	CJV: 3.7% LCV: 2.5% 2A: 0.3% 3A: 0.6% MAV: 0.7%	CJV: 1.5% LCV: 1.6% 2A: 1.2% 3A: 1.2% MAV: 0.7%
Ganga Expressway (trips excluding Delhi NCR)	FY28 onwards	2A: (0.4%) 3A: (0.3%) MAV: (0.8%)	2A: (0.2%) 3A: (0.3%) MAV: (0.7%)
Ganga Expressway (only Delhi NCR trips)	FY28 onwards	2A: (2.4%) 3A: (1.3%) MAV: (0.8%)	2A: (1.9%) 3A: (1.3%) MAV: (0.9%)
Agra Lucknow Expressway post 100% tolling	FY23 onwards	2A: 3.8% 3A: 5.4% MAV: 6%	2A: 3% 3A: 5.4% MAV: 6.8%

Source: Steer analysis of OD data, and publicly available information

Table 6.50: Summary of impacts on the HM asset– upside scenario

Impact	Year	Brij Ghat	Joya
LoS Improvement	FY23 onwards	CJV: 3.0% LCV: 6.4% 2A: 2.8% 3A: 5.3% MAV: 4.6%	CJV: 2.7% LCV: 6.1% 2A: 2.4% 3A: 5.8% MAV: 4.1%
Bareilly – Sitapur Four Laning	FY23 onwards	2A: 0.3% 3A: 2.6% MAV: 3.6%	2A: 0.3% 3A: 2.7% MAV: 4.7%
Ganga Expressway (excluding Delhi NCR)	FY28 onwards	2A: (1.0%) 3A: (1.0%) MAV: (1.9%)	2A: (1.3%) 3A: (1.0%) MAV: (2.3%)
Ganga Expressway (only Delhi NCR trips)	FY28 onwards	2A: (2.2%) 3A: (2.7%) MAV: (3.1%)	2A: (3.0%) 3A: (2.8%) MAV: (3.7%)
Rudrapur-Rampur Four Laning	FY23 onwards	2A: 0.6% 3A: 1.0% MAV: 1.1%	2A: 0.6% 3A: 0.7% MAV: 1.4%

Source: Steer analysis of OD data, and publicly available information

Impacts-Downside Case

6.61 The downside case impacts included in forecasts are summarised in below.

Table 6.51: Summary of impacts on the AE asset – downside scenario

Impact	Year	Gurau	Tundla
LoS Improvement	FY23 onwards	CJV: 2.2% LCV: 1.5% 2A: 0.2%	CJV: 0.9% LCV: 1.1% 2A: 0.7%

Impact	Year	Gurau	Tundla
		3A: 0.4% MAV: 0.4%	3A: 0.7% MAV: 0.4%
Ganga Expressway (trips excluding Delhi NCR)	FY26 onwards	2A: (0.5%) 3A: (0.4%) MAV: (1.0%)	2A: (0.4%) 3A: (0.4%) MAV: (1.1%)
Ganga Expressway (only Delhi NCR trips)	FY26 onwards	2A: (4.1%) 3A: (2.1%) MAV: (1.4%)	2A: (3.2%) 3A: (2.1%) MAV: (1.6%)
Agra Lucknow Expressway post 100% tolling	FY23 onwards	2A: 1.8% 3A: 3.2% MAV: 4.1%	2A: 2.3% 3A: 3.3% MAV: 3.6%

Source: Steer analysis of OD data, and publicly available information

Table 6.52: Summary of impacts on the HM asset– downside scenario

Impact	Year	Brij Ghat	Joya
LoS Improvement	FY23 onwards	CJV: 1.8% LCV: 3.9% 2A: 1.7% 3A: 3.2% MAV: 2.8%	CJV: 1.6% LCV: 3.7% 2A: 1.4% 3A: 3.5% MAV: 2.5%
Bareilly – Sitapur Four Laning	FY25 onwards	2A: 0.2% 3A: 1.6% MAV: 2.2%	2A: 0.2% 3A: 1.6% MAV: 2.8%
Ganga Expressway (excluding Delhi NCR)	FY26 onwards	2A: (1.6%) 3A: (1.7%) MAV: (3.2%)	2A: (2.2%) 3A: (1.7%) MAV: (3.8%)
Ganga Expressway (only Delhi NCR trips)	FY26 onwards	2A: (3.6%) 3A: (4.6%) MAV: (5.2%)	2A: (4.9%) 3A: (4.7%) MAV: (6.2%)
Rudrapur-Rampur Four Laning	FY25 onwards	2A: 0.4% 3A: 0.6% MAV: 0.6%	2A: 0.4% 3A: 0.4% MAV: 0.9%

Source: Steer analysis of OD data, and publicly available information

6.62 The traffic forecast and growth, and revenue incorporating the upside and downside assumptions are presented in the following sections.

Traffic and Revenue Forecasts - upside scenario

AE - Gurau

Table 6.53: Final (background plus impacts) AADT forecast for upside scenario – AE Gurau

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY40	FY43	FY46
CJV	3,304	2,982	4,736	7,159	10,400	12,756	15,432	18,434
Mini LCV	0	713	886	1,101	1,332	1,478	1,628	1,781
Bus	476	604	826	1,027	1,242	1,378	1,518	1,661

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY40	FY43	FY46
LCV	1,190	902	1,149	1,428	1,727	1,916	2,111	2,310
2A	1,083	1,254	1,656	2,016	2,460	2,749	3,059	3,390
3A	981	1,143	1,599	2,043	2,574	2,930	3,318	3,739
MAV	1,960	2,400	3,648	5,012	6,734	7,945	9,312	10,849
OSV	8	8	11	16	21	25	30	35
AADT	**9,001**	**10,004**	**14,513**	**19,801**	**26,491**	**31,177**	**36,405**	**42,199**
PCU's	**21,564**	**24,883**	**36,058**	**48,283**	**63,550**	**74,145**	**85,943**	**99,027**

Source: Steer analysis

Table 6.54: Final (background plus impacts) AADT CAGR (%) for upside scenario – AE Gurau

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY40	FY40-FY43	FY22-FY46
CJV	9.7%	8.6%	7.8%	7.0%	6.6%	7.9%
Mini LCV	4.5%	4.4%	3.9%	3.5%	3.3%	3.9%
Bus	6.5%	4.4%	3.9%	3.5%	3.3%	4.3%
LCV	5.0%	4.4%	3.9%	3.5%	3.3%	4.0%
2A	5.7%	4.0%	4.1%	3.8%	3.6%	4.2%
3A	7.0%	5.0%	4.7%	4.4%	4.2%	5.1%
MAV	8.7%	6.6%	6.1%	5.7%	5.4%	6.5%
OSV	7.3%	6.8%	6.1%	5.7%	5.4%	6.3%
AADT	**7.7%**	**6.4%**	**6.0%**	**5.6%**	**5.3%**	**6.2%**
PCU's	**7.7%**	**6.0%**	**5.6%**	**5.3%**	**5.0%**	**5.9%**

Source: Steer analysis

Table 6.55: Final (background plus impacts) revenue (INR crores) forecast for upside scenario – AE Gurau

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY40	FY43	FY46
CJV	6.6	8.5	17.8	35.6	67.9	98.3	140.4	197.4
Mini LCV	0.0	2.0	3.3	5.5	8.7	11.4	14.8	19.1
Bus	3.3	6.0	11.0	18.1	28.6	37.5	48.5	62.5
LCV	4.4	4.7	7.9	13.0	20.5	26.8	34.9	44.9
2A	8.7	14.5	25.9	41.5	66.1	87.6	114.3	148.8
3A	8.7	14.8	27.9	46.8	77.3	104.1	138.4	183.5
MAV	24.6	43.8	89.0	161.3	283.5	395.6	545.4	747.8
OSV	0.1	0.2	0.3	0.6	1.1	1.5	2.1	2.9
Total Revenue	**56.4**	**94.5**	**183.1**	**322.3**	**553.7**	**762.8**	**1,038.8**	**1,406.9**

Source: Steer analysis

Table 6.56: Final (background plus impacts) revenue CAGR (%) for upside scenario – AE Gurau

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY40	FY40-FY43	FY22-FY46
CJV	16.0%	14.8%	13.8%	13.1%	12.6%	14.0%
Mini LCV	10.4%	10.4%	9.7%	9.4%	9.1%	9.8%
Bus	12.9%	10.4%	9.6%	9.5%	8.9%	10.2%
LCV	11.0%	10.5%	9.6%	9.4%	9.2%	9.9%
2A	12.2%	9.9%	9.7%	9.8%	9.3%	10.2%
3A	13.5%	10.9%	10.6%	10.4%	10.0%	11.1%
MAV	15.2%	12.6%	11.9%	11.7%	11.3%	12.6%
OSV	13.8%	12.8%	12.0%	11.8%	11.2%	12.3%
Total Revenue	**14.1%**	**12.0%**	**11.4%**	**11.3%**	**10.8%**	**11.9%**

Source: Steer analysis

AE - Tundla

Table 6.57: Final (background plus impacts) AADT forecast for upside scenario – AE Tundla

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY40	FY43	FY46
CJV	8,751	8,136	13,170	20,888	31,453	39,344	48,481	58,918
Mini LCV	0	1,407	1,749	2,174	2,629	2,917	3,213	3,516
Bus	865	1,099	1,504	1,869	2,260	2,507	2,762	3,023
LCV	1,840	1,385	1,749	2,121	2,566	2,846	3,135	3,431
2A	1,425	1,652	2,186	2,675	3,264	3,648	4,059	4,498
3A	977	1,158	1,628	2,080	2,621	2,983	3,377	3,806
MAV	1,713	2,118	3,243	4,448	5,977	7,051	8,264	9,629
OSV	8	8	12	16	22	26	30	35
AADT	**15,579**	**16,963**	**25,240**	**36,270**	**50,791**	**61,322**	**73,322**	**86,857**
PCU's	**29,054**	**32,914**	**48,140**	**66,202**	**89,357**	**1,05,791**	**1,24,316**	**1,45,051**

Source: Steer analysis

Table 6.58: Final (background plus impacts) AADT CAGR (%) for upside scenario – AE Tundla

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY40	FY40-FY43	FY22-FY46
CJV	10.1%	9.7%	8.5%	7.7%	7.2%	8.6%
Mini LCV	4.5%	4.4%	3.9%	3.5%	3.3%	3.9%
Bus	6.5%	4.4%	3.9%	3.5%	3.3%	4.3%
LCV	4.8%	3.9%	3.9%	3.5%	3.3%	3.9%
2A	5.8%	4.1%	4.1%	3.8%	3.6%	4.3%
3A	7.0%	5.0%	4.7%	4.4%	4.2%	5.1%
MAV	8.9%	6.5%	6.1%	5.7%	5.4%	6.5%
OSV	7.3%	6.8%	6.1%	5.7%	5.4%	6.3%

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY40	FY40-FY43	FY22-FY46
AADT	**8.3%**	**7.5%**	**7.0%**	**6.5%**	**6.1%**	**7.0%**
PCU's	**7.9%**	**6.6%**	**6.2%**	**5.8%**	**5.5%**	**6.4%**

Source: Steer analysis

Table 6.59: Final (background plus impacts) revenue (INR crores) forecast for upside scenario – AE Tundla

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY40	FY43	FY46
CJV	14.7	17.5	38.4	80.3	158.3	232.4	336.9	485.8
Mini LCV	0.0	3.0	5.1	8.4	13.2	17.2	22.3	29.0
Bus	5.6	9.8	18.0	29.4	46.6	61.0	79.1	101.8
LCV	6.2	6.3	10.7	17.3	27.4	35.9	46.3	59.8
2A	10.7	17.4	30.6	49.4	79.0	104.1	136.3	177.8
3A	8.2	13.4	25.2	42.3	69.9	94.2	125.0	165.7
MAV	20.6	35.4	72.2	130.1	229.9	319.8	440.7	604.8
OSV	0.1	0.2	0.3	0.6	1.0	1.4	2.0	2.7
Total Revenue	**66.1**	**103.0**	**200.6**	**357.7**	**625.3**	**866.0**	**1,188.5**	**1,627.4**

Source: Steer analysis

Table 6.60: Final (background plus impacts) revenue CAGR (%) for upside scenario – AE Tundla

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY40	FY40-FY43	FY22-FY46
CJV	17.0%	15.9%	14.5%	13.7%	13.2%	14.8%
Mini LCV	11.0%	10.4%	9.6%	9.2%	9.0%	9.9%
Bus	12.9%	10.3%	9.7%	9.4%	9.0%	10.2%
LCV	11.3%	10.0%	9.6%	9.4%	8.9%	9.8%
2A	12.0%	10.0%	9.9%	9.7%	9.4%	10.2%
3A	13.5%	10.9%	10.5%	10.5%	9.9%	11.1%
MAV	15.3%	12.5%	12.1%	11.6%	11.3%	12.6%
OSV	13.7%	12.9%	12.0%	11.8%	11.3%	12.3%
Total Revenue	**14.3%**	**12.3%**	**11.8%**	**11.5%**	**11.1%**	**12.2%**

Source: Steer analysis

HM - Brijghat

Table 6.61: Final (background plus impacts) AADT forecast for upside scenario – HM Brijghat

Vehicle Type	FY21	FY22	FY25	FY28	FY32	FY35	FY40	FY42
CJV	17,858	20,291	27,560	36,491	52,423	67,446	98,741	1,13,671
Mini LCV	0	2,232	2,536	2,902	3,449	3,878	4,628	4,940
Bus	1,666	2,059	2,339	2,677	3,181	3,576	4,268	4,556

Vehicle Type	FY21	FY22	FY25	FY28	FY32	FY35	FY40	FY42
LCV	3,299	2,581	3,146	3,550	4,160	4,677	5,581	5,958
2A	1,429	1,786	2,134	2,422	2,846	3,215	3,881	4,169
3A	1,160	1,274	1,599	1,811	2,124	2,399	2,896	3,111
MAV	1,718	1,988	2,623	3,093	3,816	4,485	5,755	6,328
OSV	3	3	3	4	5	6	7	8
AADT	**27,131**	**32,215**	**41,940**	**52,950**	**72,003**	**89,681**	**1,25,758**	**1,42,741**
PCU's	**43,309**	**50,711**	**64,846**	**79,384**	**1,03,758**	**1,26,116**	**1,70,809**	**1,91,570**

Source: Steer analysis

Table 6.62: Final (background plus impacts) AADT CAGR (%) for upside scenario – HM Brijghat

Vehicle Type	FY22-FY25	FY25-FY28	FY28-FY32	FY32-FY35	FY35-FY40	FY22-FY42
CJV	10.7%	9.8%	9.5%	8.8%	7.9%	9.0%
Mini LCV	4.3%	4.6%	4.4%	4.0%	3.6%	4.1%
Bus	4.3%	4.6%	4.4%	4.0%	3.6%	4.1%
LCV	6.8%	4.1%	4.0%	4.0%	3.6%	4.3%
2A	6.1%	4.3%	4.1%	4.1%	3.8%	4.3%
3A	7.9%	4.2%	4.1%	4.1%	3.8%	4.6%
MAV	9.7%	5.7%	5.4%	5.5%	5.1%	6.0%
OSV	6.5%	6.5%	6.0%	5.5%	5.1%	5.7%
AADT	**9.2%**	**8.1%**	**8.0%**	**7.6%**	**7.0%**	**7.7%**
PCU's	**8.5%**	**7.0%**	**6.9%**	**6.7%**	**6.3%**	**6.9%**

Source: Steer analysis

Table 6.63: Final (background plus impacts) revenue (INR crores) forecast for upside scenario – HM Brijghat

Vehicle Type	FY21	FY22	FY25	FY28	FY32	FY35	FY40	FY42
CJV	28.3	33.2	98.6	152.8	273.2	410.8	797.2	1,016.9
Mini LCV	0.0	3.7	9.1	12.1	18.0	23.6	37.4	44.2
Bus	9.0	11.3	26.7	36.0	53.0	70.2	110.3	131.2
LCV	9.3	7.3	18.7	24.9	36.2	47.9	75.4	89.5
2A	8.8	11.2	27.8	37.1	53.8	71.5	114.0	136.3
3A	8.1	9.1	24.2	32.3	47.0	62.5	99.6	119.0
MAV	17.3	20.4	56.5	78.4	120.3	166.4	281.1	344.9
OSV	0.0	0.0	0.1	0.1	0.2	0.2	0.4	0.5
Total Revenue	**80.8**	**96.1**	**261.7**	**373.7**	**601.6**	**853.1**	**1,515.3**	**1,882.4**

Source: Steer analysis

Table 6.64: Final (background plus impacts) revenue CAGR (%) for upside scenario – HM Brijghat

Vehicle Type	FY22-FY25	FY25-FY28	FY28-FY32	FY32-FY35	FY35-FY40	FY22-FY42
CJV	43.7%	15.7%	15.6%	14.6%	14.2%	18.7%
Mini LCV	35.4%	10.2%	10.3%	9.5%	9.6%	13.3%
Bus	33.3%	10.4%	10.1%	9.8%	9.5%	13.1%
LCV	37.0%	10.1%	9.8%	9.7%	9.5%	13.4%
2A	35.5%	10.1%	9.7%	10.0%	9.8%	13.3%
3A	38.6%	10.0%	9.8%	10.0%	9.8%	13.7%
MAV	40.4%	11.6%	11.3%	11.4%	11.1%	15.2%
OSV	35.9%	12.3%	11.9%	11.4%	11.1%	14.9%
Total Revenue	**39.6%**	**12.6%**	**12.6%**	**12.3%**	**12.2%**	**16.0%**

Source: Steer analysis

HM - Joya

Table 6.65: Final (background plus impacts) AADT forecast for upside scenario – HM Joya

Vehicle Type	FY21	FY22	FY25	FY28	FY32	FY35	FY40	FY42
CJV	11,917	13,220	17,518	22,522	31,190	39,253	55,574	63,189
Mini LCV	0	1,544	1,754	2,007	2,385	2,681	3,200	3,416
Bus	1,379	1,656	1,881	2,152	2,558	2,876	3,433	3,664
LCV	2,385	1,758	2,141	2,400	2,793	3,140	3,748	4,000
2A	1,093	1,310	1,523	1,680	1,906	2,111	2,471	2,623
3A	1,117	1,242	1,562	1,769	2,073	2,342	2,827	3,037
MAV	1,439	1,681	2,236	2,626	3,226	3,791	4,866	5,350
OSV	5	5	5	7	8	10	13	14
AADT	**19,333**	**22,415**	**28,621**	**35,163**	**46,140**	**56,204**	**76,130**	**85,293**
PCU's	**32,754**	**37,609**	**47,469**	**56,780**	**71,932**	**85,735**	**1,12,538**	**1,24,715**

Source: Steer analysis

Table 6.66: Final (background plus impacts) AADT CAGR (%) for upside scenario – HM Joya

Vehicle Type	FY22-FY25	FY25-FY28	FY28-FY32	FY32-FY35	FY35-FY40	FY22-FY42
CJV	9.8%	8.7%	8.5%	8.0%	7.2%	8.1%
Mini LCV	4.3%	4.6%	4.4%	4.0%	3.6%	4.1%
Bus	4.3%	4.6%	4.4%	4.0%	3.6%	4.1%
LCV	6.8%	3.9%	3.9%	4.0%	3.6%	4.2%
2A	5.2%	3.3%	3.2%	3.5%	3.2%	3.5%
3A	7.9%	4.2%	4.0%	4.1%	3.8%	4.6%
MAV	10.0%	5.5%	5.3%	5.5%	5.1%	6.0%
OSV	6.5%	6.5%	6.0%	5.5%	5.1%	5.7%

Vehicle Type	FY22-FY25	FY25-FY28	FY28-FY32	FY32-FY35	FY35-FY40	FY22-FY42
AADT	**8.5%**	**7.1%**	**7.0%**	**6.8%**	**6.3%**	**6.9%**
PCU's	**8.1%**	**6.2%**	**6.1%**	**6.0%**	**5.6%**	**6.2%**

Source: Steer analysis

Table 6.67: Final (background plus impacts) revenue (INR crores) forecast for upside scenario – HM Joya

Vehicle Type	FY21	FY22	FY25	FY28	FY32	FY35	FY40	FY42
CJV	13.7	15.7	36.9	57.3	98.2	143.2	268.2	342.1
Mini LCV	0.0	1.8	3.7	5.1	7.5	9.8	15.4	18.5
Bus	5.1	6.1	12.9	17.4	25.6	33.9	53.3	63.4
LCV	4.8	3.6	7.9	10.4	15.0	19.8	31.0	36.8
2A	4.5	5.6	12.0	15.7	21.9	28.7	44.2	52.3
3A	5.3	6.1	14.2	18.8	27.4	36.2	57.8	69.2
MAV	9.8	11.9	29.1	40.2	61.2	84.7	143.3	175.5
OSV	0.0	0.0	0.1	0.1	0.2	0.2	0.4	0.5
Total Revenue	**43.3**	**50.8**	**116.7**	**165.1**	**256.9**	**356.4**	**613.6**	**758.3**

Source: Steer analysis

Table 6.68: Final (background plus impacts) revenue CAGR (%) for upside scenario – HM Joya

Vehicle Type	FY22-FY25	FY25-FY28	FY28-FY32	FY32-FY35	FY35-FY40	FY22-FY42
CJV	33.0%	15.8%	14.4%	13.4%	13.4%	16.7%
Mini LCV	26.4%	11.4%	10.1%	9.2%	9.6%	12.3%
Bus	28.0%	10.7%	10.0%	9.8%	9.5%	12.4%
LCV	30.1%	9.7%	9.7%	9.7%	9.4%	12.4%
2A	29.1%	9.4%	8.7%	9.4%	9.0%	11.9%
3A	32.1%	10.0%	9.8%	9.7%	9.8%	12.9%
MAV	34.9%	11.4%	11.0%	11.5%	11.1%	14.4%
OSV	30.5%	12.4%	11.9%	11.4%	11.1%	14.2%
Total Revenue	**31.9%**	**12.3%**	**11.7%**	**11.5%**	**11.5%**	**14.5%**

Source: Steer analysis

Traffic and Revenue Forecasts - downside scenario

AE - Gurau

Table 6.69: Final (background plus impacts) AADT forecast for downside scenario – AE Gurau

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY40	FY43	FY46
CJV	3,304	2,982	3,897	5,086	6,351	7,137	7,927	8,711
Mini LCV	0	713	816	934	1,045	1,108	1,168	1,225

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY40	FY43	FY46
Bus	476	604	746	853	955	1,013	1,068	1,120
LCV	1,190	902	1,048	1,199	1,342	1,423	1,500	1,573
2A	1,083	1,254	1,417	1,615	1,805	1,916	2,026	2,136
3A	981	1,143	1,366	1,590	1,809	1,940	2,070	2,201
MAV	1,960	2,400	3,022	3,673	4,333	4,737	5,150	5,572
OSV	8	8	10	12	14	16	17	18
AADT	**9,001**	**10,004**	**12,321**	**14,963**	**17,654**	**19,289**	**20,927**	**22,557**
PCU's	**21,564**	**24,883**	**30,514**	**36,580**	**42,679**	**46,372**	**50,092**	**53,823**

Source: Steer analysis

Table 6.70: Final (background plus impacts) AADT CAGR (%) for downside scenario – AE Gurau

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY40	FY40-FY43	FY22-FY46
CJV	5.5%	5.5%	4.5%	4.0%	3.6%	4.6%
Mini LCV	2.7%	2.7%	2.3%	2.0%	1.8%	2.3%
Bus	4.3%	2.7%	2.3%	2.0%	1.8%	2.6%
LCV	3.0%	2.7%	2.3%	2.0%	1.8%	2.3%
2A	2.5%	2.7%	2.2%	2.0%	1.9%	2.2%
3A	3.6%	3.1%	2.6%	2.3%	2.2%	2.8%
MAV	4.7%	4.0%	3.4%	3.0%	2.8%	3.6%
OSV	4.4%	4.0%	3.4%	3.0%	2.8%	3.5%
AADT	**4.3%**	**4.0%**	**3.4%**	**3.0%**	**2.8%**	**3.4%**
PCU's	**4.2%**	**3.7%**	**3.1%**	**2.8%**	**2.6%**	**3.3%**

Source: Steer analysis

Table 6.71: Final (background plus impacts) revenue (INR crores) forecast for downside scenario – AE Gurau

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY40	FY43	FY46
CJV	6.6	8.5	13.7	22.1	33.3	42.3	52.5	64.1
Mini LCV	0.0	2.0	2.9	4.1	5.5	6.6	7.7	9.0
Bus	3.3	6.0	9.3	13.0	17.7	21.1	24.8	29.0
LCV	4.4	4.5	6.8	9.4	12.8	15.3	18.0	20.9
2A	8.7	14.5	20.6	28.7	39.0	46.5	54.8	64.5
3A	8.7	14.8	22.1	31.6	43.6	52.8	62.6	74.4
MAV	24.6	43.3	68.9	102.7	146.7	180.1	218.6	263.9
OSV	0.1	0.2	0.3	0.4	0.6	0.7	0.9	1.0
Total Revenue	**56.4**	**93.8**	**144.5**	**212.0**	**299.2**	**365.3**	**439.8**	**526.8**

Source: Steer analysis

Table 6.72: Final (background plus impacts) revenue CAGR (%) for downside scenario – AE Gurau

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY40	FY40-FY43	FY22-FY46
CJV	10.0%	10.1%	8.5%	8.3%	7.4%	8.8%
Mini LCV	7.1%	7.2%	6.2%	6.2%	5.6%	6.4%
Bus	9.2%	7.0%	6.3%	6.0%	5.6%	6.8%
LCV	8.3%	6.7%	6.5%	6.0%	5.6%	6.6%
2A	7.3%	6.8%	6.3%	6.1%	5.6%	6.4%
3A	8.4%	7.4%	6.7%	6.6%	5.8%	7.0%
MAV	9.7%	8.3%	7.4%	7.1%	6.7%	7.8%
OSV	9.4%	8.3%	7.5%	7.1%	6.7%	7.8%
Total Revenue	**9.0%**	**8.0%**	**7.1%**	**6.9%**	**6.4%**	**7.5%**

Source: Steer analysis

AE - Tundla

Table 6.73: Final (background plus impacts) AADT forecast for downside scenario – AE Tundla

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY40	FY43	FY46
CJV	8,751	8,136	10,910	14,610	18,646	21,192	23,782	26,378
Mini LCV	0	1,407	1,611	1,843	2,062	2,187	2,306	2,419
Bus	865	1,099	1,357	1,553	1,738	1,844	1,944	2,038
LCV	1,840	1,385	1,536	1,758	1,967	2,086	2,199	2,306
2A	1,425	1,652	1,886	2,150	2,402	2,550	2,697	2,843
3A	977	1,158	1,388	1,617	1,839	1,972	2,104	2,238
MAV	1,713	2,118	2,671	3,247	3,830	4,188	4,553	4,925
OSV	8	8	10	12	14	16	17	19
AADT	**15,579**	**16,963**	**21,370**	**26,790**	**32,499**	**36,034**	**39,603**	**43,166**
PCU's	**29,054**	**32,914**	**40,786**	**49,717**	**58,898**	**64,519**	**70,187**	**75,860**

Source: Steer analysis

Table 6.74: Final (background plus impacts) AADT CAGR (%) for downside scenario – AE Tundla

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY40	FY40-FY43	FY22-FY46
CJV	6.0%	6.0%	5.0%	4.4%	3.9%	5.0%
Mini LCV	2.7%	2.7%	2.3%	2.0%	1.8%	2.3%
Bus	4.3%	2.7%	2.3%	2.0%	1.8%	2.6%
LCV	2.1%	2.7%	2.3%	2.0%	1.8%	2.1%
2A	2.7%	2.7%	2.2%	2.0%	1.9%	2.3%
3A	3.7%	3.1%	2.6%	2.3%	2.2%	2.8%
MAV	4.7%	4.0%	3.4%	3.0%	2.8%	3.6%
OSV	4.4%	4.0%	3.4%	3.0%	2.8%	3.5%

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY40	FY40-FY43	FY22-FY46
AADT	**4.7%**	**4.6%**	**3.9%**	**3.5%**	**3.2%**	**4.0%**
PCU's	**4.4%**	**4.0%**	**3.4%**	**3.1%**	**2.8%**	**3.5%**

Source: Steer analysis

Table 6.75: Final (background plus impacts) revenue (INR crores) forecast for downside scenario – AE Tundla

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY40	FY43	FY46
CJV	14.7	17.5	29.8	49.1	75.9	96.7	119.7	149.1
Mini LCV	0.0	3.0	4.4	6.2	8.4	10.0	11.6	13.7
Bus	5.6	9.7	15.1	21.2	28.8	34.3	40.4	47.2
LCV	6.2	6.3	8.9	12.4	16.7	20.1	23.5	27.5
2A	10.7	17.1	24.7	34.5	46.7	55.8	65.8	77.5
3A	8.2	13.2	20.1	28.5	39.3	47.6	56.5	67.0
MAV	20.6	34.7	55.4	82.6	118.3	145.6	176.0	212.5
OSV	0.1	0.2	0.3	0.4	0.5	0.7	0.8	1.0
Total Revenue	**66.1**	**101.7**	**158.7**	**235.0**	**334.6**	**410.8**	**494.3**	**595.4**

Source: Steer analysis

Table 6.76: Final (background plus impacts) revenue CAGR (%) for downside scenario – AE Tundla

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY40	FY40-FY43	FY22-FY46
CJV	11.2%	10.5%	9.1%	8.4%	7.4%	9.3%
Mini LCV	7.8%	7.1%	6.3%	5.9%	5.1%	6.5%
Bus	9.3%	7.0%	6.2%	6.1%	5.6%	6.8%
LCV	7.2%	6.9%	6.2%	6.2%	5.4%	6.3%
2A	7.6%	6.9%	6.2%	6.1%	5.6%	6.5%
3A	8.8%	7.3%	6.6%	6.6%	5.9%	7.0%
MAV	9.8%	8.3%	7.4%	7.2%	6.5%	7.8%
OSV	9.4%	8.2%	7.4%	7.1%	6.7%	7.8%
Total Revenue	**9.3%**	**8.2%**	**7.3%**	**7.1%**	**6.4%**	**7.6%**

Source: Steer analysis

HM - Brijghat

Table 6.77: Final (background plus impacts) AADT forecast for downside scenario – HM Brijghat

Vehicle Type	FY21	FY22	FY25	FY28	FY32	FY35	FY40	FY42
CJV	17,858	20,291	24,513	28,656	36,121	42,041	52,395	56,657
Mini LCV	0	2,232	2,415	2,628	2,925	3,137	3,471	3,598
Bus	1,666	2,059	2,227	2,424	2,697	2,893	3,201	3,318

Vehicle Type	FY21	FY22	FY25	FY28	FY32	FY35	FY40	FY42
LCV	3,299	2,581	2,907	3,021	3,361	3,605	3,989	4,135
2A	1,429	1,786	1,984	2,054	2,278	2,439	2,701	2,805
3A	1,160	1,274	1,457	1,497	1,660	1,778	1,969	2,045
MAV	1,718	1,988	2,344	2,424	2,781	3,046	3,488	3,667
OSV	3	3	3	3	4	4	5	5
AADT	**27,131**	**32,215**	**37,851**	**42,707**	**51,827**	**58,943**	**71,218**	**76,229**
PCU's	**43,309**	**50,711**	**58,857**	**64,663**	**76,524**	**85,641**	**1,01,178**	**1,07,483**

Source: Steer analysis

Table 6.78: Final (background plus impacts) AADT CAGR (%) for downside scenario – HM Brijghat

Vehicle Type	FY22-FY25	FY25-FY28	FY28-FY32	FY32-FY35	FY35-FY40	FY22-FY42
CJV	6.5%	5.3%	6.0%	5.2%	4.5%	5.3%
Mini LCV	2.7%	2.9%	2.7%	2.4%	2.0%	2.4%
Bus	2.7%	2.9%	2.7%	2.4%	2.0%	2.4%
LCV	4.0%	1.3%	2.7%	2.4%	2.0%	2.4%
2A	3.6%	1.2%	2.6%	2.3%	2.1%	2.3%
3A	4.6%	0.9%	2.6%	2.3%	2.1%	2.4%
MAV	5.6%	1.1%	3.5%	3.1%	2.7%	3.1%
OSV	3.8%	3.9%	3.5%	3.1%	2.7%	3.3%
AADT	**5.5%**	**4.1%**	**5.0%**	**4.4%**	**3.9%**	**4.4%**
PCU's	**5.1%**	**3.2%**	**4.3%**	**3.8%**	**3.4%**	**3.8%**

Source: Steer analysis

Table 6.79: Final (background plus impacts) revenue (INR crores) forecast for downside scenario – HM Brijghat

Vehicle Type	FY21	FY22	FY25	FY28	FY32	FY35	FY40	FY42
CJV	28.3	33.2	83.5	111.4	162.0	213.1	322.3	371.7
Mini LCV	0.0	3.7	8.2	10.2	13.1	15.9	21.4	23.6
Bus	9.0	11.3	24.2	29.9	39.1	47.0	63.3	70.5
LCV	9.3	7.3	16.6	19.3	25.5	30.7	41.1	46.0
2A	8.8	11.2	24.5	28.8	37.5	45.1	60.6	67.7
3A	8.1	9.1	21.1	24.6	31.9	38.3	51.7	57.7
MAV	17.3	20.4	48.4	56.5	76.2	93.7	130.3	147.3
OSV	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2
Total Revenue	**80.8**	**96.1**	**226.7**	**280.7**	**385.5**	**483.9**	**690.9**	**784.7**

Source: Steer analysis

Table 6.80: Final (background plus impacts) revenue CAGR (%) for downside scenario – HM Brijghat

Vehicle Type	FY22-FY25	FY25-FY28	FY28-FY32	FY32-FY35	FY35-FY40	FY22-FY42
CJV	36.0%	10.1%	9.8%	9.6%	8.6%	12.8%
Mini LCV	31.1%	7.5%	6.5%	6.6%	6.1%	9.8%
Bus	29.0%	7.2%	7.0%	6.3%	6.1%	9.6%
LCV	31.8%	5.2%	7.2%	6.3%	6.0%	9.7%
2A	30.1%	5.5%	6.8%	6.3%	6.1%	9.4%
3A	32.4%	5.2%	6.7%	6.3%	6.2%	9.7%
MAV	33.4%	5.3%	7.8%	7.1%	6.8%	10.4%
OSV	30.5%	8.3%	7.7%	7.1%	6.8%	10.5%
Total Revenue	**33.1%**	**7.4%**	**8.3%**	**7.9%**	**7.4%**	**11.1%**

Source: Steer analysis

HM - Joya

Table 6.81: Final (background plus impacts) AADT forecast for downside scenario – HM Joya

Vehicle Type	FY21	FY22	FY25	FY28	FY32	FY35	FY40	FY42
CJV	11,917	13,220	15,714	17,819	22,006	25,270	30,881	33,161
Mini LCV	0	1,544	1,670	1,817	2,022	2,169	2,400	2,488
Bus	1,379	1,656	1,791	1,949	2,169	2,326	2,574	2,668
LCV	2,385	1,758	1,978	2,008	2,235	2,397	2,652	2,749
2A	1,093	1,310	1,432	1,432	1,561	1,653	1,800	1,858
3A	1,117	1,242	1,424	1,459	1,618	1,733	1,919	1,993
MAV	1,439	1,681	1,990	2,029	2,327	2,549	2,919	3,069
OSV	5	5	5	6	6	7	8	9
AADT	**19,333**	**22,415**	**26,004**	**28,520**	**33,946**	**38,104**	**45,154**	**47,994**
PCU's	**32,754**	**37,609**	**43,270**	**46,326**	**53,929**	**59,675**	**69,311**	**73,177**

Source: Steer analysis

Table 6.82: Final (background plus impacts) AADT CAGR (%) for downside scenario – HM Joya

Vehicle Type	FY22-FY25	FY25-FY28	FY28-FY32	FY32-FY35	FY35-FY40	FY22-FY42
CJV	5.9%	4.3%	5.4%	4.7%	4.1%	4.7%
Mini LCV	2.7%	2.9%	2.7%	2.4%	2.0%	2.4%
Bus	2.7%	2.9%	2.7%	2.4%	2.0%	2.4%
LCV	4.0%	0.5%	2.7%	2.4%	2.0%	2.3%
2A	3.0%	0.0%	2.2%	1.9%	1.7%	1.8%
3A	4.7%	0.8%	2.6%	2.3%	2.1%	2.4%
MAV	5.8%	0.6%	3.5%	3.1%	2.7%	3.1%
OSV	3.8%	3.9%	3.5%	3.1%	2.7%	3.3%

Vehicle Type	FY22-FY25	FY25-FY28	FY28-FY32	FY32-FY35	FY35-FY40	FY22-FY42
AADT	**5.1%**	**3.1%**	**4.5%**	**3.9%**	**3.5%**	**3.9%**
PCU's	**4.8%**	**2.3%**	**3.9%**	**3.4%**	**3.0%**	**3.4%**

Source: Steer analysis

Table 6.83: Final (background plus impacts) revenue (INR crores) forecast for downside scenario – HM Joya

Vehicle Type	FY21	FY22	FY25	FY28	FY32	FY35	FY40	FY42
CJV	13.7	15.7	32.5	40.6	59.7	76.0	115.8	134.0
Mini LCV	0.0	1.8	3.5	4.1	5.5	6.5	9.0	10.1
Bus	5.1	6.1	11.7	14.5	19.0	22.8	30.6	34.2
LCV	4.8	3.6	6.9	8.0	10.4	12.5	16.9	18.7
2A	4.5	5.6	10.8	12.2	15.7	18.7	24.6	27.4
3A	5.3	6.1	12.2	14.3	18.6	22.3	30.0	33.5
MAV	9.8	11.9	24.6	28.6	38.5	47.3	65.8	74.3
OSV	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2
Total Revenue	**43.3**	**50.8**	**102.3**	**122.4**	**167.4**	**206.2**	**292.9**	**332.4**

Source: Steer analysis

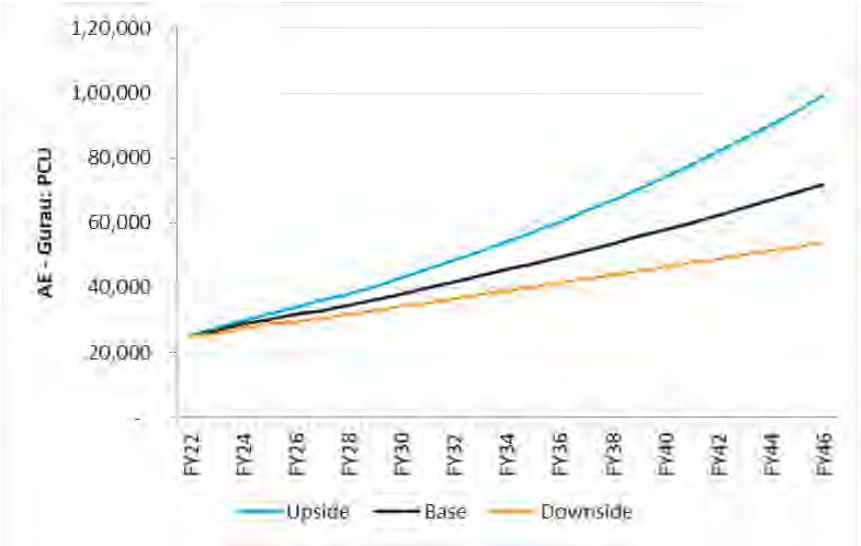
Table 6.84: Final (background plus impacts) revenue CAGR (%) for downside scenario – HM Joya

Vehicle Type	FY22-FY25	FY25-FY28	FY28-FY32	FY32-FY35	FY35-FY40	FY22-FY42
CJV	27.5%	7.8%	10.1%	8.4%	8.8%	11.3%
Mini LCV	23.6%	6.3%	7.3%	5.9%	6.7%	8.9%
Bus	24.2%	7.2%	7.0%	6.2%	6.1%	9.0%
LCV	24.6%	4.8%	6.8%	6.5%	6.2%	8.6%
2A	24.7%	4.3%	6.4%	6.0%	5.7%	8.3%
3A	25.7%	5.4%	6.9%	6.2%	6.1%	8.8%
MAV	27.6%	5.1%	7.7%	7.1%	6.8%	9.6%
OSV	25.4%	8.2%	7.8%	7.1%	6.8%	9.8%
Total Revenue	**26.3%**	**6.2%**	**8.1%**	**7.2%**	**7.3%**	**9.8%**

Source: Steer analysis

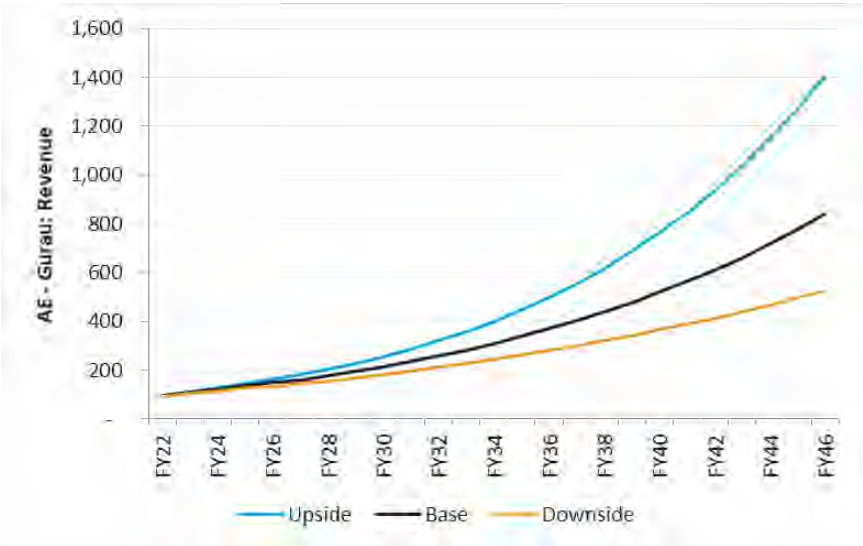
6.63 The following charts shows comparison of traffic and revenue forecasts with the Upside and downside scenarios presented in sections above.

Figure 6.14: Final AADT forecast including Upside and Downside scenarios – AE Gurau



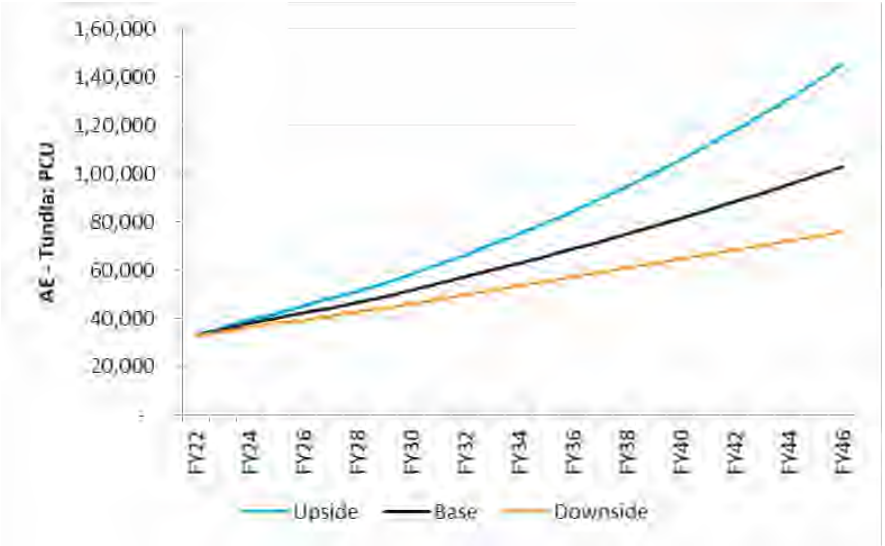
Source: Steer analysis

Figure 6.15: Final Revenue forecast including Upside and Downside scenarios – AE Gurau



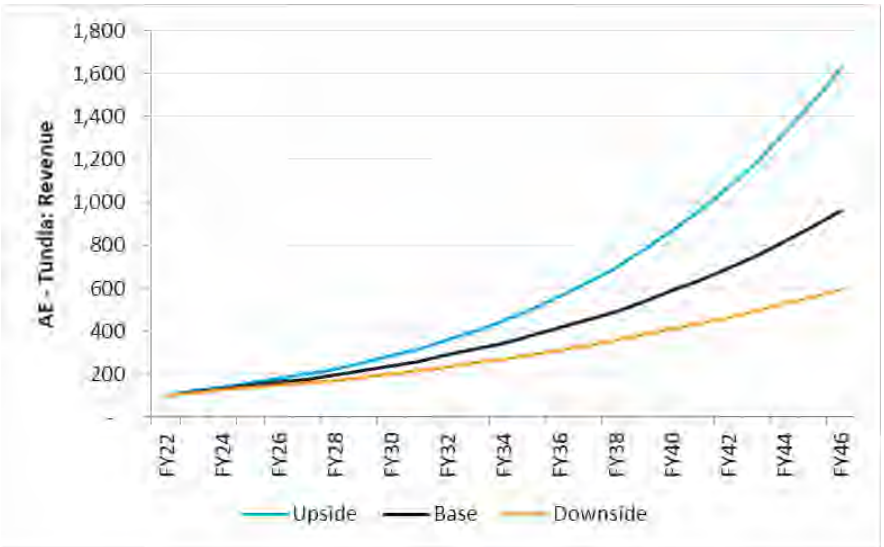
Source: Steer analysis

Figure 6.16: Final AADT forecast including Upside and Downside scenarios – AE Tundla



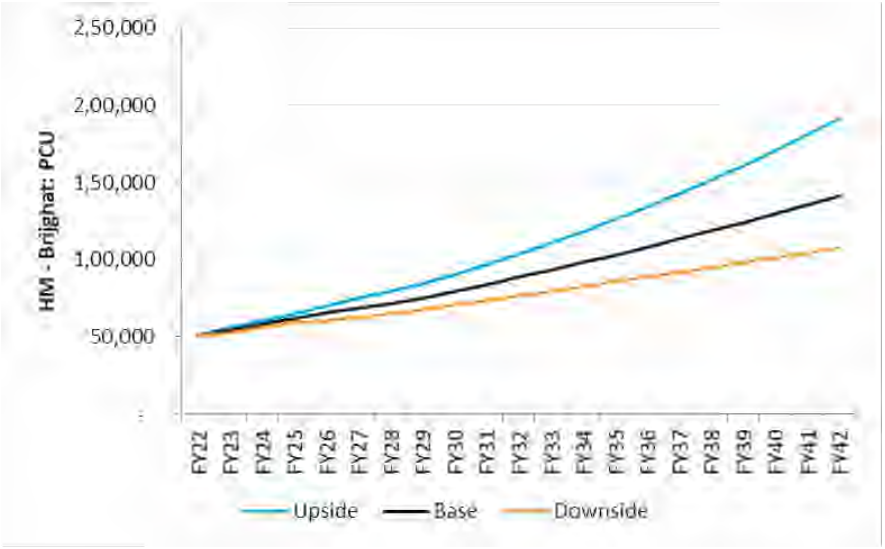
Source: Steer analysis

Figure 6.17: Final Revenue forecast including Upside and Downside scenarios – AE Tundla



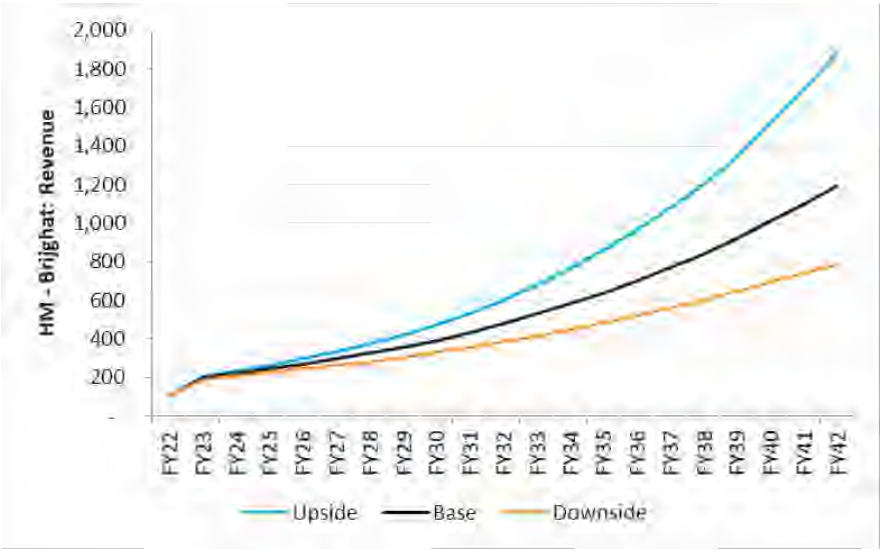
Source: Steer analysis

Figure 6.18: Final AADT forecast including Upside and Downside scenarios – HM Brijghat



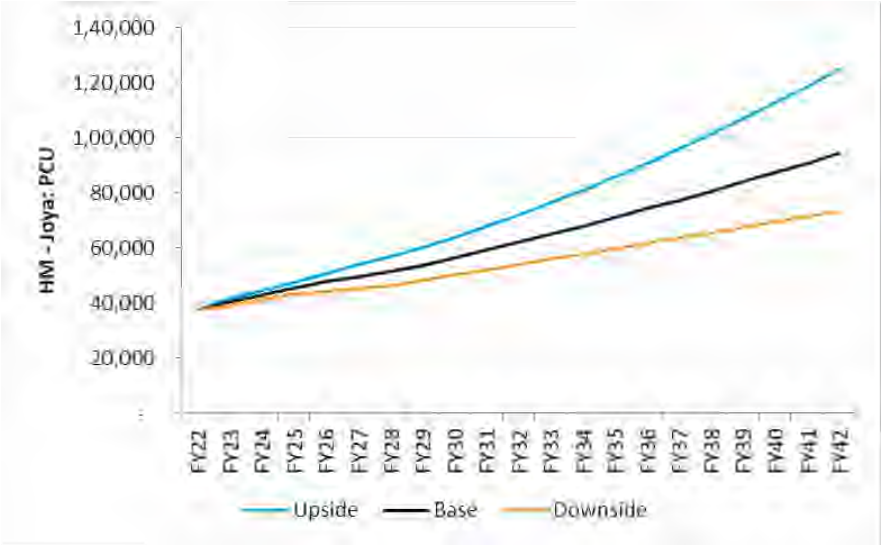
Source: Steer analysis

Figure 6.19: Final Revenue forecast including Upside and Downside scenarios– HM Brijghat



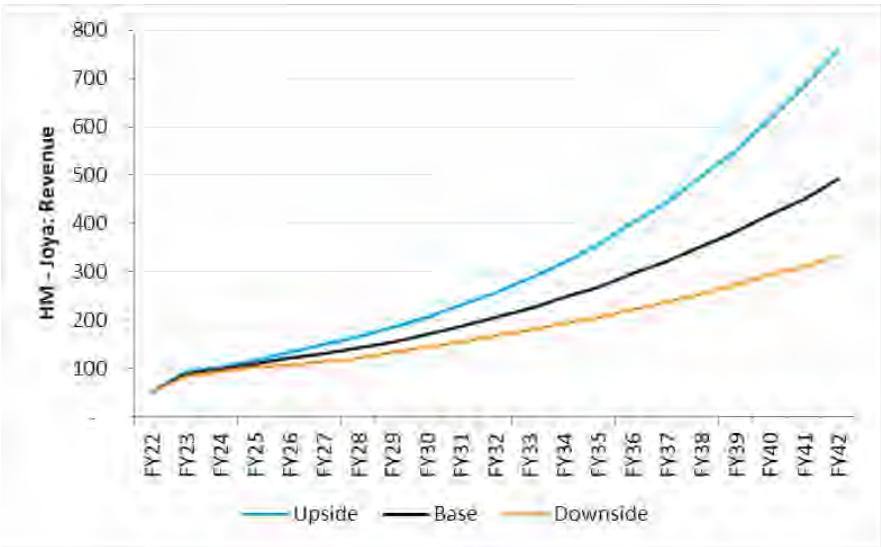
Source: Steer analysis

Figure 6.20: Final AADT forecast including Upside and Downside scenarios – HM Joya



Source: Steer analysis

Figure 6.21: Final Revenue forecast including Upside and Downside scenarios– HM Joya



Source: Steer analysis

Target traffic and modification of concession period

6.64 As per the concession agreement, the target traffic should be 52,995 PCUs for AE for the target date of 1st April 2025 and 67,413 PCUs for HM for the target date of 1st April 2028. The traffic sampling will be undertaken for a continuous period of 7 days during anytime within 15 days prior to the date on the specified year, previous year and following year. The average thereof will be deemed as 'actual traffic.' If the target traffic for any section falls short or exceeds by 2.5%, the concession period shall be deemed to be modified using the laid-out conditions in the concession agreement. The table below presents the summary of the analysis.

Table 6.85: Target Traffic

Asset	Target month	Estimated traffic (PCUs)			Average traffic	Target traffic	Variation (%)
		FY24	**FY25**	**FY26**	**(PCUs)**	**(PCUs)**	
AE	Apr-25	34,415	36,299	38,283	36,332	52,995	(31.4%)
		FY27	**FY28**	**FY29**	**(PCUs)**	**(PCUs)**	
HM	Apr-28	60,289	63,118	66,079	63,162	67,413	(6.3%)

Source: Steer analysis

6.65 We have used the average AADT forecast for target year, previous year and following year as a proxy for 'actual traffic.' We have forecast seasonality of March month to adjust for seasonal trends and arrive at March traffic from AADT traffic.

6.66 According to the CA, based on the variation of traffic, the concession period is expected to be increased by six years (till FY52) for AE and by two years (till FY44) for HM.

Summary outlook

Agra Etawah

6.67 Agra Etawah is part of the GQ corridor connecting key large urban centres and industrial agglomerations of Delhi, Firozabad, Agra, Kanpur, Lucknow. In addition, the Asset also caters to the long-distance movement which connects northern parts of the country to west Bengal and other eastern states. Lucknow acts as a pivot point for these trips destined either towards north-eastern states or towards West Bengal and others.

6.68 Agra Etawah benefits from the industrial clusters of these cities which specialize in the production various commodities for e.g. glass industry in Firozabad. In addition, the presence of large urban and rural population aides the consumption demand generated by these cities. Corridor being located in the vicinity of one of the two longest rivers in India i.e. river Ganga and Yamuna, the land is extremely fertile thereby aiding the agriculture production in the region. All these factors aid the traffic profile of the Asset and will continue to contribute to the growth of the Asset.

6.69 The Agra Lucknow expressway is potential alternate to the asset with similar toll rates and faster connectivity between Agra and Lucknow. It is currently operating at 75% toll rates and based on discussion with client, its toll rates are expected to get revised to 100% in FY23. There is potential risk of losing the gain assumed as impact in traffic forecasts in case toll rates are not revised on the expressway.

Hapur Moradabad

6.70 Hapur Moradabad is part of the NH9-NH530-NH30 corridor connecting key large urban centres and industrial agglomerations of Delhi, Moradabad, Bareilly, Lucknow. The Asset also caters to the long-distance movement which connects northern parts of the country to West Bengal and other eastern states. Lucknow acts as a pivot point for these trips destined either towards north-eastern states or towards West Bengal and others. State of Uttarakhand which is both a major tourism destination and industrial cluster is connected to Delhi via this Asset, hence the influence of traffic between these two centres is clearly visible in the OD patterns

witnessed on the Asset. Nepal also emerges as a key destination in the trips observed on the Asset, adding to the strength of the traffic profile of the Asset.

6.71 Hapur Moradabad benefits from the industrial clusters of these cities which specialize in the production various commodities for e.g. Brass and Metal industry in Moradabad. In addition, the presence of large urban and rural population aides the consumption demand generated by these cities. Corridor being located in the vicinity of one of the longest rivers in India i.e. river Ganga, the land is extremely fertile thereby aiding the agriculture production in the region. Uttarakhand is also a major agriculture production centre for rice, edible oil and other herbal/organic medicated food items. All these factors aid the traffic profile of the Asset and will continue to contribute to the growth of the Asset

Both assets

6.72 Completion of construction on Agra-Etawah has provided a fillip to both local and long-distance traffic using the Asset. Despite FY21 being impacted by Covid19, the FY21 actual traffic volumes are higher than observed in FY20. A large part of this is because of the commissioning of the Firozabad bypass which was major bottle neck for traffic earlier. Similar ramp up in traffic is expected on Hapur-Moradabad once the construction on the Asset is complete. Further, post Covid19 restrictions are lifted, tourism activity is expected to pick up significantly adding more traffic on both AE and HM corridors.

6.73 It has been observed that even though traffic across the country saw significant impact of Covid 19 impact and dropped up to 70% of pre-Covid19 levels during Q2FY21, only to recover during the second half of the year, this Assets saw a growth and subsequent stabilisation of traffic volumes. The impact is much more on passenger vehicles as all the tourism related activities were completely stopped in the Area. Similar decline is traffic was seen due to 2nd wave which impacted CJV and Bus traffic the most, however the good vehicle performance remained good with less reduction in traffic volumes. It is expected that by Q2FY22 the traffic across all vehicle types should return to normal trends as was after the first wave of Covid19.

6.74 With regards to the short-term background growth, we see the following risk:

- The nascent recovery from the pandemic could be subdued due stronger lockdowns being implemented and traffic growth not sustaining the coming months. However as it was observed in FY21 that a very a strong recovery of traffic took place once the nationwide lockdown was relaxed. This included pent up demand from the lockdown period giving a major boost to traffic in FY21. It can be expected that a similar pattern, albeit to a much smaller extent, could repeat itself in FY22 with the first quarter being more subdued and the follow three quarters seeing stronger recovery.
- The underlying strengthening and sustainability of the wider economic growth, particularly for sectors like tourism, industry and agriculture could see a major comeback in the second part of FY22 resulting in increased activity in the corridor.

6.75 We expect that the implementation of FASTag rules, will also help in improving the operational efficiency and overall compliance levels on the Assets and overall corridor, thereby resulting in an improved level of service for all users.

6.76 Despite the risks of Ganga expressway impacting the traffic on the Assets, we believe that the Assets have a robust traffic profile and connect key centres of economic growth. As seen historically the Western UP has grown much faster than UP, and this is expected to continue into the medium and long term. This coupled with improved level of service due to capacity

expansion, upgrades such as Rampur-Rudrapur expansion and tourism in Uttarakhand and completion of Delhi-Meerut expressway are expected to positively impact the traffic profile on the Asset. Therefore, it is reasonable to believe that the underlying growth drivers of the corridor are strong and are expected to deliver long term sustained growth

6.77 Overall, we see a positive outlook for the region in the Assets given that it serves and connects major urban centres of Delhi NCR, Uttar Pradesh, Haryana, Rajasthan, Punjab, Gujarat, West Bengal, Uttarakhand, Himachal Pradesh. The underlying growth drivers of the corridor are strong and are expected to deliver long term sustained growth.

Appendices

A Top 10 OD Pairs

A.1 Further to the OD analysis presented in Chapter 3 this appendix presents the top 10 OD pairs at each toll plaza. Please see this data for both CJVs and MAVs and OSVs combined below.

Table A.1: 3A/MAV top 10 OD pair shares – AE Gurau

	OD Pair	Share
1.	Agra - Kanpur Nagar	3.99%
2.	Kanpur Nagar - Mathura	2.88%
3.	Shikohabad - Jalaun	2.79%
4.	Agra - Etawah	2.30%
5.	Central Delhi - West Bengal Sikkim	2.18%
6.	Kanpur Nagar - Central Delhi	2.01%
7.	Shikohabad - Etawah	1.77%
8.	Shikohabad - north Madhya Pradesh	1.60%
9.	north Haryana - West Bengal Sikkim	1.36%
10.	Kanpur Nagar - north Haryana	1.32%

Source: Steer analysis

Table A.2: 3A/MAV top 10 OD pair shares – AE Tundla

	OD Pair	Share
1.	Agra - Kanpur Nagar	5.19%
2.	South Rajasthan - Bihar	4.90%
3.	Kanpur Nagar - east Rajasthan	3.30%
4.	east Rajasthan - Bihar	2.38%
5.	Gorakhpur - Punjab	2.28%
6.	Kanpur Nagar - north Haryana	1.94%
7.	Etawah - Mathura	1.94%
8.	Firozabad - Mathura	1.65%
9.	Agra - Auraiya	1.36%
10.	Firozabad - South Rajasthan	1.31%

Source: Steer analysis

Table A.3: 3A/MAV top 10 OD pair shares – HM Brijghat

	OD Pair	Share
1.	Moradabad - Central Delhi (inside ring road)	4.05%
2.	Ghaziabad - Moradabad	3.41%
3.	Central Delhi (inside ring road) - Uttarakhand	2.99%
4.	Bareilly - Central Delhi (inside ring road)	2.94%
5.	Meerut - Moradabad	2.41%
6.	Hapur - Moradabad	2.23%
7.	Gajraula - Central Delhi (inside ring road)	2.23%
8.	Rampur - Central Delhi (inside ring road)	2.11%
9.	Ghaziabad - Uttarakhand	1.82%
10.	Bareilly - Ghaziabad	1.76%

Source: Steer analysis

Table A.4: 3A/MAV top 10 OD pair shares – HM Joya

	OD Pair	Share
1.	Ghaziabad - Moradabad	4.89%
2.	Moradabad - Central Delhi (inside ring road)	2.98%
3.	Gajraula - Moradabad	2.91%
4.	Ghaziabad - Uttarakhand	2.48%
5.	Bareilly - Central Delhi (inside ring road)	2.34%
6.	Central Delhi (inside ring road) - Uttarakhand	2.27%
7.	Ghaziabad - Rampur	2.27%
8.	Gautam Buddha Nagar - Uttarakhand	1.84%
9.	Rampur - Central Delhi (inside ring road)	1.84%
10.	Sitapur - Central Delhi (inside ring road)	1.63%

Source: Steer analysis

B Detailed forecasts

B.1 Further to the summary of forecasts presented in Chapter 6, this appendix presents detailed forecasts.

Traffic forecasts

B.2 This section presents the detailed traffic forecasts for the forecast period until year of expected close of the concession. The following two tables show the traffic growth rates and AADT, respectively.

AE Gurau

Table B.1: Forecasts for final (background + impacts) AADT – AE Gurau

Vehicle Category	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
CJV	3,304	2,982	3,214	3,495	3,751	4,027	4,253	4,563	4,896	5,245
Mini LCV	-	713	735	761	789	818	848	879	911	944
Bus	476	604	679	703	729	756	784	812	842	872
LCV	1,190	902	939	982	1,018	1,056	1,095	1,135	1,176	1,218
2A	1,083	1,254	1,323	1,394	1,449	1,506	1,508	1,564	1,621	1,678
3A	981	1,143	1,224	1,305	1,366	1,428	1,463	1,526	1,591	1,657
MAV	1,960	2,400	2,607	2,821	2,989	3,164	3,286	3,469	3,658	3,853
OSV	8	8	8	9	10	10	11	11	12	13
Total	**9,001**	**10,004**	**10,730**	**11,471**	**12,100**	**12,765**	**13,247**	**13,960**	**14,707**	**15,479**
PCU	**21,564**	**24,883**	**26,808**	**28,673**	**30,192**	**31,782**	**32,843**	**34,512**	**36,245**	**38,031**

Source: Steer analysis

Table B.2: Forecasts for final (background + impacts) AADT – AE Gurau

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
CJV	5,609	5,986	6,373	6,770	7,178	7,597	8,029	8,474	8,933	9,402
Mini LCV	977	1,009	1,042	1,075	1,107	1,139	1,172	1,204	1,237	1,269
Bus	902	932	963	993	1,023	1,052	1,082	1,112	1,142	1,172
LCV	1,260	1,303	1,345	1,387	1,428	1,470	1,512	1,554	1,596	1,638
2A	1,737	1,795	1,854	1,913	1,972	2,031	2,090	2,151	2,212	2,273
3A	1,724	1,792	1,860	1,929	1,998	2,068	2,139	2,211	2,284	2,358
MAV	4,053	4,259	4,468	4,680	4,895	5,116	5,341	5,572	5,809	6,052
OSV	13	14	15	15	16	17	17	18	19	20
Total	**16,275**	**17,090**	**17,919**	**18,761**	**19,617**	**20,490**	**21,383**	**22,296**	**23,231**	**24,184**
PCU	**39,864**	**41,735**	**43,633**	**45,555**	**47,504**	**49,490**	**51,516**	**53,586**	**55,702**	**57,861**

Source: Steer analysis

Table B.3: Forecasts for final (background + impacts) AADT – AE Gurau

Vehicle Category	FY41	FY42	FY43	FY44	FY45	FY46
CJV	9,882	10,371	10,871	11,380	11,898	12,424
Mini LCV	1,302	1,334	1,366	1,398	1,430	1,461
Bus	1,202	1,232	1,262	1,291	1,321	1,350
LCV	1,680	1,721	1,763	1,804	1,845	1,886
2A	2,335	2,398	2,462	2,526	2,591	2,656
3A	2,433	2,510	2,587	2,666	2,746	2,827
MAV	6,300	6,555	6,815	7,082	7,355	7,633
OSV	20	21	22	23	24	25
Total	**25,155**	**26,143**	**27,148**	**28,170**	**29,209**	**30,262**
PCU	**60,059**	**62,299**	**64,582**	**66,906**	**69,271**	**71,675**

Source: Steer analysis

AE Tundla

Table B.4: Forecasts for final (background + impacts) AADT – AE Tundla

Vehicle Category	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
CJV	8,751	8,136	8,745	9,488	10,253	11,084	11,910	12,862	13,894	14,983
Mini LCV	-	1,407	1,451	1,503	1,558	1,615	1,675	1,736	1,799	1,863
Bus	865	1,099	1,236	1,280	1,327	1,376	1,426	1,478	1,532	1,587
LCV	1,840	1,385	1,437	1,498	1,553	1,610	1,616	1,675	1,736	1,798
2A	1,425	1,652	1,743	1,838	1,911	1,986	2,007	2,078	2,154	2,230
3A	977	1,158	1,243	1,328	1,389	1,452	1,490	1,552	1,618	1,685
MAV	1,713	2,118	2,310	2,505	2,654	2,809	2,923	3,073	3,240	3,413
OSV	8	8	9	9	10	10	11	11	12	13
Total	**15,579**	**16,963**	**18,172**	**19,448**	**20,653**	**21,942**	**23,058**	**24,465**	**25,985**	**27,571**
PCU	**29,054**	**32,914**	**35,447**	**37,887**	**40,005**	**42,243**	**43,983**	**46,315**	**48,843**	**51,464**

Source: Steer analysis

Table B.5: Forecasts for final (background + impacts) AADT – AE Tundla

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
CJV	16,127	17,318	18,551	19,823	21,136	22,494	23,901	25,358	26,868	28,420
Mini LCV	1,928	1,993	2,057	2,121	2,185	2,249	2,313	2,377	2,441	2,505
Bus	1,642	1,697	1,752	1,807	1,861	1,915	1,970	2,025	2,079	2,134
LCV	1,860	1,922	1,985	2,046	2,108	2,170	2,231	2,293	2,355	2,417
2A	2,308	2,386	2,464	2,542	2,620	2,699	2,778	2,858	2,939	3,021
3A	1,754	1,823	1,892	1,962	2,032	2,104	2,176	2,249	2,323	2,399
MAV	3,590	3,772	3,957	4,145	4,336	4,531	4,731	4,936	5,145	5,361
OSV	13	14	15	15	16	17	18	18	19	20
Total	**29,222**	**30,925**	**32,673**	**34,462**	**36,295**	**38,179**	**40,117**	**42,114**	**44,170**	**46,276**
PCU	**54,172**	**56,950**	**59,783**	**62,668**	**65,608**	**68,617**	**71,699**	**74,861**	**78,107**	**81,423**

Source: Steer analysis

Table B.6: Forecasts for final (background + impacts) AADT – AE Tundla

Vehicle Category	FY41	FY42	FY43	FY44	FY45	FY46
CJV	30,015	31,651	33,329	35,045	36,799	38,587
Mini LCV	2,569	2,633	2,696	2,759	2,822	2,885
Bus	2,188	2,243	2,297	2,350	2,404	2,457
LCV	2,479	2,540	2,601	2,662	2,723	2,783
2A	3,103	3,187	3,271	3,357	3,443	3,530
3A	2,475	2,553	2,632	2,712	2,793	2,876
MAV	5,581	5,806	6,037	6,273	6,515	6,761
OSV	21	22	22	23	24	25
Total	**48,431**	**50,634**	**52,885**	**55,182**	**57,523**	**59,903**
PCU	**84,809**	**88,265**	**91,793**	**95,388**	**99,050**	**1,02,773**

Source: Steer analysis

HM Brijghat

Table B.7: Forecasts for final (background + impacts) AADT – HM Brijghat

Vehicle Category	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
CJV	17,858	20,291	22,203	23,975	25,935	28,038	29,987	32,217	34,613	37,324
Mini LCV	-	2,232	2,302	2,384	2,472	2,563	2,657	2,754	2,855	2,956
Bus	1,666	2,059	2,123	2,199	2,279	2,364	2,451	2,540	2,633	2,727
LCV	3,299	2,581	2,799	2,908	3,024	3,136	3,191	3,275	3,362	3,482
2A	1,429	1,786	1,915	1,999	2,083	2,165	2,202	2,261	2,318	2,401
3A	1,160	1,274	1,381	1,469	1,533	1,593	1,616	1,656	1,695	1,755
MAV	1,718	1,988	2,167	2,354	2,488	2,618	2,666	2,752	2,838	2,973
OSV	3	3	3	3	3	3	3	4	4	4
Total	**27,131**	**32,215**	**34,892**	**37,292**	**39,818**	**42,479**	**44,773**	**47,459**	**50,317**	**53,622**
PCU	**43,309**	**50,711**	**54,723**	**58,330**	**61,841**	**65,463**	**68,247**	**71,655**	**75,237**	**79,546**

Source: Steer analysis

Table B.8: Forecasts for final (background + impacts) AADT – HM Brijghat

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
CJV	40,174	43,142	46,213	49,382	52,652	56,037	59,541	63,171	66,932	70,799
Mini LCV	3,059	3,162	3,264	3,366	3,467	3,568	3,670	3,772	3,874	3,975
Bus	2,821	2,916	3,010	3,104	3,198	3,291	3,385	3,478	3,573	3,666
LCV	3,603	3,724	3,844	3,964	4,083	4,203	4,322	4,442	4,562	4,682
2A	2,484	2,568	2,652	2,736	2,820	2,905	2,990	3,076	3,163	3,251
3A	1,816	1,878	1,939	2,000	2,062	2,124	2,186	2,249	2,313	2,377
MAV	3,110	3,250	3,392	3,535	3,680	3,827	3,977	4,130	4,286	4,445
OSV	4	4	4	5	5	5	5	5	6	6
Total	**57,072**	**60,644**	**64,319**	**68,092**	**71,967**	**75,959**	**80,076**	**84,324**	**88,708**	**93,202**

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
PCU	**84,017**	**88,621**	**93,332**	**98,145**	**1,03,065**	**1,08,112**	**1,13,296**	**1,18,626**	**1,24,107**	**1,29,713**

Source: Steer analysis

Table B.9: Forecasts for final (background + impacts) AADT – HM Brijghat

Vehicle Category	FY41	FY42	FY43	FY44	FY45	FY46
CJV	74,771	78,847	83,026	87,303	91,672	96,126
Mini LCV	4,077	4,178	4,278	4,379	4,478	4,577
Bus	3,760	3,853	3,946	4,038	4,130	4,221
LCV	4,801	4,920	5,039	5,157	5,274	5,390
2A	3,340	3,430	3,521	3,613	3,706	3,799
3A	2,442	2,508	2,574	2,642	2,709	2,778
MAV	4,608	4,773	4,942	5,114	5,289	5,467
OSV	6	6	7	7	7	7
Total	**97,805**	**1,02,516**	**1,07,333**	**1,12,251**	**1,17,265**	**1,22,366**
PCU	**1,35,439**	**1,41,286**	**1,47,254**	**1,53,337**	**1,59,527**	**1,65,818**

Source: Steer analysis

HM Joya

Table B.10: Forecasts for final (background + impacts) AADT – HM Joya

Vehicle Category	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
CJV	11,917	13,220	14,349	15,404	16,563	17,784	18,782	19,983	21,260	22,774
Mini LCV	-	1,544	1,592	1,648	1,709	1,772	1,837	1,904	1,974	2,044
Bus	1,379	1,656	1,707	1,768	1,833	1,901	1,971	2,043	2,117	2,193
LCV	2,385	1,758	1,901	1,978	2,059	2,135	2,152	2,199	2,247	2,327
2A	1,093	1,310	1,390	1,442	1,493	1,542	1,547	1,572	1,596	1,644
3A	1,117	1,242	1,352	1,437	1,498	1,557	1,578	1,616	1,654	1,713
MAV	1,439	1,681	1,824	2,000	2,117	2,227	2,255	2,322	2,387	2,500
OSV	5	5	5	5	5	6	6	6	6	7
Total	**19,333**	**22,415**	**24,121**	**25,683**	**27,277**	**28,923**	**30,128**	**31,646**	**33,242**	**35,201**
PCU	**32,754**	**37,609**	**40,372**	**42,985**	**45,383**	**47,803**	**49,309**	**51,355**	**53,477**	**56,237**

Source: Steer analysis

Table B.11: Forecasts for final (background + impacts) AADT – HM Joya

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
CJV	24,355	25,991	27,673	29,398	31,168	32,989	34,865	36,797	38,788	40,826
Mini LCV	2,115	2,186	2,257	2,327	2,397	2,467	2,537	2,608	2,678	2,749
Bus	2,269	2,345	2,421	2,496	2,572	2,647	2,722	2,797	2,873	2,948
LCV	2,408	2,488	2,569	2,649	2,729	2,808	2,888	2,968	3,049	3,129
2A	1,691	1,739	1,786	1,833	1,880	1,927	1,974	2,022	2,070	2,118
3A	1,773	1,832	1,892	1,952	2,012	2,073	2,133	2,195	2,257	2,320

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
MAV	2,616	2,734	2,853	2,973	3,095	3,219	3,345	3,473	3,605	3,739
OSV	7	7	8	8	8	9	9	9	10	10
Total	**37,233**	**39,323**	**41,458**	**43,637**	**45,861**	**48,139**	**50,473**	**52,870**	**55,329**	**57,838**
PCU	**59,082**	**61,992**	**64,953**	**67,958**	**71,014**	**74,131**	**77,315**	**80,571**	**83,903**	**87,294**

Source: Steer analysis

Table B.12: Forecasts for final (background + impacts) AADT – HM Joya

Vehicle Category	FY41	FY42	FY43	FY44	FY45	FY46
CJV	42,908	45,035	47,205	49,415	51,663	53,945
Mini LCV	2,819	2,889	2,958	3,027	3,096	3,165
Bus	3,024	3,099	3,173	3,248	3,321	3,395
LCV	3,208	3,288	3,367	3,446	3,524	3,602
2A	2,166	2,215	2,263	2,313	2,362	2,412
3A	2,384	2,448	2,513	2,578	2,644	2,711
MAV	3,875	4,014	4,156	4,300	4,448	4,597
OSV	10	11	11	11	12	12
Total	**60,393**	**62,996**	**65,646**	**68,338**	**71,071**	**73,839**
PCU	**90,742**	**94,248**	**97,812**	**1,01,429**	**1,05,097**	**1,08,810**

Source: Steer analysis

Revenue forecasts

AE Gurau

Table B.13: Revenue forecasts for final (background + impacts) AADT – AE Gurau

Vehicle Category	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
CJV	6.6	8.5	9.7	11.1	12.6	14.0	15.5	17.8	19.8	22.1
Mini LCV	-	2.0	2.2	2.4	2.6	2.8	3.1	3.4	3.7	4.0
Bus	3.3	6.0	7.2	7.8	8.5	9.3	10.1	11.0	11.9	12.9
LCV	4.4	4.7	5.2	5.6	6.1	6.7	7.3	7.9	8.6	9.3
2A	8.7	14.5	16.5	18.1	19.8	21.7	22.8	24.8	26.7	29.2
3A	8.8	14.8	16.9	19.0	20.9	22.9	24.7	27.0	29.4	32.2
MAV	24.8	43.7	50.8	58.0	64.0	71.0	77.3	86.0	95.0	104.7
OSV	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.4
Total	**56.6**	**94.4**	**108.7**	**122.4**	**134.9**	**148.7**	**161.0**	**178.2**	**195.5**	**214.8**

Source: Steer analysis

Table B.14: Revenue forecasts (background + impacts) AADT – AE Gurau

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
CJV	25.1	27.8	31.1	34.4	38.3	42.8	46.8	51.8	57.2	63.9
Mini LCV	4.4	4.7	5.1	5.5	5.9	6.4	6.8	7.4	7.9	8.6
Bus	14.0	15.3	16.5	17.8	19.2	20.7	22.3	24.0	25.8	27.8

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
LCV	10.0	11.0	11.8	12.8	13.9	14.9	16.0	17.4	18.6	20.0
2A	31.7	34.4	37.1	40.0	43.2	46.8	50.3	54.3	58.2	62.8
3A	35.0	38.1	41.5	45.1	48.9	53.3	57.7	62.4	67.3	73.1
MAV	115.3	127.3	139.6	153.5	168.3	184.5	201.4	220.0	240.5	262.9
OSV	0.4	0.5	0.5	0.6	0.7	0.7	0.8	0.9	0.9	1.0
Total	**235.9**	**259.2**	**283.2**	**309.6**	**338.3**	**370.2**	**402.0**	**438.1**	**476.6**	**520.2**

Source: Steer analysis

Table B.15: Revenue forecasts for final (background + impacts) AADT – AE Gurau

Vehicle Category	FY41	FY42	FY43	FY44	FY45	FY46
CJV	69.9	76.3	83.6	92.5	100.3	109.9
Mini LCV	9.2	9.8	10.5	11.4	12.1	12.9
Bus	29.8	32.0	34.3	36.8	39.3	42.0
LCV	21.5	23.0	24.6	26.4	28.2	30.3
2A	67.6	72.8	78.2	84.0	90.0	96.5
3A	78.7	84.8	91.7	99.0	106.6	114.9
MAV	286.2	311.5	338.4	368.9	399.9	434.0
OSV	1.1	1.2	1.3	1.4	1.6	1.7
Total	**564.0**	**611.5**	**662.5**	**720.4**	**778.0**	**842.1**

Source: Steer analysis

AE Tundla

Table B.16: Revenue forecasts for final (background + impacts) AADT – AE Tundla

Vehicle Category	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
CJV	14.7	17.5	20.1	23.2	26.0	29.7	33.1	38.4	43.3	48.8
Mini LCV	-	3.0	3.3	3.7	4.0	4.3	4.6	5.2	5.6	6.1
Bus	5.6	9.8	11.8	12.8	14.0	15.2	16.4	17.9	19.4	21.1
LCV	6.2	6.3	7.0	7.7	8.5	9.1	9.6	10.5	11.4	12.4
2A	10.7	17.2	19.6	21.6	23.5	25.7	27.0	29.5	32.0	34.9
3A	8.2	13.3	15.4	17.2	18.9	20.7	22.3	24.4	26.5	29.0
MAV	20.6	35.1	41.1	46.8	52.2	57.7	63.0	69.6	76.6	84.7
OSV	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.4
Total	**66.1**	**102.3**	**118.4**	**133.1**	**147.2**	**162.6**	**176.4**	**195.8**	**215.1**	**237.4**

Source: Steer analysis

Table B.17: Revenue forecasts (background + impacts) AADT – AE Tundla

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
CJV	54.7	62.4	69.3	78.0	86.1	97.3	107.8	119.0	132.5	147.4
Mini LCV	6.5	7.2	7.7	8.3	8.9	9.7	10.4	11.2	12.0	13.0
Bus	22.9	24.9	26.8	29.0	31.3	33.8	36.4	39.2	42.0	45.3
LCV	13.4	14.5	15.6	17.0	18.2	19.8	21.3	23.0	24.7	26.6

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
2A	37.8	41.2	44.1	47.7	51.8	55.8	60.2	64.8	69.7	75.4
3A	31.7	34.6	37.5	40.8	44.1	47.9	52.0	56.1	60.8	65.8
MAV	93.0	103.1	112.7	123.8	136.1	149.0	162.5	177.9	194.4	212.3
OSV	0.4	0.5	0.5	0.6	0.6	0.7	0.7	0.8	0.9	1.0
Total	**260.4**	**288.3**	**314.1**	**345.2**	**377.1**	**414.0**	**451.4**	**492.0**	**537.0**	**586.8**

Source: Steer analysis

Table B.18: Revenue forecasts for final (background + impacts) AADT – AE Tundla

Vehicle Category	FY41	FY42	FY43	FY44	FY45	FY46
CJV	162.4	178.9	196.3	218.9	238.1	262.7
Mini LCV	13.9	14.9	15.9	17.2	18.3	19.6
Bus	48.5	52.1	55.7	59.9	63.9	68.5
LCV	28.4	30.4	32.7	35.1	37.5	40.1
2A	80.9	86.9	93.1	100.4	107.4	115.5
3A	71.1	76.9	82.9	89.4	96.1	103.5
MAV	231.0	251.4	273.9	298.4	323.6	351.1
OSV	1.0	1.1	1.2	1.3	1.5	1.6
Total	**637.2**	**692.5**	**751.8**	**820.8**	**886.4**	**962.6**

Source: Steer analysis

HM Brijghat

Table B.19: Revenue forecasts for final (background + impacts) AADT – HM Brijghat

Vehicle Category	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
CJV	28.3	33.2	69.7	78.9	89.5	101.5	114.9	129.4	144.5	162.2
Mini LCV	-	3.7	7.2	7.8	8.5	9.3	10.2	11.1	11.9	12.8
Bus	9.0	11.3	21.4	23.3	25.4	27.6	30.1	32.7	35.3	38.4
LCV	9.3	7.3	14.7	16.3	17.7	19.0	20.4	22.0	23.5	25.8
2A	8.8	11.2	21.9	24.2	26.4	28.6	30.6	33.1	35.4	38.5
3A	8.1	9.1	18.6	20.8	22.7	24.7	26.2	28.3	30.3	33.0
MAV	17.4	20.4	41.5	47.5	52.3	57.7	61.9	67.0	72.2	79.2
OSV	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Total	**81.0**	**96.1**	**195.1**	**218.9**	**242.7**	**268.7**	**294.2**	**323.6**	**353.3**	**390.1**

Source: Steer analysis

Table B.20: Revenue forecasts (background + impacts) AADT – HM Brijghat

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
CJV	184.8	206.4	234.3	262.9	291.6	325.5	362.7	403.6	447.6	496.0
Mini LCV	14.1	15.1	16.5	17.9	19.2	20.7	22.4	24.1	25.9	27.8
Bus	41.8	45.3	48.9	52.8	57.1	61.7	66.2	71.3	76.6	82.6
LCV	27.9	30.1	32.7	35.1	38.0	41.1	44.2	47.6	51.1	55.3
2A	41.7	45.2	49.0	52.8	57.2	61.9	66.4	71.7	77.2	83.3

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
3A	35.7	38.6	41.8	45.2	48.7	52.9	56.9	61.2	65.8	71.1
MAV	87.2	95.7	104.3	113.7	123.9	135.7	147.4	160.3	174.3	189.6
OSV	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3
Total	**433.3**	**476.6**	**527.7**	**580.6**	**635.9**	**699.6**	**766.3**	**840.1**	**918.9**	**1,006.1**

Source: Steer analysis

Table B.21: Revenue forecasts for final (background + impacts) AADT – HM Brijghat

Vehicle Category	FY41	FY42	FY43	FY44	FY45	FY46
CJV	547.9	601.3	668.5	730.9	804.4	884.4
Mini LCV	29.9	31.9	34.4	36.7	39.3	42.1
Bus	88.4	95.0	101.7	109.4	116.6	124.8
LCV	58.9	63.4	67.9	72.9	77.8	83.3
2A	89.2	96.0	103.1	111.3	118.7	127.7
3A	76.2	82.1	88.3	95.0	101.7	109.1
MAV	205.4	222.6	241.4	261.9	282.8	305.6
OSV	0.3	0.3	0.4	0.4	0.4	0.5
Total	**1,096.3**	**1,192.6**	**1,305.6**	**1,418.4**	**1,541.8**	**1,677.5**

Source: Steer analysis

HM Joya

Table B.22: Revenue forecasts for final (background + impacts) AADT – HM Joya

Vehicle Category	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
CJV	13.7	15.7	27.7	30.5	34.9	39.8	42.7	48.2	53.9	60.8
Mini LCV	-	1.8	3.1	3.3	3.6	4.0	4.2	4.6	5.0	5.5
Bus	5.1	6.1	10.4	11.3	12.3	13.3	14.6	15.8	17.1	18.6
LCV	4.8	3.6	6.1	6.6	7.3	8.0	8.5	9.1	9.7	10.4
2A	4.5	5.6	9.8	10.6	11.5	12.4	13.2	13.9	14.9	16.1
3A	5.4	6.1	10.9	12.1	13.1	14.4	15.2	16.4	17.6	19.1
MAV	9.9	11.9	21.0	24.1	26.9	29.5	31.4	34.0	36.5	40.0
OSV	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Total	**43.4**	**50.8**	**88.9**	**98.6**	**109.7**	**121.5**	**129.9**	**142.1**	**154.8**	**170.5**

Source: Steer analysis

Table B.23: Revenue forecasts (background + impacts) AADT – HM Joya

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
CJV	66.9	75.0	83.2	93.4	103.1	115.1	127.2	142.5	156.8	172.4
Mini LCV	5.8	6.3	6.8	7.4	7.9	8.6	9.3	10.1	10.8	11.6
Bus	20.2	21.9	23.7	25.6	27.6	29.8	32.1	34.5	37.1	40.1
LCV	11.5	12.3	13.4	14.3	15.6	17.0	17.9	19.4	20.9	22.5
2A	17.2	18.6	20.2	21.6	23.1	25.0	26.8	28.8	30.8	33.1

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
3A	20.7	22.4	24.3	26.1	28.3	30.6	32.9	35.7	38.3	41.4
MAV	44.1	48.5	52.9	57.7	62.8	68.8	74.7	81.2	88.0	96.0
OSV	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.3
Total	**186.4**	**205.0**	**224.6**	**246.3**	**268.5**	**295.0**	**321.1**	**352.4**	**382.8**	**417.3**

Source: Steer analysis

Table B.24: Revenue forecasts for final (background + impacts) AADT – HM Joya

Vehicle Category	FY41	FY42	FY43	FY44	FY45	FY46
CJV	187.9	209.1	227.2	253.3	272.9	299.1
Mini LCV	12.3	13.4	14.2	15.5	16.4	17.5
Bus	42.7	45.9	49.4	52.9	56.4	60.3
LCV	24.0	26.1	27.8	29.7	31.8	34.2
2A	35.2	37.7	40.5	43.3	46.1	49.3
3A	44.5	47.7	51.2	55.0	58.9	63.2
MAV	103.9	112.5	122.1	132.6	143.0	154.8
OSV	0.3	0.3	0.3	0.4	0.4	0.4
Total	**450.9**	**492.7**	**532.6**	**582.7**	**625.9**	**678.9**

Source: Steer analysis

C Data collection exercise

C.1 To validate and inform various inputs used in our forecasting, we undertook primary data collection on the Asset. OD survey data was collected on behalf of the Client, TVC surveys were commissioned by Steer with a third party. OD data collection typically involves manual data entry by enumerators based on oral surveys with road users crossing toll plazas. TVC data collection involves video-graphic capture of traffic passing crossing the toll plazas, followed by manual counting.

7 days TVC count

Table C.1: 7-day TVC counts – AE Gurau

Date	Source	CJV	Mini LCV	LCV	Bus	2 Axle	3 Axle	MAV	OSV	Total
09-06-2021	TVC	2,931	708	1,096	546	782	785	2,285	-	9,133
10-06-2021	TVC	2,527	740	1,166	495	820	856	2,391	-	8,995
11-06-2021	TVC	3,017	746	1,127	531	827	883	2,389	1	9,521
12-06-2021	TVC	3,116	659	1,068	579	891	856	2,433	-	9,602
13-06-2021	TVC	3,533	627	1,078	586	765	919	2,379	-	9,887
14-06-2021	TVC	3,083	908	897	557	663	814	2,151	-	9,073
15-06-2021	TVC	3,194	728	1,172	583	689	846	2,214	-	9,426

Source: Steer analysis

Table C.2: 7-day TVC counts – AE Tundla

Date	Source	CJV	Mini LCV	LCV	Bus	2 Axle	3 Axle	MAV	OSV	Total
09-06-2021	TVC	8,662	1,493	1,628	971	1,126	832	2,017	-	16,729
10-06-2021	TVC	6,957	1,560	1,689	907	1,079	809	2,241	-	15,242
11-06-2021	TVC	8,537	1,554	1,593	990	1,117	865	2,120	-	16,776
12-06-2021	TVC	8,255	1,334	1,583	1,031	1,182	874	2,244	-	16,503
13-06-2021	TVC	8,720	1,089	1,428	989	923	857	2,157	-	16,163
14-06-2021	TVC	8,604	1,526	1,255	1,032	908	743	1,798	-	15,866
15-06-2021	TVC	8,772	1,561	1,554	1,087	1,005	888	1,962	-	16,829

Source: Steer analysis

Table C.3: 7-day TVC counts – HM Brijghat

Date	Source	CJV	Mini LCV	LCV	Bus	2 Axle	3 Axle	MAV	OSV	Total
09-06-2021	TVC	17,476	2,125	3,498	2,126	608	953	1,474	2	28,262

Date	Source	CJV	Mini LCV	LCV	Bus	2 Axle	3 Axle	MAV	OSV	Total
10-06-2021	TVC	19,260	2,225	3,487	2,063	645	1,016	1,720	2	30,418
11-06-2021	TVC	17,468	2,078	3,433	1,994	634	971	1,614	-	28,192
12-06-2021	TVC	17,972	1,897	3,177	1,944	672	1,032	1,667	-	28,361
13-06-2021	TVC	20,731	1,659	2,874	2,026	578	909	1,532	-	30,309
14-06-2021	TVC	18,300	1,923	2,907	1,895	537	822	1,272	-	27,656
15-06-2021	TVC	15,906	2,078	3,280	2,003	597	936	1,631	-	26,431

Source: Steer analysis

Table C.4: 7-day TVC counts – HM Joya

Date	Source	CJV	Mini LCV	LCV	Bus	2 Axle	3 Axle	MAV	OSV	Total
09-06-2021	TVC	10,771	1,566	2,401	1,639	528	897	1,303	-	19,105
10-06-2021	TVC	10,433	1,487	2,331	1,573	551	955	1,425	-	18,755
11-06-2021	TVC	12,202	1,479	2,423	1,585	532	931	1,460	-	20,612
12-06-2021	TVC	12,534	1,243	2,113	1,557	505	858	1,304	-	20,114
13-06-2021	TVC	13,620	1,188	1,949	1,618	469	861	1,250	-	20,955
14-06-2021	TVC	12,170	1,246	2,138	1,460	489	806	1,125	-	19,434
15-06-2021	TVC	11,047	1,456	2,304	1,554	507	962	1,360	-	19,190

Source: Steer analysis

Table C.5: 7-WADT TVC vs TMS

Toll plaza	Source	CJV	LCV	Bus	2A	3A/MAV	OSV	Total
AE Gurau	TVC	3,788	1,086	554	777	3,172	0	9,377
	TMS	3,602	685	1,594	16	3,179	4	9,080
	Schedule N	3,620	661	522	1,083	3,190	3	9,079
AE Tundla	TVC	9,803	1,533	1,001	1,049	2,915	-	16,301
	TMS	9,351	1,130	2,325	25	2,921	4	15,756
	Schedule N	9,401	1,056	939	1,411	2,942	4	15,754
HM Brijghat	TVC	20,157	3,237	2,007	610	2,507	1	28,518
	TMS	18,587	4,151	3,205	52	2,808	7	28,810
	Schedule N	20,710	1,986	1,833	1,590	2,571	4	28,694
HM Joya	TVC	13,206	2,237	1,569	512	2,214	-	19,738

Toll plaza	Source	CJV	LCV	Bus	2A	3A/MAV	OSV	Total
	TMS	12,051	2,510	2,435	140	2,594	9	19,739
	Schedule N	13,381	1,345	1,445	1,143	2,259	6	19,579

Source: Steer analysis

Zone list

Table C.6: Zone list used for OD analysis - AE

Zone No	Zone Name	Description/State
1	Kuberpur	Uttar Pradesh
2	Etmadpur	Uttar Pradesh
3	Tundla	Uttar Pradesh
4	Garhijafar	Uttar Pradesh
5	Rasulabad	Uttar Pradesh
6	Shikohabad	Uttar Pradesh
7	Makkhanpur	Uttar Pradesh
8	Sirsaganj	Uttar Pradesh
9	Ukhrend	Uttar Pradesh
10	Gurau	Uttar Pradesh
11	Kathaphori	Uttar Pradesh
12	Jaswantnagar	Uttar Pradesh
13	Mainpuri	Uttar Pradesh
14	Jalesar	Uttar Pradesh
15	Karhal	Uttar Pradesh
16	Agra	Uttar Pradesh
17	Aligarh	Uttar Pradesh
18	Allahabad	Uttar Pradesh
19	Ambedkar Nagar	Uttar Pradesh
20	Auraiya	Uttar Pradesh
21	Azamgarh	Uttar Pradesh
22	Baghpat	Uttar Pradesh
23	Bahraich	Uttar Pradesh
24	Ballia	Uttar Pradesh
25	Balrampur	Uttar Pradesh
26	Banda	Uttar Pradesh
27	Bara Banki	Uttar Pradesh
28	Bareilly	Uttar Pradesh
29	Basti	Uttar Pradesh
30	Bijnor	Uttar Pradesh

Zone No	Zone Name	Description/State
31	Budaun	Uttar Pradesh
32	Bulandshahr	Uttar Pradesh
33	Chandauli	Uttar Pradesh
34	Chitrakoot	Uttar Pradesh
35	Deoria	Uttar Pradesh
36	Etah	Uttar Pradesh
37	Etawah	Uttar Pradesh
38	Faizabad	Uttar Pradesh
39	Farrukhabad	Uttar Pradesh
40	Fatehpur	Uttar Pradesh
41	Firozabad	Uttar Pradesh
42	Gautam Buddha Nagar	Uttar Pradesh
43	Ghaziabad	Uttar Pradesh
44	Ghazipur	Uttar Pradesh
45	Gonda	Uttar Pradesh
46	Gorakhpur	Uttar Pradesh
47	Hamirpur	Uttar Pradesh
48	Hardoi	Uttar Pradesh
49	Mahamaya Nagar	Uttar Pradesh
50	Jalaun	Uttar Pradesh
51	Jaunpur	Uttar Pradesh
52	Jhansi	Uttar Pradesh
53	Jyotiba Phule Nagar	Uttar Pradesh
54	Kannauj	Uttar Pradesh
55	Kanpur Dehat	Uttar Pradesh
56	Kanpur Nagar	Uttar Pradesh
57	Kansiram Nagar	Uttar Pradesh
58	Kaushambi	Uttar Pradesh
59	Kheri	Uttar Pradesh
60	Kushinagar	Uttar Pradesh
61	Lalitpur	Uttar Pradesh
62	Lucknow	Uttar Pradesh
63	Maharajganj	Uttar Pradesh
64	Mahoba	Uttar Pradesh
65	Mainpuri	Uttar Pradesh
66	Mathura	Uttar Pradesh
67	Mau	Uttar Pradesh
68	Meerut	Uttar Pradesh

Zone No	Zone Name	Description/State
69	Mirzapur	Uttar Pradesh
70	Moradabad	Uttar Pradesh
71	Muzaffarnagar	Uttar Pradesh
72	Pilibhit	Uttar Pradesh
73	Pratapgarh	Uttar Pradesh
74	Rae Bareli	Uttar Pradesh
75	Rampur	Uttar Pradesh
76	Saharanpur	Uttar Pradesh
77	Sant Kabir Nagar	Uttar Pradesh
78	Sant Ravi Das Nagar(bhadohi)	Uttar Pradesh
79	Shahjahanpur	Uttar Pradesh
80	Shrawasti	Uttar Pradesh
81	Siddharth Nagar	Uttar Pradesh
82	Sitapur	Uttar Pradesh
83	Sonbhadra	Uttar Pradesh
84	Sultanpur	Uttar Pradesh
85	Unnao	Uttar Pradesh
86	Varanasi	Uttar Pradesh
87	Central Delhi	Central Delhi (inside ring road)
88	north Delhi	north Delhi (NH1)
89	West Delhi	West Delhi (NH10)
90	South West Delhi	South West Delhi (NH8)
91	South east Delhi	South east Delhi (NH2)
92	east Delhi	east Delhi (Anand Vihar, Noida Expressway)
93	north east Delhi	north east Delhi (NH24)
94	north Haryana	north Haryana (Panipat, Ambala)
95	West Haryana	West Haryana (Hisar, Sirsa)
96	Central Haryana	Central Haryana (Bhiwani, Dadri)
97	Gurgaon SW Haryana	South West Haryana (Gurugram)
98	Rewari SW Haryana	South West Haryana (Rewari)
99	Palwal City	Palwal city
100	Faridabad	Faridabad City
101	north Madhya Pradesh	north Madhya Pradesh
102	Central Madhya Pradesh	Central Madhya Pradesh
103	east Madhya Pradesh	east Madhya Pradesh
104	West Madhya Pradesh	West Madhya Pradesh
105	east Rajasthan	east Rajasthan (Jaipur, Alwar, Dausa(NH11), Bharartpur, Sawai Madhopur)
106	South Rajasthan	South Rajasthan (Jalor, Ajmer, Kota, Tong, Baran)

Zone No	Zone Name	Description/State
107	West Rajasthan	West Rajasthan (Jaisalmer, Barmer)
108	north Rajasthan	north Rajasthan (Bikaner, Nagaur)
109	east Maharashtra	east Maharashtra
110	West Maharashtra	West Maharashtra
111	Punjab	Punjab, Chandigarh
112	Himachal Pradesh	Himachal Pradesh
113	Uttarakhand	Uttarakhand
114	Jammu & Kashmir	Jammu and Kashmir
115	Gujarat	Gujarat
116	Telangana	Telangana
117	Chhattisgarh	Chhatisgarh
118	Odisha	Odisha
119	Bihar	Bihar
120	Jharkhand	Jharkhand
121	West Bengal Sikkim	West Bengal and Sikkim
122	Goa	Goa
123	Andhra Pradesh	Andhra Pradesh
124	Karnataka	Karnataka
125	Kerala	Kerala
126	Tamil Nadu	Tamil nadu
127	Arunanchal Pradesh	Arunanchal Pradesh
128	Assam	Assam
129	Manipur	Manipur
130	Meghalaya	Meghalaya
131	Mizoram	Mizoram
132	Nagaland	Nagaland
133	Tripura	Tripura
134	Nepal	Nepal
135	Bangladesh	Bangladesh
136	Bhutan	Bhutan

Source: OD data

Table C.7: Zone list used for OD analysis - HM

Zone No	Zone Name	Description/State
1	Hapur	Uttar Pradesh
2	Babugarh	Uttar Pradesh
3	Simbhaoli	Uttar Pradesh
4	Buxer	Uttar Pradesh

Zone No	Zone Name	Description/State
5	Brijghat	Uttar Pradesh
6	Garh Mukteshwar	Uttar Pradesh
7	Gajraula	Uttar Pradesh
8	Pilkhuwa	Uttar Pradesh
9	Atarsi	Uttar Pradesh
10	Joya	Uttar Pradesh
11	Dhakiya	Uttar Pradesh
12	Pakbara	Uttar Pradesh
13	Amroha	Uttar Pradesh
14	Sambhal	Uttar Pradesh
15	Siyana	Uttar Pradesh
16	Chandausi	Uttar Pradesh
17	Agra	Uttar Pradesh
18	Aligarh	Uttar Pradesh
19	Allahabad	Uttar Pradesh
20	Ambedkar Nagar	Uttar Pradesh
21	Auraiya	Uttar Pradesh
22	Azamgarh	Uttar Pradesh
23	Baghpat	Uttar Pradesh
24	Bahraich	Uttar Pradesh
25	Ballia	Uttar Pradesh
26	Balrampur	Uttar Pradesh
27	Banda	Uttar Pradesh
28	Bara Banki	Uttar Pradesh
29	Bareilly	Uttar Pradesh
30	Basti	Uttar Pradesh
31	Bijnor	Uttar Pradesh
32	Budaun	Uttar Pradesh
33	Bulandshahr	Uttar Pradesh
34	Chandauli	Uttar Pradesh
35	Chitrakoot	Uttar Pradesh
36	Deoria	Uttar Pradesh
37	Etah	Uttar Pradesh
38	Etawah	Uttar Pradesh
39	Faizabad	Uttar Pradesh
40	Farrukhabad	Uttar Pradesh
41	Fatehpur	Uttar Pradesh
42	Firozabad	Uttar Pradesh

Zone No	Zone Name	Description/State
43	Gautam Buddha Nagar	Uttar Pradesh
44	Ghaziabad	Uttar Pradesh
45	Ghazipur	Uttar Pradesh
46	Gonda	Uttar Pradesh
47	Gorakhpur	Uttar Pradesh
48	Hamirpur	Uttar Pradesh
49	Hardoi	Uttar Pradesh
50	Mahamaya Nagar	Uttar Pradesh
51	Jalaun	Uttar Pradesh
52	Jaunpur	Uttar Pradesh
53	Jhansi	Uttar Pradesh
54	Jyotiba Phule Nagar	Uttar Pradesh
55	Kannauj	Uttar Pradesh
56	Kanpur Dehat	Uttar Pradesh
57	Kanpur Nagar	Uttar Pradesh
58	Kansiram Nagar	Uttar Pradesh
59	Kaushambi	Uttar Pradesh
60	Kheri	Uttar Pradesh
61	Kushinagar	Uttar Pradesh
62	Lalitpur	Uttar Pradesh
63	Lucknow	Uttar Pradesh
64	Maharajganj	Uttar Pradesh
65	Mahoba	Uttar Pradesh
66	Mainpuri	Uttar Pradesh
67	Mathura	Uttar Pradesh
68	Mau	Uttar Pradesh
69	Meerut	Uttar Pradesh
70	Mirzapur	Uttar Pradesh
71	Moradabad	Uttar Pradesh
72	Muzaffarnagar	Uttar Pradesh
73	Pilibhit	Uttar Pradesh
74	Pratapgarh	Uttar Pradesh
75	Rae Bareli	Uttar Pradesh
76	Rampur	Uttar Pradesh
77	Saharanpur	Uttar Pradesh
78	Sant Kabir Nagar	Uttar Pradesh
79	Sant Ravi Das Nagar(bhadohi)	Uttar Pradesh
80	Shahjahanpur	Uttar Pradesh

Zone No	Zone Name	Description/State
81	Shrawasti	Uttar Pradesh
82	Siddharth Nagar	Uttar Pradesh
83	Sitapur	Uttar Pradesh
84	Sonbhadra	Uttar Pradesh
85	Sultanpur	Uttar Pradesh
86	Unnao	Uttar Pradesh
87	Varanasi	Uttar Pradesh
88	Central Delhi (inside ring road)	NCT of Delhi
89	north Delhi (NH1)	NCT of Delhi
90	West Delhi (NH10)	NCT of Delhi
91	South West Delhi (NH8)	NCT of Delhi
92	South east Delhi (NH2)	NCT of Delhi
93	east Delhi (Anand Vihar, Noida Expressway)	NCT of Delhi
94	north east Delhi (NH24)	NCT of Delhi
95	north Haryana (Panipat, Ambala)	Haryana
96	West Haryana (Hisar, Sirsa)	Haryana
97	Central Haryana (Bhiwani, Dadri)	Haryana
98	South West Haryana (Gurugram)	Haryana
99	South West Haryana (Rewari)	Haryana
100	Palwal city	Haryana
101	Faridabad City	Haryana
102	north Madhya Pradesh	Madhya Pradesh
103	Central Madhya Pradesh	Madhya Pradesh
104	east Madhya Pradesh	Madhya Pradesh
105	West Madhya Pradesh	Madhya Pradesh
106	east Rajasthan (Jaipur, Alwar, Dausa(NH11), Bharartpur, Sawai Madhopur)	Rajasthan
107	South Rajasthan (Jalor, Ajmer, Kota, Tong, Baran)	Rajasthan
108	West Rajasthan (Jaisalmer, Barmer)	Rajasthan
109	north Rajasthan (Bikaner, Nagaur)	Rajasthan
110	east Maharashtra	Maharashtra
111	West Maharashtra	Maharashtra
112	Punjab, Chandigarh	Punjab
113	Himachal Pradesh	Himachal Pradesh
114	Uttarakhand	Uttarakhand
115	Jammu and Kashmir	Jammu & Kashmir
116	Gujarat	Gujarat
117	Telangana	Telangana
118	Chhatisgarh	Chhattisgarh

Zone No	Zone Name	Description/State
119	Odisha	Odisha
120	Bihar	Bihar
121	Jharkhand	Jharkhand
122	West Bengal and Sikkim	West Bengal Sikkim
123	Goa	Goa
124	Andhra Pradesh	Andhra Pradesh
125	Karnataka	Karnataka
126	Kerala	Kerala
127	Tamil nadu	Tamil Nadu
128	Arunanchal Pradesh	Arunanchal Pradesh
129	Assam	Assam
130	Manipur	Manipur
131	Meghalaya	Meghalaya
132	Mizoram	Mizoram
133	Nagaland	Nagaland
134	Tripura	Tripura
135	Nepal	Nepal
136	Bangladesh	Bangladesh
137	Bhutan	Bhutan

Source: OD data

D Vehicle Classification Chart

Vehicle Type	Description
2-Wheeler	
Auto-Rickshaw	
Car/Jeep/Van	
Taxi- shared/private	
Buses (govt/Pvt)	
Mini Bus	

Vehicle Type	Description
Mini LCV	
LCV 4 Tyre	
LCV 6 Tyre	
2 Axle Truck	
3 Axle Truck	
4 Axle Truck (MAV)	
5 Axle Truck (MAV)	

Vehicle Type	Description
6 Axle Truck (MAV)	
Oversized Vehicle/ Earth moving equipment (OSV)	

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September 2021

Kishangarh – Gulabpura, Chittorgarh – Gulabpura, Udaipur – Gujarat Border Traffic and Revenue Due Diligence

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Table of Contents

Disclaimer ..... **x**

Glossary Items ..... **xii**

1 Introduction **1**

The assignment 1

Our approach 2

Evolution of Covid19 pandemic in India in FY21 and FY22 3

Contents of this Report 5

2 The Assets **6**

Introduction 6

Strategic network and Asset Context 6

Concession and tolling details 8

Key economic activities 15

3 Traffic description **18**

Introduction 18

Historical trends 18

Key findings of the TVC data analysis 39

Key findings of origin-destination analysis 43

Conclusions 57

4 Socio Economic Context **60**

Population growth 60

Economic Indicators 61

Industrial Production 61

Vehicle ownership 62

GDP and GSDP Growth 64

Summary 65

5 Background growth relationships and forecasting assumptions **66**

Introduction 66

Estimation of background elasticities 67

Forecasts for growth drivers 69

6 Forecasts: Base AADT, Impacts and Traffic and Revenue forecasts 72

Introduction 72

Seasonal Correction Factors 72

Base year (FY21 and FY22) traffic 74

Analysis of potential impacts 79

Traffic and Revenue forecasts 96

Upside and Downside Cases 103

Traffic and Revenue Forecasts - upside scenario 106

Traffic and Revenue Forecasts - downside scenario 112

Target traffic and modification of concession period 121

Summary outlook 122

Figures

Figure 1: Daily Reported Covid 19 cases in India 4

Figure 2.1: Asset location in the regional network context 7

Figure 2.2 Asset context: Kishangarh Gulabpura, TP1: Khedi Toll Plaza 9

Figure 2.3: Typical cross-sections and toll plazas on the Assets 10

Figure 2.4 Asset context: Chittorgarh – Gulabpura, Lambiyan Kalan and Jojaro ka Kheda toll plaza 11

Figure 2.5: Typical cross-sections and toll plazas on the Assets 12

Figure 2.6: Pictures of a local micro diversion near TP2 LK: Lambiyan Kalan plaza 12

Figure 2.7: Asset context: Udaipur-Shamlaji/Gujarat Border, Khandi Obri toll plaza 13

Figure 2.8: Typical cross-sections and toll plazas on the Assets 14

Figure 3.1: Delhi – Mumbai corridor, route choice options 19

Figure 3.2: year on Year, MADT growth (%), 3A+MAV traffic on each toll plaza 20

Figure 3.3 Vehicle share (%): KG - Khedi 22

Figure 3.4: Vehicle share (%): CG: Lambiyan Kalan 24

Figure 3.5 Vehicle share (%): CG – Jojaro Ka Kheda 25

Figure 3.6 Vehicle share (%): UG – Khandi Obri 27

Figure 3.7 CJV toll segmentation: KG - Khedi 32

Figure 3.8 MAV toll segmentation: KG - Khedi 33

Figure 3.9 CJV toll segmentation: GC – Lambiyan Kalan 33
Figure 3.10 MAV toll segmentation: CG – Lambiyan Kalan 34
Figure 3.11 CJV toll segmentation: CG – Jojaro Ka Kheda 34
Figure 3.12 MAV toll segmentation: CG – Jojaro Ka Kheda 35
Figure 3.13 CJV toll segmentation: UG – Khandi Obri 35
Figure 3.14 MAV toll segmentation: UG – Khandi Obri 36
Figure 3.15 FASTag penetration: KG - Khedi 37
Figure 3.16 FASTag penetration: CG – Lambiyan Kalan 37
Figure 3.17 FASTag penetration: CG – Jojaro Ka Kheda 38
Figure 3.18 FASTag penetration: US – Khandi Obri 38
Figure 3.19 Vehicle share comparison: KG 40
Figure 3.20 Vehicle share comparison: CG 40
Figure 3.21 Vehicle share comparison: UG 41
Figure 3.22 TVC vs TMS: KG - Khedi 41
Figure 3.23 TVC vs TMS: CG – Lambiyan Kalan 42
Figure 3.24 TVC vs TMS: CG – Jojaro Ka Kheda 42
Figure 3.25 TVC vs TMS: UG – Khandi Obri 43
Figure 3.26 Zonal distribution: KG - Khedi 45
Figure 3.27 Zonal distribution: CG – Lambiyan Kalan 46
Figure 3.28 Zonal distribution: CG – Jojaro Ka Kheda 46
Figure 3.29 Zonal distribution: UG-Khandi Obri 47
Figure 3.30 Zonal influence: KG - Khedi 48
Figure 3.31 Zonal influence: CG – Lambiyan Kalan 48
Figure 3.32 Zonal influence: CG – Jojaro Ka Kheda 49
Figure 3.33 Zonal influence: UG – Khandi Obri 49
Figure 3.34 Commodity distribution: KG - Khedi 51
Figure 3.35 Commodity distribution: CG – Lambiyan Kalan 52
Figure 3.36 Commodity distribution: CG -Jojaro Ka Kheda 54
Figure 3.37 Commodity distribution: UG – Khandi Obri 54
Figure 3.38 Trip length distribution: KG - Khedi 56
Figure 3.39 Trip length distribution: CG – Lambiyan Kalan 56
Figure 3.40 Trip length distribution: CG – Jojaro Ka Kheda 57

Figure 3.41 Trip length distribution: UG – Khandi Obri 57
Figure 4.1: Annual growth - Index of Industrial Production 62
Figure 4.2: Car ownership in India per 1,000 population 63
Figure 4.3: Per capita income 63
Figure 5.1: FY21-40 GDP forecast 70
Figure 5.2: Forecasts for India GDP, GSDP Gujarat, GSDP Rajasthan 71
Figure 6.1: FY22* (no Covid19, Hypothetical) vs FY22 Estimated: TP1: Khedi 76
Figure 6.2: FY22* (no Covid19, Hypothetical) vs FY22 Estimated: TP2: Lambiyan Kalan 76
Figure 6.3: FY22* (no Covid19, Hypothetical) vs FY22 Estimated: TP3: Jojaro Ka Kheda..... 77
Figure 6.4: FY22* (no Covid19, Hypothetical) vs FY22 Estimated: TP4: Khandi Obri 77
Figure 6.5: Asset route shown against the regional network context 80
Figure 6.6: Site Visit pictures of Udaipur bypass 81
Figure 6.7: CJV toll segmentation evolution – KG Khedi 90
Figure 6.8: MAV toll segmentation evolution – KG Khedi 90
Figure 6.9: CJV toll segmentation evolution – CG Jojaro Ka Kheda 91
Figure 6.10: MAV toll segmentation evolution – CG Jojaro Ka Kheda..... 91
Figure 6.11: CJV toll segmentation evolution – CG Lambiya Kalan 92
Figure 6.12: MAV toll segmentation evolution – CG Lambiya Kalan 92
Figure 6.13: CJV toll segmentation evolution – UG Khandi Obri 93
Figure 6.14: MAV toll segmentation evolution – UG Khandi Obri..... 93
Figure 6.15: Final AADT forecast including Upside and Downside scenarios – KG Khedi 118
Figure 6.16: Final Revenue forecast including Upside and Downside scenarios – KG Khedi ... 118
Figure 6.17: Final AADT forecast including Upside and Downside scenarios – CG Jojaro Ka Kheda 119
Figure 6.18: Final Revenue forecast including Upside and Downside scenarios CG Jojaro Ka Kheda 119
Figure 6.19: Final AADT forecast including Upside and Downside scenarios – CG Lambiya Kalan 120
Figure 6.20: Final Revenue forecast including Upside and Downside scenarios CG Lambiya Kalan 120
Figure 6.21: Final AADT forecast including Upside and Downside scenarios – UG Khandi Obri 121
Figure 6.22: Final Revenue forecast including Upside and Downside scenarios - UG Khandi Obri 121

Tables

Table 1.1: Scope of work and sources of data 1
Table 1.2: Data collection schedule 3
Table 2.1: Summary of concession 8
Table 2.2: Single toll rates on the Asset (INR), applicable for remaining FY22** 15
Table 3.1: Historical evolution in transactions by vehicle class: KG - Khedi 21
Table 3.2: Historical revenue evolution by class (in INR crores): KG: Khedi 22
Table 3.3: Historical evolution in transactions by vehicle class: CG TP2: Lambiyan Kalan 23
Table 3.4: Historical evolution in transactions by vehicle class: GC – Jojaro Ka Kheda 24
Table 3.5: Historical revenue evolution by class (in INR crores): CG 26
Table 3.6: Historical evolution in transactions by vehicle class: UG – Khandi Obri 26
Table 3.7: Historical revenue evolution by class (in INR crores): UG TP4: Khandi Obri 27
Table 3.8: KG: Khedi Toll plaza, Traffic evolution during FY20, FY21 28
Table 3.9: CG: Lambiyan Kalan Toll plaza, Traffic evolution during FY20, FY21 29
Table 3.10: CG: Jojaro Ka Kheda Toll plaza, Traffic evolution during FY20, FY21 29
Table 3.11: UG: Khandi Obri Toll plaza, Traffic evolution during FY20, FY21 30
Table 3.12: Typical ticket types sold at NHAI plazas 30
Table 3.13: Timeline of national ETC implementation 31
Table 3.14: %age of Transactions via Fast Tag at each of the toll plaza, March 2021 36
Table 3.15: Data collection schedule 39
Table 3.16: WADT at Asset 39
Table 3.17: Sample rates for OD data 44
Table 3.18: Zone aggregations for zonal influence analysis 44
Table 3.19: Aggregate commodity categories 50
Table 3.20: Directional commodity distribution: KG - Khedi 51
Table 3.21: Directional commodity distribution: GC – Lambiyan Kalan 53
Table 3.22: Directional commodity distribution: CG – Jojaro Ka Kheda 53
Table 3.23: Directional commodity distribution: UG – Khandi Obri 54
Table 3.24: Average trip lengths for each vehicle type 55
Table 4.1: CAGR of population in India 60
Table 4.2: Population Growth in India (2001 – 2011) 61

Table 4.3: Local Population Growth (2001 – 2011) 61

Table 4.4: GDP/GSDP index (2012=100) 64

Table 5.1: Identified growth drivers to model traffic growth 67

Table 5.2: Elasticity recommendations for the Assets 68

Table 5.3: Normalised and Q4 adopted GDP growth rates 71

Table 6.1: Key intermediate and final outputs in the forecast 72

Table 6.2: Adopted SCF: TP1 KG Khedi 73

Table 6.3: Adopted SCF: TP2 CG: Lambiyan Kalan 73

Table 6.4: Adopted SCF: TP3 CG: Jojaro Ka Kheda 74

Table 6.5: Adopted SCF: TP4 UG: Khandi Obri 74

Table 6.6: FY22N Base AADT estimates compared to FY21 Actuals and FY22 Estimated (TP1: Khedi) 78

Table 6.7: FY22N Base AADT estimates compared to FY21 Actuals and FY22 Estimated (TP2: Lambiyan Kalan) 78

Table 6.8: FY22N Base AADT estimates compared to FY21 Actuals and FY22 Estimated (TP3: Jojaro Ka Kheda) 78

Table 6.9: FY22N Base AADT estimates compared to FY21 Actuals and FY22 Estimated (TP4: Khandi Obri) 79

Table 6.10: Summary of impact 79

Table 6.11: Impact of LOS improvement (%) 81

Table 6.12: Impact of Completion of Udaipur bypass (%) 82

Table 6.13: Morbi traffic diversion (%) 82

Table 6.14: Saurashtra traffic diversion (%) 82

Table 6.15: Toll Reduction on NH48 linked diversion from NH52 (%) 83

Table 6.16: Textile traffic post resumption in industry (%) 83

Table 6.17: Distance from Delhi to various locations along NH48 vs DME 84

Table 6.18: DME and WDFC (%) 86

Table 6.19: Ajmer – Gomti Upgrade (%) 86

Table 6.20: Trip factors for the forecast years – KG Khedi 88

Table 6.21: Trip factors for the forecast years – CG Jojaro Ka Kheda 88

Table 6.22: Trip factors for the forecast years – CG Lambiya Kalan 89

Table 6.23: Trip factors for the forecast years – UG Khandi Obri 89

Table 6.24: Toll segmentation FY23 onwards – KG Khedi 90

Table 6.25: Toll segmentation FY24 onwards – CG Jojaro Ka Kheda 92

Table 6.26: Toll segmentation FY24 onwards – CG Lambiya Kalan 93

Table 6.27: Toll segmentation FY24 onwards – UG Khandi Obri 94

Table 6.28: Overloading assumptions for FY21 and forecast years 94

Table 6.29: Tolling lengths for toll evolution 95

Table 6.30: Tolling lengths for toll evolution when construction completes 95

Table 6.31: WPI growth forecast assumptions 95

Table 6.32: Revenue reconciliation summary 96

Table 6.33: PCU factors 97

Table 6.34: Final (background plus impacts) AADT forecast – KG Khedi 97

Table 6.35: Final (background plus impacts) AADT CAGR (%) – KG Khedi 97

Table 6.36: Final (background plus impacts) revenue (INR crores) forecast – KG Khedi 98

Table 6.37: Final (background plus impacts) revenue CAGR (%) – KG Khedi 98

Table 6.38: Final (background plus impacts) AADT forecast – CG Jojaro Ka Kheda 98

Table 6.39: Final (background plus impacts) AADT CAGR (%) – CG Jojaro Ka Kheda 99

Table 6.40: Final (background plus impacts) revenue (INR crores) forecast – CG Jojaro Ka Kheda 99

Table 6.41: Final (background plus impacts) revenue CAGR (%) – CG Jojaro Ka Kheda 100

Table 6.42: Final (background plus impacts) AADT forecast – CG Lambiya Kalan 100

Table 6.43: Final (background plus impacts) AADT CAGR (%) – CG Lambiya Kalan 100

Table 6.44: Final (background plus impacts) revenue (INR crores) forecast – CG Lambiya Kalan 101

Table 6.45: Final (background plus impacts) revenue CAGR (%) – CG Lambiya Kalan 101

Table 6.46: Final (background plus impacts) AADT forecast – UG Khandi Obri 102

Table 6.47: Final (background plus impacts) AADT CAGR (%) – UG Khandi Obri 102

Table 6.48: Final (background plus impacts) revenue (INR crores) forecast – UG Khandi Obri103

Table 6.49: Final (background plus impacts) revenue CAGR (%) – UG Khandi Obri 103

Table 6.50: Summary of Macro Assumptions for upside and downside cases 104

Table 6.51: Summary of impacts on the Assets 104

Table 6.52: Summary of impacts on the Assets 105

Table 6.53: Final (background plus impacts) AADT forecast for upside scenario – KG Khedi .. 106

Table 6.54: Final (background plus impacts) AADT CAGR (%) for upside scenario – KG Khedi 106

Table 6.55: Final (background plus impacts) revenue (INR crores) forecast for upside scenario – KG Khedi 106

Table 6.56: Final (background plus impacts) revenue CAGR (%) for upside scenario – KG Khedi 107

Table 6.57: Final (background plus impacts) AADT forecast for upside scenario – CG Jojaro Ka Kheda 107

Table 6.58: Final (background plus impacts) AADT CAGR (%) for upside scenario – CG Jojaro Ka Kheda 107

Table 6.59: Final (background plus impacts) revenue (INR crores) forecast for upside scenario – CG Jojaro Ka Kheda 108

Table 6.60: Final (background plus impacts) revenue CAGR (%) for upside scenario – CG Jojaro Ka Kheda 108

Table 6.61: Final (background plus impacts) AADT forecast for upside scenario – CG Lambiya Kalan 109

Table 6.62: Final (background plus impacts) AADT CAGR (%) for upside scenario – CG Lambiya Kalan 109

Table 6.63: Final (background plus impacts) revenue (INR crores) forecast for upside scenario – CG Lambiya Kalan 109

Table 6.64: Final (background plus impacts) revenue CAGR (%) for upside scenario – CG Lambiya Kalan 110

Table 6.65: Final (background plus impacts) AADT forecast for upside scenario – UG Khandi Obri 110

Table 6.66: Final (background plus impacts) AADT CAGR (%) for upside scenario – UG Khandi Obri 110

Table 6.67: Final (background plus impacts) revenue (INR crores) forecast for upside scenario – UG Khandi Obri 111

Table 6.68: Final (background plus impacts) revenue CAGR (%) for upside scenario – UG Khandi Obri 111

Table 6.69: Final (background plus impacts) AADT forecast for downside scenario – KG Khedi 112

Table 6.70: Final (background plus impacts) AADT CAGR (%) for downside scenario – KG Khedi 112

Table 6.71: Final (background plus impacts) revenue (INR crores) forecast for downside scenario – KG Khedi 112

Table 6.72: Final (background plus impacts) revenue CAGR (%) for downside scenario – KG Khedi 113

Table 6.73: Final (background plus impacts) AADT forecast for downside scenario – CG Jojaro Ka Kheda 113

Table 6.74: Final (background plus impacts) AADT CAGR (%) for downside scenario – CG Jojaro Ka Kheda 113

Table 6.75: Final (background plus impacts) revenue (INR crores) forecast for downside scenario – CG Jojaro Ka Kheda 114

Table 6.76: Final (background plus impacts) revenue CAGR (%) for downside scenario – CG Jojaro Ka Kheda 114

Table 6.77: Final (background plus impacts) AADT forecast for downside scenario – CG Lambiya Kalan 115

Table 6.78: Final (background plus impacts) AADT CAGR (%) for downside scenario – CG Lambiya Kalan 115

Table 6.79: Final (background plus impacts) revenue (INR crores) forecast for downside scenario – CG Lambiya Kalan 115

Table 6.80: Final (background plus impacts) revenue CAGR (%) for downside scenario – CG Lambiya Kalan 116

Table 6.81: Final (background plus impacts) AADT forecast for downside scenario – UG Khandi Obri 116

Table 6.82: Final (background plus impacts) AADT CAGR (%) for downside scenario – UG Khandi Obri 116

Table 6.83: Final (background plus impacts) revenue (INR crores) forecast for downside scenario – UG Khandi Obri 117

Table 6.84: Final (background plus impacts) revenue CAGR (%) for downside scenario – UG Khandi Obri 117

Table 6.85: Target Traffic 122

Appendices

A	**Top 10 OD Pairs**	**125**
B	**Detailed forecasts**	**127**
C	**Data collection exercise**	**136**
D	**Vehicle Classification Chart**	**146**

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Traffic Consultant developed the relationships in the models used to produce the forecasts for the projects based on data available through May 2021. Since March 2020, the outbreak of the virus known as COVID- 19 has spread throughout the world and has been defined by the World Health Organization as a "pandemic". As of the date of distribution of the Reports, the COVID19 outbreak is having a material impact on global economic and political affairs including having a significant impact on all the transportation industries, including toll road traffic, where in particular vehicle volumes have fallen in response to quarantine and self-care measures that governments have been imposing as a response to the different waves of infection rates in different parts of the country. The situation remains dynamic and is subject to significant change. In this challenging context, Traffic Consultant has produced base forecasts (directly produced from models using a combination of pre-COVID19 and post-COVID19 views) with a view on a possible scenario for the traffic forecasts based on an assumption of recovery from the COVID19-related traffic decrease. However, it is important to note that this is only one view, and there continues to remain uncertainty as to the short-term, intermediate or prolonged effects of and responses to the COVID19 pandemic on the projects. All of these effects could impact the COVID19-related aspects of the Reports.

As a result, no assurance can be provided by Traffic Consultant that the scenarios and assumptions Traffic Consultant has identified will prove to be accurate. Given the uncertainty inherent in this unprecedented pandemic, Traffic Consultant advises that all readers of the Reports consider the Reports in the context of their own assessment of the COVID19 outbreak and its current and potential impacts before making final decisions related to the projects.

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Glossary Items

Acronym	Meaning
AADT	Annual Average Daily Traffic
ADT	Average Daily Traffic
CAGR	Compound Annual Growth Rate
CJV	Cars / Jeeps / Vans
COD	Commercial Operations Date
Covid19	Coronavirus Pandemic
DPR	Detailed Project Report
DME	Delhi Mumbai Expressway
WDFC	Western Dedicated Freight corridor
ETC/ FASTag	Electronic Toll Collection via FASTag
FY	Financial Year
GDP	Gross Domestic Product
GJC	Generalised Journey Cost
GQ	Golden Quadrilateral
GSDP	Gross State Domestic Product
HCM	Heavy Commercial Vehicles
IAOI	Immediate Area of Influence
KG	Kishangarh Gulabpura
CG	Chittorgarh - Gulabpura
UG	Udaipur-Shamlaji/Gujarat Border
LCV	Light Commercial Vehicles
LoS	Level of Service
MAV	Multi Axle Vehicle
MLCV	Mini LCV
NE	National Expressway
NH	National Highway
NHAI	National Highways Authority of India
NHDP	National Highways Development Project
NSDP	Net State Domestic Product
OD	Origin Destination
PCI	Per Capita Income
PCOD	Partial Commercial Operations Date
PCU	Passenger Car Unit
RNP	Registered Number Plate
RoS	Rest of State
SCF	Seasonality Correction Factors
SH	State Highway
T&R	Traffic and Revenue

Acronym	Meaning
TMS	Traffic Management System
TP	Toll plaza
TVC	Traffic Volume Count
VOC	Vehicle Operating Costs
VOT	Value of Time
WADT	Weekly Average Daily Traffic
WDFC	Western Dedicated Freight corridor
YTD	Year to Date

1 Introduction

The assignment

1.1 IRB Infrastructure Developers Limited (the "Client") has commissioned Steer Davies Gleave India Private Limited ("Steer") for a traffic due diligence to be carried out on the sections of Kishangarh – Gulabpura ("KG"), Chittorgarh - Gulabpura ("CG"), and Udaipur – Shamlaji/Gujarat border ("UG") referred to as the "Assets" in the report.

1.2 Our scope of work for the traffic and revenue forecasts process includes:

Table 1.1: Scope of work and sources of data

Scope of work	Data source
• Review of historical Traffic Management System (TMS) data, Origin-Destination (OD) data, Vendor reports and documents	Provided by client
• Historical analysis and forecasts for baseline growth, including – Background growth, – Seasonality	Historical toll plaza data provided by Client and benchmarks from assets in the vicinity wherever long time series historical data was not available
• Validation of TMS data using independent Traffic Volume Counts (TVC) counts • Validation of Revenue reported in FY21	• TMS data provided by Client • TVC counts independently undertaken by Steer • Revenue reconciliation using toll plaza traffic and ticket type data to calculate revenue and reconciling it with toll plaza reported revenue.
• OD analysis to understand growth drivers – Zonal influence and top OD pairs – Commodity distribution – Trip length distribution	Origin Destination surveys undertaken by Steer
• Analysis of upcoming network improvements and other developments, that may have future impacts on traffic	Secondary research and our in-house experience of working in the vicinity of the asset. Impact analysis based on Generalised Journey Cost spreadsheet-based analysis
• Historical revenue analysis and forecasts for revenue estimation, including – Toll segmentation and trip factors, – Overloading shares,	Calculated from historical data provided by Client
• Final traffic growth forecasts including baseline growth rates and potential future impacts	Elasticity based base growth and potential impacts from secondary research and our in-house experience of working in the vicinity of the asset

Scope of work	Data source
• Toll revenue estimation for the entire concession including toll evolution	Toll evolution based on toll notification published by NHAI and WPI line based on forecast published by Consensus and RBI (FY23)
• Review of historical Traffic Management System (TMS) data, Origin-Destination (OD) data, Vendor reports and documents	Provided by client

1.3 This report presents our draft T&R forecasts.

Our approach

1.4 The information related to the traffic, concession agreements, toll notifications, toll calculations, and all other relevant data required was provided by the client in the virtual data room. The key traffic data file used by us for the analysis from the data room is the monthly historical data for each of the Asset for each category of vehicles.

1.5 To understand the current traffic on the Assets, we have analysed traffic data from multiple independent sources, these are presented below, further approach to analysis is detailed below:

- Assembled traffic/revenue data for up-to-date representation of the performance of the project roads. Client-provided TMS data starting from
  - KG: February 2018 up till May 2021
  - CG: November 2017 up till May 2021
  - UG: September 2017 up till May 2021
  - June 2021 data was provided first 3 weeks for June 2021
- Review of Concession agreement and toll notifications provided by client
- To arrive at the base position, Asset-wise traffic data required for analysis was used from the monthly traffic and revenue files shared by the client. To gain confidence in the traffic data, and validate the TMS data, 7 days (24 hours) traffic volume counts (TVC) were undertaken by an independent agency at all the toll plaza locations. The TMS data for the same dates was requested from the client which was then compared to the TVC data collected.
- Revenue Reconciliation: We undertook revenue reconciliation, by building up revenue from the traffic reported by each of the toll plaza and subsequently match it to the reported revenue using the prevalent toll rates and reported segmentation/toll-frequencies, this is a key part of our analysis to validate the segmentation/toll-frequency assumptions and the AADT reported for each of the toll plaza.

1.6 The estimation of future traffic demand on the Assets was undertaken through:

- Detailed assessment of the asset performance from traffic and revenue perspective based on the site visit observation, discussions with the toll plaza managers and client team.
- The OD survey data was cleaned and analysed to determine the key commodity drivers of the traffic on the asset. This information was further utilised in developing the views on the forecasts of traffic on this corridor. Outputs from OD data such as zonal influence, trip lengths, and commodity distribution are presented in this report.
- Developing a bespoke growth model for each asset/plaza/toll class to forecast year-on-year traffic growth from FY21 to the end of each concession period.

- Investigating the elasticity of historic traffic growth compared to state (GSDP) and national (GDP) growth. Where historic data is limited, we have benchmarked the asset against our Steer knowledge base (e.g., similar asset types in the same state), to derive appropriate elasticities
- Applying our elasticities to independent GDP/GSDP forecasts.
- Identifying and analysing the potential impacts of any relevant changes to the competitive position of each asset – these include impacts of changes to road network including expressways and opening of competitive modes of travel.
- Identifying and analysing any other potential impacts to traffic and revenue on each asset – these include axle load norms, FASTag implementation
- Considering changes in trends of segmentation over time and making suggestions for changes in exemptions in the future
- Preparing traffic and revenue forecast for the Asset for the complete length of concession. The analysis here includes the specific impacts of toll, network, or other exogenous factors specific to the asset. We have developed a set of forecasting assumptions for three scenarios: a base case and upside and downside scenarios.

Table 1.2: Data collection schedule

Toll Plaza	TMS data	7-day TVC		1-day OD survey	
		Start date	**End date**	**Start date**	**End Date**
KG: Khedi	Feb'18-May'21	28th June'21	4th July'21	01st July'21	2nd July'21
CG: Lambiyan Kalan and Jojaro ka Kheda	Nov'17-May'21	28th June'21	4th July'21	30th June'21	1st July'21
UG: Khandi Obri	Sept'17-May'21	28th June'21	4th July'21	28th June'21	29th June'21

Evolution of Covid19 pandemic in India in FY21 and FY22

1.7 On 24 March FY20, the Central government announced a nationwide 21-day lockdown which was extended for another three weeks until May 3rd. Further extensions until May 17th and again until May 31 featured relaxations in 'green' and 'orange' zones. Starting 8th June 2021, 'Unlock' phases began. States have also taken their own measures, with Central guidelines being the minimum expected restrictions from States. The tolling across all highways in India was stopped between 25th Mar and 20th Apr for national highways. These lockdowns resulted in significant disruptions to traffic, with a reduction of both commuting trips to work (as people were required to work from home or stay at home) and leisure trips (due to the closure of various entertainment venues, places of worship, tourist destinations, etc.). Goods movements, while still impacted, continued to a lesser extent due to a need to supply essential goods such as food, etc.

1.8 The traffic volumes since then gradually started recovering on most Assets in India, with varying extent. By Q3 of FY21 traffic levels were already at par FY20 AADT numbers and even higher in some cases. Q4 of FY21 was largely unimpacted by COVID and toll plazas reported stabilised traffic numbers for the quarter.

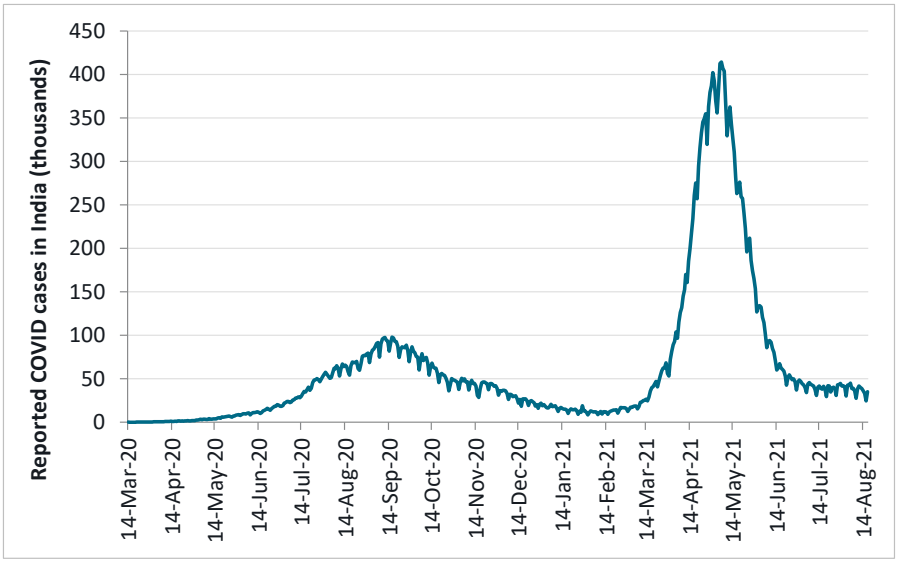
1.9 Data from various roads across the country indicates that the largest impact on traffic was experienced between the months of March 2020 and May 2020, with the rest of the months showing volumes surpassing FY20 levels for most months of FY21. It is important to note that FY20 itself was a subdued year due to the nosedive in Indian economic growth to lowest in a

decade (4.0% in FY20 relative to a FY10-20 average of 6.5%). The recovery of traffic in Q3 FY21 was being driven by two factors - a release of pent-up demand in certain vehicle categories, as well as, underlying long-term growth trends in various sectors of the economy which are contributing to the growth of commercial traffic across the road network. We believe that the pent-up demand was most confined till the October-November FY21 period which coincides with the Diwali festival related increase in traffic levels.

1.10 The traffic trends observed on most of the India toll roads during Q4FY21, showed sustained traffic levels as were witnessed in Q3FY21, which reflected sustained demand revival in the Indian economy. These traffic levels reflected the longer-term trends of a strong economic recovery, in segments like auto manufacturing, road construction, energy consumption /production etc., are more stable and are driving the growth over and above FY20 levels and are expected to continue as more segments of the economy, like hospitality, tourism, etc., recover fully from the pandemic.

1.11 Last week of March 2021 onwards, another spike in COVID cases was observed which gradually kept increasing to reach a peak value of 415,000 daily cases by 6th May 2021. The figure below presents the daily reported Covid19 cases in India up-to 14th August 2021.

Figure 1: Daily Reported Covid 19 cases in India



Source: Steer analysis, https://data.COVID19india.org/

1.12 This second wave of Covid19 was accompanied by various local and state level night curfews and lockdowns starting from April until end of June. The second wave of Covid19, although had a higher infection rate, the movement of traffic and goods was not impacted by the same magnitude as the first wave when whole country went under strict lockdown for two quarters. This can be attributed to the fact that almost all the restrictions were localised or at state level. Moreover, there was no restriction on movement of goods vehicles and other services. As the industries and agricultural activities continued to operate, the truck traffic did not fall as steeply as it did in Q1 FY21.

1.13 There is also a behavioral shift of passengers towards personal mobility due to perceptions of safety and reduction of public transport services which we have been observed across the road network. This shift is expected to sustain and continue in the short term as such perception shifts for longer periods of time could result in more permanent changes in passenger choices.

For example, once a family starts using a personal CJV for inter-urban travel to avoid public transport during the pandemic period over 1-2 years, it is likely that they continue using their personal vehicles even as the pandemic recedes. In our analysis around the short/medium-term impact of this pandemic, we have included assumptions around the above, as well as longer-term impacts of the pandemic.

Contents of this Report

1.14 The report has been divided into 6 chapters, including

- Chapter 1 introduces the methodology and approach to undertake the traffic and revenue due diligence;
- Chapter 2 describes the key characteristics of the Asset and its surrounding road network, primarily based on site visits;
- Chapter 3 summarises the current and historical traffic on the Asset, including results from the TMS, TVC and OD analysis;
- Chapter 4 discusses the socio-economic context of the corridor and region/state containing the Asset;
- Chapter 5 summarises our approach and results on estimating background traffic demand growth; and
- Chapter 6 summarises our key forecasting assumptions, estimation of Base year AADT, assessment of network impacts, and presents our traffic and revenue forecasts for the Asset.

2 The Assets

Introduction

2.1 This chapter provides a description of the Assets, based on primary data (from site visits), our understanding of the region and network surrounding the Asset. We cover the strategic network context, followed by key economic activities and network developments around the Asset.

Strategic network and Asset Context

2.2 The Assets are situated in the state of Rajasthan and consists of three road sections present on the NH48 and forms the part of the Delhi – Mumbai Corridor of the Golden Quadrilateral (GQ). Kishangarh-Gulabpura (KG) and Chittorgarh-Gulabpura (CG) are two contiguous road sections on the corridor, whereas Udaipur-Shamlaji (UG) lies between Udaipur and Gujarat border on NH48 south of KG and CG on the same alignment.

2.3 The Golden Quadrilateral is the longest road project in India and the fifth-longest highway in the world, connecting four major cities: Delhi, Mumbai, Chennai, and Kolkata[1]. NH48 is the traditional Golden Quadrilateral connecting the key cities of Delhi (and North) to Ahmedabad, and Mumbai (West). Prior to the development of other corridors such as NH52 (old NH3), NH44 (old NH7), it was the key connection for traffic to Mumbai, Bangalore, and other key cities in South India.

2.4 The region along the Delhi-Mumbai NH48 corridor is industrial hub of India and routes up to Mumbai has a cluster based industrial development (organised sector) around cities of Ahmedabad, Mumbai, Udaipur, Vadodara, Bharuch, Surat, Vapi, in addition to the port movements from Kandla, Mundra and JNPT ports.

2.5 In addition to the industrial significance, there are several famous tourism and religious centres along the corridor. Key tourist destinations include Udaipur, Chittorgarh, Mount Abu, Jaipur, and Ahmedabad. Temples in Nathdwara, Shamlaji, Chittorgarh have significant religious following contributing to the passenger vehicles on the Assets.

2.6 The Assets benefit from heavy industrial movement from industries in the vicinity as well. Industrial towns such as Kishangarh, Bhilwara, Chittorgarh, Rajsamand, Udaipur etc. all are home to a number of industries which contribute large volumes of traffic on the corridor.

2.7 There are currently 4 key routes available between Delhi and Mumbai in addition to the upcoming greenfield Delhi – Mumbai Expressway. These are:

- Via Assets/NH48: Delhi-Jaipur-Chittorgarh -Udaipur-Ahmedabad – Mumbai
- Via Asset (KG and CG)/NH48/NH58: Delhi-Jaipur-Bhilwara-Rajsamand -Udaipur-Ahmedabad – Mumbai

[1] https://www.livemint.com/Opinion/EePbspl9MAyct3cBcOxbQI/Build-it-and-they-will-come.html

- Via Asset (KG and CG)/SH31/17: Delhi-Jaipur-Chittorgarh-Indore (via SH31/17) – Nashik – Mumbai
- Via NH2/19-NH52 (old NH3): Delhi-Agra-Indore-Nashik-Mumbai

2.8 The national network in which these Assets exist is presented in the map below.

Figure 2.1: Asset location in the regional network context

Source: Steer cartography using OpenStreetMap data

2.9 These Assets primarily caters to three different types of strategic movements:

- **Short-distance trips** undertaken largely by passenger vehicles for work/business trips wherein the movement is predominantly local between Ajmer, Vijay Nagar, Bhilwara, and Chittorgarh zones for KG and CG sections whereas the movement is between Modasa, Udaipur, Kherwara, Dunagrpur, and Ratanpur districts for the UG section. Some of the local consumption demand generated by these towns is met by the short distance goods movement on the Assets.
- **Medium-distance trips** undertaken largely by the trips plying to and from the vicinity of the Asset to other parts of Rajasthan including Sikar, Bikaner, Ganganagar, Jaipur as well as towards zones of Delhi and Madhya Pradesh for KG and CG sections whereas the movement

is from Udaipur, Bhilwara, Ajmer, Chittorgarh zones towards Himmatnagar, Ahmedabad, Vadodara, and Surat for the UG section.

- **Long-distance trips**, predominantly by 2A, 3A and MAVs, caters to the movement between northern Rajasthan, Delhi NCR, Haryana, Punjab towards Gujarat, Maharashtra, Madhya Pradesh, and further southern states. In addition to the NH48 movement, the CG and KG Assets also cater to the long-distance movement between Nashik, Dhule, Indore and Jaipur and northern parts of the country. Traffic undertakes the NH52-SH31-NH48 movement to access states such as Haryana, Punjab, and other northern parts of the country.

2.10 The Assets consists a total of 4 toll plazas across 3 Assets. These are

- Kishangarh – Gulabpura: TP1 Khedi/Bandanwara
- Gulabpura - Chittorgarh: TP2: Lambiyan Kalan and TP3: Jojaro Ka Kheda
- Udaipur – Shamlaji: TP4: Khandi Obri

2.11 Under the National Highways Development Program (NHDP), all the three Assets were commissioned for capacity expansion from 4 to 6 lane. The construction started on each Asset at a different time, these were starting Feb 2018, Nov-2017 and Sept 2017 for KG, CG and UG Assets respectively, with a construction period of 910 days for each of the Asset. As of August 2021, 2 of the three Assets namely Udaipur Shamlaji (UG) and Chittorgarh- Gulabpura (CG) have completed construction and achieved Full COD (Commercial Operations Date). Whereas Kishangarh-Gulabpura (KG) is still under construction and is expected to achieve COD by 31st Dec 2021. Each of the Asset details are discussed in detail in the below sections.

2.12 All the four plazas are mainline plazas, and all the sections operate on the system of open tolling where the toll rates are fixed irrespective of the distance travelled by the user. There are no through tickets issued by the toll plaza, therefore users of the toll plaza are expected to pay toll for the plaza which they are crossing.

Concession and tolling details

2.13 The concession and tolling details for each of the 4-toll plaza are provided below in the table.

Table 2.1: Summary of concession

	Particulars
State	Rajasthan
Highway and lane configuration	NH48, six-laned (divided)
Toll plazas	• Kishangarh - Gulabpura – Khedi at KM 61+020 • Gulabpura - Chittorgarh – Lambiyan Kalan at KM 121+020 – Jojaro Ka Kheda at KM 184+020 • Udaipur – Gujarat border – Khandi Obri at KM 348+450
Tollable Length (km) as per concession agreement, applicable	• Kishangarh - Gulabpura – Khedi: 97.95 km • Gulabpura - Chittorgarh – Lambiyan Kalan: 67.16 km – Jojaro Ka Kheda: 69.65 km • Udaipur – Gujarat border – Khandi Obri: 120.66 km
Commencement of operations*	Kishangarh – Gulabpura: PCOD/FCOD - 21st Feb'18/31st Dec '21

	Particulars
	Gulabpura - Chittorgarh: PCOD/FCOD – 4th Nov'17/ 15th Aug'21 Udaipur – Gujarat border: PCOD/FCOD – 3rd Sept'17/ 31st May'21
Operated by Client since	KG: Feb FY18, CG: Nov FY18, UG: Sept FY18
Concession period	Kishangarh – Gulabpura: 25 years Gulabpura - Chittorgarh: 23 years Udaipur – Gujarat border: 21 years
Last year of concession	Kishangarh – Gulabpura: FY43 Gulabpura - Chittorgarh: FY41 Udaipur – Gujarat border: FY39

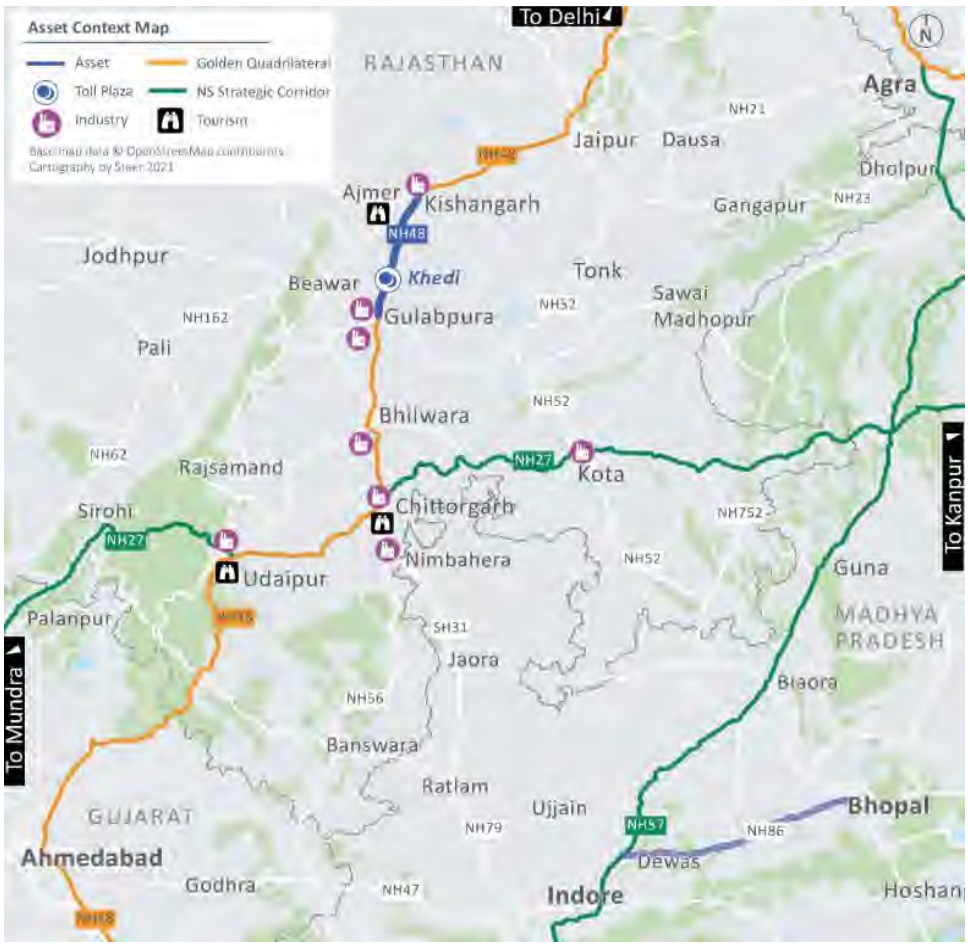
Source: Client data, as per CA

Kishangarh – Gulabpura

2.14 The Asset is a 90 Km stretch on NH48 between Kishangarh and Gulabpura in Rajasthan. The 6-lane toll road (4 to 6 lane currently ongoing, expected COD 31st Dec 2021) located in Rajasthan and forms part of the Delhi-Mumbai arm of the Golden Quadrilateral. It is also part of the direct link between Kishangarh-Bhilwara and Chittorgarh. There is one toll plaza on the asset and is located namely:

- TP1: Khedi: Khedi/Bandanwara toll plaza

Figure 2.2 Asset context: Kishangarh Gulabpura, TP1: Khedi Toll Plaza



Source: Steer cartography using OpenStreetMap data

2.15 The Asset connects Ajmer to Gulabpura, traversing through major settlement stretches such as Gulabpura, Bhilwara, Chittorgarh, Mangalwad, and finally Udaipur.

2.16 The Asset primarily serves traffic travelling between Delhi, Rajasthan, Gujarat, Maharashtra and Southern states (Kerala, Tamil Nadu, Karnataka). Commercial vehicles dominate the traffic movement on the asset. Long-distance traffic travelling south from Delhi and Jaipur branches out to Ajmer and Bhilwara at Kishangarh. At Kishangarh, a part of traffic diverts to Beawar-Pali- Palanpur section on NH62 and the remaining traffic continues on the Asset to arrive at Udaipur via Kishangarh-Bhilwara and Chittorgarh.

2.17 Currently, the asset is being six-laned with COD expected in December 2021. There are several textile industries and marble/granite industries bordering the Asset. Bhilwara is home to textiles industry and only center in the country producing insulation bricks. Mining is another major sector for large scale mining of sandstone, soap stone feldspar, quartz, mica China clay and granite. Also, Iron Ore, Led, and Zinc is mined and processed here.

2.18 Figure shows a typical cross-section of the Asset and its toll plaza.

Figure 2.3: Typical cross-sections and toll plazas on the Assets

Source: Steer site visit

Chittorgarh – Gulabpura

2.19 The Asset is a 125-km six-lane toll road on NH48 located in Rajasthan and forms part of the Delhi-Mumbai arm of the Golden Quadrilateral. It is also a part of the direct link between Kishangarh-Bhilwara and Chittorgarh. There are two toll plazas on the asset and is located at:

- TP2 LK: Lambiyan Kalan
- TP3 JJK: Jojaro ka Kheda

2.20 As discussed earlier the construction on the Asset for lane expansion from 4 lanes to 6 lanes started in November 2017, and the Asset has achieved Full Commercial operations as on 15th August 2021[2]. The Asset map is presented in the figure below.

2.21 Long-distance traffic travelling from Jaipur (and North India) to Udaipur and South has an option after the TP2: Lambiyan Kalan to use the Bhilwara-Rajsamand-Nathdwara-Udaipur route. The balance traffic continues towards Chittorgarh to cross TP3: JJK to reach Udaipur.

Figure 2.4 Asset context: Chittorgarh – Gulabpura, Lambiyan Kalan and Jojaro ka Kheda toll plaza

Source: Steer cartography using OpenStreetMap data

2.22 Figure below shows a typical cross-section of the Asset and its toll plazas.

[2] https://www.irb.co.in/home/2021/08/15/irb-infras-spv-achieves-full-cod-for-chittorgarh-gulabpura-six-lane-highway-project-in-rajasthan/

Figure 2.5: Typical cross-sections and toll plazas on the Assets

Source: Steer site visit

Local Diversion

2.23 There is a local diversion to avoid paying the tolls near the Lambiyan Kalan toll plaza. During site survey it was found that the road is a muddy road and passes a village. It is sometimes used by local users (mostly CJV and Mini LCV) who are aware of the diversion. The present condition of the diversion is very poor and is not a viable alternate to the toll plaza. The pictures of the alternate are presented below:

Figure 2.6: Pictures of a local micro diversion near TP2 LK: Lambiyan Kalan plaza

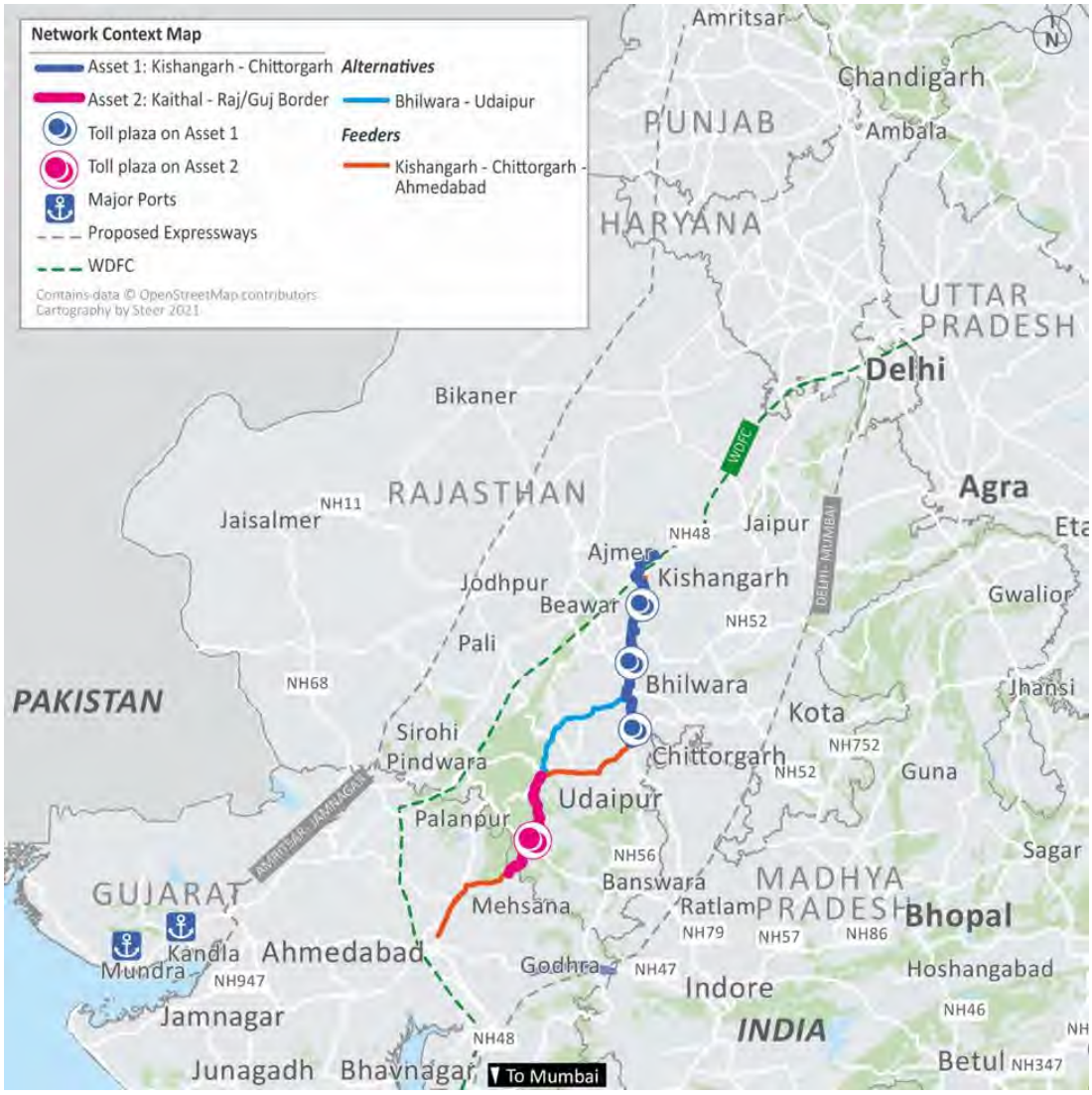
Udaipur – Shamlaji/Gujarat Border

2.24 The 114-km Six-lane toll road (NH-48) located in Rajasthan and forms part of the Delhi-Mumbai arm of the Golden Quadrilateral As shown on the right, it is also part of the direct link between Ahmedabad and Udaipur. There is one toll plazas on the asset and is located at

- TP4: Khandi Obri

2.25 As discussed earlier, the construction on the Asset for lane expansion from 4 lanes to 6 lanes started in September 2017, and the Asset has achieved Full Commercial operations as on 31st May 2021[3]. The Asset map is presented in the figure below.

Figure 2.7: Asset context: Udaipur-Shamlaji/Gujarat Border, Khandi Obri toll plaza



Source: Steer cartography using OpenStreetMap data

2.26 The Asset acts as a funnel for traffic using the northern sections of NH48 section, NH58 (Bhilwara-Rajsamand-Udaipur) section for trips between North of Udaipur and Udaipur/Ahmedabad/Mumbai and South. The traffic on the roads directly feeds into the key regions of Gujarat, therefore attracts significant traffic volumes.

2.27 Situated amidst ghats (hills/valleys), the Asset had a few rural and semi-urban settlements along its alignment. However, there is noticeable passenger movement due to the presence of a few religious centers in the area. The economic centers close to the asset are:

[3] https://www.irb.co.in/home/2021/05/31/irb-infras-spv-udaipur-tollway-ltd-achieves-full-cod-for-udaipur-gujarat-border-six-laning-highway-project-in-rajasthan/

- Tourism, agriculture, and mineral industries contribute to Udaipur's diverse economic base. Udaipur sees major tourist footfall throughout the year. Shamlaji is a major Hindu pilgrimage dedicated to God Vishnu.
- Udaipur district is rich in lead, zinc, silver, phosphate, calcite, copper, and limestone minerals. Udaipur is known for its marble which is mined, processed, and is exported across the world.
- Nathdwara in north of asset has one of largest extraction units of marble and limestone minerals. Hindustan Zinc, which is world's second largest zinc producer, is based out of Udaipur.

2.28 The below figure shows a typical cross-section of the Asset and its toll plazas.

Figure 2.8: Typical cross-sections and toll plazas on the Assets

Source: Steer site visit

Summary of Asset context

2.29 The three Assets form part of the GQ NH48 corridor. The key cities of Delhi, Ahmedabad, Vadodara, and Mumbai are connected by NH48. Local towns of Kishangarh, Bhilwara, Chittorgarh and Udaipur which lie near the Assets contribute significantly to the traffic volumes on the Asset. Each of these towns have large industrial and tourism influence in the region thereby providing healthy captive traffic on Assets.

2.30 Each of the four toll plazas serve the long-distance traffic travelling between Delhi and Ahmedabad (and South). In addition to these movements, Khedi and Lambiyan Kalan toll plazas serve the local demand generated by the towns of Kishangarh, Bhilwara, and the medium distance movements between Bhilwara, Chittorgarh and Jaipur and north India. Whereas the Jojaro ka Kheda and Khandi Obri toll plazas serves the demand of local movements between, Bhilwara, Chittorgarh and Udaipur in addition to medium distance

movements between Bhilwara, Ahmedabad, industrial towns in Gujarat (such as Morbi, Kandla and Mundra).

2.31 As discussed, due to the presence of various tourism centres such as Udaipur, Nathdwara, Shamlaji, Chittorgarh these Assets serve a lot of tourism demand and associated consumption demand generated by such tourism activity. Nevertheless, these towns itself are large population centres and have their own consumption and production centres which contribute to the traffic volumes on the Assets.

Toll Rates

2.32 The toll rates for single category are shown in the following table. The toll plazas have dedicated ETC/FASTag lanes for electronic tolling. Like the other National Highway plazas, the NH48 section has Single, Return, Local Commercial, Local Personal, Monthly, and Local Monthly tickets.

2.33 As the Assets are undergoing construction, as per the concession agreement, during the construction phase the Asset is tolled at 75% of the toll rates as applicable in FY18, with no further toll increases until construction completes. As of 15th August 2021, Chittorgarh – Gulabpura and Udaipur-Shamlaji have completed construction and subsequently toll rates have been increased on these Assets. Kishangarh Gulabpura is still operating at the toll rates applicable during construction phase.

Table 2.2: Single toll rates on the Asset (INR), applicable for remaining FY22**

Type of Vehicle	Khedi*	Lambiyan Kalan	Jojaro Ka Kheda	Khandi Obri
CJV	105	80	80	145
LCV	170	125	130	235
Bus/Truck	355	265	275	495
3A	385	285	300	540
MAV/ HCM/EME	555	415	430	775
OSV	675	505	520	940

Source: NHAI Revision of User fee Rate w.e.f 01.04.2021, *Assets currently tolling at 75% of FY18 toll rates. **The toll rates were revised in the middle of FY22 for CG and UG Asset.

Key economic activities

2.34 The Asset Highway, NH48 is the traditional Golden Quadrilateral connecting the key cities of Delhi (and North) to Ahmedabad, and Mumbai (West). Before the development of other corridors, it was the key connection for traffic to Bangalore and other key cities in South India. The region along the Delhi-Mumbai NH48 corridor is industrial hub of India and routes up to Mumbai has a cluster based industrial development (organised sector) around cities of Ahmedabad, Mumbai, Udaipur, Vadodara, Bharuch, Surat, Vapi, in addition to the port movements from Kandla, Mundra and JNPT ports. The Assets benefit from heavy industrial movement from industries along the corridor and in the vicinity.

Bhilwara[4]

2.35 Bhilwara is one of the 33 districts of Rajasthan. It was formed as a separate district in 1949 on merger of the princely State of Mewar and the Shahpura Thikana in the erstwhile United Rajasthan. Bhilwara is the industrial town. It is famous country wide for the textiles industry. Bhilwara district occupies and important place in the mineral map of Rajasthan. Bhilwara has emerged as India's largest manufacturer of fabrics. Also known as Textile City of India, it is a famous industrial town in Rajasthan. Bhilwara has developed as one of the largest textiles centre in Rajasthan State, producing cotton yarn, polyester/viscose blended yarn & fabrics, denim & other textile products. It is fully modernized weaving hub having about 18,000 looms. It is the largest P/V blended suiting manufacturing hub in the World.

2.36 Mining is another major sector in the region where large scale mining of sandstone, soap stone feldspar, quartz, mica, China clay and granite takes place. These minerals are extensively used in Ceramic manufacturing and are feeding into the demand generated by Morbi[5].

2.37 Hindustan Zinc Limited of Vedanta Group is the largest producer of Lead, Zinc and Silver in the Country. It's mines at Rampura Agucha in Bhilwara District is known to be the second largest Mine of Lead and Zinc in the World[6].

Chittorgarh

2.38 Chittorgarh, one of the major trip influencers on all three of the Assets, is home to four major cement plants and adds a considerable number of cement bulkers and trucks on the Assets. Chanderiya Lead-Zinc Smelter, one of the largest zinc-lead smelting complexes in the world, is also located in Chittorgarh.

2.39 Cement manufacturing/ mineral processing cluster of Nimbhera, a town in Chittorgarh area, has the presence of major players like Birla Cement Works, Aditya Cements Works, Wonder Cements, JK Cement etc. Nimbhera is the key cement producing cluster in Rajasthan.

Udaipur

2.40 Udaipur, the north end of the UG section, serves as a big tourism hub as well as a consumption centre whose demand introduces traffic on the Assets. Tourism, agriculture, and mineral industries contribute to Udaipur's diverse economic base. Udaipur sees major tourist footfall throughout the year. Udaipur district is rich in lead, zinc, silver, phosphate, calcite, copper, and limestone minerals. Hindustan Zinc, which is world's second largest zinc producer, is based out of Udaipur.

Tourism cluster and Other Key industrial Regions

2.41 Udaipur/ Kumbalgarh/ Chittorgarh circuit of leisure tourism in Rajasthan is weekend attraction and vacation destination for urban centers. Nathdwara in Rajasthan is a major religious tourism places in the vicinity of the Assets and attract pilgrims from all over the country. These circuits along with Indore and Udaipur as hubs, establish local and regional tourism circuit in

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[4] **http://dcmsme.gov.in/old/dips/DIPR_Bhilwara.pdf**

[5] **https://industries.rajasthan.gov.in/content/dam/industries/CI/pdf/2017-2018/IPS%20BHILWARA.pdf**

[6] **https://www.hzlindia.com/bussiness/operations/mines/rampura-agucha/**

the influence region. Rajasthan is a well-established tourism state for different segments of society and gets visitors from across the country.

2.42 Kishangarh, Rajsamand and Nathdwara, in the west of the KG and CG sections and in north of the UG section, is the hub of Marble extraction in the country. The extracted marble is then processed in Kishangarh. The district is known for its marble which is mined, processed, and is exported across the world.

3 Traffic description

Introduction

3.1 This chapter outlines the current traffic and revenues on the Asset, as well as our analysis of origin-destination (OD) data and traffic count data. This covers data which was collected as a part of this study as well as data provided by the Client.

3.2 Traffic demand data is generally collected and analysed to understand the volume and vehicle composition of demand currently using the Asset, while OD data is used to obtain a better understanding of travel patterns, trip lengths, trip purposes and areas of influence in the vicinity of the Asset, as well as the commodities being moved by goods vehicles. This analysis, combined with our understanding of the Asset (based on our site visits), enables us to identify the key drivers of demand on the Asset.

Actual toll plaza data is used as the basis from which the current/base year annual average daily traffic (AADT) is established. This data is typically provided by the Client and independently analysed and validated by us using traffic volume count (TVC) information.

Historical trends

Evolution of NH48 and development of alternate corridors (NH52 and NH44)

3.3 As discussed in detail in chapter 2, The Assets form part of the Delhi-Mumbai corridor of the GQ. The GQ was the first set of highways in India which were expanded to 4 lanes in the early 2000's. since then alternate networks have started to upgrade from a 2-lane section.

3.4 The Golden Quadrilateral (GQ) Corridor is currently ongoing 6-Laning with the Assets started 6 laning in FY18, NH52 (old NH3) between Delhi and Mumbai has recently finished 4 Laning in FY20, and NH44 (old NH7) between Delhi and Bangalore is currently under construction (2 to 4 laning) and under various stages of implementation.

3.5 The development of these alternate corridors has provided alternates to long distance traffic, which historically used to use the GQ to travel. The availability of alternates in addition to a few one-time network events have resulted in traffic shift between these corridors. Since the Assets lie on GQ, the long-distance good traffic has witnessed diversion to the alternate corridors. This is discussed in the section below:

Shift of heavy vehicles to NH52 (Old NH3)[7]

3.6 Up until 2014, NH48 was the preferred choice for 3A/MAV movement, as part of the Golden Quadrilateral with four/six-lane configuration. After the collapse of Narmada Bridge at Bharuch in 2015, there were major disruptions in traffic movement between Delhi and Mumbai. As a result, there was a shift in 3A/MAV movement when truckers started using the

[7] The Assets traffic history goes back to FY18. Therefore, the sections explain the diversions are based on the data available from another studies Steer has undertaken in the corridor.

alternate route by turning in to SH31 after Chittorgarh to reach Indore via SH31 and then reaching Mumbai via NH52. This movement is presented in the map below:

Figure 3.1: Delhi – Mumbai corridor, route choice options

Source: Steer Cartography

3.7 November 2018 is when Kundli-Manesar-Palwal (KMP) and Eastern Peripheral Expressway (EPE) opened for operations completely, there was a clear shift in traffic pattern as observed on both NH48 and NH52. Traffic originating north of Delhi and from around Delhi now had the option of taking the EPE or KMP use the NH2 road between Delhi and Agra and continue on NH52 to reach the locations of Indore, Dhule, Nashik and Mumbai. As of Sept FY20, NH52 was upgraded to 4 lane tolled road from end to end, which meant that a full alternate to NH48 was available for 3A/MAV trucks to travel between the Delhi-Mumbai route.

3.8 Analysing the Origin-Destination data from benchmark assets, in FY19, there were about 450 3A/MAV trucks on NH52 undertaking the Delhi-Mumbai movement and as of February 2021,

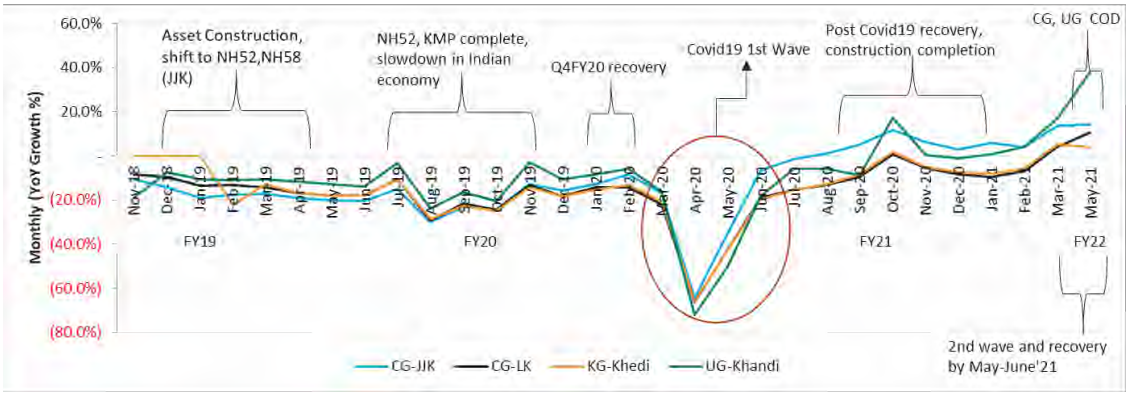
this number has now increased to about 1100 trucks[8]. This shift in traffic pattern was corroborated with drop in traffic volumes observed on NH48 with a corresponding gain on NH52. This change in movement clearly validates that a significant proportion of 3A/MAV traffic between Delhi-Mumbai has now shifted to NH52 from the NH48 route.

Evolution of 3A+MAV traffic on the Assets

3.9 To validate the shifts in traffic and evaluate the historical evolution of the long distance 3A+MAV traffic on the Assets, the 3A and MAV category has been combined for each of the toll plazas. Subsequently a yearly month on month variation has been calculated to see the evolution of traffic growth for this vehicle type.

3.10 The below figure presents the Historical monthly variation over preceding year for 3A-MAV traffic on all four toll plazas of the Asset and key events co-relating the traffic trends:

Figure 3.2: year on Year, MADT growth (%), 3A+MAV traffic on each toll plaza



Source: Steer analysis of toll plaza data, KG data available from Feb-2018, Apr-21 shows >100% jumps compared to Apr-20 hence not included in graph, KMP: Kundli Manesar Palwal expressway (western loop around Delhi)

3.11 NH52 corridor was getting completed (expansion to 4 lanes) in parts starting 2018. One of the last sections to complete on NH52 (Biora Dewas) was completed in September 2019[9]. As we can see from the figure above, the loss of 3A+MAV traffic towards NH52 is visible FY19 onwards, this is the same time when construction on the Assets entered its 2nd year. Corresponding gain in traffic is visible on the NH52 corridor[10], confirmed by Steer studies on the NH52 corridor. The shifts to the NH52 corridor peaked during FY20, and by the end of FY20 most of the shift between NH48 and NH52 corridor already happened.

3.12 As discussed earlier the Indian economy also saw a period of prolonged slowdown for 5 quarters starting FY19 upto Q3FY20, with the economy in Q4FY20 starting to show signs of recovery. However, by March 2020, the Covid19 related lockdowns starting to affect traffic volumes significantly.

3.13 Post lockdowns the economy started opening of economy by Q2FY21, coupled with construction nearing completion on the Assets, the traffic growth started to return to Assets CG and UG the toll plazas and trending in positive category by Q3/Q4 FY21. The lag in Asset KG

[8] Based on Steer benchmark studies

[9] https://www.orientalindia.com/projects/biaora-dewas-nh-3.html

[10] Based on the benchmark studies undertaken by Steer on the NH52 and the SH31/SH17 network

traffic growth can be related to the lag in construction completion on the Asset, however despite the impact of the 2nd wave of Covid19, traffic growth is trending in the positive category for all plazas in Q1FY22 vs Q1FY21 (month on month).

3.14 Completion of construction on the UG and CG Assets has resulted in a large proportion of traffic that shifted away to the Bhilwara-Rajsamand-Nathdwara-Udaipur (NH58) section to return to the Asset, with corresponding drops witnessed on those corridors[11]. This is evident from the 3A-MAV traffic increasing on the TP3: JJK starting Q2FY21.

3.15 In summary, construction completion on the Asset, coupled with sustained economic recovery has resulted in the 3A-MAV traffic growth on the Asset returning to the positive category starting Q2FY21, after a period of sustained loss to alternate corridors. Improved level of service resulted in an increase in some of local traffic on the Assets, and a regain of traffic lost due to construction to local alternates.

3.16 The historical traffic profile for individual Assets is discussed below.

Kishangarh - Gulabpura

3.17 The following tables and figures indicate the historical variation in traffic volume at TP1: Khedi toll plaza, in terms of vehicle shares and total AADT and PCU.

Table 3.1: Historical evolution in transactions by vehicle class: KG - Khedi

Vehicle Type	FY18	FY19	FY20	FY21	CAGR FY18-20	CAGR FY20-21	CAGR FY18-21
CJV	2,555	2,749	3,046	3,454	9.2%	13.4%	10.6%
LCV	1,874	1,702	1,208	878	(19.7%)	(27.4%)	(22.3%)
Bus	370	401	389	266	2.5%	(31.7%)	(10.5%)
2A	1,587	1,449	1,550	1,321	(1.2%)	(14.8%)	(5.9%)
3A	3,222	2,729	2,132	1,658	(18.7%)	(22.2%)	(19.9%)
MAV	6,030	5,520	4,584	4,149	(12.8%)	(9.5%)	(11.7%)
OSV	41	30	20	17	(29.7%)	(14.1%)	(24.9%)
Total	15,680	14,580	12,930	11,743	(9.2%)	(9.2%)	(9.2%)
PCU	48,226	44,016	37,790	33,253	(11.5%)	(12.0%)	(11.7%)

Source: Steer analysis of the Client TMS data, FY21 Actuals are presented

3.18 CJV traffic has seen a healthy growth profile over the years with a CAGR of over 10%. While car ownership is slowly increasing in the region and in India (discussed in chapter 4), part of this growth has also been achieved due to the preference for personal mobility post Covid19, and the non-resumption of bus and train networks across the country. Goods vehicles have witnessed a negative growth profile primarily because of the local and long-distance diversion to alternate roads. Impact of diversions, construction on Asset, and Covid19 related disruption in the economy led to a decline in the PCU levels with a negative CAGR of 11.7%.

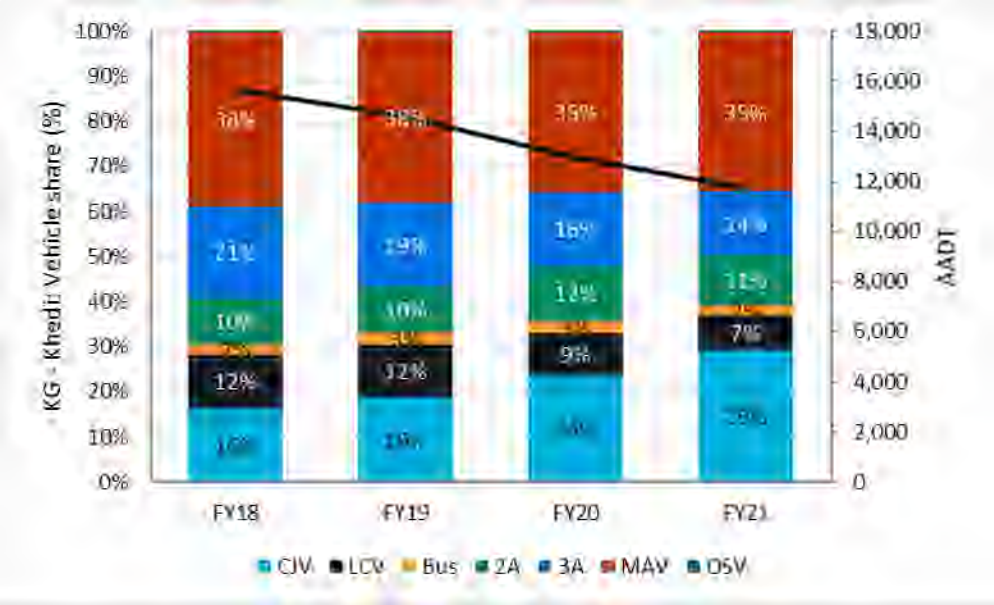
3.19 Due to Covid19 the bus networks have still not come back to pre-Covid19 levels, once the impact of Covid19 related restrictions reduce it is expected that the Bus volumes will return to the levels seen in FY19 and more.

3.20 The LCV- 2A category has historically been affected by classification issues because of similar size and look of the vehicle. In the recent years the preference of 2A trucks is increasing as

[11] Based on Steer benchmark studies on the NH752 and NH58 corridor

well. This has resulted in the recent years for traffic numbers to show more 2A's than LCV. That is why the overall drop in 2A category is of the order of 6%, whereas LCV's have seen 22% drop.

Figure 3.3 Vehicle share (%): KG - Khedi



Source: Steer analysis of Client data

3.21 Similar trend in vehicle shares have been observed, with the share of CJV's increasing as the truck volumes dropped on the Asset, personal mobility preference due to Covid19 resulted in increased CJV volumes. There is also a drop in LCV shares to 7% from 12%, whereas 2A trucks have maintained their shares, even with dropping traffic volumes.

Table 3.2: Historical revenue evolution by class (in INR crores): KG: Khedi

Vehicle Class	FY19	FY20	FY21	CAGR FY19-20
CJV	6	6	7	2.3%
LCV	7	5	4	(27.7%)
Bus	3	3	2	(10.5%)
2A	13	14	11	3.6%
3A	27	21	16	(23.3%)
MAV	77	62	54	(18.8%)
OSV	0	0	0	(13.0%)
Total	**134**	**112**	**94**	**(16.8%)**

Source: Steer analysis of the Client data, FY18 was a partial year hence revenue not presented

3.22 The Asset is currently operating on 75% of FY18 toll rates, and subsequently there has been no toll increased on the Asset. This is as per the concession agreement, which allows for toll rates to increase only after the construction on the Asset is complete. With drop in truck volumes and no toll increases, the Asset has seen a steady decline on revenue collection over the last three years. Once the Asset completes construction, expected by 31st Dec'21, the toll rates are

expected to increase by up to 55% from existing levels to arrive at a FY22 toll rates, which will result in an increase revenue realisation from the Asset.

Gulabpura - Chittorgarh

3.23 The following tables and figures indicate the historical variation in traffic volume at TP2: Lambiyan Kalan toll plaza, in terms of vehicle shares and total AADT and PCU.

Table 3.3: Historical evolution in transactions by vehicle class: CG TP2: Lambiyan Kalan

Vehicle Type	FY18	FY19	FY20	FY21	CAGR FY18-20	CAGR FY20-21	CAGR FY18-21
CJV	3,044	3,396	3,585	4,009	8.5%	11.8%	9.6%
LCV	1,945	1,848	1,338	1,012	(17.1%)	(24.4%)	(19.6%)
Bus	429	456	452	300	2.6%	(33.7%)	(11.3%)
2A	1,551	1,516	1,617	1,393	2.1%	(13.8%)	(3.5%)
3A	3,226	2,773	2,187	1,692	(17.7%)	(22.6%)	(19.4%)
MAV	6,005	5,664	4,690	4,221	(11.6%)	(10.0%)	(11.1%)
OSV	37	25	21	16	(23.9%)	(27.5%)	(25.1%)
Total	16,238	15,679	13,890	12,643	**(7.5%)**	**(9.0%)**	**(8.0%)**
PCU	48,773	46,006	39,560	34,745	**(9.9%)**	**(12.2%)**	**(10.7%)**

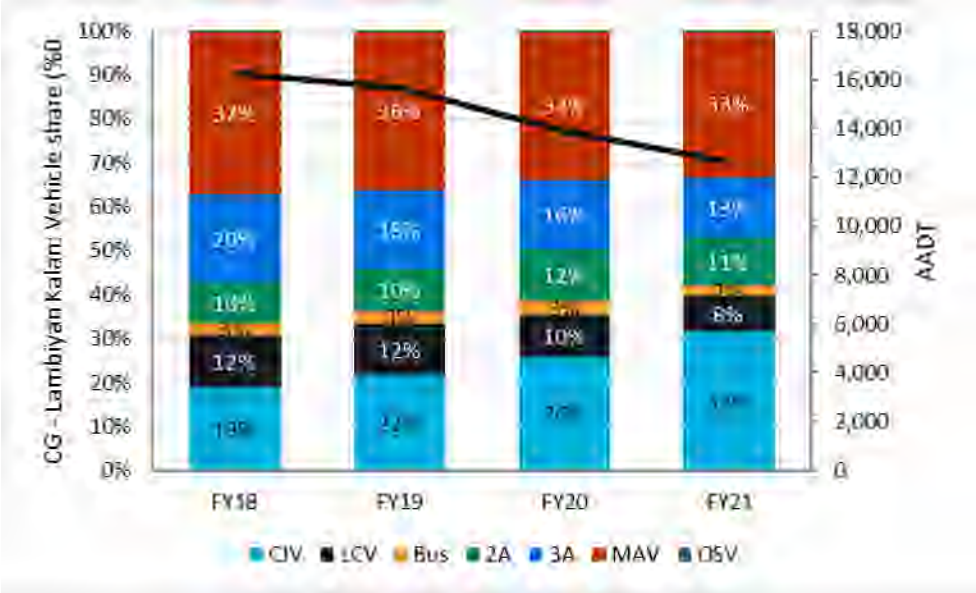
Source: Steer analysis of the Client data

3.24 CJV traffic has seen a healthy growth profile over the years with a CAGR of around 10%. While car ownership is slowly increasing in the region and in India (discussed in chapter 4), part of this growth has also been achieved due to the preference for personal mobility post Covid19, and the non-resumption of bus and train networks across the country. Goods vehicles have seen a negative growth profile primarily because of the local and long-distance diversion to alternate roads. Impact of diversions, construction on Asset, and Covid19 related disruption in the economy led to a decline in the PCU levels with a negative CAGR of 10.7%.

3.25 Due to Covid19 the bus networks have still not come back to pre-Covid19 levels, once the impact of Covid19 related restrictions reduce it is expected that the Bus volumes will return to the levels seen in FY19 and more.

3.26 The LCV- 2A category has historically been affected by classification issues because of similar size and look of the vehicle. In the recent years the preference of 2A trucks is increasing as well. This has resulted in the recent years for traffic numbers to show more 2A's than LCV. That's why the overall drop in 2A category is 3.5%, whereas LCV's have seen 20% drop.

Figure 3.4: Vehicle share (%): CG: Lambiyan Kalan



Source: Steer analysis of Client data

3.27 Similar trend in vehicle shares have been observed, with the share of CJV's increasing as the truck volumes dropped on the Asset, personal mobility preference due to Covid19 resulted in increased CJV volumes. There is also a drop in LCV shares to 7% from 12%, whereas 2A trucks have maintained their shares, even with dropping traffic volumes.

3.28 The following tables and figures indicate the historical variation in traffic volume at TP3: JJK toll plaza, in terms of vehicle shares and total AADT and PCU

Table 3.4: Historical evolution in transactions by vehicle class: GC – Jojaro Ka Kheda

Vehicle Type	FY18	FY19	FY20	FY21	CAGR FY18-20	CAGR FY20-21	CAGR FY18-21
CJV	2,476	2,912	3,618	3,972	20.9%	9.8%	17.1%
LCV	1,528	1,500	1,178	960	(12.2%)	(18.5%)	(14.4%)
Bus	375	404	428	278	6.8%	(35.1%)	(9.6%)
2A	1,344	1,253	1,310	1,239	(1.3%)	(5.4%)	(2.7%)
3A	2,769	2,273	1,765	1,581	(20.2%)	(10.4%)	(17.0%)
MAV	6,017	5,482	4,559	4,604	(13.0%)	1.0%	(8.5%)
OSV	44	25	20	18	(33.1%)	(6.3%)	(25.2%)
Total	**14,553**	**13,849**	**12,878**	**12,652**	**(5.9%)**	**(1.8%)**	**(4.6%)**
PCU	**45,505**	**41,734**	**36,499**	**35,506**	**(10.4%)**	**(2.7%)**	**(7.9%)**

Source: Steer analysis of the Client data

3.29 CJV traffic has seen a healthy growth profile over the years with a CAGR of around 17%, the higher growth can be attributed to the movements between Bhilwara, Chittorgarh and Udaipur areas. Goods vehicles have seen a negative growth profile primarily because of the local and long-distance diversion to alternate roads. MAV traffic has seen a small growth in FY20-21 despite Covid19 related traffic disruptions due to an increase in traffic between the Bhilwara and Udaipur/Gujarat (Vadodara, Morbi, port movements), and gain from the Bhilwara-Rajsamand (traffic lost due to construction on NH48) Asset. These factors have

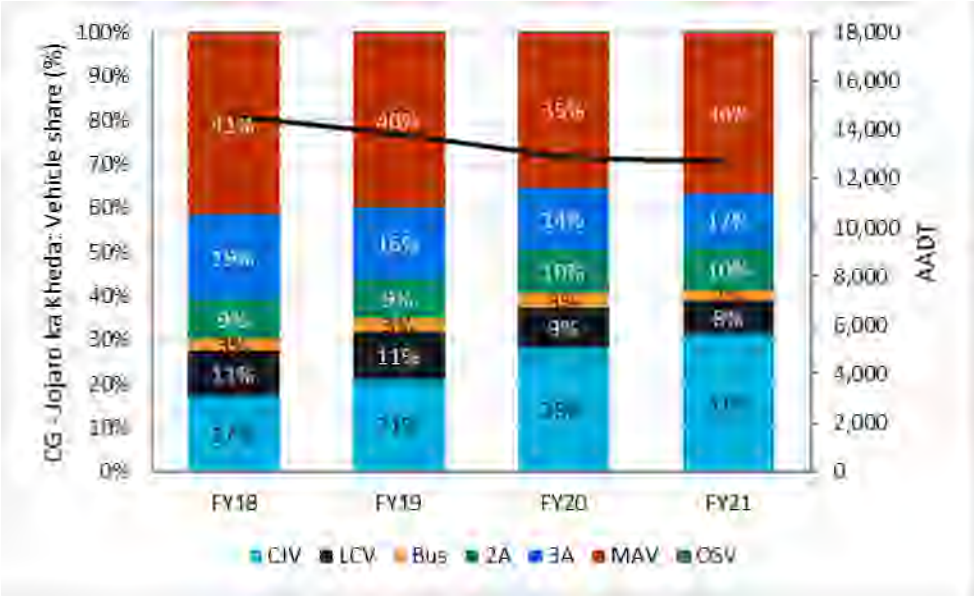
positively influenced the MAV traffic profile on the toll plaza and sustained these traffic volumes in FY22 as well (discussed in later sections).

3.30 However, the overall impact of diversions, construction on Asset, and Covid19 related disruption in the economy led to a decline in the PCU levels with a negative CAGR of 7.9%, which is less than both Khedi and Lambiyan Kalan toll plazas.

3.31 Due to Covid19 the bus networks have still not come back to pre-Covid19 levels, once the impact of Covid19 related restrictions reduce it is expected that the Bus volumes will return to the levels seen in FY19 and more.

3.32 The LCV- 2A category has historically been affected by classification issues because of similar size and look of the vehicle. In the recent years the preference of 2A trucks is increasing as well. This has resulted in the recent years for traffic numbers to show more 2A's than LCV. That is why the overall drop in 2A category is of the order of 2.7%, whereas LCV's have seen 14.4% drop.

Figure 3.5 Vehicle share (%): CG – Jojaro Ka Kheda



Source: Steer analysis of Client data

3.33 Similar trend in vehicle shares have been observed, with the share of CJV's increasing as the truck volumes dropped on the Asset, personal mobility preference due to Covid19 resulted in increased CJV volumes. There is also a drop in LCV shares to 8% from 11%, whereas 2A trucks have maintained their shares, even with dropping traffic volumes.

3.34 The table below presents the revenue collection on the CG Asset. The Asset was operating on 75% of FY18 toll rates up until 15th August 2021 when COD has been achieved and toll rates have increased. So up until FY21 there was no toll increases on the Asset. This is as per the concession agreement, which allows for toll rates to increase only after the construction on the Asset is complete. With drop in truck volumes and no toll increases, the Asset has seen a steady decline on revenue collection over the last three years.

Table 3.5: Historical revenue evolution by class (in INR crores): CG

Vehicle Class	FY19	FY20	FY21	GR FY19-20
CJV	10	11	12	10.0%
LCV	11	8	6	(27.6%)
Bus	5	5	3	(2.3%)
2A	18	19	16	0.9%
3A	36	27	21	(26.8%)
MAV	116	90	82	(22.2%)
OSV	1	1	0	(21.2%)
Total	**197**	**159**	**140**	**(19.1%)**

Source: Steer analysis of the Client data

Udaipur – Gujarat Border

3.35 The following tables and figures indicate the historical variation in traffic volume at TP4: Khandi Obri toll plaza, in terms of vehicle shares and total AADT and PCU.

Table 3.6: Historical evolution in transactions by vehicle class: UG – Khandi Obri

Vehicle Type	FY18	FY19	FY20	FY21	CAGR FY18-20	CAGR FY20-21	CAGR FY18-21
CJV	3,712	4,130	4,359	4,134	8.4%	(5.2%)	3.7%
LCV	1,275	1,296	960	775	(13.2%)	(19.2%)	(15.3%)
Bus	769	782	844	497	4.8%	(41.1%)	(13.5%)
2A	1,076	1,113	1,469	1,470	16.9%	0.1%	11.0%
3A	2,304	2,054	1,836	1,625	(10.7%)	(11.5%)	(11.0%)
MAV	4,560	4,346	3,777	3,543	(9.0%)	(6.2%)	(8.1%)
OSV	11	6	9	8	(7.6%)	(6.3%)	(7.2%)
Total	**13,707**	**13,727**	**13,253**	**12,053**	**(1.7%)**	**(9.1%)**	**(4.2%)**
PCU	**38,639**	**37,505**	**35,281**	**32,056**	**(4.4%)**	**(9.1%)**	**(6.0%)**

Source: Steer analysis of the Client data

3.36 CJV traffic has seen a reasonable growth profile over the years with a CAGR of around 4%. Lockdowns in Udaipur and impact of tourism centre closures have resulted in a low growth in this category on the Asset. Goods vehicles have seen a negative growth profile primarily because of the local and long-distance diversion to alternate roads. Impact of diversions, construction on Asset, and Covid19 related disruption in the economy led to a decline in the PCU levels with a negative CAGR of 6%.

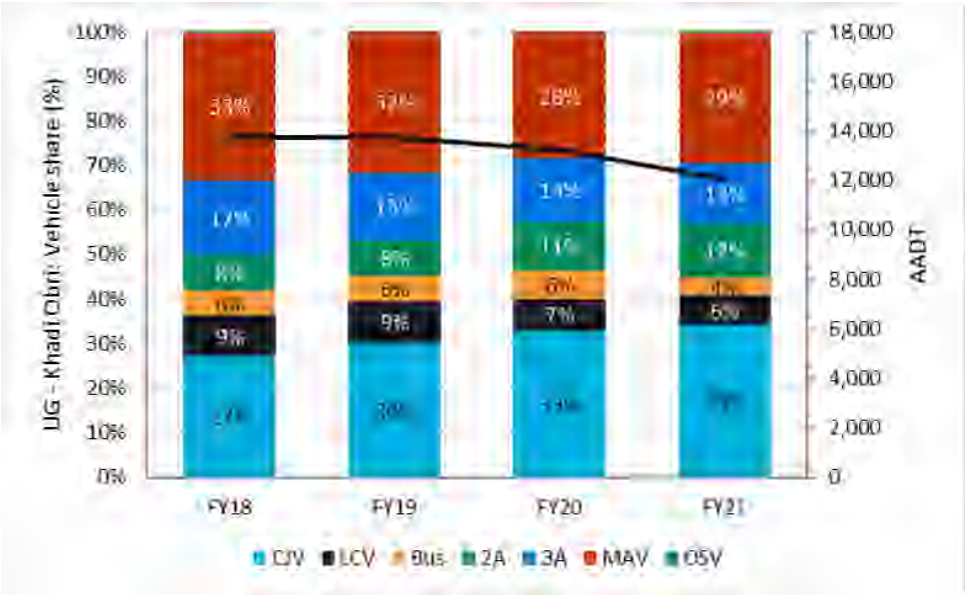
3.37 This drop in PCU levels in much lower in the case of this Asset since the shift to NH52 corridor was predominantly impacting the CG and KG Assets, as traffic up-to Indore was using those Assets and exit to Indore via Chittorgarh taking the SH31/SH17 section. The shift of traffic for Mumbai and southern states has impacted traffic volumes on this Asset.

3.38 Due to Covid19 the bus networks have still not come back to pre-Covid19 levels, once the impact of Covid19 related restrictions reduce it is expected that the Bus volumes will return to the levels seen in FY19 and more.

3.39 The LCV- 2A category has historically been affected by classification issues because of similar size and look of the vehicle. In the recent years the preference of 2A trucks is increasing as well. This has resulted in the recent years for traffic numbers to show more 2A's than LCV. That is why in 2A category an overall growth has been seen of up to 11%, whereas LCV's have seen 15% drop. We believe this is mostly because of classification issues and the reporting of these categories by the toll plaza.

3.40 In terms of vehicle shares, as we can see in the figure below, Similar trend in vehicle shares have been observed, with the share of CJV's increasing as the truck volumes dropped on the Asset, personal mobility preference due to Covid19 resulted in increased CJV volumes but the share gain is not as high as seen on other toll plazas. There is also a drop in LCV shares to 6% from 9%, whereas 2A trucks have increased its shares which is a deviation from the trend observed on other toll plazas.

Figure 3.6 Vehicle share (%): UG – Khandi Obri



Source: Steer analysis of Client data

3.41 The table below presents the revenue collection on the UG Asset. The Asset was operating on 75% of FY18 toll rates up until 31st May 2021 when COD has been achieved and toll rates have increased. So up until FY21 there was no toll increases on the Asset. This is as per the concession agreement, which allows for toll rates to increase only after the construction on the Asset is complete. With drop in truck volumes and no toll increases, the Asset has seen a steady decline on revenue collection over the last three years. However, as discussed, the drop in collection is not as significant as it was for the other toll plazas since the Asset has not lost a higher proportion of goods traffic to diversions as was the case on other toll plazas.

Table 3.7: Historical revenue evolution by class (in INR crores): UG TP4: Khandi Obri

Vehicle Class	FY19	FY20	FY21	CAGR FY19-20
CJV	12	12	12	(0.8%)
LCV	7	5	4	(28.3%)
Bus	8	8	5	(0.0%)
2A	13	17	16	30.0%

Vehicle Class	FY19	FY20	FY21	CAGR FY19-20
3A	26	23	19	(11.8%)
MAV	80	69	61	(14.4%)
OSV	0	0	0	57.2%
Total	**145**	**133**	**118**	**(8.7%)**

Source: Steer analysis of the Client data

Impact of Covid19 on traffic and subsequent recovery of traffic volumes

3.42 On 24th March 2020, the Central government announced a nationwide 25-days lockdown which was extended for another three weeks until May 3. As previously mentioned, all toll operations were suspended from 26th March – 19th April 2020. Further extensions until May 17 and again until May 31 featured relaxations in 'green' and 'orange' zones. Starting 8 June 2020, 'Unlock' phases began. States have also taken their own measures, with Central guidelines being the minimum expected restrictions from States.

3.43 In direct relation to these 'Lockdown' and 'Unlock' phases, traffic on roads across the country dropped significantly in the last week of March 2020 continuing into April and May 2020. While traffic for MAVs had a quick recovery in June back to FY20 AADT levels, the other vehicle classes have seen longer recovery trends. However, as we can see Q3 and Q4FY21 levels have been higher as compared to FY20, a pattern that has been witnessed on other Assets as well. The onset of the second wave of Covid19 infections has impacted traffic in April and May 2021 as compared to FY21N. Where CJV's have seen larger impacts as compared to 3A+ MAV traffic.

3.44 Traffic profile of KG Asset is discussed below:

Table 3.8: KG: Khedi Toll plaza, Traffic evolution during FY20, FY21

	FY20	Q1FY21	Q2FY21	Q3FY21	Q4FY21	FY21	Apr-21	May-21
CJV	3,046	1,688	3,258	3,891	4,356	3,454	3,156	1,585
LCV	1,208	822	1,070	1,019	534	878	417	289
Bus	389	71	241	353	350	266	275	69
2A	1,550	831	1,357	1,432	1,507	1,321	1,371	1,009
3A	2,132	1,099	1,641	1,858	1,844	1,658	1,534	1,128
MAV	4,584	2,928	4,115	4,504	4,556	4,149	4,052	3,087
Total	**12,910**	**7,438**	**11,682**	**13,058**	**13,147**	**11,725**	10,805	7,168
PCU	**37,699**	**22,099**	**33,098**	**36,618**	**36,764**	**33,175**	31,556	22,532

Source: Steer Analysis

3.45 As we can see from the table above, by Q4FY21 the Asset reached the FY20 traffic levels, with the full FY21 being impacted by Covid19 related restrictions in Q1FY21. The impact of 2nd wave of Covid19 is evident in April and May 2021, with a much larger impact on passenger vehicles (CJV, Buses) as compared to goods traffic.

3.46 Traffic profile for CG, TP2: Lambiyan Kalan is discussed below:

Table 3.9: CG: Lambiyan Kalan Toll plaza, Traffic evolution during FY20, FY21

	FY20	Q1FY21	Q2FY21	Q3FY21	Q4FY21	FY21	Apr-21	May-21
CJV	3,585	1,958	3,793	4,552	5,102	4,009	4,003	2,172
LCV	1,338	834	1,229	1,150	773	1,012	545	393
Bus	452	84	268	394	400	300	330	95
2A	1,617	858	1,421	1,513	1,570	1,393	1,470	1,086
3A	2,187	1,092	1,665	1,870	1,963	1,692	1,619	1,202
MAV	4,690	3,024	4,186	4,565	4,528	4,221	4,277	3,384
Total	**13,868**	**7,850**	**12,562**	**14,044**	**14,336**	**12,627**	**12,244**	**8,331**
PCU	**39,464**	**22,918**	**34,533**	**38,151**	**38,435**	**34,676**	**34,323**	**25,136**

Source: Steer Analysis

3.47 As we can see from the table above, by Q4FY21 the Asset reached the FY20 traffic levels, with the full FY21 being impacted by Covid19 related restrictions in Q1FY21. The impact of 2nd wave of Covid19 is evident in April and May 2021, with a much larger impact on passenger vehicles (CJV, Buses) as compared to goods traffic.

3.48 Traffic profile for CG, TP3: Jojaro Ka Kheda is discussed below:

Table 3.10: CG: Jojaro Ka Kheda Toll plaza, Traffic evolution during FY20, FY21

	FY20	Q1FY21	Q2FY21	Q3FY21	Q4FY21	FY21	Apr-21	May-21
CJV	3,618	1,750	3,711	4,714	5,183	3,972	3,598	1,759
LCV	1,178	695	1,158	1,079	819	960	585	381
Bus	428	82	248	361	380	278	289	74
2A	1,310	771	1,247	1,340	1,418	1,239	1,319	958
3A	1,765	1,061	1,553	1,728	1,833	1,581	1,503	1,178
MAV	4,559	3,188	4,533	4,920	5,137	4,604	4,674	3,731
Total	**12,858**	**7,547**	**12,450**	**14,143**	**14,769**	**12,633**	**11,969**	**8,082**
PCU	**36,410**	**22,880**	**34,990**	**38,762**	**40,418**	**35,423**	**34,845**	**25,751**

Source: Steer Analysis

3.49 As we can see from the table above, by Q2FY21 the Asset reached the FY20 PCU levels and surpassed the PCU levels significantly by Q4FY21, with the full FY21 being impacted by Covid19 related restrictions in Q1FY21. Overall FY21 was only lower by 1,000 PCU's than FY20. This increase in truck volumes as seen in Q4FY21 can be correlated with the increased movements between Bhilwara and Chittorgarh, Udaipur, Morbi, Kandla and Mundra port movement and south of Udaipur and gain of the traffic lost during the construction period to local alternate NH752 (Bhilwara-Rajsamand-Nathdwara-Udaipur). The impact of 2nd wave of Covid19 is evident in April and May 2021, with a much larger impact on passenger vehicles (CJV, Buses) as compared to goods traffic.

3.50 Traffic profile for UG, TP4: Khandi Obri is discussed below:

Table 3.11: UG: Khandi Obri Toll plaza, Traffic evolution during FY20, FY21

	FY20	Q1FY21	Q2FY21	Q3FY21	Q4FY21	FY21	Apr-21	May-21
CJV	4,359	1,842	3,687	5,133	5,531	4,134	3,275	2,144
LCV	960	616	834	875	726	775	510	377
Bus	844	150	451	631	672	497	555	164
2A	1,469	823	1,505	1,595	1,727	1,470	1,485	1,106
3A	1,836	969	1,570	1,786	1,933	1,625	1,670	1,180
MAV	3,777	2,169	3,380	3,970	4,182	3,543	3,631	2,950
Total	**13,244**	**6,569**	**11,427**	**13,991**	**14,771**	**12,045**	**11,127**	**7,921**
PCU	**35,240**	**18,351**	**30,725**	**36,349**	**38,436**	**32,018**	**31,512**	**23,335**

Source: Steer Analysis

3.51 As we can see from the table above, by Q3FY21 the Asset reached the FY20 PCU levels and surpassed the PCU levels significantly by Q4FY21, with the full FY21 being impacted by Covid19 related restrictions in Q1FY21, with the full FY21 being impacted by Covid19 related restrictions in Q1FY21. The impact of 2nd wave of Covid19 is evident in April and May 2021, with a much larger impact on passenger vehicles (CJV, Buses) as compared to goods traffic.

Toll Frequencies

3.52 Toll frequency or segmentation is typically the share of each ticket category recorded for a particular vehicle type. Each vehicle category has different segmentation. As a part of historical analysis, we calculate the toll frequency for each vehicle category from the monthly data shared by the client. The most common ticket categories observed on a typical National Highway concession are: Single, Return, Monthly, Local and Exempt. Given the local nature of traffic, some assets offer custom made local passes to attract the local commuters to opt for these category passes instead of evading toll. Brief description of different ticket-types is given in table below.

3.53 Understanding the toll frequency gives insights into the nature of traffic. CJVs generally have higher shares of return passes or monthly passes, while heavy trucks mostly have single tickets since they travel long distance. However, this varies from asset to asset or even toll plaza to toll plaza. The asset catering to short distance local traffic generally observes high share of return or other local monthly passes while the asset catering to strategic long-distance traffic generally observes high share of single ticket traffic.

3.54 The following are the types of tickets being sold at the plazas of the Asset.

Table 3.12: Typical ticket types sold at NHAI plazas

Category	Description
Single	Allows the vehicle to cross the toll plaza once
Return	Daily pass for crossing the toll plaza multiple times within 24 hours. Charged 1.5 times the single toll
Monthly	Monthly pass
Local Personal	Discounted monthly pass only for private cars of residents within 20km radius of toll plaza

Category	Description
Local Commercial	50% discount on single trips for commercial vehicles registered in the local district
Exemptions	Officially exempted vehicles like ambulance, police cars, key political personnel etc.

3.55 In addition to the above ticket categories, a special category pass of "Local Monthly" is also being sold on the Asset. This pass has been issued by the toll plazas individually and the toll plaza is deciding on the toll for such special passes.

FASTag implementation

3.56 Government of India has introduced (and more recently, mandated) Electronic Toll Collection (ETC) across National Highways in India, collected via "FASTag". The timeline of ETC implementation is presented in the following table.

Table 3.13: Timeline of national ETC implementation

Date	ETC Development
2014	FASTag system set up as a pilot on the Ahmedabad to Mumbai stretch of the Golden Quadrilateral, in November 2014 it was also implemented on the Delhi to Mumbai stretch of the Quadrilateral.
December 2019	FASTag is made mandatory on all National Highways with only one lane on either side keep as a Cash lane, cash users entering ETC lanes were charged double the toll.
February 2021	FASTag is made mandatory for all vehicles at every toll plaza in the country starting 15th Feb 2021

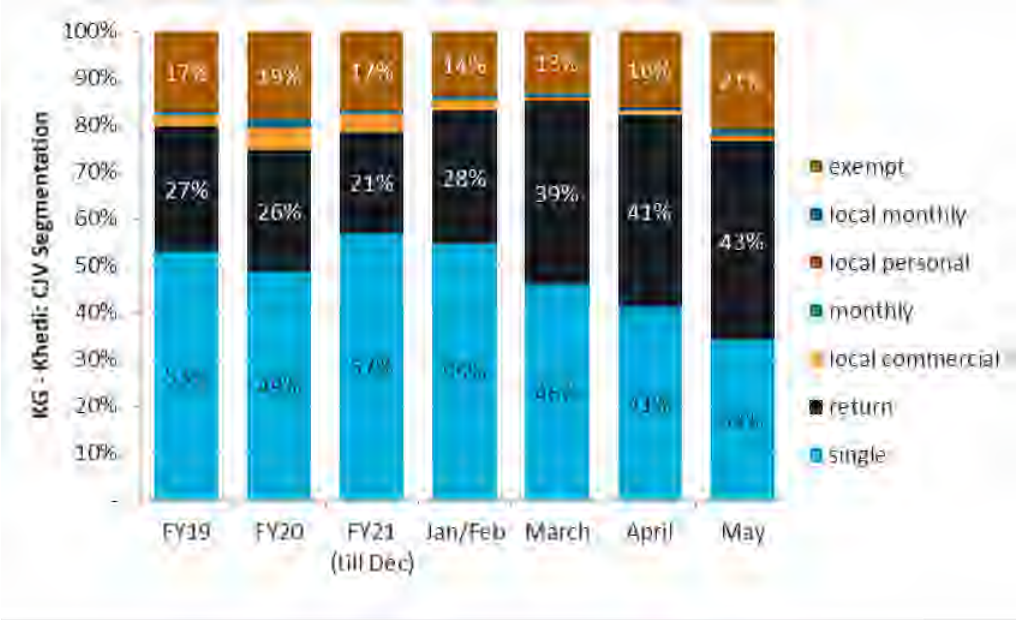
Source: NHAI.gov.in and Wikipedia

3.57 Generally, over the period the shares of single/return/monthly tickets tend to stabilise within 2-3 years of asset operations. Only in the cases where trip patterns are expected to change significantly due to urban expansion is where we expect these shares to change over the period or due to some external events impacting the trip patterns. During the last one year, two key events impacted the traffic patterns throughout the country: Covid19 and FASTag implementation.

3.58 With the FASTag implementation in December 2020, it was ensured that only FASTag users benefited from discounted tickets such as return/monthly and cash users were only allowed to buy single tickets, thus leading to a drastic increase in single ticket users. However, with the increase in proportion in transaction via FASTag, it was observed that traffic patterns have begun to return to their initial segmentation.

3.59 The toll frequencies for CJV and MAV's for each toll plaza is presented in the section below. CJV toll segmentation for Khedi toll plaza is discussed in the following figure and paragraph.

Figure 3.7 CJV toll segmentation: KG - Khedi



Source: Steer analysis of Client data

3.60 The single tickets increased form 49% in FY20 to 57% during FY21 (up to Dec), while the FASTag penetration still lower, however by March 2021 the return shares started to mimic the FY20 travel patterns. This shift can be attributed to gradual implementation of FASTag norms from 2019. The FASTag implementation ensured that only valid users benefited from discounts for return trips undertaken in 24 hours. Only single tickets were sold against cash payments thereby forcing non-FASTag users to buy only single tickets.

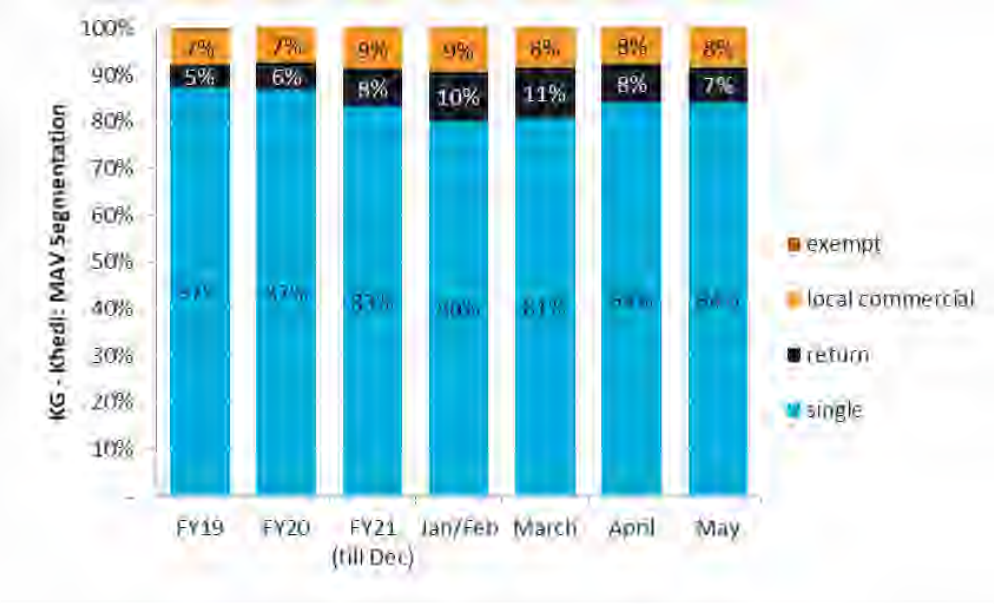
3.61 As FASTag implementation was mandated in February FY21, the CJV vehicles had no other option than buying single tickets in order to use the Asset. March FY21 onwards single trips have decease with subsequent increase in return trips with increase FASTag compliance.

3.62 The CJVs have seen almost 13% traffic contributing to exemptions in March 2021. This is primarily due to the ongoing construction activity on the asset and the resistance of local users to pay tolls due to reduced LOS because of the construction activity.

3.63 CJV exemptions grew from 13% to 21% from FY21 to May which can be attributed to the fact that the Asset saw a drop in long-distance traffic because of Covid19 related lockdowns and hence mostly local traffic was plying on the Asset. Generally, the local movement results in multiple CJV trips though the plaza. Hence, the level of exemptions is influenced by local factors and got increased with increase in the share of local traffic on the Asset.

3.64 Once traffic returns to normal levels and Covid19 related restrictions are lifted and increasing penetration of FASTag the travel patterns are expected to return to the March 2021 levels.

Figure 3.8 MAV toll segmentation: KG - Khedi

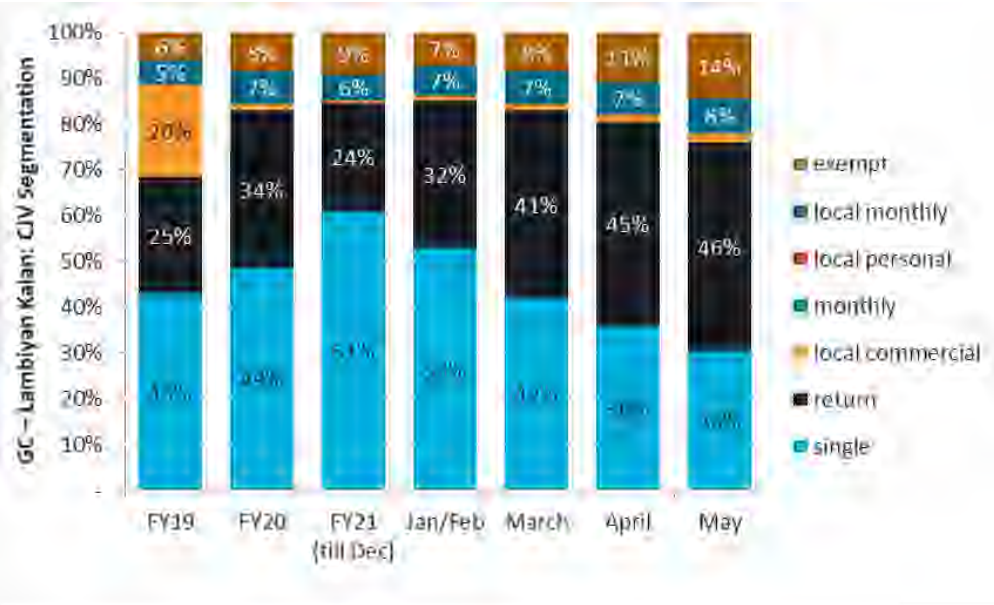


Source: Steer analysis of Client data

3.65 MAVs are observed to have high share of single tickets which is aligned to observation of MAVs doing medium to Long distance trips on the asset. There are exemptions reported in MAVs of up to 8% mainly related to local users who are making short distance trips and unwilling to pay tolls due to the ongoing construction on the Asset.

3.66 The CJV and MAV segmentation for the two toll plazas for the CG Asset are presented below. For CJV's both toll plazas are reporting >10% exemptions. As discussed as the Asset has been under construction, there is resistance from local users to pay toll, however, in general on many other Assets with similar inter-urban and local movements CJV's do exhibit an exemptions percentage within that range.

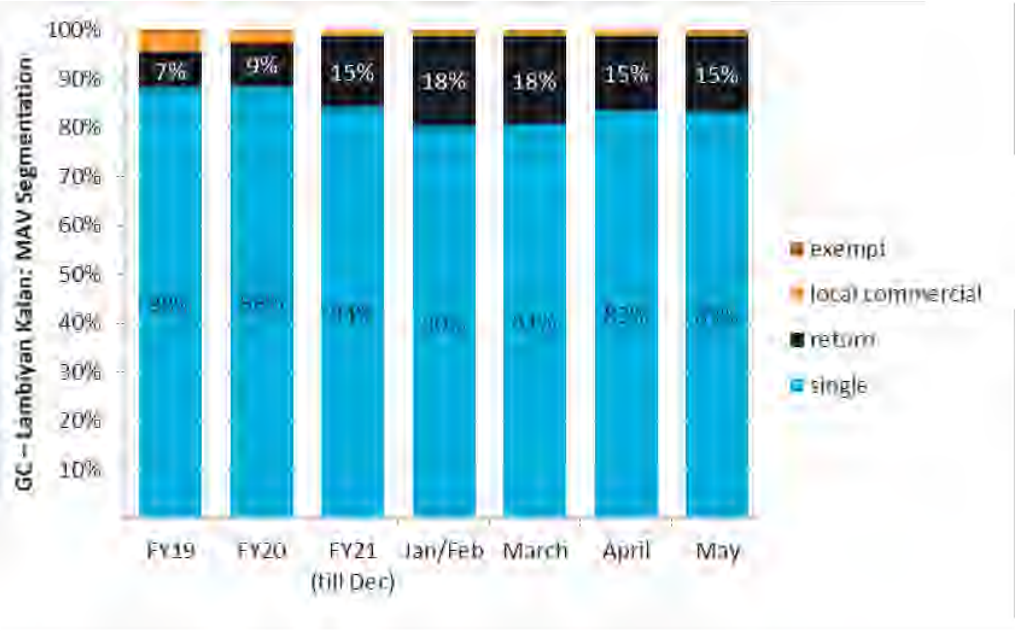
Figure 3.9 CJV toll segmentation: GC – Lambiyan Kalan



Source: Steer analysis of Client data

3.67 It is expected that once the Asset completes construction and strict tolling is implemented the level of exemptions will come down, however they will most likely get allocated within the local pass category thereby improving the overall compliance levels, but not contributing to the revenue generation.

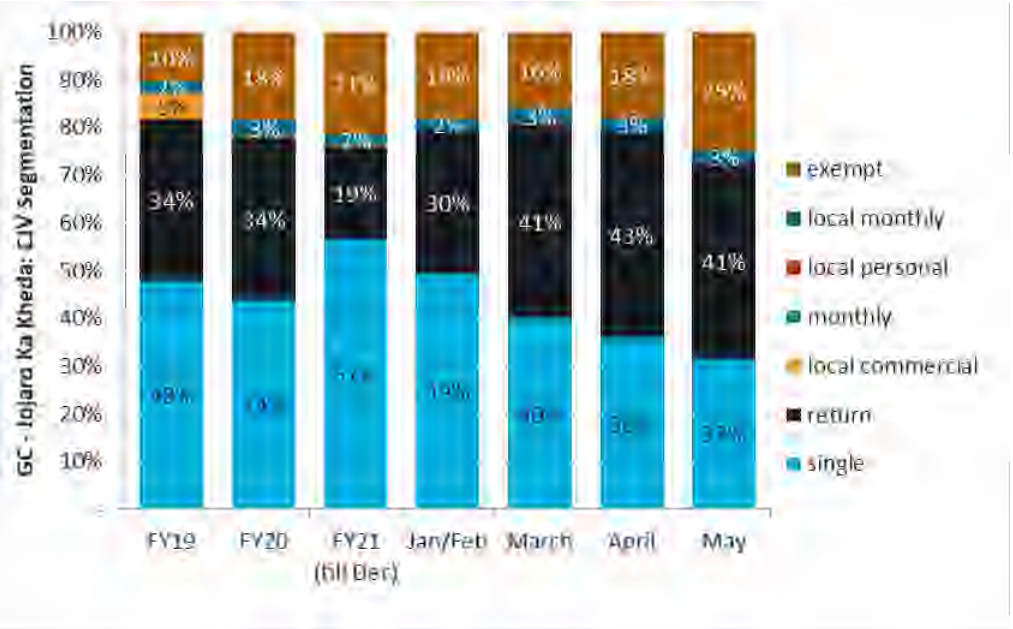
Figure 3.10 MAV toll segmentation: CG – Lambiyan Kalan



Source: Steer analysis of Client data

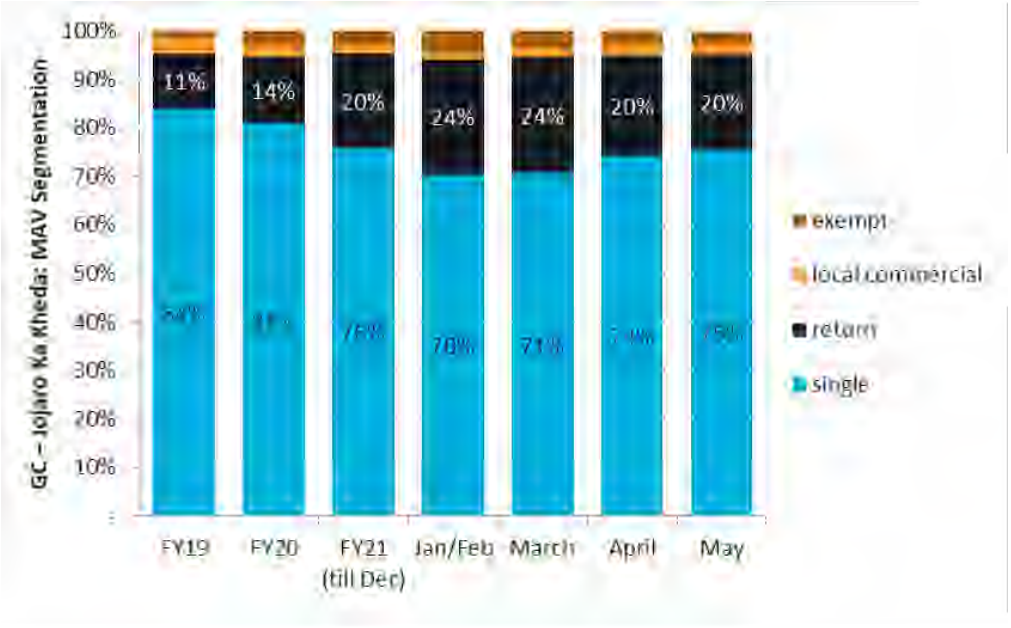
3.68 CJV and MAV segmentation for CG-JJK plaza is presented below:

Figure 3.11 CJV toll segmentation: CG – Jojaro Ka Kheda



Source: Steer analysis of Client data

Figure 3.12 MAV toll segmentation: CG – Jojaro Ka Kheda

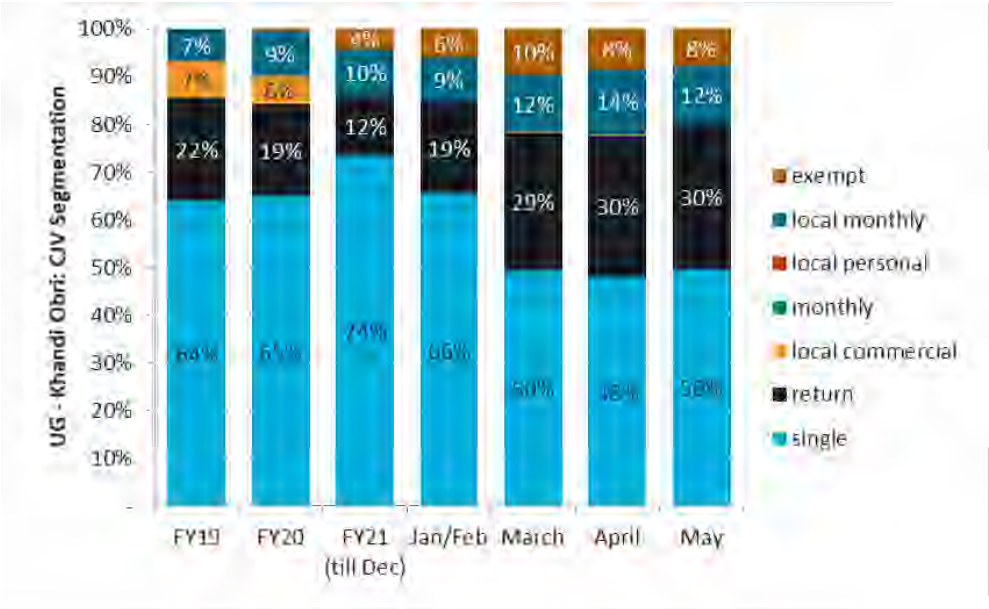


Source: Steer analysis of Client data

3.69 MAVs are observed to have high share of single tickets which is aligned to observation of MAVs doing medium to Long distance trips on the asset. There are exemptions reported in MAVs are less than 5% and are within acceptable ranges.

3.70 The CJV and MAV segmentation for UG: Khandi Obri toll plaza are presented below.

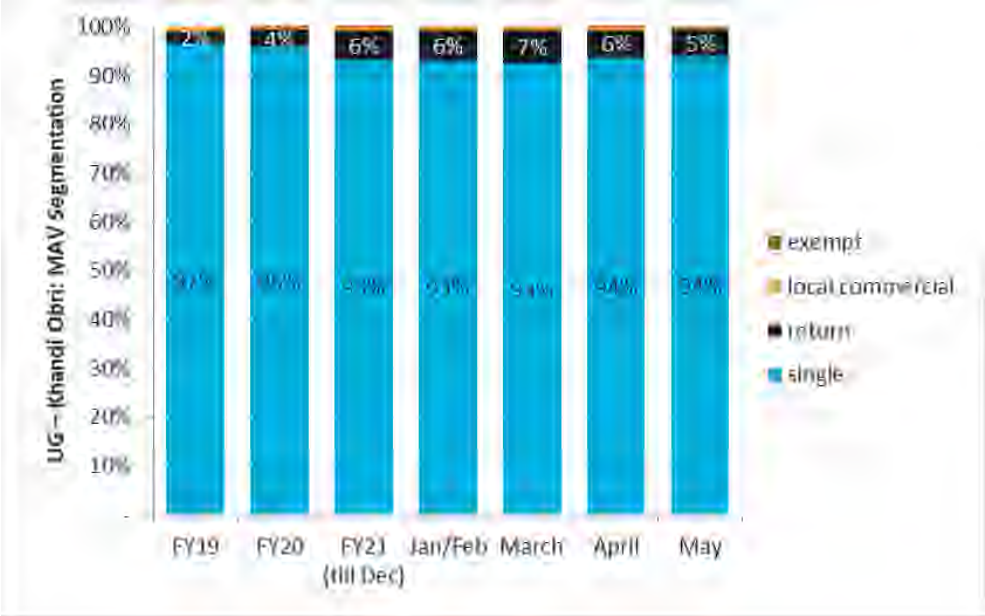
Figure 3.13 CJV toll segmentation: UG – Khandi Obri



Source: Steer analysis of Client data

3.71 CJV exemptions reported by the Asset are within 10%., with Single, return, and local monthly, categories. The proportions have stabilised post implementation of FASTag starting March 2021.

Figure 3.14 MAV toll segmentation: UG – Khandi Obri



Source: Steer analysis of Client data

Impact of FASTag implementation

3.72 As discussed earlier, FY20-21 saw an increased use of FASTag. The increase FASTag ensured efficient tolling operations as well as increased compliance. By March 2021, FASTag penetration increased significantly across various vehicle types. The table below presents the reported percentage of transactions via FASTag.

Table 3.14: %age of Transactions via Fast Tag at each of the toll plaza, March 2021

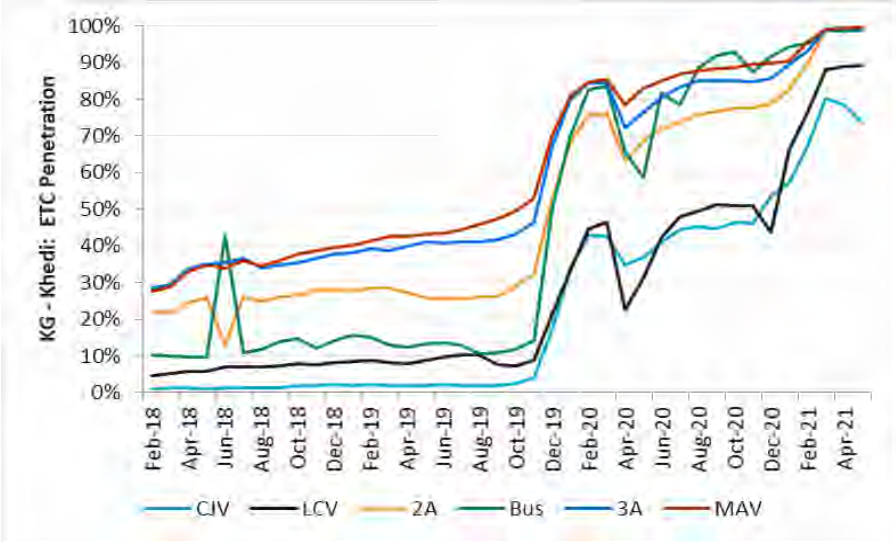
Toll Plaza	CJV	LCV	2A	Bus	3A	MAV	OSV
KG-Khedi	80.2%	88.0%	98.7%	98.8%	99.1%	99.2%	23.0%
CG-JJK	74.8%	67.2%	97.6%	96.0%	87.7%	94.6%	25.9%
CG-LK	83.5%	77.0%	95.6%	90.1%	95.0%	98.8%	93.4%
UG-Khandi Obri	87.1%	89.6%	98.0%	98.6%	99.5%	99.7%	80.4%

Source: Steer Analysis

3.73 As we can see from the table above most of the categories of vehicles types across the toll plaza are reporting more than 95% FASTag penetration, with CJV's also reporting more than 80% proportions. These high penetration levels improve the overall service levels of the toll plaza and reduces the transaction time.

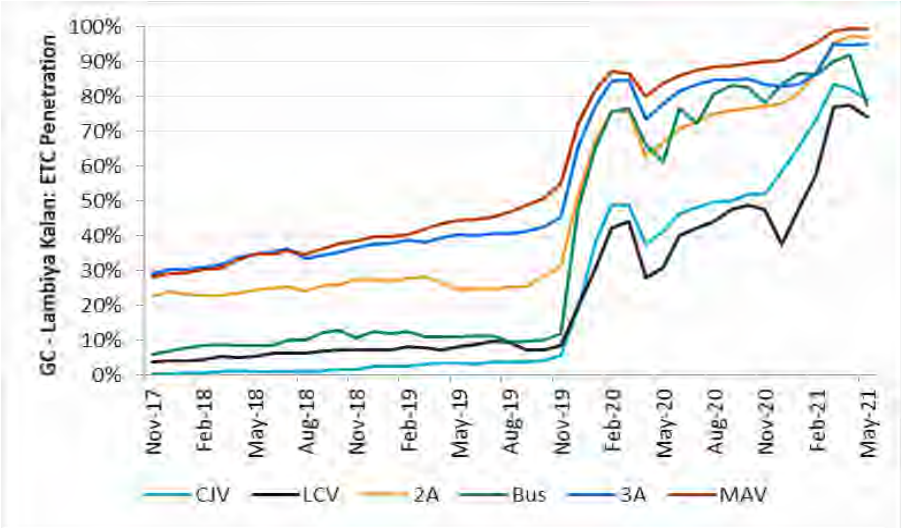
3.74 The figure below illustrates the evolution of the percentage of transactions via FASTag at all the plazas.

Figure 3.15 FASTag penetration: KG - Khedi



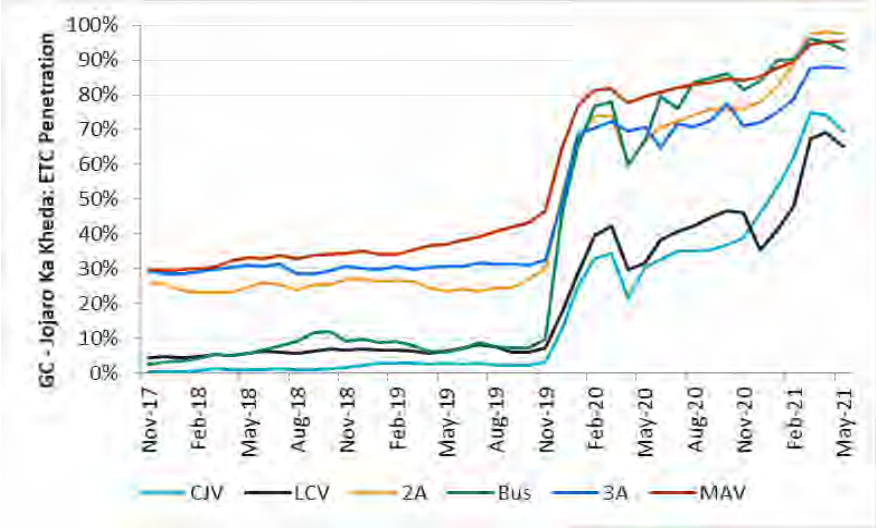
Source: Steer analysis of the Client data

Figure 3.16 FASTag penetration: CG – Lambiyan Kalan



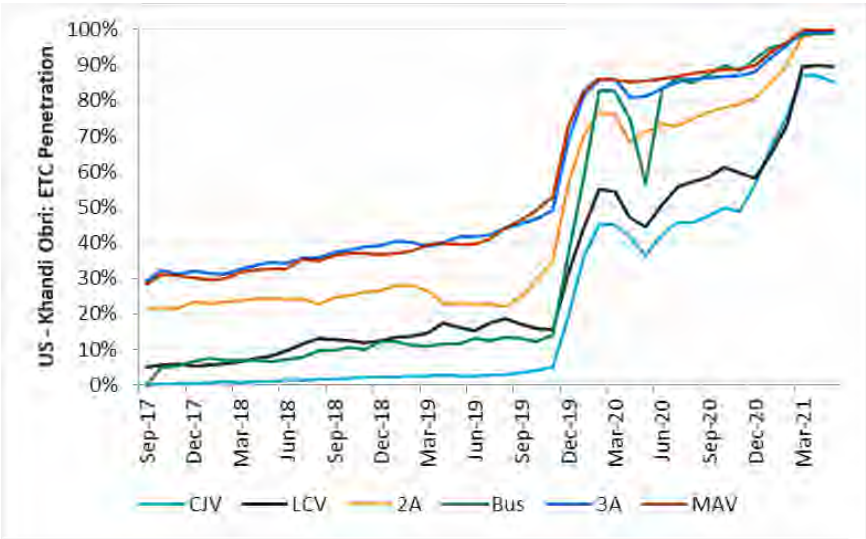
Source: Steer analysis of Client data

Figure 3.17 FASTag penetration: CG – Jojaro Ka Kheda



Source: Steer analysis of Client data

Figure 3.18 FASTag penetration: US – Khandi Obri



Source: Steer analysis of Client data

Data Collection exercise

3.75 As mentioned previously, to validate and inform various inputs used in our forecasting, we undertook primary data collection on the Asset, comprising the surveys listed in the table below. OD survey data was collected on behalf of the Client, TVC surveys were commissioned by Steer with a third party. OD data collection typically involves manual data entry by enumerators based on oral surveys with road users crossing toll plazas, which Steer also commissioned with a third party. TVC data collection involves video-graphic capture of traffic passing crossing the toll plazas, followed by manual counting.

Table 3.15: Data collection schedule

Toll Plaza	TMS data	7-day TVC		1-day OD survey	
		Start date	**End date**	**Start date**	**End Date**
KG: Khedi	Feb'18-May'21	28th June'21	4th July'21	01 July'21	02 July'21
CG: Lambiyan Kalan and Jojaro ka Kheda	Nov'17-May'21	28th June'21	4th July'21	30 June'21 29th June'21	01 July'21 30th June'21
UG: Khandi Obri	Sept'17-May'21	28th June'21	4th July'21	28 June'21	29 June'21

Source: Steer

3.76 It should be noted that, in our experience, traffic on national highways shows variation across the week due to the economic activities surrounding each road. To derive a representative TVC count considering daily variation, three-day to seven-day traffic counts are generally recommended, and hence, in order to fully understand the impact of this weekly fluctuation on the Asset, we collected seven-day counts at each toll plaza.

Key findings of the TVC data analysis

WADT estimates

3.77 Taking a simple average of the seven-day TVC counts, we obtained the following weekly average daily traffic (WADT) for each toll plaza. This WADT excludes non-tollable vehicle such as tractors, two-wheelers, bullock-carts, etc., but includes officially exempt vehicles such as police cars, ambulances, emergency response vehicle, government vehicle and other vehicle types officially allowed as 'exempted' under the concession agreement.

3.78 The TVC data is directly used for base year AADT and splits between vehicle types, in cases where TMS is not available. In cases where TMS is the main source of historical data, just like our Asset, the TVC data is used to validate TMS data and estimate the unreported violations.

3.79 Additionally, TVC counts are also used to identify traffic on alternates, feeders, and diversions as well as study the daily and hourly variation on the Asset.

3.80 During the site visits, our team makes sure that the cameras are located at a location where complete tollable traffic is captured. Additionally, emphasis is laid on positioning camera at such a location that the traffic from local leakages or bypass is also captured, if any.

3.81 In order to check the reliance of the TVC data, several checks are applied before using it in our analysis. Directional counts are verified by matching the sum of both the directions with the total counts. The table below present the 7day average (WADT) of independent counts undertaken by Steer.

Table 3.16: WADT at Asset

Toll Plaza	CJV	Mini LCV	LCV	Bus	2 Axle	3 Axle	MAV	OSV	Total	PCU
KG-Khedi	3,266	717	962	280	1,053	1,670	3,997	1	11,947	32,427
CG-LK	4,358	781	955	327	1,210	1,884	4,203	2	13,720	35,757
CG-JJK	4,406	766	891	346	1,052	1,769	4,856	-	14,087	37,864
UG-Khandi	5,201	379	1,050	593	1,266	1,710	3,641	3	13,842	34,257

Source: Steer analysis of TVC data

TVC (Total Volume Count) v/s TMS (Traffic Management System) v/s Schedule-N

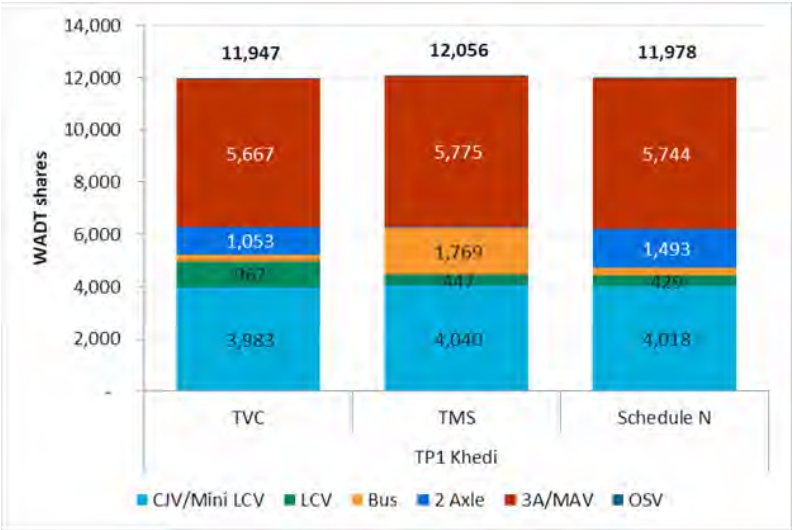
3.82 The below analysis compares the three sources of data:

- Independent 7-day video-based counts (TVC)
- Toll Plaza data (TMS)
- Schedule N (reported to NHAI by Client on a weekly basis)

3.83 This analysis is undertaken to verify independently the data being reported by toll plaza. It is a key step in our analysis to validate the traffic that the toll plaza is recording and its accuracy. Since the onset of FASTag there have been classification issues within the TMS due to nature of the tag issued to various vehicle types, hence Schedule-N data is also being used to validate the reporting of the data by the respective toll plaza.

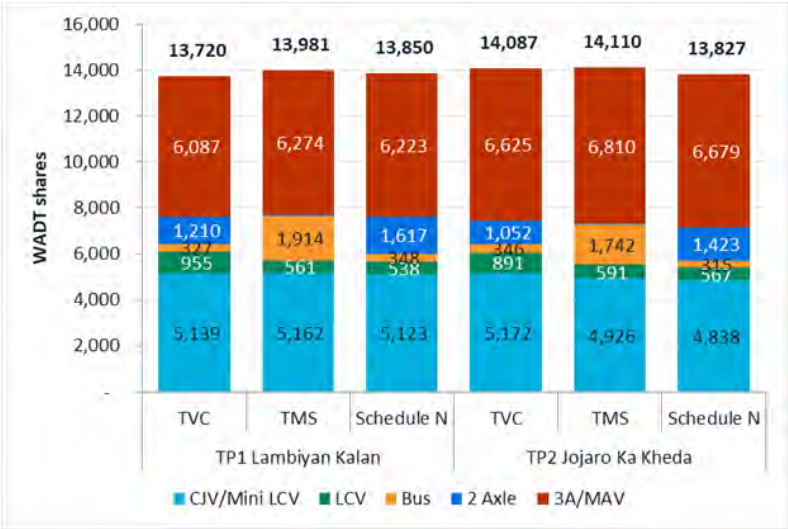
3.84 The figure below compares the vehicle wise shares as recorded by TVC, TMS, and Schedule-N.

Figure 3.19 Vehicle share comparison: KG



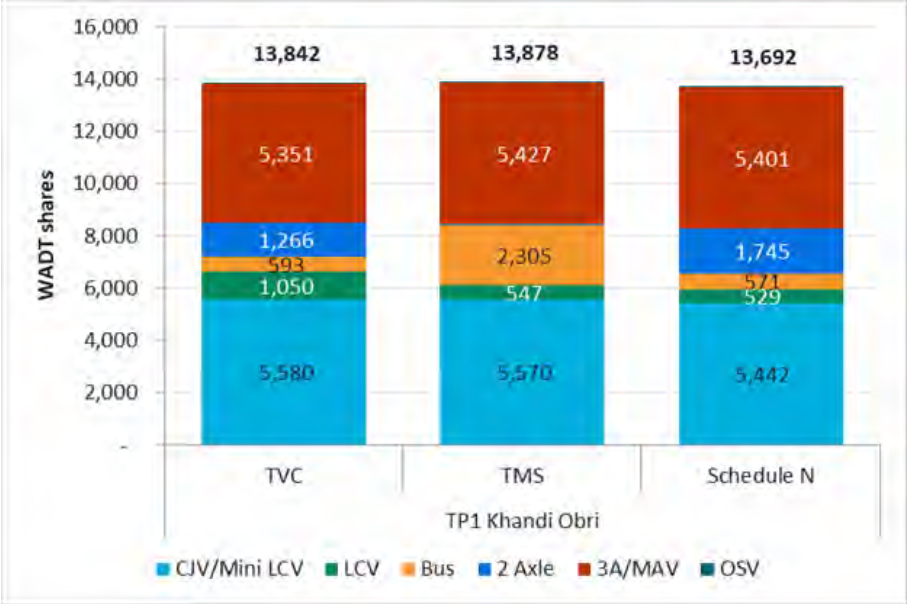
Source: Steer analysis of TVC counts, Schedule N and TMS data

Figure 3.20 Vehicle share comparison: CG



Source: Steer analysis of TVC counts, Schedule N and TMS data

Figure 3.21 Vehicle share comparison: UG

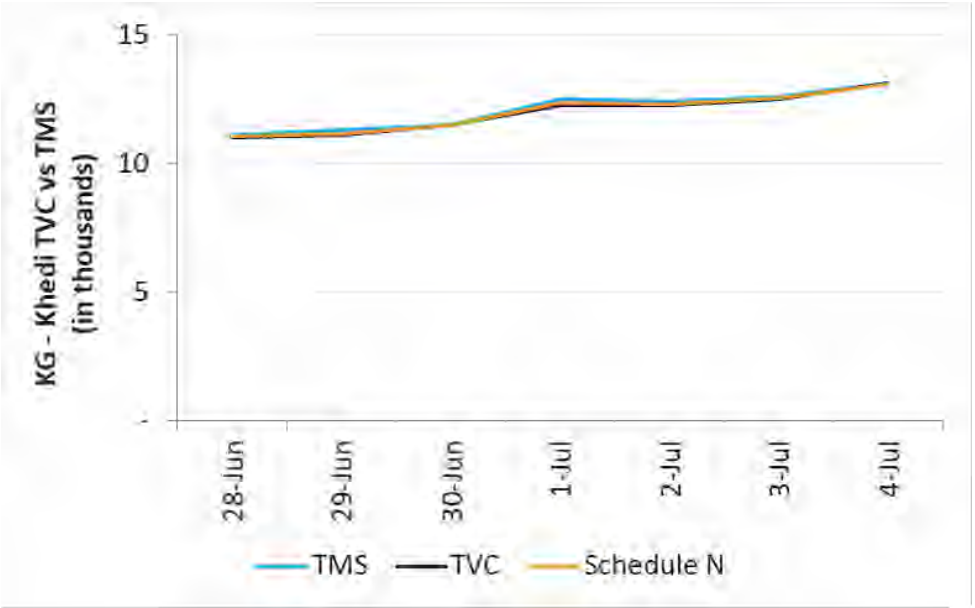


Source: Steer analysis of TVC counts, Schedule N and TMS data

3.85 WADT TVC is slightly higher (within 1-2%) than TMS for all the toll plazas. At vehicle category level, TMS reports higher 2A, but lower LCV as compared to TVC, which could be due to difference in categorization of vehicles following implementation of FASTag system. At aggregate level, the count is within a marginal range of each other for all the TPs.

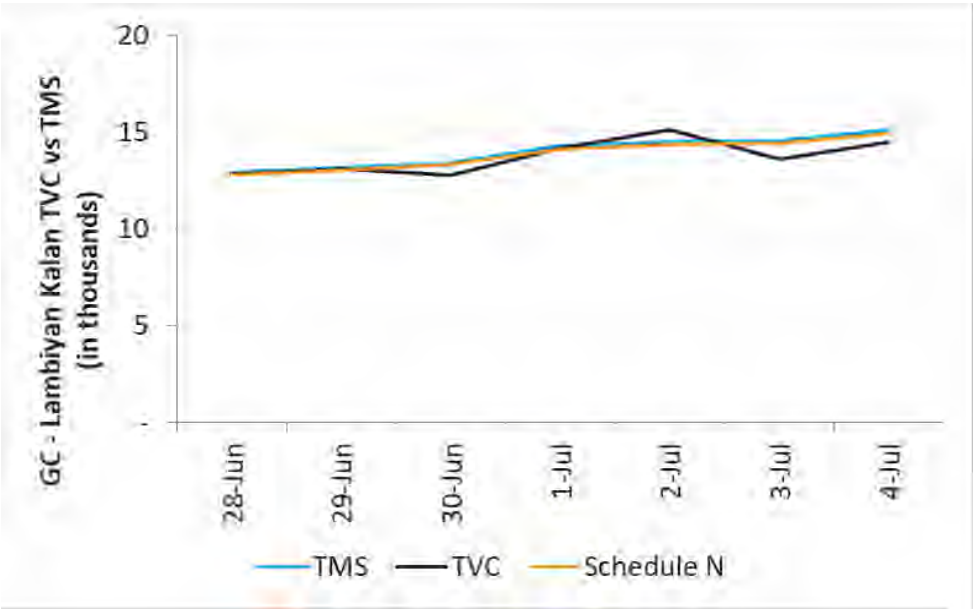
3.86 The following figures show the comparison between the daily traffic observed by TVC and TMS for the toll plazas.

Figure 3.22 TVC vs TMS: KG - Khedi



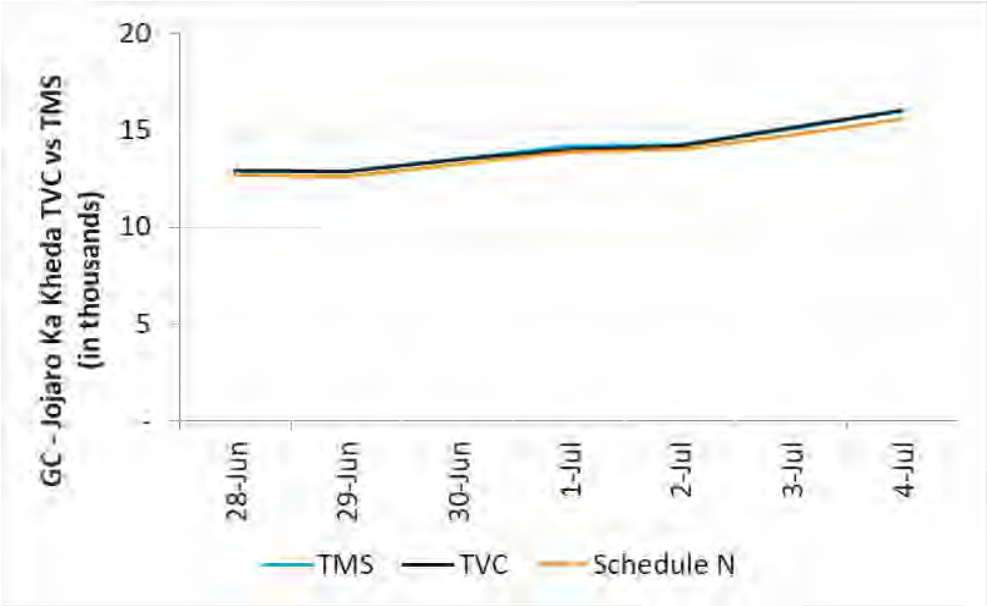
Source: Steer analysis of TVC counts, TMS data

Figure 3.23 TVC vs TMS: CG – Lambiyan Kalan



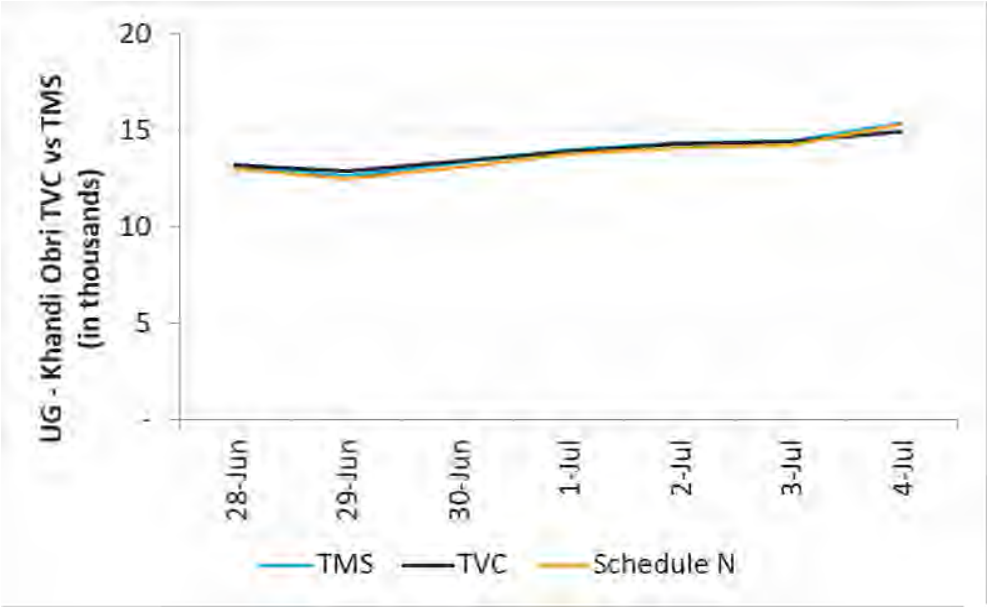
Source: Steer analysis of TVC counts, TMS data

Figure 3.24 TVC vs TMS: CG – Jojaro Ka Kheda



Source: Steer analysis of TVC counts, TMS data

Figure 3.25 TVC vs TMS: UG – Khandi Obri



Source: Steer analysis of TVC counts, TMS data

3.87 As we can see from the above graphs the daily profile on a total level is a very good fit between the TMS and the independent counts undertaken. This gives further confidence on the recording and reporting capability of the TMS systems installed on the toll plazas.

3.88 **Considering the smaller variation between the TVC and TMS data for the largest revenue generators-CJV and 3A+MAVs, and an overall good fit in the traffic volumes, TVC-TMS analysis gives us the confidence that the base year traffic calculated using the Client data forms a reliable base year traffic estimate.**

Key findings of origin-destination analysis

Overview

3.89 OD surveys were conducted using on the toll plaza locations across all 4 toll plazas interviews for 24 hours at each toll location, typically starting at 8 AM and finishing at same time on the following day. Each toll lane had an interviewer filling OD records with supervisor monitoring them to minimise errors in data collected. This was accompanied by Steer staff visiting the toll plaza to ensure the data is being collected to quality and standards required to understand the traffic patterns on the Asset.

3.90 Data collected was segregated into vehicle types, origin area, origin zone, destination area, destination zones, commodity being carried, total load, and frequency of travel. The zones were further segmented into Internal, Rest of State, and External zones. The zones were also used to calculate the trip distances of the traffic plying on the Asset.

3.91 Before using the data for final analysis, the data is first cleaned, and numerous checks are applied. Some of these checks include verifying that the zones are physically apart as well as these zones are located within a reasonable distance and boundary. Reliability checks are also used which confirms that the sample rates are 30-50% for passenger and 50-70% for goods. Sanity checks includes verifying the sanctity of direction wise origin and destination as well as establishing that the share of empty vehicles is in line with the site visit observations (not more

than 50% in any case). The final check includes matching the OD numbers with the TVC counts of the particular day and substantiating that the OD numbers aren't greater than the TVC counts.

3.92 Origin-destination (OD) analysis enables the understanding of the nature of traffic movement on the Asset. We have analysed the regional drivers of demand based on the following analysis:

- Zonal influence
- Commodity distribution
- Top OD pairs
- Trip length distribution

3.93 While zonal analysis and the list of top OD pairs help to understand 'where' people and goods travel, commodity distribution sheds light on 'what' goods get transported on this asset. Trip length distribution shows 'how far' vehicles and people travel, and goods get transported. This set of analysis is used to estimate key drivers of traffic and aid in making informed forecasting assumptions related to traffic demand elasticities, growth drivers and exogenous impacts.

Sample rates

3.94 Sample rates help understand the reliability of OD data. They are calculated by dividing OD samples by the TVC count observed on the same date for each vehicle category at the toll plaza. The table below presents the sample rates for key vehicle type aggregations at the toll plaza. We believe that the sample rates of the OD data are reasonable for the analysis required.

Table 3.17: Sample rates for OD data

Vehicle type	Khedi	Lambiyan Kalan	Jojaro Ka Kheda	Khandi Obri
CJV	18%	24%	17%	21%
Bus	98%	55%	73%	77%
MLCV	18%	21%	10%	24%
LCV	43%	22%	36%	85%
2A	66%	72%	98%	66%
3A	53%	47%	68%	79%
MAV	85%	64%	72%	92%

Source: Steer analysis of OD data

Zone Categories

3.95 To facilitate better interpretation of key regional drivers of traffic as determined by their OD zones, and influenced by various towns, cities, states, and regions in the vicinity of the Asset, we have aggregated zonal data as described in the table below. The methodology behind this aggregation of zones may vary as per the characteristics displayed by the different Assets being studied.

Table 3.18: Zone aggregations for zonal influence analysis

Aggregate Zone	Description
Local	Local zones are those that fall on or very close to the Asset.
IAOI	IAOI zones are the locations which generate traffic and lie within approximately 75-150 km distance from the Asset.
Rest of State	Rest of the cities/Districts in the state that Asset lies in (other than Local/IAOI)

Aggregate Zone	Description
Madhya Pradesh	Madhya Pradesh
Gujarat	Gujarat
Maharashtra	Maharashtra
Delhi NCT	National Capital Region zones of New Delhi
North India	Punjab, Chandigarh, Himachal Pradesh, Uttarakhand, Jammu and Kashmir
South India	Andhra Pradesh, Karnataka, Kerala, Telangana, Tamil Nadu
Central India	Uttar Pradesh
East India	Arunachal Pradesh, Assam, Bihar, Jharkhand, Manipur, Meghalaya, Mizoram, Nagaland, Odisha, Tripura, Sikkim, Chhattisgarh
Outside India	Nepal, Bangladesh, Bhutan

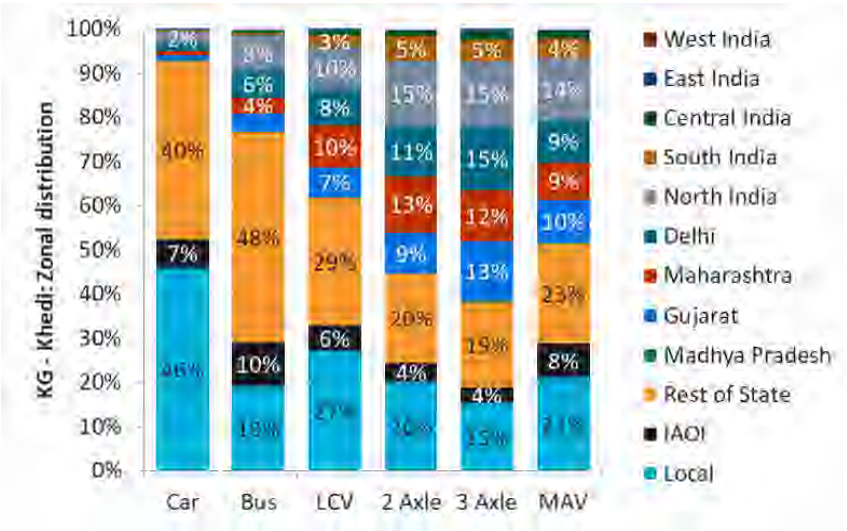
Source: Steer analysis

Zonal influence

3.96 The zonal influence is the contribution of the zone or the zonal aggregation to trips by a vehicle type. This section presents the zonal influence[12] at the toll plaza for the Asset, based on zonal aggregation listed in the previous sub-section. it should be noted that zonal influence is analysed on trip ends and not trips.

3.97 KG and CG, being contiguous sections on the corridor, exhibit similar trends of zonal distribution.

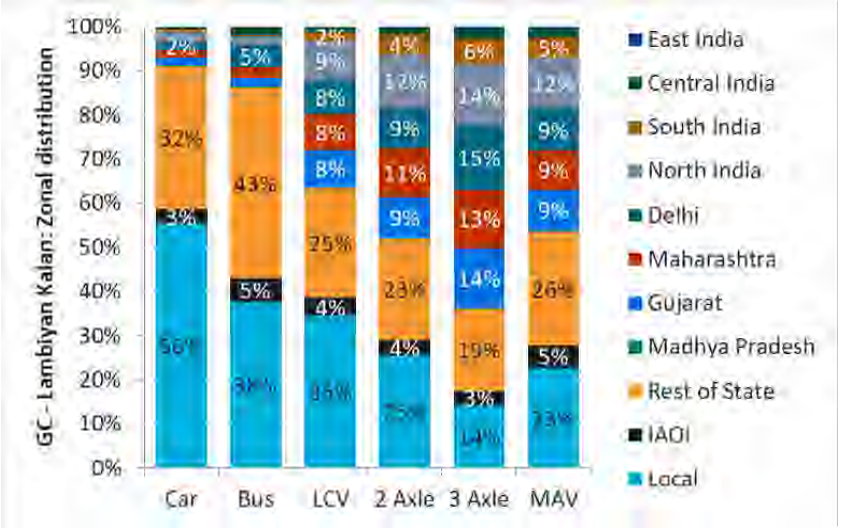
Figure 3.26 Zonal distribution: KG - Khedi



Source: Steer analysis of OD data

[12] For example, if out of 100 trips at a toll plaza on an Asset, 10 trips are between Hyderabad and Delhi and 90 trips are between Hyderabad and Chennai, then zonal influence of Hyderabad would be 50% since one end of all trips are at Hyderabad. Likewise, zonal influence of Delhi and Chennai would be 5% and 45%, respectively.

Figure 3.27 Zonal distribution: CG – Lambiyan Kalan

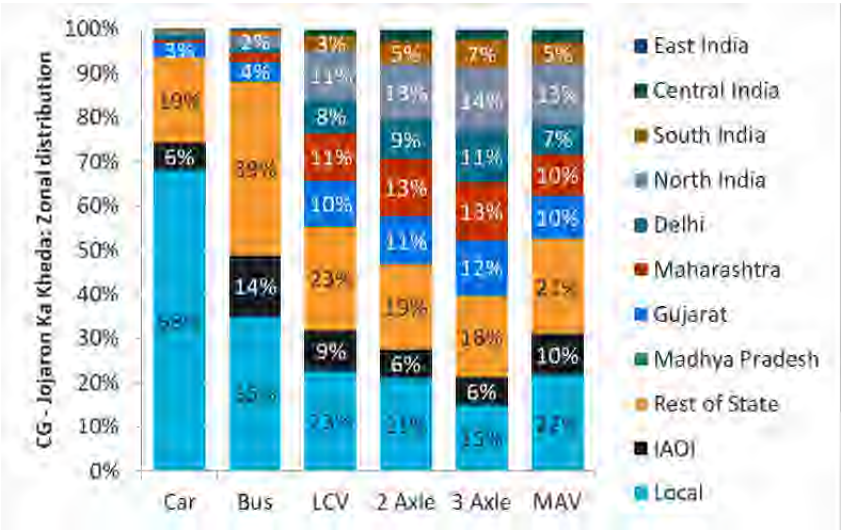


Source: Steer analysis of OD data

3.98 On these toll plazas, Rajasthan influences more than 90% of the CJV trips. Among the toll plazas, Jojaro ka Kheda has the highest share of local trips which can be attributed to the fact that it is located in middle of two urban centres, namely Bhilwara and Chittorgarh. As the toll plaza location moves north (towards Kishangarh), farther away from these centres, the share of local decreases. The same is validated as Khedi has only 46% of local trips as compared to 68% local trips on Jojaro Ka Kheda.

3.99 In most of the cases, buses are seen to travel short/medium distances and hence, observe highest share of IAOI trips as these trips start and end within Rajasthan. The category also observes small share of influence from Maharashtra, Gujarat, New Delhi, north India zones as the Asset lies on NH48 and provides seamless connectivity to these states. High local and RoS influence can also be due to the bus networks still not back to pre-Covid19 levels, where a large proportion of long-distance bus movements are yet to start.

Figure 3.28 Zonal distribution: CG – Jojaro Ka Kheda



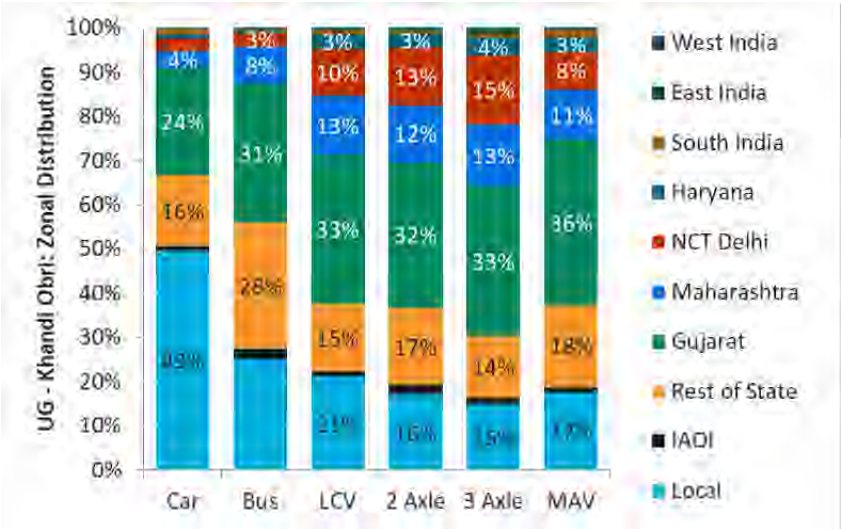
Source: Steer analysis of OD Data

3.100 LCVs and 2As observe similar trends on KG and CG where ~40-50% trip ends are influenced from Rajasthan. These vehicle categories cater to both local and long-distance movements and hence, the remaining share is almost equally divided between Gujarat, Maharashtra, New Delhi, and north India zones. This category of vehicles is nowadays used a lot by e-commerce companies for interstate deliveries. Therefore, especially on the GQ a lot of these trucks are also making long distance trips. This is further confirmed by the commodities being carried by such trucks which is discussed later.

3.101 Since the Assets are located on an industrially rich corridor, ~15-20% of 3A/MAV trips are influenced by the local zones on KG and CG, catering to a local demand. ~20-25% of trips are influenced by other parts of the state as the strategic location on NH48 makes the Asset a key point in connecting industries of Rajasthan with the neighbouring states. As mentioned above, the long-distance movement on GQ adds comparable influence of Maharashtra, Gujarat, Delhi NCR, and north India zones. The same is validated by the fact that Mumbai – Delhi NCR/Haryana and Ahmedabad - Delhi NCR/Haryana are one of the top OD pairs on KG and CG.

3.102 UG differs from KG and CG in the zonal distribution as the toll plaza is located in close vicinity of the Gujarat border and therefore, considerable influence of Gujarat on trips is visible across all vehicle categories.

Figure 3.29 Zonal distribution: UG-Khandi Obri



Source: Steer Analysis of OD data

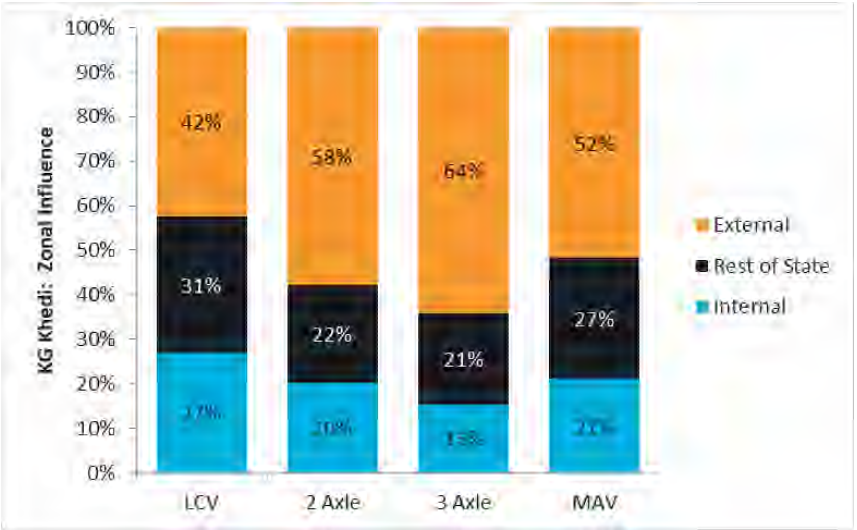
3.103 The decrease in influence of Rajasthan as a zone is fairly compensated by the increase in influence of Gujarat on trip ends. The same also affects the nature of trips as most of these are through trips. The same is validated by the fact that the top OD pair for 3A/MAVs is Delhi NCR – Mumbai.

Internal External analysis

3.104 Internal-External analysis helps in identifying the trips which have both an origin and destination on or near the Asset i.e., local/IAOI zones (Internal-Internal or I-I), any one end on the Asset (Internal-External or I-E), or neither end on the Asset i.e., through trips (External-External or E-E). RoS here represents areas within the state which are neither local nor IAOI. 'Internal' zones are those that were analysed as 'local' and 'IAOI' in the zonal influence analysis, i.e., lying on the Asset, while 'External' zones are areas lying outside the state.

3.105 KG and CG, being contiguous sections, observes similar trends of IE distribution.

Figure 3.30 Zonal influence: KG - Khedi

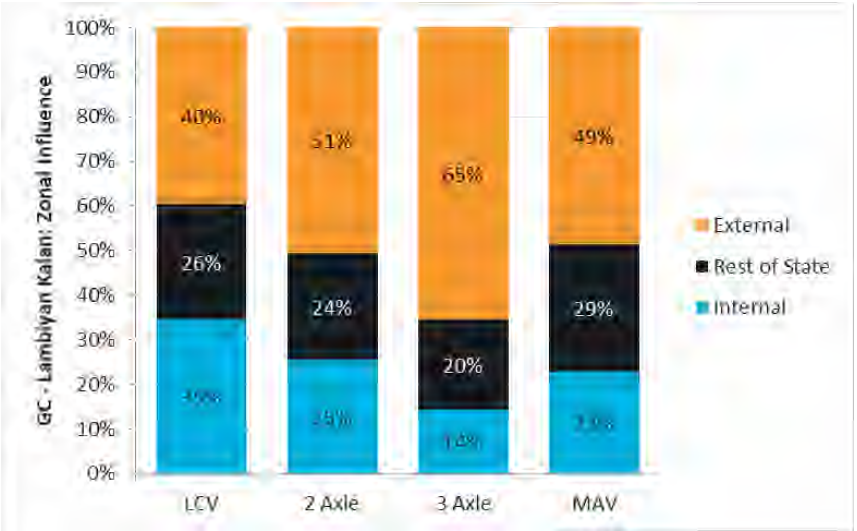


Source: Steer analysis of OD Data

3.106 The Internal trips are generally made between Chittorgarh, Bhilwara, Zinc Nagar in order to meet the local demands as well as to maintain supply chain of the nearby industrial centres. The Rest of State trips are generally medium-distance trips between Alwar, Ajmer, Jaipur, Dausa, Rajsamand, Sirohi and are done by trucks carrying manufactured goods, construction material, groceries, couriers, and parcels to meet the state-centric demands of Rajasthan.

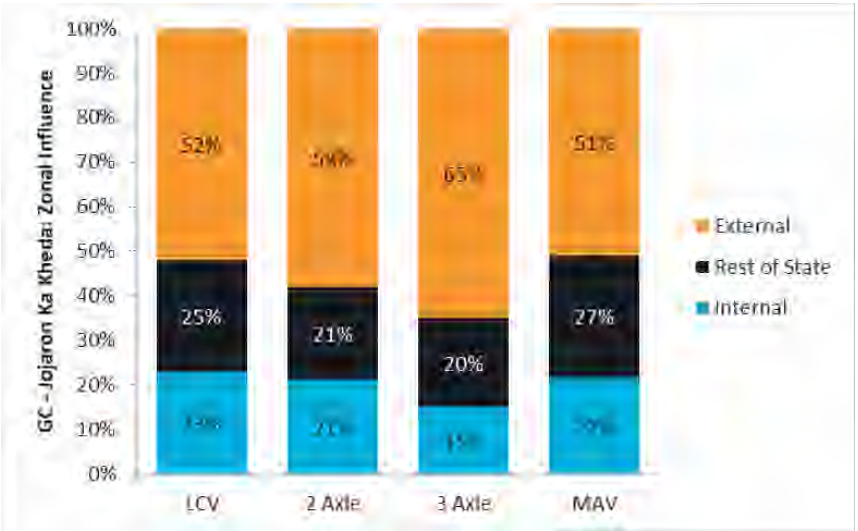
3.107 The External trips are the long-distance trips plying between Maharashtra, Haryana, Delhi NCR, and northern states. This is the through traffic on the Asset plying to meet the demands of the country. As observed in the charts, LCVs have the lowest External share of ~40% as compared to ~45% share in MAVs. This trend substantiates the fact LCVs are more local in nature on KG and GC and the strategic nature of trucks increases with increase in the number of axles.

Figure 3.31 Zonal influence: CG – Lambiyan Kalan



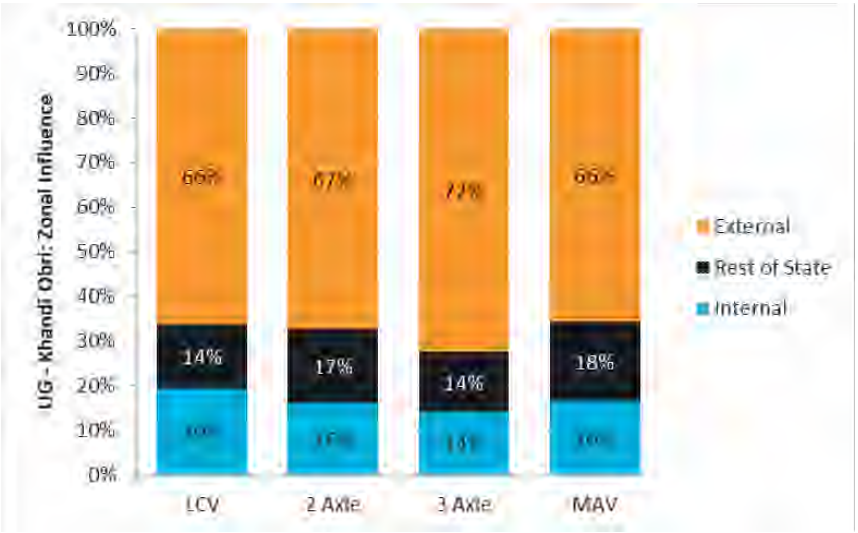
Source: Steer analysis of OD Data

Figure 3.32 Zonal influence: CG – Jojaro Ka Kheda



Source: Steer analysis of OD Data

Figure 3.33 Zonal influence: UG – Khandi Obri



Source: Steer analysis of OD Data

3.108 UG differs from the other Assets as the toll plaza is located in close vicinity of Gujarat border. This is the reason that across all vehicle categories, External trips dominate the IE distribution. As mentioned earlier, the inter-urban nature of the Asset, with limited industrial activity along the Asset leads to high shares of External trips.

Commodity distribution

3.109 We have grouped various commodities into aggregate categories for ease of interpretation, as shown in the table below. The charts in the following sub-section present information in terms of aggregate commodity categories.

Table 3.19: Aggregate commodity categories

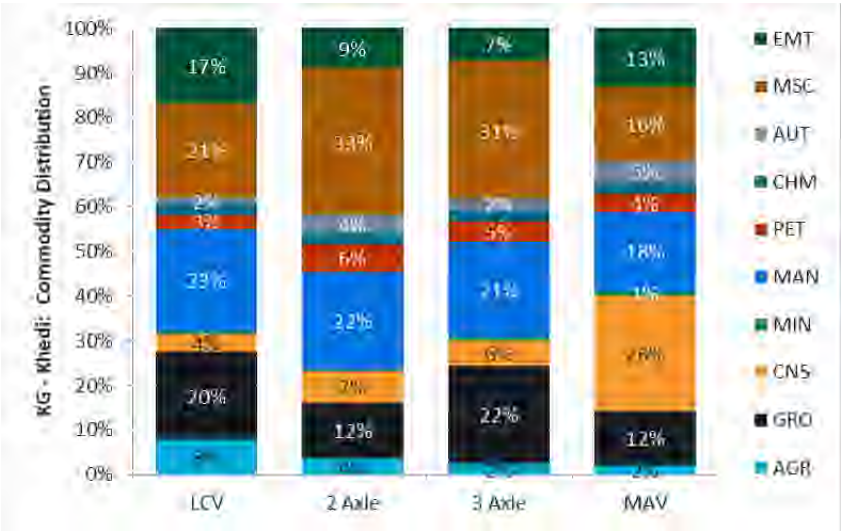
Commodity Description	Code	Combined codes used for charts
Agricultural Products / Cash crops (Wheat, Rice, Sugar cane, Maize etc.)	AGR	AGR
Perishable Items (Fruits, vegetables, milk, meat, fish etc.)	PER	
Cattle Food / Livestock (sheep, goat, cow, cattle food etc)	LIV	
Building Material / Construction (Cement, Lime, Brick etc)	CNS	CNS
Container	CTR	CTR
Empty	EMT	EMT
Groceries / Food items (Soap, Salt, Sugar, Pulses, Spices, Biscuits, bread, cool drinks, beer etc.)	GRO	GRO
Machinery / Spare parts	MAC	MAC
Steel / Metal (Iron, steel etc)	STL	MAN
Chemicals / Fertilizers (Acids, Fertilizers etc.)	CHM	
Manufacturing (Electronic items, Medicine, Leather, Wine, Rubber/ Tyre, Plastics, Cloth, Paper etc.)	MAN	
Automobiles (Finished products)	AUT	
Basic / Fabricated Metals (steel, iron)	MET	
Raw Wood, Cork & Wood Products, Fern	WUD	
Mining Minerals (Coal, Gypsum, Cobalt etc.)	MIN	MIN
Miscellaneous (Parcel, Courier, Household items etc.)	MSC	MSC
Passengers	PAS	
Petroleum Products (Oil, LPG, CNG, etc.)	PET	PET
Sand	SND	SND
Stone (Kota stone, marble, Granite, Aggregate stone etc.)	STN	STN
Cement	CMT	CMT

Source: Steer Analysis

3.110 The following figures present the commodity distribution for goods vehicles at the total level and split by direction.

3.111 As KG and CG Assets are contiguous and cater to similar traffic profiles, and hence observe similar trends in terms of the commodity being carried on the Assets. With UG also lying on the same corridor, local influences do change the proportion of some commodities, but all the 4 toll plazas exhibit very similar commodity profiles. The commodity mix for each toll plazas is explained below:

Figure 3.34 Commodity distribution: KG - Khedi



Source: Steer analysis of OD data

3.112 Across all vehicle categories on Khedi, miscellaneous goods hold a considerable share. These goods comprise of parcels and couriers that are mainly being transported from warehouses in Delhi NCR, Bhiwadi, Ajmer, Jaipur to the districts along the Assets as well as in southern Rajasthan, Maharashtra, and Gujarat. Similarly, manufacturing goods are also observed to hold ~20% share. These goods are transported from the industrial centres of Delhi-NCR, Bhiwadi, Neemrana, Kishangarh, Ahmedabad, Vadodara, Mumbai, Pune, Jaipur and travel along the Golden Quadrilateral to cater to the nation's demands. The high share of construction goods for MAVs comprises of cement being transported mainly from the factories in Chittorgarh and Nimbhera. The groceries and related goods benefit from the NH48's connectivity and are being transported between the northern and the southern states. The petroleum and related commodities are being transported from the refineries in Mumbai and Gujarat.

3.113 The directional commodity analysis differs from the total commodity analysis as the share of construction goods increases in the direction towards Kishangarh as the trucks load cement at the industries in Chittorgarh and Nimbhera and move towards the northern states. The share of groceries is higher towards Chittorgarh as the trucks carry these goods from the factories in Delhi NCR towards the southern states. The high share of empty trucks travelling towards Chittorgarh is compensated in the opposite directions by the increased shares of construction and manufacturing goods as these trucks get loaded along the Asset as well as at the industrial centres of Maharashtra and Gujarat.

Table 3.20: Directional commodity distribution: KG - Khedi

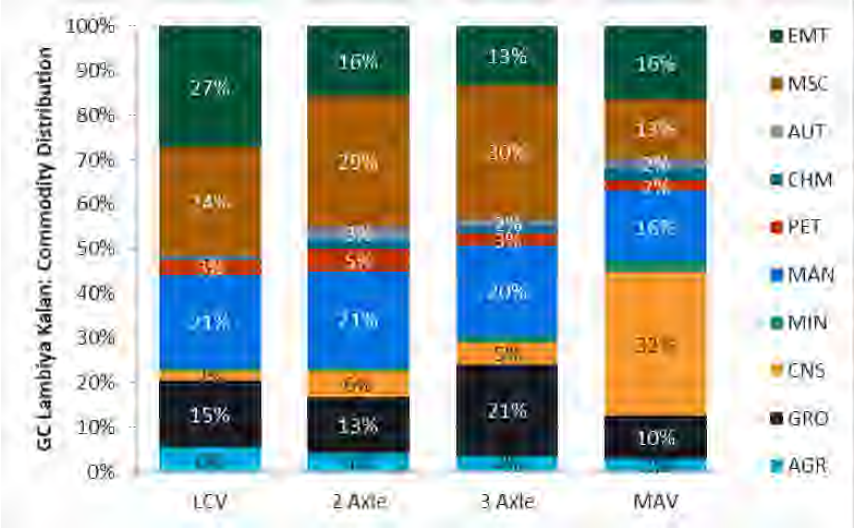
Kishangarh to Chittorgarh					Chittorgarh to Kishangarh			
LCV	2 Axle	3 Axle	MAV		LCV	2 Axle	3 Axle	MAV
9.6%	4.2%	2.1%	2.3%	Agriculture	6.6%	2.9%	2.6%	2.1%
19.6%	12.7%	25.5%	12.6%	Groceries	19.5%	11.9%	19.2%	11.5%
3.6%	4.5%	5.9%	15.8%	Construction	4.5%	10.6%	5.6%	35.3%
0.8%	-	0.2%	1.0%	Mineral	0.3%	0.3%	1.0%	1.2%
17.6%	21.8%	18.4%	14.8%	Manufacturing	27.0%	22.5%	23.4%	20.1%

Kishangarh to Chittorgarh					Chittorgarh to Kishangarh			
2.0%	4.2%	3.1%	2.7%	Petroleum	3.9%	8.4%	5.8%	5.5%
0.8%	2.4%	1.4%	1.9%	Chemicals	3.3%	2.3%	4.0%	3.4%
3.2%	6.1%	2.8%	7.7%	Automobile	0.6%	1.6%	1.8%	2.1%
20.0%	33.7%	28.8%	17.1%	Miscellaneous	21.9%	32.2%	32.9%	15.5%
22.8%	10.3%	11.8%	24.0%	Empty	12.3%	7.4%	3.6%	3.4%

Source: Steer analysis of OD data

3.114 Commodities mix for CG Assets is presented below:

Figure 3.35 Commodity distribution: CG – Lambiyan Kalan



Source: Steer analysis of OD data

3.115 As discussed earlier all 4 toll plazas lying on the same NH48 corridor exhibit similar trends. Across all vehicle categories on Jojaro Ka Kheda and Lambiyan Kalan, miscellaneous goods hold a considerable share with origins and destinations very similar to that witnessed on Khedi toll plaza. Similarly, manufacturing goods are also observed to hold ~20% share. The high share of construction goods for MAVs comprises of cement being transported mainly from the factories in Chittorgarh and Nimbhera. Construction powder is mainly carried from Morbi and Ahmedabad in Gujarat to Bhilwara/Chittorgarh the north India and hence, the number of powder-carrying trucks is higher on CG and UG as compared to KG. The groceries and related goods benefit from the NH48's connectivity and are being transported between the northern and the southern states. The petroleum and related commodities are being transported from the refineries in Mumbai and Gujarat.

3.116 The directional commodity mix for CG-LK toll plazas is very similar to what is witnessed on KG-Khedi toll plaza.

Table 3.21: Directional commodity distribution: GC – Lambiyan Kalan

Kishangarh to Chittorgarh					Chittorgarh to Kishangarh			
LCV	2 Axle	3 Axle	MAV		LCV	2 Axle	3 Axle	MAV
6.4%	6.1%	4.9%	5.2%	Agriculture	2.4%	1.4%	2.3%	0.9%
10.9%	7.5%	8.5%	4.5%	Groceries	31.0%	20.2%	33.9%	14.1%
2.4%	3.6%	4.7%	21.1%	Construction	1.2%	9.0%	5.2%	42.2%
0.6%	0.8%	1.4%	3.5%	Mineral	1.2%	0.5%	1.4%	1.5%
20.6%	20.7%	16.1%	12.5%	Manufacturing	21.4%	22.6%	25.1%	18.3%
3.9%	5.9%	2.6%	2.1%	Petroleum	1.2%	4.4%	2.7%	2.8%
0.3%	1.1%	2.0%	1.7%	Chemicals	-	2.7%	0.9%	3.7%
0.6%	4.4%	2.0%	2.2%	Automobile	1.2%	1.1%	1.4%	2.4%
25.2%	29.8%	35.0%	14.9%	Miscellaneous	20.2%	28.9%	24.6%	11.5%
29.1%	20.1%	22.8%	32.2%	Empty	20.2%	9.3%	2.5%	2.6%

Source: Steer analysis of OD data

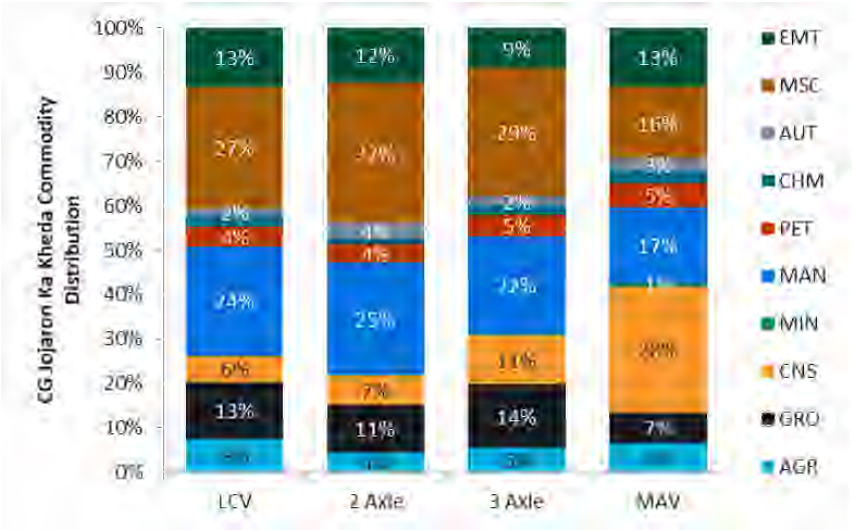
3.117 As discussed, CG JJK also exhibits similar proportion of various commodities being caried. However, as discussed, a slight difference is the ultimate destination of these commodities as on KG and CG-LK they are more destined towards Kishangarh and Jaipur and in the case of CG-JJK and UG the destinations are more towards Udaipur and Gujarat. The direction wise splits and aggregated commodity distribution for CG-JJK and UG is presented below:

Table 3.22: Directional commodity distribution: CG – Jojaro Ka Kheda

Kishangarh to Chittorgarh					Chittorgarh to Kishangarh			
LCV	2 Axle	3 Axle	MAV		LCV	2 Axle	3 Axle	MAV
8.3%	4.6%	6.3%	7.1%	Agriculture	6.9%	4.0%	4.4%	5.9%
12.2%	9.6%	12.1%	7.1%	Groceries	12.9%	12.4%	17.1%	6.7%
8.9%	7.8%	14.4%	18.8%	Construction	3.5%	5.0%	6.2%	37.5%
-	0.4%	0.1%	0.3%	Mineral	0.5%	0.2%	0.8%	1.6%
17.2%	23.6%	22.0%	18.6%	Manufacturing	30.7%	27.0%	21.7%	15.5%
3.9%	4.8%	5.0%	5.2%	Petroleum	5.0%	3.7%	4.8%	5.2%
3.3%	0.9%	2.1%	2.0%	Chemicals	1.5%	1.7%	2.0%	3.9%
1.1%	4.3%	2.8%	4.0%	Automobile	2.5%	2.5%	0.8%	1.3%
29.4%	26.6%	23.7%	16.7%	Miscellaneous	25.2%	38.7%	36.9%	15.7%
15.6%	17.6%	11.6%	20.1%	Empty	11.4%	4.7%	5.2%	6.8%

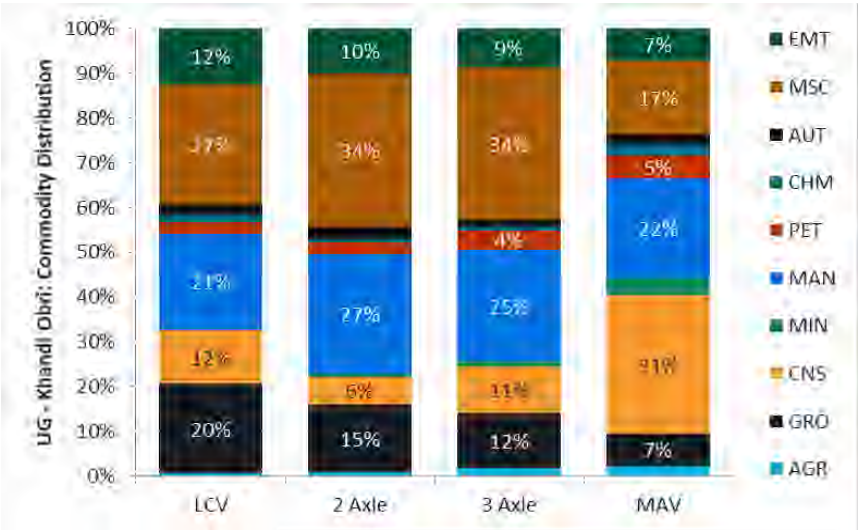
Source: Steer analysis of OD data

Figure 3.36 Commodity distribution: CG -Jojaro Ka Kheda



Source: Steer analysis of TVC counts, TMS data

Figure 3.37 Commodity distribution: UG – Khandi Obri



Source: Steer analysis of TVC counts, TMS data

3.118 At Khandi Obri the share of construction goods increases in the direction towards Kherwada/Gujarat as the trucks load cement at the industries in Chittorgarh and Nimbahera and move towards the southern states. High share of manufacturing goods is observed towards Udaipur as these trucks get loaded at the industrial centres of Maharashtra (Mumbai, Pune) and Gujarat (Ahmedabad, Vadodara, Vapi, Morbi, Surat) move towards the northern zones as well as states.

Table 3.23: Directional commodity distribution: UG – Khandi Obri

Kherwara/Gujarat to Udaipur					Udaipur to Kherwara/Gujarat			
MAV	3 Axle	2 Axle	LCV		LCV	2 Axle	3 Axle	MAV
1.0%	2.3%	1.1%	-	Agriculture	0.7%	0.5%	1.5%	3.4%
7.4%	9.8%	15.0%	14.4%	Groceries	20.9%	14.9%	14.1%	6.8%

Kherwara/Gujarat to Udaipur					Udaipur to Kherwara/Gujarat			
14.1%	5.6%	5.1%	1.7%	Construction	13.5%	9.4%	14.7%	43.6%
7.9%	1.7%	1.1%	-	Mineral	0.1%	-	0.6%	1.1%
31.8%	32.7%	29.6%	33.1%	Manufacturing	19.6%	18.8%	18.4%	14.8%
6.6%	5.1%	3.1%	3.4%	Petroleum	2.7%	1.5%	3.6%	3.6%
4.0%	1.0%	0.9%	-	Chemicals	1.7%	-	1.2%	2.0%
1.4%	1.0%	2.0%	1.7%	Automobile	2.4%	5.0%	1.7%	2.4%
19.8%	34.4%	34.5%	32.2%	Miscellaneous	26.1%	33.2%	33.7%	14.2%
6.0%	6.3%	7.7%	13.6%	Empty	12.2%	16.8%	10.6%	8.0%

Source: Steer analysis of OD data

Trip length analysis

3.119 Trip-length distribution provides the distance-based profile of various vehicle categories. This aids in validating assumptions around the share of macro-economic drivers, inputs from zonal influence and toll segmentation. For ease of interpretation, we have categorised distances into 5 groups – local (0-65km), short-distance (65-300 km), medium-distance (300-500 km), long-distance (500-1000 km) and very-long-distance (+1,000 km). The trip distances were derived as driving distances from Google Distance Matrix Tool based on zonal coordinates for OD pairs.[13]

3.120 The average trip lengths across each of the vehicle types is presented below.

Table 3.24: Average trip lengths for each vehicle type

Toll Plaza	CJV	LCV	2 Axle	3 Axle	MAV
KG-Khedi	286	860	967	1,011	882
CG-LK	283	880	840	1,032	831
CG-JJK	204	925	923	1,035	860
UG-Khandi	404	874	827	895	805

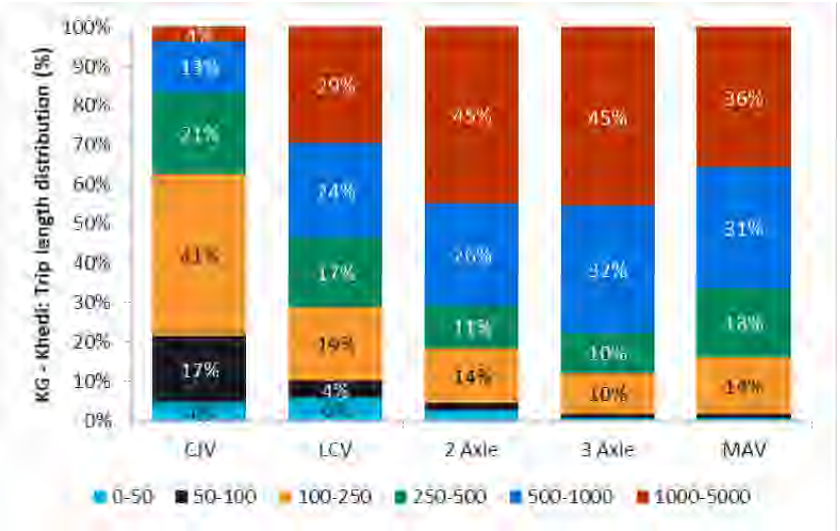
3.121 As we can see from the graphs below, the trip lengths of 2A, 3A, and MAV category across the four toll plazas are very similar. Especially the proportion of long-distance trips undertaking more than 500 km of journey are consistent across the 4 toll plazas (>60% tips). This confirms the understanding gained from site visits, analysis of OD data and the commodity mix that a large majority of traffic connects major industrial centres that lie on NH48. An Asset with such long trip lengths is considered a very healthy Assets in terms of traffic profile and future growth potential, as it caters to the movement between large industrial and consumption and production centres.

3.122 CJV, are mostly local and their trip lengths vary depending on the plaza. Trip lengths of CJV's also vary a lot due to low sample rates, as car users are generally difficult to interview. LCV trip lengths are inclined more towards short to medium distance trips with almost 40% of trips less than 500 km. However, as discussed in the commodity analysis, LCV also carry courier/parcel

[13] Google Distance API is a tool that is available on a chargeable basis from Google Maps Platform. Link: https://developers.google.com/maps/documentation/distance-matrix/start. Travel distance and time information for driving/transit under various congestion scenarios can be extracted through this tool by using macro-enabled Excel, R, etc.

and other commodities which travel long distances, bringing the average overall trip lengths to be in range of higher tonnage truck categories.

Figure 3.38 Trip length distribution: KG - Khedi



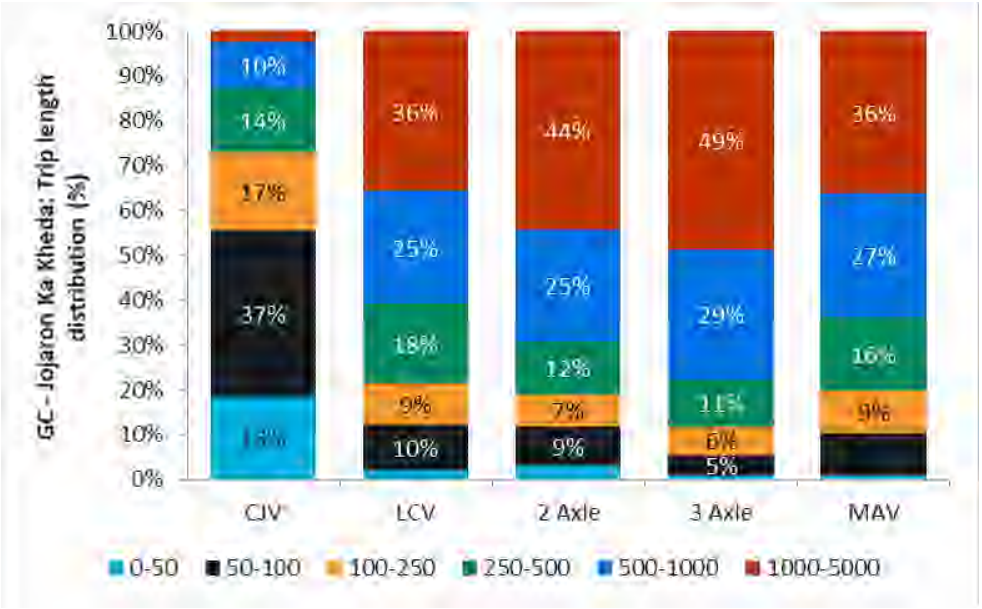
Source: Steer analysis of TVC counts, TMS data

Figure 3.39 Trip length distribution: CG – Lambiyan Kalan

Source: Steer analysis of TVC counts, TMS data

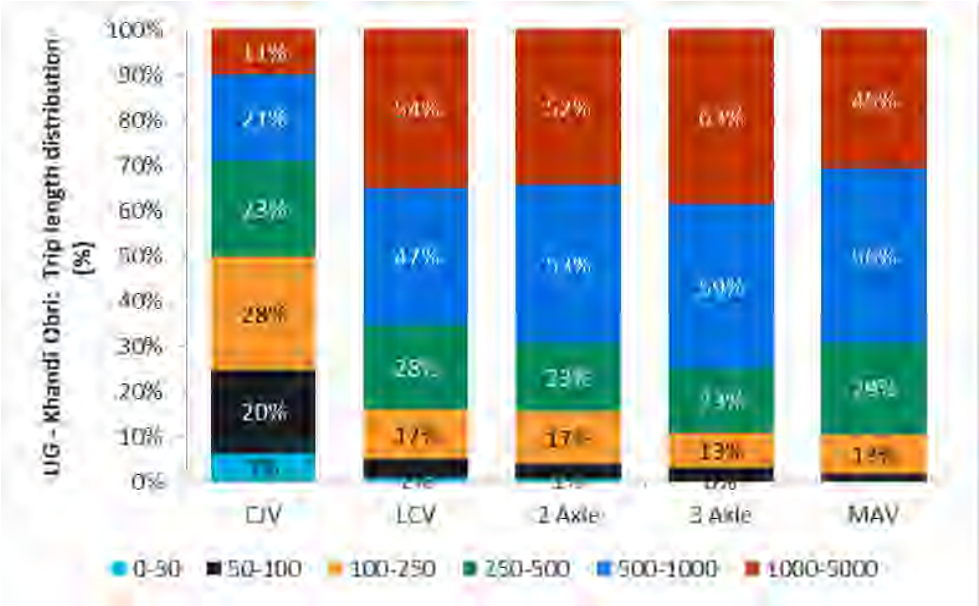
3.123 The following figure presents the trip length distribution of JJK toll plaza. As discussed, most of the 3A/MAV movements on the plaza are very similar to other toll plaza on CG and KG Assets, however especially for MAV's the 50-100 km category serves almost 8-10% of traffic, this is due to the trips between Bhilwara and Chittorgarh, which appear only JJK toll plazas. This can partly explain the higher number of MAV's appearing on the JJK toll plazas.

Figure 3.40 Trip length distribution: CG – Jojaro Ka Kheda



Source: Steer analysis of TVC counts, TMS data

Figure 3.41 Trip length distribution: UG – Khandi Obri



Source: Steer analysis of TVC counts, TMS data

Conclusions

3.124 The Assets have recently undergone a capacity expansion from 4 to 6 lanes configuration, with full COD already achieved for UG (June 2021) and CG (August 2021) while COD for KG is expected by December 2021. As discussed in section 3.11 and section 3.15, the Assets observed positive growth in the 3A-MAV traffic starting Q2 FY21 supported by level of service improvement post construction completion, diversion from local alternates coupled with sustained economic recovery witnesses during Q3 and Q4FY21.

3.125 The Assets connect large industrial clusters, most of them operating within the organised manufacturing sector, along the corridor as well as at the two ends of the corridor, namely between Delhi and Mumbai. The trip lengths observed confirm the understanding that a large proportion of traffic is long distance. Very few corridors in the country command such long trip lengths which works in favour of the overall strength of the Assets in terms of traffic profile.

3.126 In addition to long distance movement, local industrial clusters of Bhilwara, Chittorgarh, Udaipur, Kishangarh add to the captive nature of traffic that currently use the Assets.

3.127 The tourism influence of Udaipur, Chittorgarh, Nathdwara give fillip to the passenger car and bus usage of the corridor. As construction finishes on the Assets (KG), and Covid19 related restrictions are lifted, it is expected that the improved level of service on the Assets will allow for more users to start making these trips to various tourism centres. Increased tourism activity is expected to add to the consumption demand thereby increasing the movement of local goods vehicles to cater to that demand.

3.128 Despite the Covid19 related restrictions impacting traffic patterns, goods vehicles which contribute most the revenue realisation at the toll plaza have seen positive volume growth as compared to previous years. The impact of 2nd wave of Covid19 is evident in April and May 2021, with a much larger impact on passenger vehicles (CJV, Buses) as compared to goods traffic.

3.129 The TVC shows minimal variation on the TMS, especially at the total levels only showing differences of within 2%. At vehicle category level, TMS reports higher 2A, but lower LCV as compared to TVC, which could be due to difference in categorization of vehicles following implementation of FASTag system. These differences are well within the acceptable limits and reinsures the fact that the systems installed on the toll plaza are robust and are correctly capturing the traffic volumes currently appearing on the toll plaza.

3.130 Rajasthan has highest influence on CJV trips on KG and CG Assets. While UG is significantly influenced by Gujarat (24%) apart from Rajasthan owing to proximity to the state. Among the toll plazas, Jojaro ka Kheda has the highest share of local trips which can be attributed to the fact that it is located in middle of two urban centres, namely Bhilwara and Chittorgarh.

3.131 In most of the cases, buses are seen to travel short/medium distances and hence, observe highest share of IAOI trips as these trips start and end within Rajasthan. The category also observes small share of influence from Maharashtra, Gujarat, New Delhi, north India zones as the Asset lies on NH48 and provides seamless connectivity to these states. High local and RoS influence can also be due to the bus networks still not back to pre-Covid19 levels, where a large proportion of long-distance bus movements are yet to start.

3.132 The External trips are the long-distance trips plying between Maharashtra, Haryana, Delhi NCR, and northern states. This is the through traffic on the Assets connecting major industrial clusters and consumption centres. As discussed in internal external analysis, LCVs have the lowest External share of ~40% as compared to ~45% share in MAVs. This substantiates the fact LCVs are more local in nature on KG and GC and the strategic nature of trucks increases with increase in the number of axles.

3.133 As discussed earlier, all four toll plazas lying on the same NH48 corridor exhibit similar commodity movements. The Assets carry significant share of Miscellaneous commodity across vehicle categories and includes parcels and couriers being transported from Delhi NCR,

Bhiwadi, Ajmer, Jaipur to the districts along the Assets as well as in southern Rajasthan, Maharashtra, and Gujarat.

3.134 Likewise, 20% of traffic is observed to carry manufacturing goods. Cement is another key commodity moving mainly from the factories in Chittorgarh and Nimbhera. Construction powder is also carried on Assets from Morbi and Ahmedabad to Bhilwara/Chittorgarh. The groceries and related goods benefit from the NH48's connectivity and are being transported between the northern and the southern states. The petroleum and related commodities are being transported from the refineries in Mumbai and Gujarat.

3.135 The Assets have similar trip lengths for 2A, 3A, and MAV vehicles. More than 60% of these vehicles are observed to be undertaking longer than 500 km of journey across the four toll plazas. This confirms the understanding gained from site visits, analysis of OD data and the commodity mix that a large majority of traffic connects major industrial centres that lie on NH48. The Assets with such long trip lengths are considered to be healthy in terms of traffic profile and future growth potential, as these cater to the movements between large industrial and consumption and production centres.

3.136 Overall, the Assets form part of the GQ corridor which have traditionally been the growth driver of the Indian economy and are expected to continue to grow in the future.

4 Socio Economic Context

4.1 The growth of traffic on existing (brownfield) roads depends on, firstly, how fast the background travel demand grows (background growth); and secondly, how successful the Asset is in attracting that traffic (traffic capture). Background travel demand is driven by the socio-economic conditions of the region where the Asset is located and conditions on a national scale. These include:

- Changes in factors such as population, economic growth (regional and national) and industrial production; and
- Other local factors such as strategic port growth, and growth in local industries near the Assets.

4.2 In turn, the change in the competitive position of the Asset (and thus of the traffic capture it will achieve) derives from how the service offered and the prices charged on the Asset change in comparison to competing roads; and whether any new competing road facilities are available.

4.3 In this chapter, we assess the socio-economic indicators relevant to traffic growth on the Asset.

Population growth

4.4 The total population in India has grown at a Compound Annual Growth Rate (CAGR) of 1.5% since 2000, decreasing over the years, as shown in the table below. The World Bank forecasts this growth to decrease to 0.6% CAGR by the 2030-45 period.

Table 4.1: CAGR of population in India

Years	CAGR		
	Total Population (m)	Rural Population (m)	Urban Population (m)
1970 - 1985	2.3%	1.9%	3.8%
1985 - 2000	2.0%	1.7%	2.9%
2000 - 2015	1.5%	1.0%	2.6%
2015 – 2030*	1.0%	0.3%	2.3%
2030 – 2045*	0.6%	-0.3%	1.9%

Source: World Bank Data on Health Nutrition and Population Statistics, *forecast population growth

4.5 Rajasthan represents 5.7% of India's population, with the total state population of 68 million (2011 Census). The rate of growth of the urban population in Rajasthan has been consistently higher than that of the total population, indicating a trend towards urban agglomeration. The proportion of urban population in Rajasthan has increased from 23% to 25% between 2001 and 2011. However, overall, the proportion of rural population in Rajasthan is higher than the country average.

4.6 The following table shows the evolution of population in Rajasthan compared to that of the country.

Table 4.2: Population Growth in India (2001 – 2011)

State	2001 Population (m)			2011 Population (m)			CAGR (2001 – 2011)		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Rajasthan	56.5	43.3	13.2	68.5	51.5	17.0	2.0%	1.8%	2.6%
India	1,028.7	742.6	286.1	1,210.9	833.7	377.1	1.6%	1.2%	2.8%

Source: Census 2011 Data

Table 4.3: Local Population Growth (2001 – 2011)

Region	2001 Population (m)	2011 Population (m)	CAGR (2001 – 2011)
Udaipur	2.63	3.07	1.5%
Kota	1.57	1.95	2.2%
Chittorgarh	1.33	1.54	1.5%

Source: Census 2011 Data
Coastal Karnataka includes district of Udupi, Dakshin and Uttara Kannada

4.7 The growth of the local population, i.e., of Udaipur and Kota, are of more direct relevance for the lighter vehicles on the Asset. Both these cities have observed healthy growth in population in the last decade indicating that the Asset is expected to continue serving the local consumption demand. However, as seen in Chapter 3, the Asset primarily caters to the long distance strategic traffic, therefore the population of India holds more relevance for heavy trucks, 3A and MAV, the key revenue drivers on the asset.

4.8 Given the complexities of the patterns in which urbanisation takes place, and the very dynamic nature of local population migration (which are very difficult to forecast with accuracy), we do not use population growth as a proxy for understanding future travel demand growth on the Asset. It has been included in this section simply to provide a general context of the region in which the Asset is located.

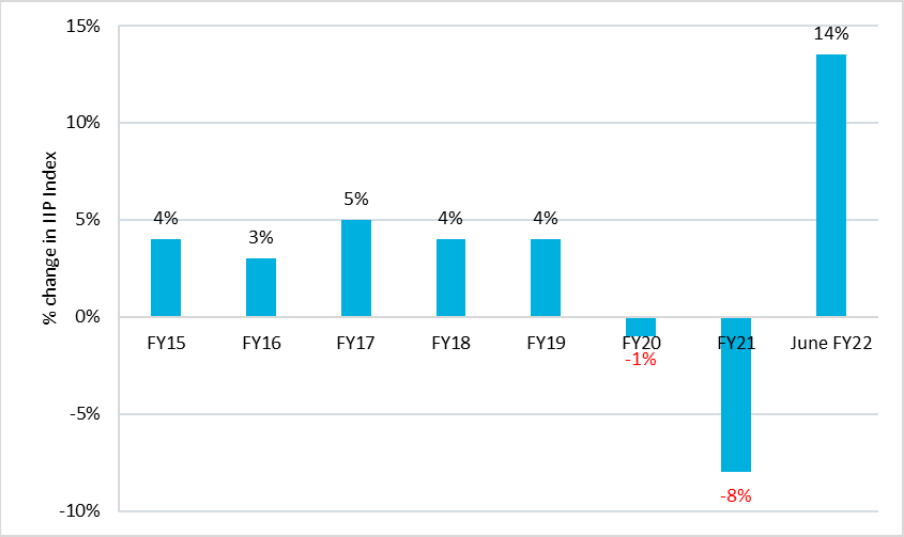
Economic Indicators

Industrial Production

4.9 The Index of Industrial Production (IIP) is a composite indicator that measures the short-term changes in the volume of production for a basket of industrial products. The IIP data tracks the manufacturing activity in different sectors of an economy, with mining, manufacturing, and electricity being the three broad sectors in which IIP constituents fall.

4.10 At an annual level, the IIP was growing on an average of 4% between FY15-19, before being hit by liquidity crisis and overall economic slowdown in FY20. Post that, the IIP shrank by over 8% in FY21, due to a decline in economic activities in the wake of global lockdowns introduced to curb coronavirus pandemic. However, with the gradual opening of economy and rebound observed in demand, the IIP on a month-on-month grew by +28.6% in May 2021 and 13.5% in June 2021, as per the latest available data, indicting a revival in economic growth.

Figure 4.1: Annual growth - Index of Industrial Production



Source: Central Statistical Organisation (CSO)

4.11 Since the IIP data in India is released only at a national level and not at the state level, we do not use IIP growth as a proxy for understanding future travel demand growth on the Asset. Also, availability of long-term forecast is the key for using an indicator as a growth driver, while long-term forecast for IIP are not available we refrain from using it to forecast traffic.

Vehicle ownership

4.12 Car ownership in India has traditionally been very low, however this is slowly changing with the increasing per capita income levels. Between 2007-17, number of cars per 1,000 people has more than doubled and increased at a CAGR of about 11%. The corresponding ownership rates for urban cities like Delhi, Mumbai, Bengaluru, and Chennai are over 100 cars per 1,000 people. The region where the Assets lie is semi-urban with low levels of car ownership.

4.13 India overall still stands at a very nascent stage in the vehicle saturation curve, offering a huge potential, as the income per capita of India and the region itself grow further, we expect the car ownership levels to increase. As per the India Energy Outlook, the car ownership is projected to grow steeply to 175 cars per 1,000 population by 2040 in India[14].

[14] https://www.gita.org.in/Attachments/Reports/IndiaEnergyOutlook_WEO2015.pdf

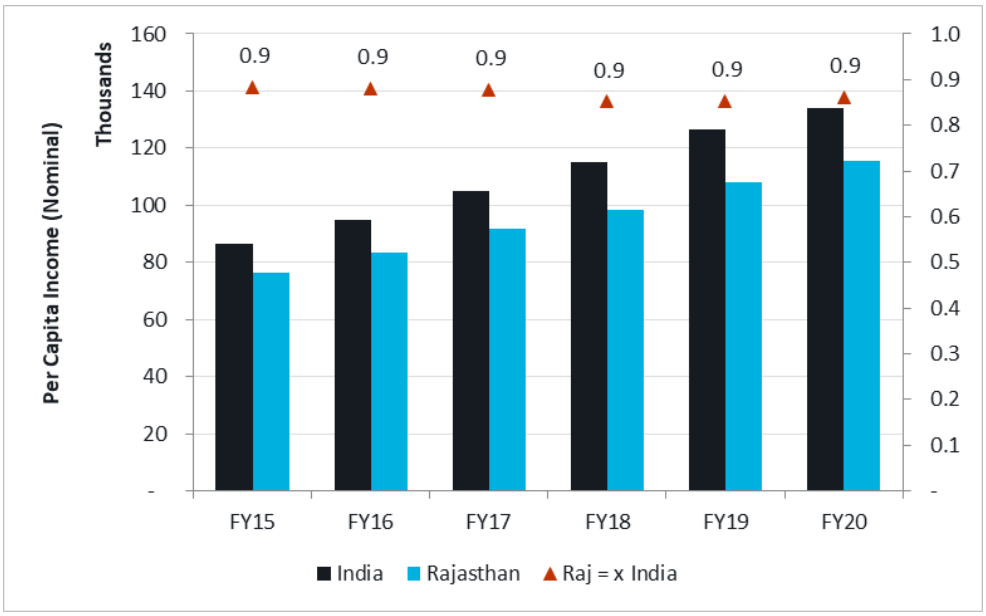
Figure 4.2: Car ownership in India per 1,000 population

Source: Central Statistical Organisation (CSO)

Per Capita Income (PCI)

4.14 The per capita income of the state where the Assets lie i.e., Rajasthan is lower as compared to the national average, in dollar terms, PCI of just $1,500 per head indicates that the state is at a very early stage of consumption curve. Going forward, we therefore expect local consumption to be strong with increasing per capita income which would drive the growth in both passenger and commercial traffic on the Assets.

Figure 4.3: Per capita income



Source: Central Statistical Organisation (CSO)

4.15 However, given the difficulty in obtaining granular district level PCI data, it is not advisable to use this as a growth driver. Also, the long-term forecast for PCI are not available, we therefore refrain from using it to forecast traffic.

GDP and GSDP Growth

4.16 The Indian economy has grown at a CAGR of 6.6% during FY12-20, aided by a strong growth in the services/tertiary sector. The economic growth of Rajasthan (GSDP)[15] has been weaker than the country overall. Rajasthan approximately contributes 5% to the India's GDP. In terms of per capita income, Rajasthan has lower per capita income than the country overall.

4.17 Rajasthan, the largest (area-wise) state in India, is located in the north-western part of the country. The state has a large pool of semi-skilled and unskilled labour and has primarily agricultural economy.

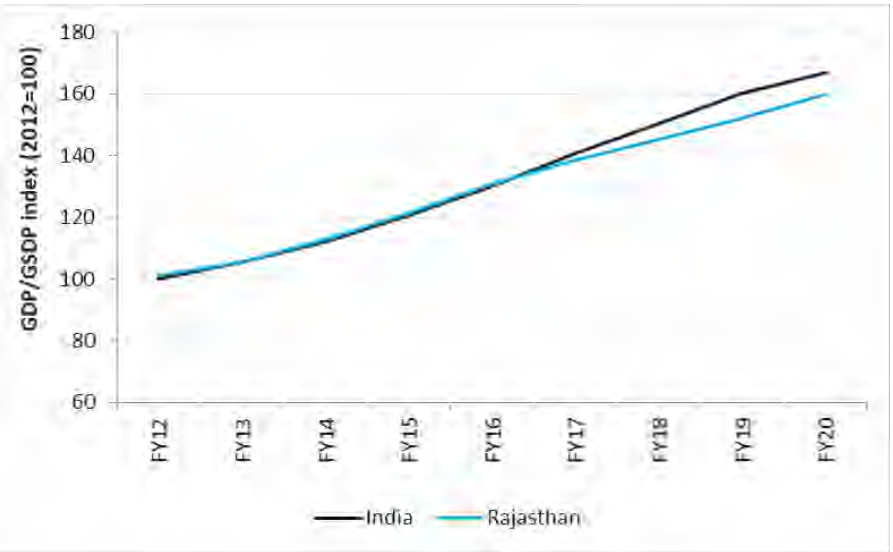
4.18 In terms of sectoral contribution to the state GDP, tertiary sector (45%) has the highest share followed by primary (34%) and secondary (21%), with the shares remaining stable during the last five years.

4.19 The tourism and transport sector constitute a majority of the state's tertiary sector. Rajasthan is considered a favoured tourist destination in India, with key tourist attractions being Jaipur, Jodhpur, Jaisalmer, Bharatpur and Udaipur. In 2019, the state attracted over 50 million domestic tourist arrivals in the country whereas, in terms of foreign tourist arrivals it holds sixth position with over 1.6 million tourist visiting state every year[16].

4.20 In terms of secondary sector, the state has key industrial areas in Kishangarh (marble); Manesar (automobile), Pali and Jodhpur (textiles), Chittorgarh -Neemuch (cement), and Kota (stone). Rajasthan is also the second-largest mineral producing state and the sole producer of lead and zinc in India. The state has one of the largest limestone reserves, making it a hub for cement industries.

4.21 Rajasthan's GSDP CAGR was 5.9% between FY12-20 and its relative share to the national GDP was around 5% in FY20.

Table 4.4: GDP/GSDP index (2012=100)



Source: Central Statistical Organisation (CSO)

[15] GSDP is the Gross State Domestic Product i.e., the GDP equivalent for a particular state, it is the final value of goods and services produced by a particular state

[16] Indian Tourism Statistics 2020

4.22 The official historical GDP and GSDP data for India are released by the Central Statistical Organisation (CSO). The GDP forecasts for India are available from various reliable sources such as Oxford and Consensus, but the GSDP forecasts for the same are not published. However, using the past trends for the relationship between GDP and GSDP, we can develop reasonable GSDP forecasts.

4.23 Therefore, in our view, GDP is the best source to be used as a growth driver for long term forecasts of traffic.

Summary

4.24 For any indicator to be used as a growth driver to forecast traffic, a reliable source of historical and forecast available for that indicator is the key requirement. Of the key socioeconomic indicators discussed above GDP seems to be the only growth driver for which reliable data is available both in terms of historical and forecast data, therefore, to forecast traffic we would be using GDP/GSDP as our key growth drivers.

Indicator	Remarks
GDP/GSDP	Available annually ***National level reliable historical and forecast available***
Population/Urbanisation	Revised every 10 years, last available 2011. Population estimates are not available annually, making it difficult to run regressions. Also, the very dynamic nature of local population migration (which are very difficult to forecast with accuracy), we do not use population growth as a proxy for understanding future travel demand growth on the Asset. *Forecast available but historical data is a constraint*
Per Capita income	National and state level per capita historical data is available, but future estimates for the same are not to base traffic growth on. *Historical data available but forecast data is a constraint*
IIP Index (Industrial production)	Unlike GDP, reliable IIP forecast are not available, also the IIP data is only available at national levels and not for each state individually.
Vehicle ownership	Vehicle ownership at India level is available latest for 2017. At state level, not all states release their vehicle ownership data annually making it difficult for consistency. A lot of research organisations have published forecast at national level, but a reliable estimate is not available.

Source: Steer analysis

5 Background growth relationships and forecasting assumptions

Introduction

5.1 In this chapter, we present our approach, assumptions around estimation of elasticities and forecast assumptions of Macro parameters for each vehicle category on the Asset.

5.2 Traffic growth is commonly related to a variety of macro-economic and industry- or commodity-specific factors (hereafter referred to as 'traffic growth drivers'). These growth drivers are typically identified from the results of the OD data analysis and the site visits that help us appreciate the nature of traffic movement – 'what' travels 'where' and 'why'.

5.3 On Assets where long time series historical data is available, to understand the historical traffic trends in relation to these growth drivers, we typically carry out regression analysis, to determine the historical relationship between traffic belonging to each major vehicle category and its macroeconomic growth driver at the toll plaza. The dynamics of traffic demand is the dependent variable while the dynamics of one or more identified growth drivers are the independent or explanatory variables. This is the primary approach to determine the elasticity relationships. However, for Asset under consideration where only limited historical data is available, we have adopted an approach which is explained in detail in the sections below.

5.4 While working on several Assets across the country where historical data is available, it has been observed that typically, growth of passenger and light commercial vehicles like cars, buses and LCVs which have relatively shorter trip lengths (<200-250 km) is more closely linked to the local economic growth drivers where the toll road is located. These categories are generally driven by the demand driven by local production/consumption centres and are in most cases captive to the toll plazas. Local factors coupled with tourism driven demand is often seen as the key driver for consumption of goods and services in the areas. Therefore, we typically link the growth rate of these vehicle categories with GSDP growth rates of the state where the asset is located as that is closest proxy of the local economic activity in the region.

5.5 Whereas Heavy vehicle traffic like 3-axle trucks (sometimes 2A trucks as well) and MAVs tend to have a much longer average trip lengths (>350-500 km) and serve multiple economic activity centres located along an Asset as well beyond the Asset across multiple states of the country. For these vehicle categories we therefore assume these vehicle categories to grow in line with the national GDP. This is because most light goods vehicles tend to travel shorter distances within the state, whereas a significant proportion of heavy vehicles carry commodities for long - distances across the country and have much longer trip lengths. These commodities also tend to be part of industry ecosystems whose demand-supply relationships are scattered across the country and therefore relate more with GDP growth. Therefore, using the OD data trip lengths of various vehicle types and the commodity carried by these goods vehicles form the basis for estimating the elasticity relationships

Estimation of background elasticities

Overview

5.6 For brownfield Assets, where sufficient historical traffic evolution is available, it is common practice to use regression model analysis to determine the relationship, expressed as elasticity, between traffic growth and key socioeconomic drivers. This relationship is then applied to assumptions of future socio-economic evolution to estimate future traffic growth.

5.7 As for the Assets under consideration, the tolling started recently in FY18, in addition they were undergoing construction (4 to 6 laning) with various network changes resulting in shifts from the Assets therefore a consistent historical trend was not available. Therefore, we undertook a benchmarking analysis in order to estimate our forecast elasticities. Sources used include our understanding of the Asset, outputs of the OD data analysis (commodity distribution, key OD pairs, Trip length analysis) and our understanding of the benchmark Assets in the region having similar traffic profiles, which give us reasonable confidence to the relationships proposed.

5.8 In terms of selection of growth drivers for vehicle types, in general we have assumed state GSDP as the key driving factor for the passenger traffic given this traffic is generally driven by the local economies of the cities and state containing the Asset. As discussed earlier in Chapter 2 and Chapter 3, through the site visit observations and further corroborated by the OD data analysis, it was confirmed that the heavy commercial vehicles (2A, 3A, MAV) on this Asset ply long-distance catering to multiple economic centres along and beyond the Asset corridor. Therefore, their underlying growth can be reasonably considered to be governed by the general economies of several states or nation as whole.

5.9 The forecast elasticities are assumed to remain constant over the concession period as the logistics sector in still in early stages of development in India (95% of trucks still owned by operators owning less than 5 trucks). Car ownership levels are still around 22+ per 1000 people, and it is likely to take a few years before the market reaches maturity. These trends are based on a long-term understanding of historical relationships and an overall outlook on the growth of the region and the country.

5.10 The below table presents the growth drivers identified to model the forecast background traffic growth rates across all toll plazas.

Table 5.1: Identified growth drivers to model traffic growth

Vehicle type	GDP India	State GSDP
Car		TP1: Khedi, TP2: LK, TP3: JJK: 100% GSDP Rajasthan TP4: Khandi Obri: 50% GSDP Rajasthan and Gujarat each
LCV		TP1: Khedi, TP2: LK, TP3: JJK: 100% GSDP Rajasthan TP4: Khandi Obri: 50% GSDP Rajasthan and Gujarat each
Bus		TP1: Khedi, TP2: LK, TP3: JJK: 100% GSDP Rajasthan TP4: Khandi Obri: 50% GSDP Rajasthan and Gujarat each
2A	100%	
3A	100%	
MAV	100%	

Source: Steer analysis of Client data

5.11 The sections below detail out the reasoning for selection of respective growth driver(s) for each vehicle category.

5.12 **CJV**: Car traffic is largely driven by the local demand from Bhilwara, Kishangarh, Rajsamand, and Chittorgarh. CJVs are expected to grow with 1 elasticity on the asset as the car ownership levels continue to increase in the region in future years. With The presence of a large tourism centre such as Udaipur on one end and Mount Abu on the other end, CJV traffic is expected to grow at a higher rate on Khandi Obri with a 1.2 relationship to state GSDP.

5.13 **Buses**: Buses are primarily a mix of public and private inter-city buses. It seems that buses currently are serving local intercity demand. As these cities grow, the buses are also expected to respond to the increasing demand however only at a muted rate. With The presence of a large tourism centre such as Udaipur on one end and Mount Abu on the other end, Bus traffic is expected to grow at a higher rate on Khandi Obri

5.14 **LCV/2A**: LCV have been observed to carry a mix of commodities. As this is the GQ corridor LCVs are also found to undertake long distance trips with trip lengths up to 800-900KM in addition to catering to the local demand. The emergence of ecommerce companies which transport high value low tonnage products over long distances prefer the use of LCV/2A/3A vehicles. It is evident from the survey data that LCV/2A trucks are being used for transporting such materials on this corridor. Further both LCV and 2A have also serving the manufactured goods industry. Therefore, we believe that the LCV/2A category will continue to grow in the future. However, the classification between 2A and LCV still colours the performance of this category and hence a lower growth assumption on LCV with a 0.5 with State GSDP and 2A with a 0.6 relationship to GDP has been assumed on forecasts.

5.15 **3A and MAV:** The corridor is part of the traditional Golden Quadrilateral with 3A, and MAVs are making long distance movements catering to the New Delhi and North India towards Central and Southern parts of India. The region along the Delhi-Mumbai NH48 corridor is industrial hub of India and routes up to Mumbai has a cluster based industrial development (organised sector) around cities of Ahmedabad, Mumbai, Udaipur, Vadodara, Bharuch, Surat, Vapi, in addition to the port movements from Kandla, Mundra and JNPT ports. The Assets benefit from heavy industrial movement from industries along the corridor and in the vicinity. Moreover, an average trip length of around 1000kms just aids the fact that this asset has significant long-distance traffic and is expected to have a closer growth relationship with national GDP. Therefore, an assumption of 1.0 to GDP has been assumed for the forecasts.

Table 5.2: Elasticity recommendations for the Assets

Vehicle Category	Proposed Elasticities	Growth Driver
CJV	Kheda: 1.0 Lambiyan Kalan: 1.0 Jojaro Ka Kheda: 1.0 Khandi Obri: 1.2	GSDP Rajasthan Khandi Obri: GSDP Rajasthan/Gujarat
Buses	Kheda: 0.3 Lambiyan Kalan: 0.3 Jojaro Ka Kheda: 0.3 Khandi Obri: 0.4	GSDP Rajasthan Khandi Obri: GSDP Rajasthan/Gujarat
LCV	Kheda: 0.5 Lambiyan Kalan: 0.5 Jojaro Ka Kheda: 0.5 Khandi Obri: 0.5/0.5	GSDP Rajasthan Khandi Obri: GSDP Rajasthan/Gujarat
2A	Kheda: 0.6 Lambiyan Kalan: 0.6 Jojaro Ka Kheda: 0.6	GDP

Vehicle Category	Proposed Elasticities	Growth Driver
	Khandi Obri: 0.6	
3A	Kheda: 0.7 Lambiyan Kalan: 0.7 Jojaro Ka Kheda: 0.7 Khandi Obri: 0.7	GDP
MAV	Kheda: 1.0 Lambiyan Kalan: 1.0 Jojaro Ka Kheda: 1.0 Khandi Obri: 1.0	GDP

Source: Steer analysis

Forecasts for growth drivers

5.16 Following the discussion in Chapter 4 on the nature of economic activity in the state of Karnataka, in this section, we describe the assumptions in relation to forecasts of the key macro-economic drivers of traffic growth. Particularly, we have based our forecast on GDP and GSDP projections provided by the Client.

National GDP

5.17 India's GDP and the relevant state GSDPs are the primary macroeconomic variables that have been modelled to drive our traffic growth forecasts.

5.18 After the last period of economic slowdown in FY11-12, the country has been experiencing an economic downturn since late FY19 with the FY20 reporting 4% GDP growth. India's GDP growth declined as domestic investment and consumption demand were already under stress because of the liquidity crunch before Covid-19. Related events to the economic slowdown include reduced growth rates in automobile sales and production, liquidity crunch, rising number of non-performing assets, lower manufacturing outputs and lower rural consumption. Furthermore, the last months of FY20 and FY21 have been affected by Covid19, with impacts on industry (economic activity) and society (social activity). This bias has been addressed in terms of base traffic estimation by normalising the traffic projections for FY21 (as described in Chapter 6) and we based our forecast on the GDP projections as shown in figure below.

5.19 There was a substantial impact of the covid-19 outbreak on the Indian economy during the first two quarters of FY21. The growth momentum eventually picked up in Q3-Q4 FY21. A sharp rebound is expected in FY22 with economy projected to grow by 9.4%. In the long term, Indian GDP would reduce gradually after 2030, to reach 5% by 2030 and 4.5% by FY40.

5.20 Our national GDP forecasts are a blend of published forecasts by independent sources such as Consensus, World Bank, IMF, OECD, and RBI.

Figure 5.1: FY21-40 GDP forecast

Source: Steer analysis of GDP forecast by various organisations.
Average of long-term forecast of Consensus, OECD, Oxford and short-term forecast of IMF and World Bank

Normalisation of FY22 GDP and FY23 GDP

5.21 To arrive at the FY22 normalized position, we have assumed that the Q4FY22 would be a normal period, with no further impact of Covid-19. However, we cannot directly use FY22-Q4 estimates because of inherent seasonality attached to it. In India, it is typically observed that during the first half of the financial year (April-September) the GDP growth and contribution to overall GDP is generally lower than the annual average. Widespread monsoon-related disruptions result in subdued economic activity in this period. The second half of the financial year (October-March) typically shows a gradual pick-up in economic activity as the monsoon recedes and construction, mining and agricultural activities start ramping. The agricultural harvest season coupled with the festive season around Diwali boosts the consumer spend in the second half of the financial year.

5.22 We have analysed how Q4 grew with respect to annual GDP for the last five years and have taken an average of FY16 and FY18 and excluding FY17, FY19 and FY20 as they were impacted years due to demonisation and slowdown in Indian Economy.

5.23 The Q4 grew on an average of 1.22 times the annual GDP, applying this factor to the FY22-Q4 estimates, we have arrived at FY22 normalised GDP position of 5.4%.

5.24 The table below shows annual GDP along with adopted Q4 factors and Normalised FY22 and FY23 GDP.

Table 5.3: Normalised and Q4 adopted GDP growth rates

Quarter	FY16	FY17*	FY18	FY19*	FY20	FY22
Q1	7.6%	8.7%	6.1%	7.6%	5.4%	18.5%
Q2	8.0%	9.7%	5.3%	6.5%	4.6%	7.9%
Q3	7.2%	8.6%	6.7%	6.3%	3.3%	7.2%
Q4	9.1%	6.3%	8.9%	5.8%	3.0%	6.6%
FY	8.0%	8.3%	6.8%	6.5%	4.0%	9.5%
Q4 factor wrt to FY	**1.14**	**0.76**	**1.31**	**0.89**	**0.74**	
Adopted Q4 factor wrt to FY	**1.22**					
Normalised FY22	**5.4%**					
Normalised FY23	**5.9%**					

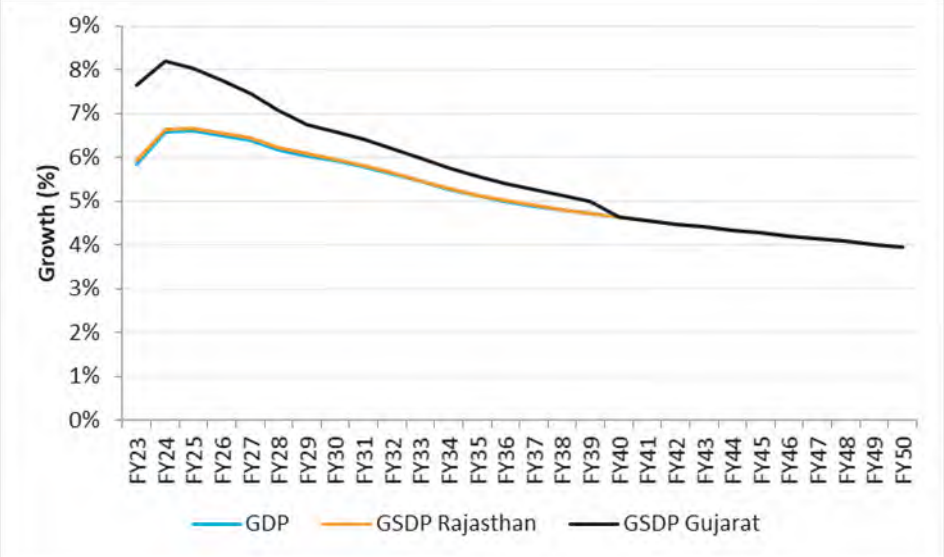
Source: RBI for FY22 estimates, and historical Quarter on Quarter GDP have been sourced from MOSPI (Ministry of Statistics and Programme Implementation, Central Statistical Organisation), *FY17 and FY19 have been ignored due to exogenous impacts such as Demonetisation and slowdown the economy in FY19

State GSDP

5.25 By comparing historic trends of state level GSDP growth with the national GDP growth we have established GSDP projections for each state. We assumed that as the Indian economy grows, the states which have historically grown at a faster pace will, over 10 years, see a slowdown in GSDP growth, tending to the national average, whereas the states that have grown slower than the national GDP will begin to pick-up and grow faster. The GDP-GSDP gap would partially converge by 2040, and fully converge by 2049.

5.26 The Gujarat GSDP is expected to grow faster than the national GDP and is expected to start converging towards national average by 2040. The chart below shows the forecast growth lines for GDP and Rajasthan and Gujarat GSDP.

Figure 5.2: Forecasts for India GDP, GSDP Gujarat, GSDP Rajasthan



Source: Steer analysis of historical State GSDP data and India GDP projections

6 Forecasts: Base AADT, Impacts and Traffic and Revenue forecasts

Introduction

6.1 Following the discussion on our forecast of background growth elasticity relationships in the previous chapter, this chapter first covers the forecasting assumptions around estimation of base year AADT and potential network impacts on traffic growth on the Asset. Thereafter, we present our assumptions around toll segmentations, trip factors and evolution of toll rates for the forecast period which are used to forecast revenues as derived from forecast traffic. In the final section, this chapter summarises traffic growth rates for the forecast years.

6.2 The following table lists key intermediate and final outputs that have presented in previous Chapters and in this chapter.

Table 6.1: Key intermediate and final outputs in the forecast

Forecast	Final outputs	Intermediate outputs	Inputs	Chapter
Traffic	Base year AADT	ADT, SCF estimate for base year	Historical SCF and year-to-date AADT	Chapter 3, 6
	Background traffic growth	Background forecast elasticity	Background historical elasticities with respect to growth drivers	Chapter 5, Appendix C
		Forecasts for growth drivers	Historical performance of growth drivers along with Macro assumptions (GDP and GSDP)	Chapter 4, 5, Appendix C
	Impact growth rates and staging	Impacts	Network analysis	Chapters 6
Revenue	Annual/daily revenue forecasts	Forecast toll segmentation: Trip frequencies and trip factors	Historical trip frequencies	Chapter 3, 6
			Historical trip factors	Chapter 6
		Future toll rates	Toll evolution	Chapter 6

Source: Steer

Seasonal Correction Factors

6.3 Traffic on any Asset varies on a month-on-month level. Such variations maybe due to monsoons (typically Jul to Sept) or due to festivals in the region. For e.g. It is observed that typically the truck traffic during the first half of the financial year (April-September) is generally lower than the annual average, mainly because of peak summer season followed by monsoons affecting

the freight movement patterns in large parts of the country in the July-September period. In addition to these there may be other seasonal variations specific to the Asset.

6.4 In order to normalise for these variations across the year to provide an AADT estimate, Seasonality Correction Factors (SCF) are used. SCFs are estimated to convert the monthly traffic numbers to an AADT level while accounting for seasonal variation due to local/national festivals, weather changes and/or temporary external impacts. These are typically estimated using historical data for each plaza and vehicle category over multiple years. An SCF >1 means that the traffic for the month is lower than the annual average and vice-versa.

6.5 Historical traffic data was available for all toll vehicle categories starting February 2020 up-to May 2021. Therefore, in absence of longer-term historical data to arrive at the SCF, we have benchmarked our SCF from various sources:

- Assets in the vicinity, south or north of the Asset carrying very similar traffic profiles
- SCF from toll plaza data
- Site observations and information provided by the toll plaza to validate SCF assumptions (such as traffic volume drop during monsoon months).

6.6 The below table presents the assumptions in SCF used to estimate the AADT:

Table 6.2: Adopted SCF: TP1 KG Khedi

Vehicle Category	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
CJV	1.12	1.09	1.05	1.12	0.97	1.01	1.08	0.84	0.91	0.94	0.94	1.07
LCV	0.85	0.92	1.00	1.05	1.00	0.96	0.99	1.02	1.05	1.10	1.03	1.15
Bus	0.97	0.99	0.83	1.07	1.05	1.12	1.09	0.96	0.96	1.03	0.95	1.13
2A	1.04	1.00	1.09	1.00	0.94	0.89	0.94	1.08	1.04	1.06	0.96	1.04
3A	0.91	0.95	0.99	1.06	0.99	0.95	0.97	1.07	1.01	1.05	1.01	1.09
MAV	0.94	0.95	0.97	1.06	1.02	0.98	0.98	1.07	0.99	1.03	0.98	1.06

Source: Steer analysis of various sources

Table 6.3: Adopted SCF: TP2 CG: Lambiyan Kalan

Vehicle Category	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
CJV	1.08	1.03	0.98	1.08	0.97	1.02	1.07	0.90	0.96	0.94	0.93	1.12
LCV	0.81	0.91	1.00	1.06	1.00	0.97	1.02	1.05	1.03	1.07	1.04	1.16
Bus	0.95	0.96	0.97	1.08	1.01	1.12	1.07	0.95	0.96	0.95	0.92	1.13
2A	1.04	0.98	1.00	1.01	0.95	0.90	0.95	1.08	1.05	1.07	0.97	1.06
3A	0.91	0.95	0.99	1.07	0.99	0.96	0.98	1.07	1.01	1.04	1.00	1.09
MAV	0.94	0.96	0.98	1.06	1.01	0.99	1.00	1.08	0.99	1.02	0.96	1.03

Source: Steer analysis of various sources

Table 6.4: Adopted SCF: TP3 CG: Jojaro Ka Kheda

Vehicle Category	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
CJV	1.11	1.11	1.07	1.19	0.93	0.99	0.96	0.93	0.95	0.91	0.90	1.08
LCV	0.82	0.94	1.06	1.11	1.01	0.96	1.02	1.07	1.03	1.05	0.98	1.08
Bus	0.97	0.97	0.97	1.06	1.02	1.13	1.08	0.97	0.96	0.96	0.92	1.10
2A	0.99	0.98	1.02	1.02	0.95	0.90	0.97	1.10	1.07	1.07	0.97	1.03
3A	0.92	0.95	0.98	1.08	1.01	0.96	0.99	1.05	0.98	1.08	0.99	1.07
MAV	0.93	0.95	0.97	1.06	1.04	1.01	1.00	1.09	1.00	1.02	0.95	1.02

Source: Steer analysis of various sources

Table 6.5: Adopted SCF: TP4 UG: Khandi Obri

Vehicle Category	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
CJV	1.02	0.91	0.98	1.19	1.16	1.12	1.09	0.76	1.00	0.97	0.96	1.07
LCV	0.95	0.94	0.95	1.04	1.02	1.01	0.99	1.02	1.04	1.04	0.96	1.09
Bus	0.94	0.89	0.97	1.10	1.13	1.15	1.09	0.87	0.97	0.98	0.95	1.10
2A	1.02	1.02	1.03	1.06	0.95	0.94	0.99	1.09	1.03	1.03	0.92	0.96
3A	0.91	0.94	0.98	1.08	1.03	1.03	1.03	1.10	1.01	1.00	0.93	1.01
MAV	0.95	0.93	0.95	1.05	1.05	1.03	1.05	1.07	0.96	0.99	0.95	1.07

Source: Steer analysis of various sources

Base year (FY21 and FY22) traffic

6.7 The impact of Covid19 caused steep fluctuations on traffic numbers throughout the year and have therefore made it extremely difficult to estimate an actual base traffic level for FY21 and the impact of 2nd wave in Q1FY22 has disrupted normal travel patterns in FY22 as well. Additionally, these fluctuations in traffic were widely different across different assets depending their locations, commodities carried, and the overall nature of traffic being served by the asset. Therefore, an approach to estimate a base AADT number for FY21 and FY22 (normalised) must be used, which not only accounts for the impact of Covid19 related national lockdowns, but also the localised restrictions, and traffic profile on each asset.

6.8 The methodology and assumptions taken to estimate FY21 and FY22 is discussed in the following sections.

Estimation of FY21 Normalised and FY22* (no Covid19, hypothetical)

6.9 After the initial drop in traffic volumes across categories in Q1 , gradual recovery to pre-Covid19 levels (FY20) was seen on Assets starting Q2FY21 (refer chapter 3) except on KG. Some of this recovery was related to the pent-up demand that was witnessed across Assets. However, the increased traffic volume levels sustained in Q3FY21 and Q4FY21 as well (refer chapter 3). This reflected a sustained economic recovery and therefore a normalised FY21N base traffic has been estimated based on the Jan-Feb-March of FY21 after adjusting for seasonality.

6.10 **FY22 if no 2nd wave (FY22*)**: FY22* AADT (no Covid19, Hypothetical) has been estimated to arrive at an FY22 AADT position assuming a normal FY22 (no further Covid19 waves of infection in FY22). FY22* was estimated based on a normalised FY22 GDP (as discussed in chapter 4) to elasticity relationship. This estimation was undertaken to compare the FY22 estimates to actual outturn for Q1FY22.

Assumptions on 3rd Wave of Covid19 infections

6.11 As we have already seen the third wave of Covid19 infections in other countries (UK, USA, Israel, Russia), it is prudent to assume that a 3rd wave of Covid19 infections is likely to occur in India too. Its impact will depend on individual states' preparedness and level of vaccination throughout the country. We have, after compiling information from various sources, taken an assumption for the timing of the 3rd wave, and assumed that its magnitude will, in general be smaller than the 2nd wave of infections. ***Note here that this is one of several scenarios that may unfold as the Covid-19 pandemic is currently still unpredictable in terms of its spread due to various variants, the impact of the vaccination programme in different parts of a region, and most importantly the response from local/regional/state/national authorities due to increased rates of infections remains unpredictable. The scenario outlined below is considered to be a reasonable outcome based on information currently available, however the exact outturn remains unpredictable due to the factors outlined above.***

6.12 As per the latest evidence available from public sources, the 3rd wave of infections is expected to peak during the months of October and November 2021. However, the number of cases in third wave are expected to be lower, due to external interventions like vaccinations, and the lockdowns to be more regional. Further the length of the third wave is expected to be 6 weeks as compared to 10-12 weeks during the second wave. Therefore, the overall impact on traffic of 3rd wave is expected to be half of the impact that was seen on Asset in the second wave with a faster recovery back to FY22* levels by Dec'2021.

Month on Month comparison of FY22* and FY22 estimated

6.13 Actual toll plaza data was available up to May-21, and three weeks of June 2021 was also made available. A comparison between FY22* and outturn traffic was undertaken to evaluate the impact of 2nd wave of Covid19. Based on the methodology stated above This comparison is used as an indicator to estimate the magnitude of third wave of Covid19 also to affirm that Q4 of FY22 is likely to follow a pattern largely unimpacted by lockdowns, movement restrictions etc. The assumption for a normal Q4FY22 is considered to be reasonable as the number of cases go down, vaccination rates go up, and normal economic activity resumes.

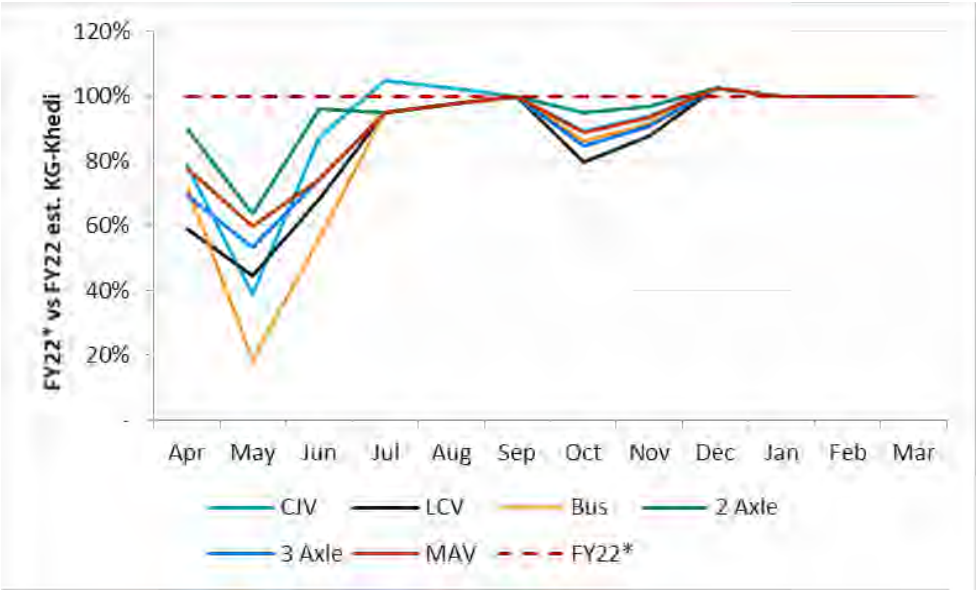
Estimation of Q4 FY22

6.14 Q4FY22 is likely to follow the pattern from FY21 and is estimated to stabilize at the FY22* estimated numbers. This Q4 traffic level for each asset is used as a proxy to get a FY22 normalized or FY22N position. Note here the F22N and FY22* will be the same as it is assumed that Q4 of FY22* will become the basis of estimating FY22N. As these AADT levels are expected to be free of COVID related fluctuations, they serve as a stable base position for traffic for the Asset.

6.15 The output of above analysis is presented below charts. As we can see from the charts below the data up to June 2021 is actuals and rest of the months are estimated based on the methodology explained above. The drops in traffic volumes due to the 2nd wave has started to see recovery back to FY22* levels by Q2FY22, with the 3rd wave expected to impact the traffic

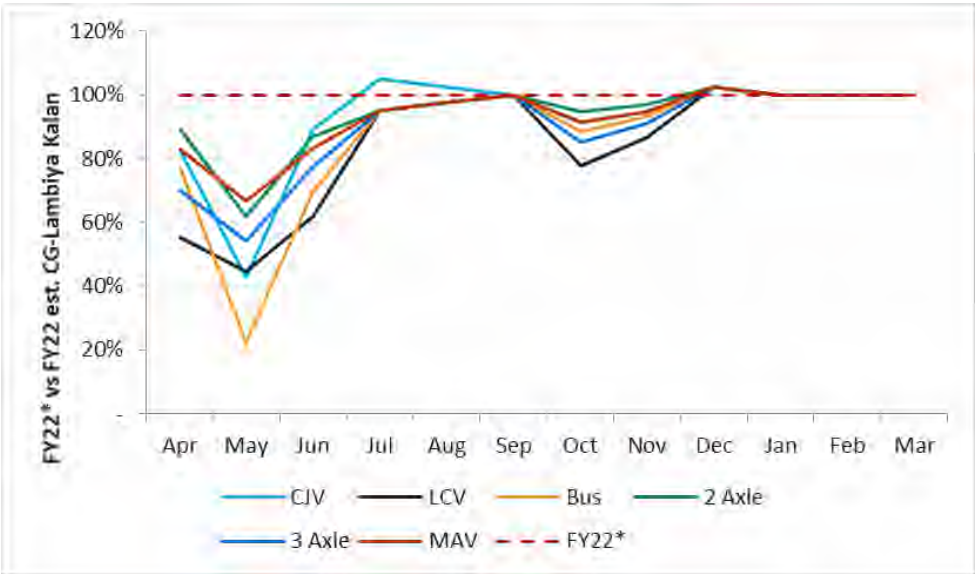
in the months of Oct and Nov 2021 with recovery to FY22* levels by Dec 2021. Q4FY22 is expected to be largely normal and mimic the FY22* projections for Q4.

Figure 6.1: FY22* (no Covid19, Hypothetical) vs FY22 Estimated: TP1: Khedi



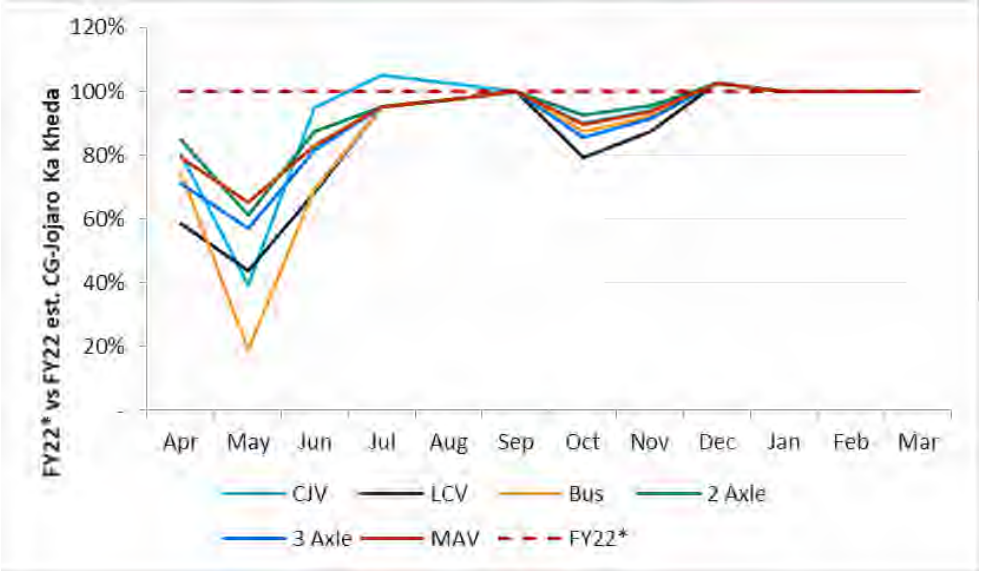
Source: Steer Analysis

Figure 6.2: FY22* (no Covid19, Hypothetical) vs FY22 Estimated: TP2: Lambiyan Kalan



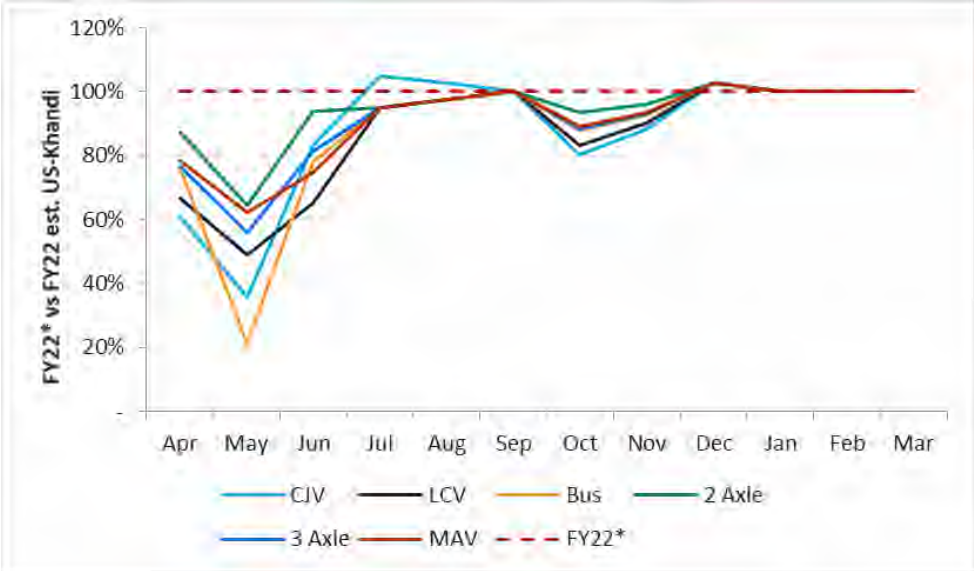
Source: Steer Analysis

Figure 6.3: FY22* (no Covid19, Hypothetical) vs FY22 Estimated: TP3: Jojaro Ka Kheda



Source: Steer Analysis

Figure 6.4: FY22* (no Covid19, Hypothetical) vs FY22 Estimated: TP4: Khandi Obri



Source: Steer Analysis

FY23 Estimation and base AADT for forecast

6.16 These FY22N AADT are then used to estimate a FY23 AADT position, with an underlying assumption of no further COVID waves. FY23 then becomes the basis of all future forecasts which again start to follow the GDP and elasticity-based growth pattern for traffic.

Base year AADT

6.17 Based on the methodology discussed above, the tables below present the FY22N for each of the toll plaza:

Table 6.6: FY22N Base AADT estimates compared to FY21 Actuals and FY22 Estimated (TP1: Khedi)

	FY20	FY21	FY21N	FY22	FY22*	FY22N
	Actual	**Actual**	**Q4 N**	**Estimated**	**No covid**	**Q4 N**
CJV	3,046	3,447	4,257	4,103	4,475	4,475
LCV	1,208	866	583	507	598	598
Bus	389	265	364	308	369	369
2A	1,550	1,310	1,534	1,496	1,584	1,584
3A	2,132	1,643	1,937	1,775	2,010	2,010
MAV	4,584	4,113	4,660	4,433	4,911	4,911
Total	**12,910**	**11,644**	**13,335**	**12,621**	**13,948**	**13,948**
PCU	**37,699**	**32,910**	**37,606**	**35,546**	**39,361**	**39,361**

Source: Steer Analysis, FY22* if 2nd Covid wave had happened

Table 6.7: FY22N Base AADT estimates compared to FY21 Actuals and FY22 Estimated (TP2: Lambiyan Kalan)

	FY20	FY21	FY21N	FY22	FY22*	FY22N
	Actual	**Actual**	**Q4 N**	**Estimated**	**No covid**	**Q4 N**
CJV	3,585	4,009	4,987	4,846	5,244	5,244
LCV	1,338	1,012	783	671	803	803
Bus	452	300	403	353	408	408
2A	1,617	1,393	1,662	1,603	1,716	1,716
3A	2,187	1,692	2,028	1,867	2,105	2,105
MAV	4,690	4,221	4,627	4,511	4,877	4,877
Total	**13,868**	**12,627**	**14,491**	**13,850**	**15,153**	**15,153**
PCU	**39,464**	**34,676**	**39,265**	**37,620**	**41,082**	**41,082**

Source: Steer Analysis, FY22* if 2nd Covid wave had happened

Table 6.8: FY22N Base AADT estimates compared to FY21 Actuals and FY22 Estimated (TP3: Jojaro Ka Kheda)

	FY20	FY21	FY21N	FY22	FY22*	FY22N
	Actual	**Actual**	**Q4 N**	**Estimated**	**No covid**	**Q4 N**
CJV	3,618	3,972	4,738	4,610	4,982	4,982
LCV	1,178	960	798	693	818	818
Bus	428	278	373	323	378	378
2A	1,310	1,239	1,486	1,421	1,534	1,534
3A	1,765	1,581	1,881	1,748	1,953	1,953
MAV	4,559	4,604	5,174	5,002	5,453	5,453
Total	**12,858**	**12,633**	**14,450**	**13,797**	**15,117**	**15,117**
PCU	**36,410**	**35,423**	**40,437**	**38,634**	**42,339**	**42,339**

Source: Steer Analysis, FY22* if 2nd Covid wave had happened

Table 6.9: FY22N Base AADT estimates compared to FY21 Actuals and FY22 Estimated (TP4: Khandi Obri)

	FY20	FY21	FY21N	FY22	FY22*	FY22N
	Actual	**Actual**	**Q4 N**	**Estimated**	**No covid**	**Q4 N**
CJV	4,359	4,134	5,098	4,762	5,487	5,487
LCV	960	775	702	627	725	725
Bus	844	497	668	590	685	685
2A	1,469	1,470	1,690	1,642	1,745	1,745
3A	1,836	1,625	1,911	1,790	1,983	1,983
MAV	3,777	3,543	4,178	3,986	4,403	4,403
Total	**13,244**	**12,045**	**14,247**	**13,398**	**15,028**	**15,028**
PCU	**35,240**	**32,018**	**37,759**	**35,707**	**39,628**	**39,628**

Source: Steer Analysis, FY22* if 2nd Covid wave had happened

Analysis of potential impacts

Summary of alternate routes and planned changes

6.18 The section below details the impacts which we believe would affect traffic on the Asset during the concession period. As discussed in earlier Chapters, in order to assess the impacts on the Asset, whether positive or negative, we have studied developments (alternate roads, feeder roads and regulatory) in the surrounding road network.

Summary of impact assessments

6.19 The following table lists the impacts considered on the Asset.

Table 6.10: Summary of impact

Impact	Year of impact	Probability/ scale of impact	Toll Plaza	Impact (+/-)
LoS Improvement (construction completion)	FY22**	High/ Medium	All Toll Plazas	+ve
Udaipur Bypass	FY23*	High/ Medium	CG and KG	+ve
Post construction completion shift from Bhilwara Rajsamand	FY22	High/Low	CG:JJK Toll Plaza	+ve
Morbi-Saurashtra traffic	FY23* (Morbi traffic), FY26*(Saurashtra traffic)	Medium/ Low	All Toll Plazas	+ve
NH48 Toll reduction on BOT projects	FY23 to FY25	Medium/Low	All Toll Plazas	+ve
Textile Industry influence	FY23	Medium/Low	All Toll Plazas	+ve
Western Dedicated Freight Corridor	FY23	High/Low	All Toll Plazas	-ve
Delhi Mumbai Expressway	FY25*	High/High	All Toll Plazas	-ve
Ajmer-Gomti upgrade	FY29*	Medium/Low	CG and KG	-ve

Source: Steer analysis of OD data, network analysis based on publicly available information. All absolute impacts are presented in FY22 terms and will be applied as percent terms in model across the years, so the underlying growth is factored in the applicable year. *Impact is staged over three years, starting with 40% of impact taking place in first year, 60% in the second year and reaching 100% in the third year. Carrying this 100% for the next years. **Construction finishes in early half of FY22

6.20 The network context in which these upgrades are planned can be analysed in conjunction with the network map below.

Figure 6.5: Asset route shown against the regional network context

Source: Steer analysis and cartography

6.21 The subsections below include a narrative of each of the improvements, and impacts associated from each of these on our traffic forecasts. Please note that all traffic volumes for impacts were estimated as impact rates applied on FY22 AADT.

LoS Improvement (construction completion)

6.22 As the Assets finishes the upgrade to 6 lanes, with much better ride quality and level of service, It is expected that the more local traffic covering short distances will start using the Asset resulting in increased traffic on the Asset/toll plazas.

6.23 The in-scope traffic includes all the trips with Origins & Destinations locate on asset, Immediate Area of Influence and trips originating in the nearby districts of Bhilwara, Udaipur, Chittorgarh, Kishangarh and Rajsamand. As construction on all Assets will finish in FY22, The impact is included in forecasts starting FY22.

Table 6.11: Impact of LOS improvement (%)

Toll Plaza	CJV	LCV	2A	3A	MAV
Khedi	5.4%	2.7%	1.9%	2.0%	3.0%
Lambiyan Kalan	5.1%	2.2%	2.4%	2.0%	3.2%
Jojaro Ka Kheda	5.2%	1.6%	1.6%	1.6%	3.4%
Khandi Obri	5.2%	1.5%	1.6%	1.6%	1.9%

Source: Steer Analysis

Completion of Udaipur By-Pass

6.24 Udaipur By-pass is a 23.883 Km Long, 6-lane Udaipur Bypass under NHDP in Rajasthan. It is a greenfield section that is currently in advanced stages of construction. Site visit pictures of the bypass are presented below:

Figure 6.6: Site Visit pictures of Udaipur bypass

6.25 Udaipur by-pass removes a key bottleneck for long distance traffic originating from south of Udaipur and destined towards Chittorgarh, Nathdwara, and North of India. The construction of this bypass is expected to act in favour of NH48 as currently a large volume of traffic currently also uses the NH58 and travels beyond Kishangarh, which is expected to use the NH48 once this bottleneck to access NH48 is removed. This upgrade is will result in positive diversion for CG and KG Assets.

Table 6.12: Impact of Completion of Udaipur bypass[17] (%)

Toll Plaza	CJV	LCV	2A	3A	MAV
Khedi	-	-	2.8%	2.4%	2.0%
Lambiyan Kalan	-	-	2.4%	2.3%	2.0%
Jojaro Ka Kheda	-	-	2.7%	2.5%	1.8%
Khandi Obri	-	-	-	-	-

Source: Steer Analysis

Morbi and Saurashtra traffic diversion

6.26 6 laning of downstream assets of NH48 (Shamlaji - Chiloda), Rajkot-Ahmedabad, Ahmedabad Ring Road (ARRIL) among other upgrades are currently taking place in addition to the 6 laning on the Assets. Seven out of nineteen junctions of ARRIL are under construction currently and are expected to be completed by December 2022. Therefore, completion of these feeders would offer a new route choice for traffic between specific areas of Morbi/Saurashtra and northern India. A proportion of this traffic is expected to shift to NH48 corridor.

6.27 Currently Morbi and Saurashtra traffic prefers the Beawar Pali Pindwara section between Palanpur and Beawar to travel to North of India (beyond Kishangarh). It is expected that a small proportion of traffic will move from the existing alternate routes to NH48 as a new route choice with improved level of service is available to the users. Morbi traffic is expected to shift in FY23, however for Saurashtra traffic expected to shift FY26 onwards as the network updates will take more time to complete.

Table 6.13: Morbi traffic diversion (%)

Toll Plaza	CJV	LCV	2A	3A	MAV
Khedi	-	-	0.4%	0.2%	1.1%
Lambiyan Kalan	-	-	0.4%	0.2%	1.0%
Jojaro Ka Kheda	-	-	0.3%	0.2%	1.1%
Khandi Obri	-	-	0.4%	0.2%	1.2%

Source: Steer Analysis

Table 6.14: Saurashtra traffic diversion (%)

Toll Plaza	CJV	LCV	2A	3A	MAV
Khedi	-	-	0.2%	0.4%	0.7%
Lambiyan Kalan	-	-	0.2%	0.4%	0.6%
Jojaro Ka Kheda	-	-	0.2%	0.4%	0.7%
Khandi Obri	-	-	0.2%	0.4%	0.8%

Source: Steer Analysis

[17] http://www.sadbhavinfra.co.in/en/pdf/allotment-of-l1-ham-project-(udaipur-bypass).pdf

Toll Reduction on NH48 linked diversion from NH52

6.28 Few Assets on NH48 between Surat and Mumbai and Kishangarh Jaipur are BOT Assets for which concession is expected to end by FY22. As per the 2008 BOT tolling policy on the completion of the concession the toll rates are expected to reduce to 40% of existing toll rates in case Total Project Cost (TPC) is met. A MoRTH clarification to calculate TPC was provided in the 2013 (dated 24.01.2013) Toll Notification. Further the client provided evidence that historically on 2 concessions (Thane-Bhiwandi Bypass, and Pune Solapur BOT project) the tolling has ended post completion of concession. Therefore, it is reasonable to believe that this toll reduction can take place.

6.29 However, the Delhi Mumbai expressway (DME) which is currently under construction (discussed in detail later), has a parallel alignment to the Surat-Mumbai NH48 corridor. As per our discussion with industry stakeholders, we believe that the reduction in toll rates will be applicable till the Assets are bid out again by NHAI. As per latest inputs these Assets will be offered to DME operators as these Assets will act as direct alternates to DME. And hence the impact is only taken up to when DME is operational.

6.30 As a result of toll decrease on NH48, some of the traffic that is currently using the NH52 corridor is expected to shift towards NH48. The impact considered in forecasts is presented below.

Table 6.15: Toll Reduction on NH48 linked diversion from NH52 (%)

Toll Plaza	CJV	LCV	2A	3A	MAV
Khedi	-	-	3.1%	3.3%	3.9%
Lambiyan Kalan	-	-	3.0%	3.3%	3.7%
Jojaro Ka Kheda	-	-	2.9%	3.3%	4.0%
Khandi Obri	-	-	3.1%	3.1%	3.7%

Source: Steer Analysis

Textile traffic post resumption in industry

6.31 Covid19 related disruptions in the economy has impacted several small and medium scale industries. Key industrial areas of Ludhiana in Punjab and Bhilwara in Rajasthan are home to several textile mills. With reduction in consumer demand for such products and reduced exports a number of these industries suffered significant losses or are currently not operational. It is expected that once the economy starts to normalise these local textile industries in Bhilwara near the Assets will start to operate, which will result in the return of textile related traffic on the Asset. As per the OD data the proportion of such traffic is still not back to the levels seen historically.

6.32 In order to estimate the impact, OD data from an older report shared by the client was analysed to identify the share of textile related movements and was compared to the current share of movements. The difference in volumes is then assumed would return to the roads once these industries restart. The impact considered in forecasts is presented below:

Table 6.16: Textile traffic post resumption in industry (%)

Toll Plaza	CJV	LCV	2A	3A	MAV
Khedi	-	-	2.0%	2.0%	2.0%

Toll Plaza	CJV	LCV	2A	3A	MAV
Lambiyan Kalan	-	-	2.0%	2.0%	2.0%
Jojaro Ka Kheda	-	-	2.0%	2.0%	2.0%
Khandi Obri	-	-	2.0%	1.8%	1.5%

Source: Steer Analysis

Western Dedicated Freight Corridor

6.33 The Government of India has plans to develop two Dedicated Freight Rail Corridors: The Western Dedicated Freight Corridor (WDFC) linking Dadri, east of Delhi, to Mumbai and the Eastern Dedicated Freight Corridor (EDFC) linking Ludhiana to Dhankuni in West Bengal.

6.34 We estimate that on completion of WDFC, the relevant goods carried via roads will shift to rail, causing a reduction in traffic volume across all toll plazas. As per the DFC website, base commodities which are expected to be carried on WDFC include containers, POL, fertilizers, iron & steel and cement, groceries, agricultural products such as food grains, among other bulk commodities and travelling more than 750Kms to Rail from Road. The Rewari to Palanpur section of the DFC commissioned in April,2021 and first RO-RO service from Palnpur flagged off in August 2021. therefore, the impact will be a negative for the traffic volumes on the Asset.

6.35 The in-scope demand is all trips travelling more than 750 kms, carrying the discussed commodities travelling between Delhi/ North -India and Ahmedabad and South India.

Delhi Mumbai Expressway

6.36 NHAI is building a greenfield expressway connecting Delhi and Mumbai. The Delhi-Mumbai Expressway (DME) will connect Delhi to Mumbai with a dual carriageway with six lanes per direction. At 1350km long, it will drastically reduce travel length and times from Delhi to Mumbai. With this alignment, it is expected that once it's completed the Delhi-Mumbai Expressway could attract long-distance traffic from the north including Delhi/North of Delhi regions and going that is presently using the asset.

6.37 Compared to the NH48, DME will be around 150-200 km shorter depending on the destination. The table below shows the distance from Delhi to various destination along the corridor. As we can see in the below table the distance delta between DME and NH48 starts to become favorable Vadodara and beyond. Vadodara lies after the Assets finish in the Delhi-Mumbai route.

Table 6.17: Distance from Delhi to various locations along NH48 vs DME

Route		Distance (KM)	
via NH48	**via DME**	**via NH48***	**via DME**
Bhilwara	DME + Chittorgarh-Kota	475	555
Chittorgarh	DME + Chittorgarh-Kota	538	569
Vadodara	DME	967	844
Surat	DME	1121	951
Mumbai	DME	1373	1,210

Source: Steer Analysis, *From: KTM Rajiv Chowk via NH48

6.38 The commissioning of DME is expected to significantly impact the traffic on the Asset. Since the in scope traffic for WDFC and DME is same (WDFC as a subset of the total DME in scope), the combined impact is discussed below:

Table 6.18: DME and WDFC (%)

Toll Plaza	CJV	LCV	2A	3A	MAV
Khedi	-	-	(14.2%)	(16.2%)	(9.8%)
Lambiyan Kalan	-	-	(13.8%)	(16.4%)	(8.6%)
Jojaro Ka Kheda	-	-	(12.3%)	(15.5%)	(9.8%)
Khandi Obri	-	-	(9.9%)	(12.2%)	(8.1%)

Source: Steer Analysis

Ajmer/Beawar – Gomti Upgrade

6.39 The section between Ajmer-Beawar and Gomti on NH58 has recently been awarded for capacity expansion[18]. This is traditionally a low volume corridor due to multiple ghat sections and rural nature of the corridor. Upgrade of this section is expected to result in a negative diversion from the Asset. The in-scope trips include the trips originating from Udaipur and South and Kishangarh and beyond and vice versa. The impact assumed is presented below:

Table 6.19: Ajmer – Gomti Upgrade (%)

Toll Plaza	CJV	LCV	2A	3A	MAV
Khedi	-	-	(0.3%)	(0.3%)	(0.2%)
Lambiyan Kalan	-	-	(0.7%)	(0.7%)	(0.7%)
Jojaro Ka Kheda	-	-	(0.6%)	(0.5%)	(0.6%)
Khandi Obri	-	-	-	-	-

Source: Steer Analysis

6.40 All the impacts assumed are summarised in the table below:

	CJV	LCV	2A	3A	MAV
LOS Improvement					
Khedi	5.4%	2.7%	1.9%	2.0%	3.0%
Lambiyan Kalan	5.1%	2.2%	2.4%	2.0%	3.2%
Jojaro Ka Kheda	5.2%	1.6%	1.6%	1.6%	3.4%
Khandi Obri	5.2%	1.5%	1.6%	1.6%	1.9%
Bhilwara-Rajsamand diversion					
Khedi					
Lambiyan Kalan					
Jojaro Ka Kheda				2.0%	2.0%
Khandi Obri					
Udaipur Bypass					
Khedi			2.8%	2.4%	2.0%
Lambiyan Kalan			2.4%	2.3%	2.0%

[18] https://timesofindia.indiatimes.com/city/jaipur/beawar-gomti-nh-8-to-be-made-4-lane/articleshow/76165114.cms

	CJV	LCV	2A	3A	MAV
Jojaro Ka Kheda			2.7%	2.5%	1.8%
Khandi Obri					
Morbi Traffic					
Khedi			0.4%	0.2%	1.1%
Lambiyan Kalan			0.4%	0.2%	1.0%
Jojaro Ka Kheda			0.3%	0.2%	1.1%
Khandi Obri			0.4%	0.2%	1.2%
Saurashtra Traffic					
Khedi			0.2%	0.4%	0.7%
Lambiyan Kalan			0.2%	0.4%	0.6%
Jojaro Ka Kheda			0.2%	0.4%	0.7%
Khandi Obri			0.2%	0.4%	0.8%
NH48 Toll Reduction					
Khedi			3.1%	3.3%	3.9%
Lambiyan Kalan			3.0%	3.3%	3.7%
Jojaro Ka Kheda			2.9%	3.3%	4.0%
Khandi Obri			3.1%	3.1%	3.7%
Textile Industry Influence					
Khedi			2.0%	2.0%	2.0%
Lambiyan Kalan			2.0%	2.0%	2.0%
Jojaro Ka Kheda			2.0%	2.0%	2.0%
Khandi Obri			2.0%	1.8%	1.5%
WDFC + DME					
Khedi			(14.2%)	(16.2%)	(9.8%)
Lambiyan Kalan			(13.8%)	(16.4%)	(8.6%)
Jojaro Ka Kheda			(12.3%)	(15.5%)	(9.8%)
Khandi Obri			(9.9%)	(12.2%)	(8.1%)
Ajmer Gomti Upgrade					
Khedi			(0.3%)	(0.3%)	(0.2%)
Lambiyan Kalan			(0.7%)	(0.7%)	(0.7%)
Jojaro Ka Kheda			(0.6%)	(0.5%)	(0.6%)
Khandi Obri					

Source: Steer Analysis

Revenue forecasting assumptions

6.41 To forecast the revenues for a particular financial year, the traffic forecast for each vehicle type is converted into tickets sold, which is then multiplied with the corresponding toll rate, which grows over the years as defined in the Concession Agreement. While "trip factors" provide the conversion factor to the former, i.e. traffic (trips) to tickets sold, "toll segmentation" provides

the latter i.e. the breakup of trips paying each ticket type. This section discusses assumptions related to trip factors, toll segmentation and toll rates for the forecast period.

Trip factors

6.42 As discussed in chapter 3, a user can by different type of tickets to pay toll depending on the vehicle type. Apart from the Single trips, trips such as Return, Monthly, Local Commercial, Local Personal, Local Monthly are discounted tickets that are offered to the users. The revenue realised from these discounted trips is lower than a single trip fare. Therefore, in order to calculate the revenue for the trips made on discounted tickets (or passes) a trip factor is applied to calculate revenue realised from that particular pass sold.

6.43 The monthly passes allow 50 trips to the user at a discounted rate. Since the Asset has not achieved Full COD, and travel patterns on the Asset are still nascent, these discounted categories have not yet stabilised. Therefore, a standard assumption of 45 has been taken as the trip factors for such categories where historical data is not available. Once full tolling is undertaken on the Asset, the trip factors for these categories are expected to stabilise. However, as a starting assumption it is reasonable to assume that each pass sold will be utilised more than 90% (or 45 trips per pass).

6.44 Trip factors are used to calculate the revenue for the trips made on passes such as return, local personal, monthly passes. The trip factors assumed are based on the latest FY21 data available and listed in the table below:

Table 6.20: Trip factors for the forecast years – KG Khedi

Ticket category	CJV	LCV	Bus	2A	3A	MAV	OSV
Single	1	1	1	1	1	1	1
Return	2	2	2	2	2	2	2
Monthly	45	45	45	45	45	45	45
Local Commercial	1	1	1	1	1	1	1
Local Personal	1	1	1	1	1	1	1
Local monthly	300	55	45	45	45	45	45
Violations/Exemptions	1	1	1	1	1	1	1

Source: Steer analysis of Client TMS data

Table 6.21: Trip factors for the forecast years – CG Jojaro Ka Kheda

Ticket category	CJV	LCV	Bus	2A	3A	MAV	OSV
Single	1	1	1	1	1	1	1
Return	2	2	2	2	2	2	2
Monthly	36	16	45	45	45	45	45
Local Commercial	1	1	1	1	1	1	1
Local Personal	1	1	1	1	1	1	1
Local monthly	123	160	45	8	18	45	45
Violations/Exemptions	1	1	1	1	1	1	1

Source: Steer analysis of Client TMS data

Table 6.22: Trip factors for the forecast years – CG Lambiya Kalan

Ticket category	CJV	LCV	Bus	2A	3A	MAV	OSV
Single	1	1	1	1	1	1	1
Return	2	2	2	2	2	2	2
Monthly	45	38	49	45	45	45	45
Local Commercial	1	1	1	1	1	1	1
Local Personal	1	1	1	1	1	1	1
Local monthly	186	45	45	45	45	45	45
Violations	1	1	1	1	1	1	1
Exemptions	1	1	1	1	1	1	1

Source: Steer analysis of Client TMS data

Table 6.23: Trip factors for the forecast years – UG Khandi Obri

Ticket category	CJV	LCV	Bus	2A	3A	MAV	OSV
Single	1	1	1	1	1	1	1
Return	2	2	2	2	2	2	2
Monthly	45	45	45	45	45	45	45
Local Commercial	1	1	1	1	1	1	1
Local Personal	1	1	1	1	1	1	1
Local monthly	45	45	45	45	45	45	45
Violations	1	1	1	1	1	1	1
Exemptions	1	1	1	1	1	1	1

Source: Steer analysis of Client TMS data

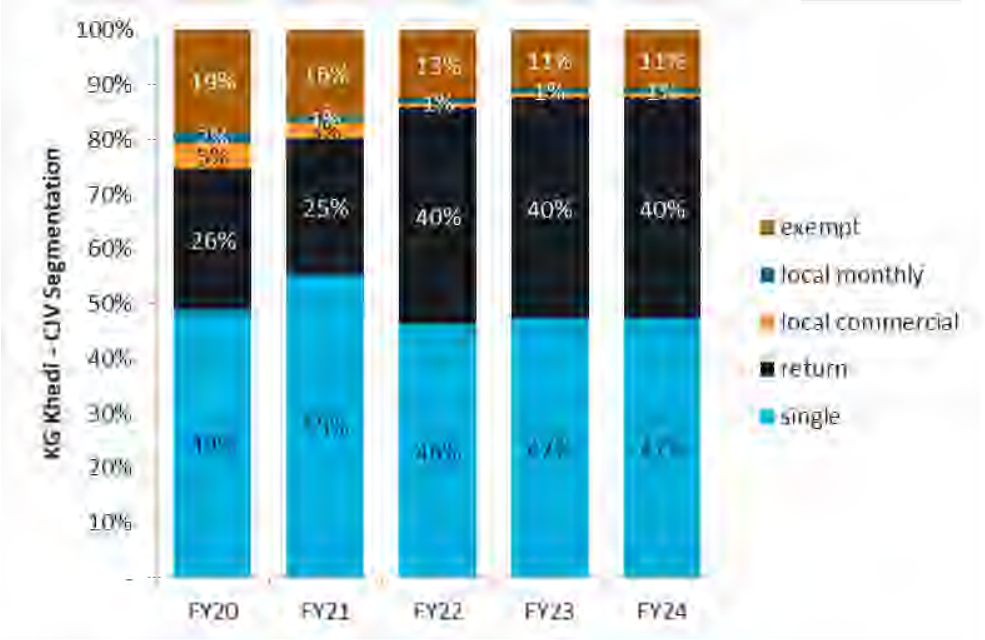
Toll segmentation

6.45 Toll segmentation on the Asset has been discussed in detail in chapter 3. Segmentation trends have largely been stabilising over the last few months post the mandatory implementation of fast tag 15th Feb 2021 onwards indicating a reduction in the share of exemptions and violations due to FASTag implementation and penetration.

6.46 By March 2021, it was observed that for most vehicle types as the penetration of fast tag increased the trip patterns for vehicle types were normalised within Single and Return category across the vehicle categories. April and May 2021 were impacted by Covid19 related restrictions leading to substantial reduction in traffic again disrupting traffic patterns. Therefore, the segmentation observed in March 2021 has been taken as a starting point to estimate the future segmentation.

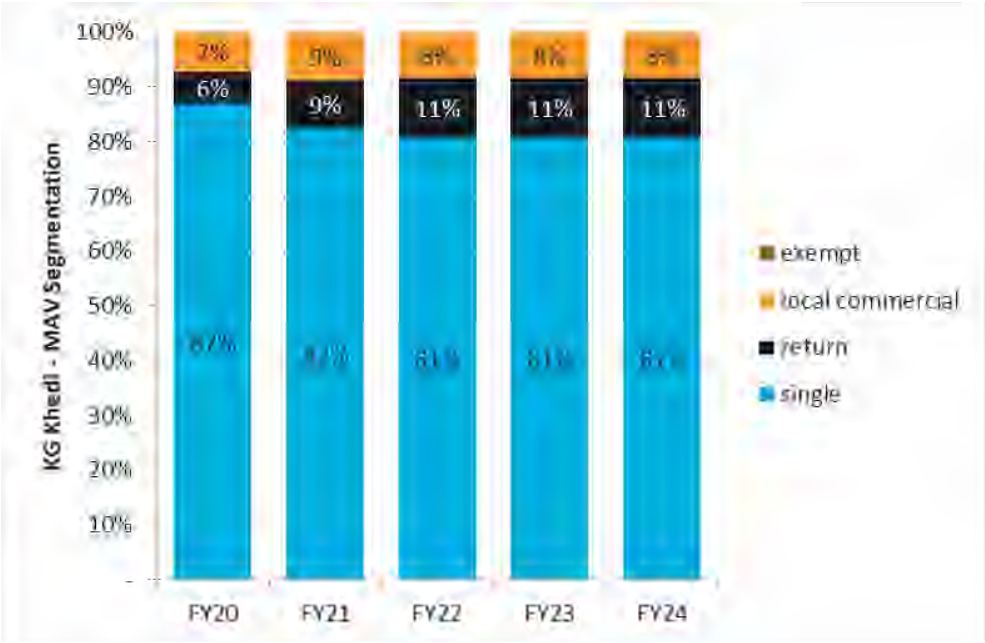
6.47 The toll segmentation adopted in the future years for calculating revenue is presented below for all the vehicle types and toll plazas.

Figure 6.7: CJV toll segmentation evolution – KG Khedi



Source: Steer analysis

Figure 6.8: MAV toll segmentation evolution – KG Khedi



Source: Steer analysis

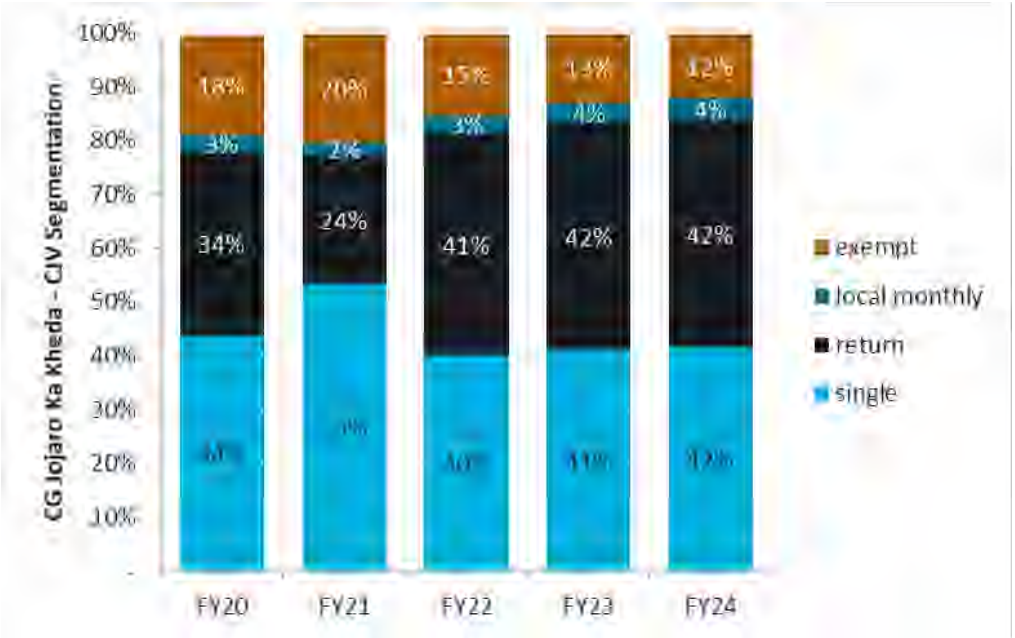
Table 6.24: Toll segmentation FY23 onwards – KG Khedi

Ticket type	CJV	Bus	LCV	2A	3A	MAV
Single	47.2%	28.9%	69.6%	86.9%	93.4%	80.9%
Return	40.5%	69.2%	18.4%	12.6%	6.2%	10.7%
Monthly	-	-	-	-	-	-
Local commercial	0.6%	0.0%	1.3%	0.3%	0.2%	8.4%

Ticket type	CJV	Bus	LCV	2A	3A	MAV
Local personal	-	-	-	-	-	-
Local monthly	1.0%	1.7%	8.7%	-	-	-
Exemptions	10.6%	0.2%	2.0%	0.2%	0.2%	0.1%
Violations	-	-	-	-	-	-

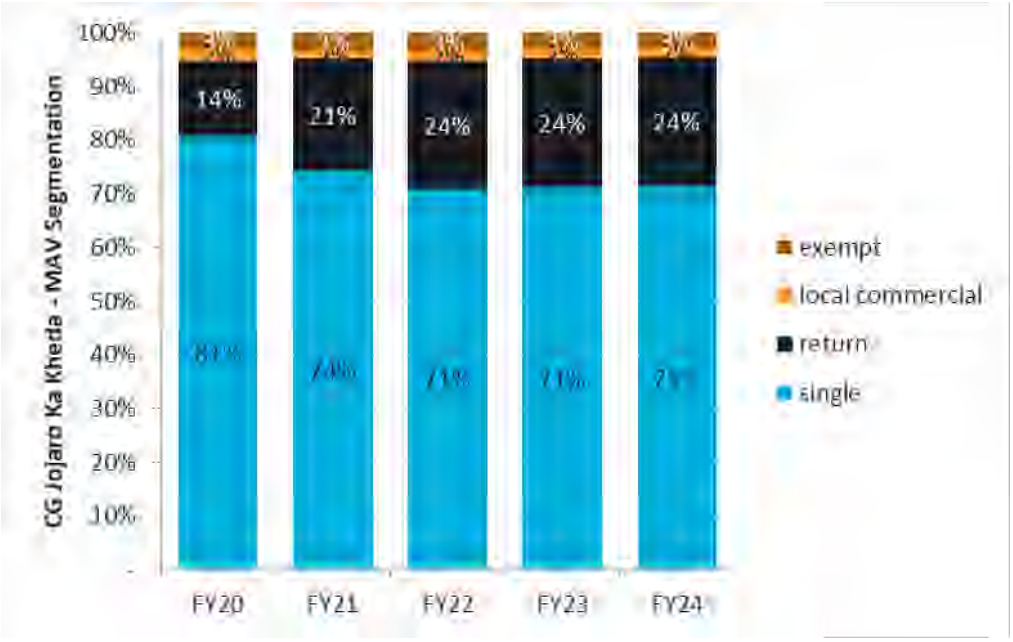
Source: Steer analysis of Client TMS data

Figure 6.9: CJV toll segmentation evolution – CG Jojaro Ka Kheda



Source: Steer analysis

Figure 6.10: MAV toll segmentation evolution – CG Jojaro Ka Kheda



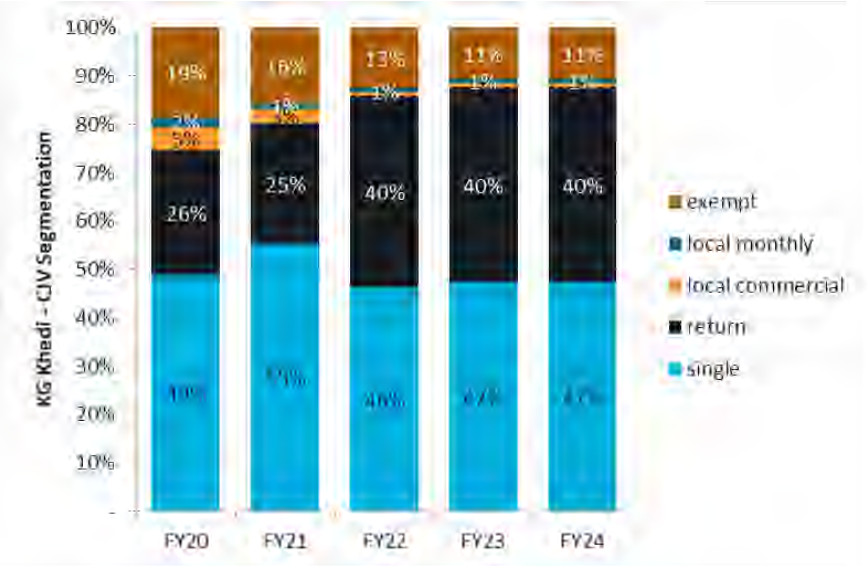
Source: Steer analysis

Table 6.25: Toll segmentation FY24 onwards – CG Jojaro Ka Kheda

Ticket type	CJV	Bus	LCV	2A	3A	MAV
Single	41.5%	28.7%	58.4%	86.4%	82.7%	71.4%
Return	42.2%	67.5%	21.6%	12.5%	8.1%	24.0%
Monthly	0.0%	-	-	-	-	-
Local commercial	0.1%	0.0%	4.0%	0.5%	3.4%	2.0%
Local personal	-	-	-	-	-	-
Local monthly	4.1%	3.4%	5.6%	0.1%	-	-
Exemptions	11.9%	0.4%	10.4%	0.6%	5.9%	2.6%

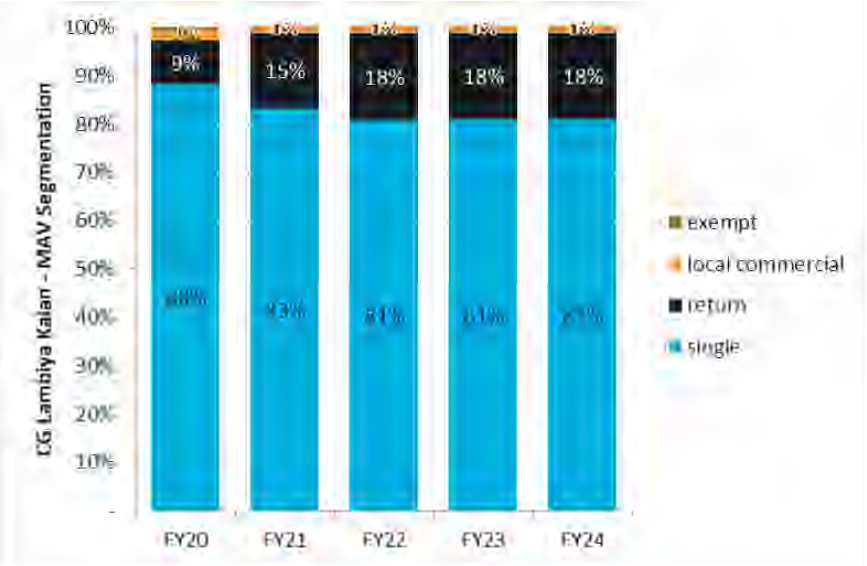
Source: Steer analysis of Client TMS data

Figure 6.11: CJV toll segmentation evolution – CG Lambiya Kalan



Source: Steer analysis

Figure 6.12: MAV toll segmentation evolution – CG Lambiya Kalan



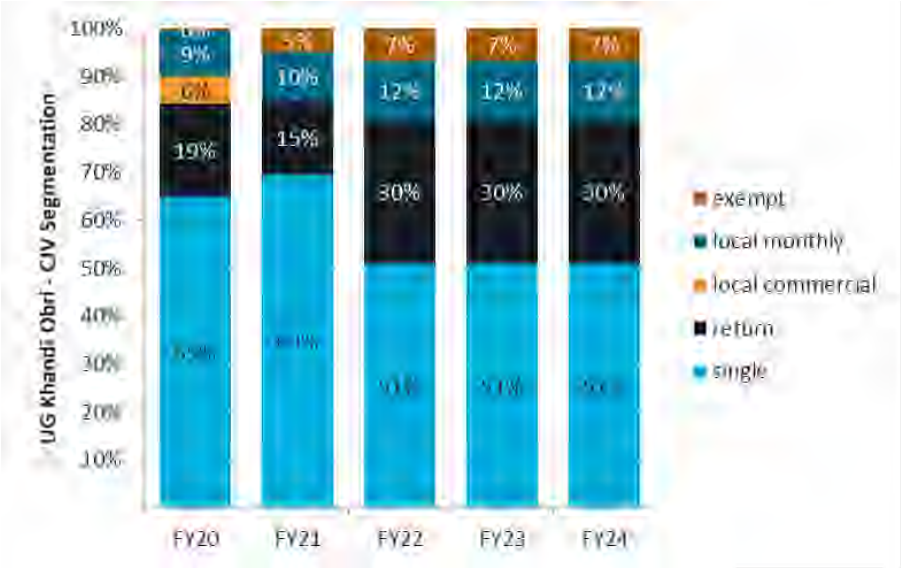
Source: Steer analysis

Table 6.26: Toll segmentation FY24 onwards – CG Lambiya Kalan

Ticket type	CJV	Bus	LCV	2A	3A	MAV
Single	36.5%	28.5%	58.5%	83.6%	89.2%	80.9%
Return	35.8%	63.8%	19.1%	12.2%	5.8%	17.9%
Monthly	-	3.1%	-	-	-	-
Local commercial	1.3%	-	2.1%	2.0%	0.9%	1.0%
Local personal	-	-	-	-	-	-
Local monthly	15.5%	2.0%	13.9%	-	-	-
Exemptions	10.9%	2.6%	6.5%	2.2%	4.1%	0.1%

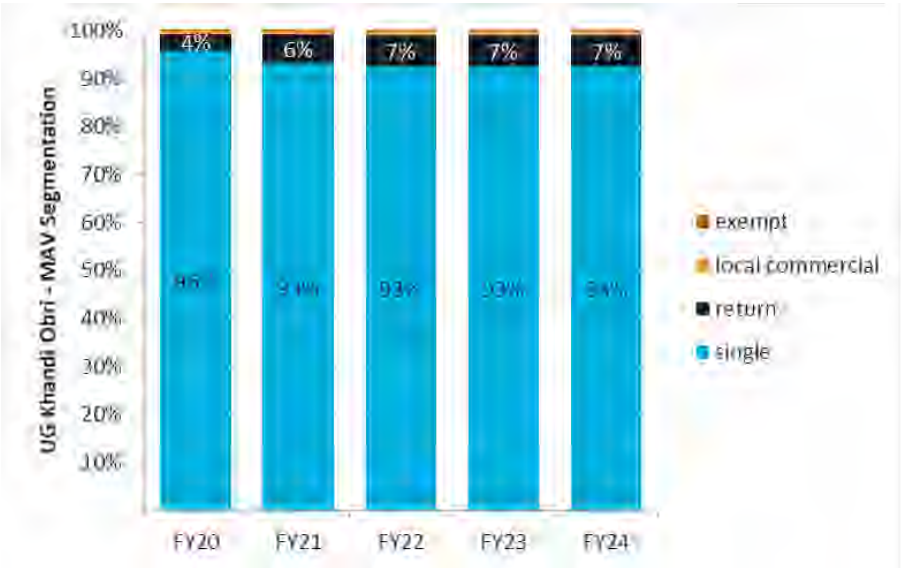
Source: Steer analysis of Client TMS data

Figure 6.13: CJV toll segmentation evolution – UG Khandi Obri



Source: Steer analysis

Figure 6.14: MAV toll segmentation evolution – UG Khandi Obri



Source: Steer analysis

Table 6.27: Toll segmentation FY24 onwards – UG Khandi Obri

Ticket type	CJV	Bus	LCV	2A	3A	MAV
Single	51.1%	26.7%	68.4%	86.7%	88.3%	92.6%
Return	29.6%	69.1%	20.5%	11.5%	10.5%	6.5%
Monthly	-	-	-	-	-	-
Local commercial	0.1%	3.3%	5.9%	0.9%	0.9%	0.7%
Local personal	-	-	-	-	-	-
Local monthly	12.4%	-	-	-	-	-
Exemptions	6.8%	0.8%	5.2%	0.9%	0.2%	0.2%

Source: Steer analysis of Client TMS data

6.48 Based on our analysis of recent trends in FASTag penetration rates by vehicle class, we believe that this will largely peak by FY23, for 2A and light vehicles. It will stabilise afterwards. Heavy vehicles are showing 90-95% of penetration already. Whilst FASTag has become mandatory for all vehicles at all toll plazas as of February 2021, in reality we still anticipate a small percentage of vehicles to continue to pay via cash and other mode of payment. A full shift to FASTag will be extremely difficult and unlikely, explaining FASTag targets being set to below 100%.

Overloading

6.49 Overloaded vehicles on the Assets are charged twice the toll fee as penalty they would otherwise pay for a Single ticket at the toll plaza. The table shows the assumptions for share of overloaded Single journey vehicles that are currently being charged overloading on the Asset and the shares assumed for the future.

Table 6.28: Overloading assumptions for FY21 and forecast years

Vehicle type	Khedi	Lambiyan Kalan	Jojaro Ka Kheda	Khandi Obri
Bus	FY21:3.8%	FY21:3.4%	FY21:2.1%	
LCV	FY21:13.7% FY25 onwards: 5.7%	FY21:12.7% FY25 onwards: 4.7%	FY21:10% FY25 onwards: 5%	
2A	FY21:1.8%	FY21:2%	FY21:0.5%	
3A	FY21: 0.9%	FY21: 0.8%	FY21: 0.6%	FY21: 0.9%
MAV	FY21:1.0%	FY21:1.0%	FY21:0.6%	FY21: 1.0%

Source: Steer review of Client TMS data

6.50 As you will see few of the vehicle categories are currently reporting very high overloading shares, we believe as construction on the Assets finishes and stricter tolling is implemented the overloading share will also normalise to reasonable levels as seen in other vehicles types on the Assets and on other corridors.

Toll evolution

6.51 Based on the concession agreement and the toll notification, we see that base toll rates increase every year based on WPI-linked inflation to provide us unrounded toll rates. These are rounded as per the CA and toll notifications to estimate the rounded toll rates charged to the road user. We have used actual toll rates from FY20 and FY21 toll notifications to validate

the modelling of the toll evolution. Since construction is ongoing on the Asset the tolling lengths are currently difference than the final tolling lengths which will be applicable post June 2022. These existing toll lengths and revised toll lengths are presented in the table below:

Table 6.29: Tolling lengths for toll evolution

	Toll Lengths (PCOD)			
Length (km)	Khedi	Jojaro Ka Kheda	Lambiyan Kalan	Khandi Obri
Road length excluding bypass	89.627	61.818	61.905	113.031
Structure on road	0.373	0.702	0.445	0.769
Converted length of structures	3.734	7.023	4.449	7.695
Net Tollable length	93.361	68.841	66.354	120.7255

Source: Steer analysis of toll notifications and concession agreement (CA)

Table 6.30: Tolling lengths for toll evolution when construction completes

	Toll Lengths (FCOD)			
Length (km)	**Khedi**	**Jojaro Ka Kheda**	**Lambiyan Kalan**	**Khandi Obri**
Road length excluding bypass	89.117	61.728	61.815	112.071
Structure on road	0.883	0.792	0.535	0.860
Converted length of structures	8.834	7.923	5.349	8.595
Net Tollable length	97.951	69.651	67.164	120.666

Source: Steer analysis of toll notifications and concession agreement (CA)

6.52 WPI growth forecast numbers are based on the latest year number released by RBI for Q3FY22 while the long-term forecast is based on the numbers estimated in annual report published by Consensus, as shown in the table below. The upward trend in inflation is expected to continue in the medium term, before gradually tapering to 4.0% in the long term.

Table 6.31: WPI growth forecast assumptions

Financial year	WPI growth (%)
FY22	2.0%
FY23	9.2%
FY24	4.8%
FY25	5.1%
FY26	4.6%
FY27	4.6%
FY28	4.6%
FY29	4.6%
FY30	4.6%
FY31	4.6%
FY32	4.5%
FY33	4.5%
FY34	4.5%
FY35	4.4%

Financial year	WPI growth (%)
FY36	4.4%
FY37	4.4%
FY38	4.3%
FY39	4.3%
FY40	4.3%
FY41	4.2%
FY42	4.2%
FY43	4.1%
FY44	4.1%
FY45	4.1%
FY46	4.0%
FY47	4.0%

Source: RBI, Annual report by Consensus

Revenue reconciliation

6.53 To validating the traffic data provided by the Client as well as our assumptions on toll segmentation and trip factors, we have reconciled the actual reported revenue for FY21 for the Asset. We have used the reported segmentation, and FY21 AADT (actual) for reconciliation and compared it with the reported revenue.

6.54 Due to the mandatory implementation of FASTag, all cash trips had to pay penalty fare. In our segmentation we do not assume any penalty in the future years as the revenue from penalty fares is currently being claimed by NHAI. In addition, several special local passes (local monthly) are being issued on a toll plaza level to deal with local users not willing to pay toll. The local pass usage varies on a month-to-month basis hence differences in reconciliation is observed. However, we believe our segmentation assumptions are robust since the differences in are within 1%, variation which is well within acceptable ranges, on the Assets.

6.55 The comparison, as shown in the table below, shows revenues overall within acceptable differences and therefore the model shows a good fit with the forecast assumptions.

Table 6.32: Revenue reconciliation summary

Assets	Steer modelled revenue (INR Cr)	Reported revenue (INR Cr)	Difference (%)
KG	93	93	(0.7%)
CG	139	140	(1.0%)
UG	117	117	(0.3%)

Source: Steer comparison between modelled and reported revenue

Traffic and Revenue forecasts

PCU factor assumption for forecasts

6.56 The PCU factors considered are given in the table below.

Table 6.33: PCU factors

Vehicle Category	PCU Factor
CJV	1.0
LCV	1.5
Bus/2A/3A	3.0
MAV/OSV	4.5

Source: Steer analysis

6.57 Based on the traffic and revenue-related forecast assumptions discussed above, we have modelled the traffic and revenue forecasts for the forecast period for the Asset. The table below presents the MADT/PCU and revenue forecast growth rates and CAGRs on this Asset. The AADT and revenues for the forecast period are further detailed in Appendix B of this report.

KG - Khedi

Table 6.34: Final (background plus impacts) AADT forecast – KG Khedi

Vehicle Type	FY21	FY22	FY25	FY28	FY32	FY35	FY40	FY43
CJV	4,257	3,853	4,894	5,897	7,411	8,653	10,949	12,491
Mini LCV	0	846	930	1,023	1,148	1,242	1,399	1,495
Bus	364	328	344	361	383	398	423	437
LCV	583	628	709	780	876	947	1,067	1,140
2A	1,534	1,692	1,939	1,971	2,255	2,477	2,855	3,092
3A	1,937	2,061	2,382	2,429	2,829	3,154	3,723	4,085
MAV	4,660	5,034	6,424	7,214	9,001	10,503	13,287	15,157
OSV	16	16	20	24	30	35	44	50
AADT	**13,351**	**14,458**	**17,643**	**19,697**	**23,933**	**27,410**	**33,747**	**37,948**
PCU's	**37,680**	**40,608**	**49,881**	**54,940**	**66,912**	**76,826**	**94,942**	**1,06,975**

Source: Steer analysis

Table 6.35: Final (background plus impacts) AADT CAGR (%) – KG Khedi

Vehicle Type	FY22-FY25	FY25-FY28	FY28-FY32	FY32-FY35	FY35-FY40	FY22-FY43
CJV	8.3%	6.4%	5.9%	5.3%	4.8%	5.8%
Mini LCV	3.2%	3.2%	2.9%	2.7%	2.4%	2.7%
Bus	1.6%	1.6%	1.5%	1.3%	1.2%	1.4%
LCV	4.1%	3.2%	2.9%	2.7%	2.4%	2.9%
2A	4.7%	0.5%	3.4%	3.2%	2.9%	2.9%
3A	5.0%	0.6%	3.9%	3.7%	3.4%	3.3%
MAV	8.5%	3.9%	5.7%	5.3%	4.8%	5.4%
OSV	6.3%	6.4%	5.8%	5.3%	4.8%	5.5%
AADT	**6.9%**	**3.7%**	**5.0%**	**4.6%**	**4.2%**	**4.7%**
PCU's	**7.1%**	**3.3%**	**5.1%**	**4.7%**	**4.3%**	**4.7%**

Source: Steer analysis

6.58 The table below presents the toll plaza revenues from FY21 till end of concession. There is significant revenue jump in FY22 due to toll rate increase post Asset construction completion. A combination of toll increase (up to 55%) post construction completion coupled with WPI increase, positive diversions due to LoS and other diversions assumed in the FY22-FY25 period resulted in a high revenue CAGR over the FY22-25 period. Overall revenue CAGR for the Asset remains in the range of 10%.

Table 6.36: Final (background plus impacts) revenue (INR crores) forecast – KG Khedi

Vehicle Type	FY21	FY22	FY25	FY28	FY32	FY35	FY40	FY43
CJV	7	9	20	28	42	57	91	118
Mini LCV	0	2	4	5	7	8	12	14
Bus	2	3	5	6	8	9	13	15
LCV	4	3	6	7	10	12	17	21
2A	11	18	34	40	56	70	102	126
3A	16	24	46	54	76	97	145	182
MAV	53	79	176	228	343	460	735	959
OSV	0	0	1	1	1	2	3	4
Total Revenue	**93**	**138**	**291**	**369**	**543**	**715**	**1,116**	**1,438**

Table 6.37: Final (background plus impacts) revenue CAGR (%) – KG Khedi

Vehicle Type	FY22-FY25	FY25-FY28	FY28-FY32	FY32-FY35	FY35-FY40	FY22-FY43
CJV	29.9%	11.2%	11.2%	10.2%	9.9%	12.9%
Mini LCV	23.8%	7.9%	8.1%	7.4%	7.3%	9.7%
Bus	20.5%	6.5%	6.5%	6.0%	6.1%	8.1%
LCV	19.4%	8.3%	7.9%	7.6%	7.3%	9.2%
2A	24.3%	5.3%	8.6%	7.9%	7.8%	9.8%
3A	24.9%	5.6%	8.8%	8.5%	8.3%	10.2%
MAV	30.5%	9.0%	10.8%	10.2%	9.8%	12.6%
OSV	26.2%	11.6%	10.9%	10.3%	9.8%	12.5%
Total Revenue	**28.2%**	**8.2%**	**10.1%**	**9.6%**	**9.3%**	**11.8%**

Source: Steer analysis

CG – Jojaro Ka Kheda

Table 6.38: Final (background plus impacts) AADT forecast – CG Jojaro Ka Kheda

Vehicle Type	FY21	FY22	FY25	FY28	FY32	FY35	FY38	FY41
CJV	4,738	4,456	5,646	6,803	8,550	9,983	11,527	13,208
Mini LCV	0	775	852	937	1,052	1,138	1,223	1,311
Bus	373	359	376	395	418	435	451	467
LCV	798	859	959	1,054	1,184	1,281	1,377	1,475

Vehicle Type	FY21	FY22	FY25	FY28	FY32	FY35	FY38	FY41
2A	1,486	1,620	1,852	1,887	2,159	2,371	2,587	2,809
3A	1,881	2,040	2,347	2,389	2,782	3,102	3,432	3,777
MAV	5,174	5,708	7,300	8,269	10,325	12,049	13,908	15,937
OSV	16	16	19	22	28	33	38	44
AADT	**14,466**	**15,832**	**19,352**	**21,755**	**26,498**	**30,391**	**34,544**	**39,028**
PCU's	**40,507**	**44,329**	**54,598**	**60,641**	**74,045**	**85,134**	**96,984**	**1,09,806**

Source: Steer analysis

Table 6.39: Final (background plus impacts) AADT CAGR (%) – CG Jojaro Ka Kheda

Vehicle Type	FY22-FY25	FY25-FY28	FY28-FY32	FY32-FY35	FY35-FY38	FY22-FY41
CJV	8.2%	6.4%	5.9%	5.3%	4.9%	5.9%
Mini LCV	3.2%	3.2%	2.9%	2.7%	2.5%	2.8%
Bus	1.6%	1.6%	1.5%	1.3%	1.2%	1.4%
LCV	3.7%	3.2%	2.9%	2.7%	2.5%	2.9%
2A	4.6%	0.6%	3.4%	3.2%	2.9%	2.9%
3A	4.8%	0.6%	3.9%	3.7%	3.4%	3.3%
MAV	8.5%	4.2%	5.7%	5.3%	4.9%	5.6%
OSV	6.3%	6.4%	5.8%	5.3%	4.9%	5.6%
AADT	**6.9%**	**4.0%**	**5.1%**	**4.7%**	**4.4%**	**4.9%**
PCU's	**7.2%**	**3.6%**	**5.1%**	**4.8%**	**4.4%**	**4.9%**

Source: Steer analysis

6.59 The table below presents the toll plaza revenues from FY21 till end of concession. There is significant revenue jump in FY22 due to toll rate increase post Asset construction completion. A combination of toll increase (up to 55%) post construction completion coupled with WPI increase, positive diversions due to LoS and other diversions assumed in the FY22-FY25 period resulted in a high revenue CAGR over the FY22-25 period. Overall revenue CAGR for the Asset remains in the range of 10%.

Table 6.40: Final (background plus impacts) revenue (INR crores) forecast – CG Jojaro Ka Kheda

Vehicle Type	FY21	FY22	FY25	FY28	FY32	FY35	FY38	FY41
CJV	5	9	15	21	32	44	58	76
Mini LCV	0	2	2	3	4	5	6	8
Bus	1	3	4	5	6	7	8	10
LCV	3	3	5	6	8	10	13	16
2A	8	14	23	27	37	46	58	72
3A	10	18	30	35	49	63	80	102
MAV	42	73	132	173	261	350	465	611

Vehicle Type	FY21	FY22	FY25	FY28	FY32	FY35	FY38	FY41
OSV	0	0	1	1	1	1	2	3
Total Revenue	**69**	**121**	**212**	**270**	**399**	**528**	**690**	**897**

Source: Steer analysis

Table 6.41: Final (background plus impacts) revenue CAGR (%) – CG Jojaro Ka Kheda

Vehicle Type	FY22-FY25	FY25-FY28	FY28-FY32	FY32-FY35	FY35-FY38	FY22-FY41
CJV	21.3%	11.3%	11.0%	11.0%	9.3%	12.1%
Mini LCV	15.7%	7.9%	8.0%	8.2%	6.7%	8.9%
Bus	13.5%	6.6%	6.5%	5.9%	6.1%	7.3%
LCV	15.4%	8.3%	8.0%	7.5%	6.9%	8.8%
2A	17.3%	5.4%	8.6%	7.9%	8.0%	9.0%
3A	18.2%	5.4%	8.9%	8.6%	8.4%	9.5%
MAV	22.1%	9.3%	10.9%	10.3%	9.9%	11.8%
OSV	19.2%	11.3%	11.1%	10.1%	10.0%	11.8%
Total Revenue	**20.5%**	**8.4%**	**10.2%**	**9.8%**	**9.4%**	**11.1%**

Source: Steer analysis

CG – Lambiya Kalan

Table 6.42: Final (background plus impacts) AADT forecast – CG Lambiya Kalan

Vehicle Type	FY21	FY22	FY25	FY28	FY32	FY35	FY38	FY41
CJV	4,987	4,669	5,914	7,125	8,955	10,456	12,073	13,834
Mini LCV	0	837	920	1,012	1,136	1,229	1,321	1,416
Bus	403	389	408	428	454	472	490	507
LCV	783	843	948	1,042	1,170	1,265	1,361	1,458
2A	1,662	1,808	2,087	2,150	2,461	2,703	2,948	3,202
3A	2,028	2,158	2,498	2,560	2,983	3,326	3,680	4,051
MAV	4,627	4,999	6,391	7,175	8,952	10,447	12,059	13,818
OSV	18	18	22	27	33	39	45	52
AADT	**14,510**	**15,722**	**19,188**	**21,518**	**26,145**	**29,937**	**33,978**	**38,337**
PCU's	**39,348**	**42,414**	**52,094**	**57,522**	**69,976**	**80,273**	**91,259**	**1,03,129**

Source: Steer analysis

Table 6.43: Final (background plus impacts) AADT CAGR (%) – CG Lambiya Kalan

Vehicle Type	FY22-FY25	FY25-FY28	FY28-FY32	FY32-FY35	FY35-FY38	FY22-FY41
CJV	8.2%	6.4%	5.9%	5.3%	4.9%	5.9%
Mini LCV	3.2%	3.2%	2.9%	2.7%	2.5%	2.8%

Vehicle Type	FY22-FY25	FY25-FY28	FY28-FY32	FY32-FY35	FY35-FY38	FY22-FY41
Bus	1.6%	1.6%	1.5%	1.3%	1.2%	1.4%
LCV	4.0%	3.2%	2.9%	2.7%	2.5%	2.9%
2A	4.9%	1.0%	3.4%	3.2%	2.9%	3.1%
3A	5.0%	0.8%	3.9%	3.7%	3.4%	3.4%
MAV	8.5%	3.9%	5.7%	5.3%	4.9%	5.5%
OSV	6.3%	6.4%	5.8%	5.3%	4.9%	5.6%
AADT	**6.9%**	**3.9%**	**5.0%**	**4.6%**	**4.3%**	**4.8%**
PCU's	**7.1%**	**3.4%**	**5.0%**	**4.7%**	**4.4%**	**4.8%**

Source: Steer analysis

6.60 The table below presents the toll plaza revenues from FY21 till end of concession. There is significant revenue jump in FY22 due to toll rate increase post Asset construction completion. A combination of toll increase (up to 55%) post construction completion coupled with WPI increase, positive diversions due to LoS and other diversions assumed in the FY22-FY25 period resulted in a high revenue CAGR over the FY22-25 period. Overall revenue CAGR for the Asset remains in the range of 10%.

Table 6.44: Final (background plus impacts) revenue (INR crores) forecast – CG Lambiya Kalan

Vehicle Type	FY21	FY22	FY25	FY28	FY32	FY35	FY38	FY41
CJV	6	9	16	22	33	44	59	77
Mini LCV	0	2	2	3	4	5	6	8
Bus	2	3	4	5	6	7	9	11
LCV	3	3	5	6	9	11	13	16
2A	8	15	25	30	41	52	65	81
3A	11	20	32	38	54	69	87	111
MAV	39	66	118	153	230	309	410	538
OSV	0	0	0	1	1	1	2	2
Total Revenue	**70**	**118**	**203**	**258**	**378**	**498**	**651**	**844**

Source: Steer analysis

Table 6.45: Final (background plus impacts) revenue CAGR (%) – CG Lambiya Kalan

Vehicle Type	FY22-FY25	FY25-FY28	FY28-FY32	FY32-FY35	FY35-FY38	FY22-FY41
CJV	21.6%	11.9%	10.5%	10.1%	10.1%	12.1%
Mini LCV	16.0%	8.5%	7.5%	7.4%	7.5%	8.9%
Bus	13.7%	6.6%	6.3%	6.1%	6.1%	7.3%
LCV	13.4%	7.6%	8.1%	7.7%	7.0%	8.5%
2A	17.2%	6.0%	8.5%	8.1%	7.9%	9.1%
3A	17.4%	5.8%	9.1%	8.5%	8.3%	9.5%

Vehicle Type	FY22-FY25	FY25-FY28	FY28-FY32	FY32-FY35	FY35-FY38	FY22-FY41
MAV	21.3%	9.1%	10.8%	10.3%	9.9%	11.7%
OSV	19.1%	11.5%	10.9%	10.3%	9.8%	11.8%
Total Revenue	**19.7%**	**8.4%**	**10.1%**	**9.6%**	**9.3%**	**10.9%**

Source: Steer analysis

UG – Khandi Obri

Table 6.46: Final (background plus impacts) AADT forecast – UG Khandi Obri

Vehicle Type	FY21	FY22	FY27	FY30	FY32	FY34	FY36	FY39
CJV	5,098	5,243	8,323	10,413	11,976	13,653	15,443	18,383
Mini LCV	0	382	455	501	531	561	592	637
Bus	668	616	709	765	803	839	875	928
LCV	702	743	898	988	1,048	1,108	1,167	1,257
2A	1,690	1,883	2,151	2,395	2,562	2,729	2,897	3,155
3A	1,911	2,023	2,350	2,664	2,881	3,101	3,325	3,672
MAV	4,178	4,491	6,038	7,217	8,065	8,953	9,882	11,377
OSV	8	8	12	14	15	17	19	22
AADT	**14,256**	**15,389**	**20,936**	**24,956**	**27,881**	**30,962**	**34,200**	**39,431**
PCU's	**37,797**	**40,553**	**52,978**	**62,407**	**69,177**	**76,251**	**83,632**	**95,467**

Source: Steer analysis

Table 6.47: Final (background plus impacts) AADT CAGR (%) – UG Khandi Obri

Vehicle Type	FY22-FY27	FY27-FY30	FY30-FY32	FY32-FY34	FY34-FY36	FY22-FY39
CJV	9.7%	7.8%	7.2%	6.8%	6.4%	7.7%
Mini LCV	3.6%	3.2%	3.0%	2.8%	2.6%	3.1%
Bus	2.9%	2.6%	2.4%	2.3%	2.1%	2.4%
LCV	3.9%	3.2%	3.0%	2.8%	2.6%	3.1%
2A	2.7%	3.6%	3.4%	3.2%	3.0%	3.1%
3A	3.0%	4.3%	4.0%	3.8%	3.5%	3.6%
MAV	6.1%	6.1%	5.7%	5.4%	5.1%	5.6%
OSV	6.4%	6.1%	5.7%	5.4%	5.1%	5.7%
AADT	**6.3%**	**6.0%**	**5.7%**	**5.4%**	**5.1%**	**5.7%**
PCU's	**5.5%**	**5.6%**	**5.3%**	**5.0%**	**4.7%**	**5.2%**

Source: Steer analysis

6.61 The table below presents the toll plaza revenues from FY21 till end of concession. There is significant revenue jump in FY22 due to toll rate increase post Asset construction completion. A combination of toll increase (up to 55%) post construction completion coupled with WPI

increase, positive diversions due to LoS and other diversions assumed in the FY22-FY25 period resulted in a high revenue CAGR over the FY22-25 period. Overall revenue CAGR for the Asset remains in the range of 10%.

Table 6.48: Final (background plus impacts) revenue (INR crores) forecast – UG Khandi Obri

Vehicle Type	FY21	FY22	FY27	FY30	FY32	FY34	FY36	FY39
CJV	11	20	45	65	82	103	128	174
Mini LCV	0	1	2	3	4	4	5	6
Bus	5	9	14	17	20	23	26	32
LCV	4	5	9	12	13	16	18	22
2A	16	31	49	63	75	87	102	127
3A	20	38	60	79	94	111	131	166
MAV	62	122	227	312	383	467	567	747
OSV	0	0	0	1	1	1	1	2
Total Revenue	**117**	**227**	**408**	**552**	**672**	**811**	**978**	**1,276**

Source: Steer analysis

Table 6.49: Final (background plus impacts) revenue CAGR (%) – UG Khandi Obri

Vehicle Type	FY22-FY27	FY27-FY30	FY30-FY32	FY32-FY34	FY34-FY36	FY22-FY39
CJV	17.1%	13.0%	12.1%	12.0%	11.4%	13.4%
Mini LCV	10.6%	8.3%	7.7%	7.9%	7.5%	8.6%
Bus	10.1%	7.4%	7.6%	6.9%	7.2%	8.0%
LCV	11.6%	8.0%	8.1%	7.7%	7.5%	8.9%
2A	9.6%	8.7%	8.6%	7.9%	8.2%	8.6%
3A	9.9%	9.4%	9.1%	8.6%	8.5%	9.1%
MAV	13.3%	11.2%	10.9%	10.3%	10.2%	11.3%
OSV	13.5%	11.2%	11.0%	10.3%	10.2%	11.4%
Total Revenue	**12.5%**	**10.6%**	**10.3%**	**9.9%**	**9.8%**	**10.7%**

Source: Steer analysis

Upside and Downside Cases

Upside and Downside scenario assumptions

6.62 We have developed our base case scenario considering a balanced view on the risks associated with input assumptions around GDP growth and traffic growth elasticities. There is always a risk that the outturn values of these inputs will vary as compared to the assumptions taken due to exogenous impacts, e.g. GDP growth could be influenced both positively and negatively by the impact of monsoons, export-import balances, political changes etc.

6.63 Similarly, traffic growth elasticities could be influenced by increased efficiencies achieved by technology, large shifts in commodity prices globally, changes in local manufacturing practices.

However, at this stage we consider that the base case represents a central case scenario given the risks of variation of input assumptions.

6.64 To account for the possible variations in the growth drivers, we are also presenting the forecasts for an Upside (optimistic) and a Downside (pessimistic) scenario. These scenarios are defined by the following variations from the base assumptions:

Table 6.50: Summary of Macro Assumptions for upside and downside cases

Asset	Input	Upside	Downside
Macro Assumptions			
CG, KG, UG	GDP/GSDP	+1% every year	-1% every year
CG, KG, UG	WPI	+1% every year	-1% every year
CG, KG, UG	Elasticities	+ 10%	- 10%

Source: Steer analysis

6.65 Further, network developments are highly dependent on governmental directions, policies, legal and financial measure which might result in early or delayed completion of developments discussed in section 6.18 of this Chapter. Therefore, we have included an Upside (optimistic) and a Downside (pessimistic) case for impacts below. However, at this stage, we consider that the base case represents a central case scenario given the risks of variation of input assumptions.

Impacts-Upside Case

6.66 The upside case impacts included in forecasts are summarised in below.

Table 6.51: Summary of impacts on the Assets

Impact	Year	Khedi	Lambiyan Kalan	Jojaro Ka Kheda	Khandi Obri
LoS Improvement (construction completion)	FY23 onwards	CJV: 6.8% LCV: 3.4% 2A: 2.4% 3A: 2.5% MAV: 3.7%	CJV: 6.4% LCV: 2.8% 2A: 3.0% 3A: 2.5% MAV: 4.0%	CJV: 6.5% LCV: 2.0% 2A: 2.0% 3A: 2.0% MAV: 4.2%	CJV: 6.6% LCV: 1.8% 2A: 2.0% 3A: 1.9% MAV: 2.4%
Udaipur Bypass completion	FY23 onwards	2A: 3.5% 3A: 3.0% MAV: 2.5%	2A: 3.1% 3A: 2.9% MAV: 2.5%	2A: 3.4% 3A: 3.1% MAV: 2.2%	No impact
Morbi Traffic	FY23 onwards	2A: 04% 3A: 0.2% MAV: 1.1%	2A: 0.4% 3A: 0.2% MAV: 1.0%	2A: 0.3% 3A: 0.2% MAV: 1.1%	2A: 0.4% 3A: 0.2% MAV: 1.2%
Saurashtra Traffic	FY23 onwards	2A: 0.2% 3A: 0.4% MAV: 0.7%	2A: 0.2% 3A: 0.4% MAV: 0.6%	2A: 0.2% 3A: 0.4% MAV: 0.7%	2A: 0.2% 3A: 0.4% MAV: 0.8%
NH48 Toll reduction on BOT projects	FY23 onwards	2A: 3.8% 3A: 4.1% MAV: 4.9%	2A: 3.8% 3A: 4.2% MAV: 4.6%	2A: 3.6% 3A: 4.1% MAV: 4.9%	2A: 3.9% 3A: 3.9% MAV: 4.6%
Textile Industry influence	FY23 onwards	2A: 2.0% 3A: 2.0% MAV: 2.0%	2A: 2.0% 3A: 2.0% MAV: 2.0%	2A: 2.0% 3A: 2.0% MAV: 2.0%	2A: 2.0% 3A: 1.8% MAV: 1.5%

Impact	Year	Khedi	Lambiyan Kalan	Jojaro Ka Kheda	Khandi Obri
Western Dedicated Freight Corridor and Delhi Mumbai Expressway	FY24 onwards	2A: (10.6%) 3A: (12.2%) MAV: (7.3%)	2A: (10.3%) 3A: (12.3%) MAV: (6.5%)	2A: (9.2%) 3A: (11.6%) MAV: (7.4%)	2A: (7.5%) 3A: (9.1%) MAV: (6.0%)
Ajmer-Gomti upgrade	FY23 onwards	2A: (0.2%) 3A: (0.2%) MAV: (0.2%)	2A: (0.0%) 3A: (0.6%) MAV: (0.5%)	2A: (0.4%) 3A: (0.4%) MAV: (0.5%)	No impact

Source: Steer analysis of OD data, and publicly available information

Impacts-Downside Case

6.67 The downside case impacts included in forecasts are summarised in below.

Table 6.52: Summary of impacts on the Assets

Impact	Year	Khedi	Lambiyan Kalan	Jojaro Ka Kheda	Khandi Obri
LoS Improvement (construction completion)	FY23 onwards	CJV: 4.1% LCV: 2.1% 2A: 1.4% 3A: 1.5% MAV: 2.2%	CJV: 3.9% LCV: 1.7% 2A: 1.8% 3A: 1.5% MAV: 2.4%	CJV: 3.9% LCV: 1.2% 2A: 1.2% 3A: 1.2% MAV: 2.5%	CJV: 3.9% LCV: 1.1% 2A: 1.2% 3A: 1.2% MAV: 1.5%
Udaipur Bypass completion	FY23 onwards	2A: 2.1% 3A: 1.8% MAV: 1.5%	2A: 1.8% 3A: 1.7% MAV: 1.5%	2A: 2.0% 3A: 1.8% MAV: 1.3%	No impact
Morbi Traffic	FY24 onwards	2A: 0.4% 3A: 0.2% MAV: 1.1%	2A: 0.4% 3A: 0.2% MAV: 1.0%	2A: 0.3% 3A: 0.2% MAV: 1.1%	2A: 0.4% 3A: 0.2% MAV: 1.2%
Saurashtra Traffic	FY24 onwards	2A: 0.2% 3A: 0.4% MAV: 0.7%	2A: 0.2% 3A: 0.4% MAV: 0.6%	2A: 0.2% 3A: 0.4% MAV: 0.7%	2A: 0.2% 3A: 0.4% MAV: 0.8%
NH48 Toll reduction on BOT projects	FY23 onwards	2A: 2.3% 3A: 2.5% MAV: 3.0%	2A: 2.3% 3A: 2.5% MAV: 2.8%	2A: 2.3% 3A: 2.4% MAV: 3.0%	2A: 2.3% 3A: 2.3% MAV: 2.8%
Textile Industry influence	FY23 onwards	2A: 2.0% 3A: 2.0% MAV: 2.0%	2A: 2.0% 3A: 2.0% MAV: 2.0%	2A: 2.0% 3A: 2.0% MAV: 2.0%	2A: 2.0% 3A: 1.8% MAV: 1.5%
Western Dedicated Freight Corridor and Delhi Mumbai Expressway	FY23 onwards	2A: (17.7%) 3A: (20.3%) MAV: (12.2%)	2A: (17.2%) 3A: (20.5%) MAV: (10.8%)	2A: (15.4%) 3A: (19.4%) MAV: (12.3%)	2A: (12.4%) 3A: (15.2%) MAV: (10.1%)
Ajmer-Gomti upgrade	FY24 onwards	2A: (0.4%) 3A: (0.3%) MAV: (0.3%)	2A: (0.9%) 3A: (0.9%) MAV: (0.9%)	2A: (0.7%) 3A: (0.7%) MAV: (0.8%)	No impact

Source: Steer analysis of OD data, and publicly available information

6.68 The traffic forecast and growth, and revenue incorporating the upside and downside assumptions are presented in the following sections.

Traffic and Revenue Forecasts - upside scenario

KG - Khedi

Table 6.53: Final (background plus impacts) AADT forecast for upside scenario – KG Khedi

Vehicle Type	FY21	FY22	FY25	FY28	FY32	FY35	FY40	FY43
CJV	3,454	3,853	5,204	6,583	8,815	10,778	14,697	17,523
Mini LCV	0	846	954	1,075	1,248	1,382	1,618	1,769
Bus	266	328	349	370	399	420	455	476
LCV	878	628	732	826	958	1,061	1,242	1,358
2A	1,321	1,692	2,119	2,198	2,618	2,957	3,570	3,972
3A	1,658	2,061	2,632	2,752	3,360	3,872	4,819	5,457
MAV	4,149	5,034	7,071	8,246	10,977	13,413	18,287	21,803
OSV	16	16	21	26	35	43	59	70
AADT	**11,742**	**14,458**	**19,082**	**22,076**	**28,410**	**33,926**	**44,747**	**52,427**
PCU's	**33,251**	**40,608**	**54,468**	**62,081**	**80,186**	**96,052**	**1,27,267**	**1,49,470**

Source: Steer analysis

Table 6.54: Final (background plus impacts) AADT CAGR (%) for upside scenario – KG Khedi

Vehicle Type	FY22-FY25	FY25-FY28	FY28-FY32	FY32-FY35	FY35-FY40	FY22-FY43
CJV	10.5%	8.1%	7.6%	6.9%	6.4%	7.5%
Mini LCV	4.1%	4.1%	3.8%	3.5%	3.2%	3.6%
Bus	2.0%	2.0%	1.9%	1.7%	1.6%	1.8%
LCV	5.3%	4.1%	3.8%	3.5%	3.2%	3.7%
2A	7.8%	1.2%	4.5%	4.1%	3.8%	4.1%
3A	8.5%	1.5%	5.1%	4.8%	4.5%	4.7%
MAV	12.0%	5.3%	7.4%	6.9%	6.4%	7.2%
OSV	8.1%	8.1%	7.5%	6.9%	6.4%	7.1%
AADT	**9.7%**	**5.0%**	**6.5%**	**6.1%**	**5.7%**	**6.3%**
PCU's	**10.3%**	**4.5%**	**6.6%**	**6.2%**	**5.8%**	**6.4%**

Source: Steer analysis

Table 6.55: Final (background plus impacts) revenue (INR crores) forecast for upside scenario – KG Khedi

Vehicle Type	FY21	FY22	FY25	FY28	FY32	FY35	FY40	FY43
CJV	6.7	9.2	21.6	32.2	54.0	76.8	138.7	194.9
Mini LCV	0.0	2.0	4.0	5.3	7.6	9.9	15.3	19.7
Bus	2.0	2.9	5.3	6.6	8.8	10.9	15.6	19.1
LCV	3.6	3.3	5.9	8.0	11.4	14.8	22.9	29.4
2A	11.3	17.8	38.2	46.5	69.3	91.5	145.9	190.8
3A	15.6	24.0	51.8	63.8	97.0	131.2	214.9	286.3
MAV	53.5	79.2	197.5	271.2	450.1	645.3	1,159.7	1,626.3

Vehicle Type	FY21	FY22	FY25	FY28	FY32	FY35	FY40	FY43
OSV	0.3	0.3	0.7	1.1	1.8	2.5	4.6	6.4
Total Revenue	**92.9**	**138.7**	**325.0**	**434.7**	**700.0**	**982.9**	**1,717.5**	**2,372.9**

Table 6.56: Final (background plus impacts) revenue CAGR (%) for upside scenario – KG Khedi

Vehicle Type	FY22-FY25	FY25-FY28	FY28-FY32	FY32-FY35	FY35-FY40	FY22-FY43
CJV	33.0%	14.3%	13.8%	12.5%	12.5%	15.7%
Mini LCV	25.2%	10.0%	9.8%	8.8%	9.2%	11.4%
Bus	22.0%	7.6%	7.7%	7.2%	7.4%	9.4%
LCV	21.6%	10.3%	9.4%	9.1%	9.1%	11.0%
2A	28.9%	6.8%	10.5%	9.7%	9.8%	12.0%
3A	29.3%	7.2%	11.0%	10.6%	10.4%	12.5%
MAV	35.6%	11.1%	13.5%	12.8%	12.4%	15.5%
OSV	29.1%	14.2%	13.5%	12.8%	12.5%	15.1%
Total Revenue	**32.8%**	**10.2%**	**12.7%**	**12.0%**	**11.8%**	**14.5%**

Source: Steer analysis

CG – Jojaro Ka Kheda

Table 6.57: Final (background plus impacts) AADT forecast for upside scenario – CG Jojaro Ka Kheda

Vehicle Type	FY21	FY22	FY25	FY28	FY32	FY35	FY38	FY41
CJV	3,972	4,456	6,001	7,591	10,163	12,427	15,011	17,983
Mini LCV	0	775	874	985	1,143	1,266	1,393	1,527
Bus	278	359	381	405	436	459	482	505
LCV	960	859	987	1,113	1,291	1,430	1,574	1,726
2A	1,239	1,620	2,020	2,100	2,501	2,826	3,169	3,536
3A	1,581	2,040	2,592	2,705	3,303	3,806	4,349	4,941
MAV	4,604	5,708	8,009	9,424	12,554	15,340	18,524	22,193
OSV	18	18	23	29	39	48	58	69
AADT	**12,652**	**15,834**	**20,887**	**24,353**	**31,431**	**37,601**	**44,560**	**52,480**
PCU's	**35,506**	**44,342**	**59,478**	**68,418**	**88,634**	**1,06,355**	**1,26,385**	**1,49,224**

Source: Steer analysis

Table 6.58: Final (background plus impacts) AADT CAGR (%) for upside scenario – CG Jojaro Ka Kheda

Vehicle Type	FY22-FY25	FY25-FY28	FY28-FY32	FY32-FY35	FY35-FY38	FY22-FY41
CJV	10.4%	8.1%	7.6%	6.9%	6.5%	7.6%
Mini LCV	4.1%	4.1%	3.8%	3.5%	3.2%	3.6%
Bus	2.0%	2.0%	1.9%	1.7%	1.6%	1.8%
LCV	4.8%	4.1%	3.8%	3.5%	3.2%	3.7%

Vehicle Type	FY22-FY25	FY25-FY28	FY28-FY32	FY32-FY35	FY35-FY38	FY22-FY41
2A	7.6%	1.3%	4.5%	4.1%	3.9%	4.2%
3A	8.3%	1.4%	5.1%	4.8%	4.5%	4.8%
MAV	12.0%	5.6%	7.4%	6.9%	6.5%	7.4%
OSV	8.1%	8.1%	7.5%	6.9%	6.5%	7.2%
AADT	**9.7%**	**5.3%**	**6.6%**	**6.2%**	**5.8%**	**6.5%**
PCU's	**10.3%**	**4.8%**	**6.7%**	**6.3%**	**5.9%**	**6.6%**

Source: Steer analysis

Table 6.59: Final (background plus impacts) revenue (INR crores) forecast for upside scenario – CG Jojaro Ka Kheda

Vehicle Type	FY21	FY22	FY25	FY28	FY32	FY35	FY38	FY41
CJV	5.4	8.6	16.8	24.9	41.5	60.2	84.8	120.9
Mini LCV	0.0	1.5	2.5	3.2	4.7	6.1	7.9	10.3
Bus	1.5	2.6	4.0	5.0	6.7	8.3	10.2	12.6
LCV	2.7	3.2	5.1	6.7	9.8	12.7	16.5	21.2
2A	7.7	14.3	25.1	31.0	45.8	60.7	80.3	105.4
3A	9.8	18.1	33.8	41.4	62.9	85.2	115.0	154.1
MAV	42.1	73.6	149.3	206.4	340.7	489.7	697.2	984.4
OSV	0.2	0.3	0.6	0.8	1.4	2.0	2.8	4.0
Total Revenue	**69.3**	**122.2**	**237.2**	**319.4**	**513.4**	**724.8**	**1,014.7**	**1,412.9**

Source: Steer analysis

Table 6.60: Final (background plus impacts) revenue CAGR (%) for upside scenario – CG Jojaro Ka Kheda

Vehicle Type	FY22-FY25	FY25-FY28	FY28-FY32	FY32-FY35	FY35-FY38	FY22-FY41
CJV	25.0%	13.9%	13.7%	13.2%	12.1%	14.9%
Mini LCV	17.8%	9.6%	9.7%	9.5%	8.7%	10.7%
Bus	14.6%	7.8%	7.6%	7.4%	7.3%	8.6%
LCV	17.4%	9.3%	9.9%	9.3%	8.9%	10.5%
2A	20.7%	7.3%	10.3%	9.8%	9.8%	11.1%
3A	23.2%	6.9%	11.0%	10.6%	10.5%	11.9%
MAV	26.6%	11.4%	13.3%	12.9%	12.5%	14.6%
OSV	21.7%	14.0%	13.5%	12.8%	12.6%	14.4%
Total Revenue	**24.7%**	**10.4%**	**12.6%**	**12.2%**	**11.9%**	**13.7%**

Source: Steer analysis

CG – Lambiya Kalan

Table 6.61: Final (background plus impacts) AADT forecast for upside scenario – CG Lambiya Kalan

Vehicle Type	FY21	FY22	FY25	FY28	FY32	FY35	FY38	FY41
CJV	4,009	4,669	6,285	7,950	10,644	13,015	15,721	18,834
Mini LCV	0	837	944	1,064	1,234	1,367	1,505	1,649
Bus	300	389	414	439	474	499	523	548
LCV	1,012	843	977	1,101	1,278	1,415	1,558	1,707
2A	1,393	1,808	2,267	2,385	2,841	3,209	3,599	4,016
3A	1,692	2,158	2,753	2,893	3,534	4,072	4,653	5,286
MAV	4,221	4,999	7,040	8,206	10,925	13,349	16,121	19,314
OSV	16	16	20	25	33	40	49	59
AADT	**12,643**	**15,719**	**20,698**	**24,064**	**30,963**	**36,967**	**43,728**	**51,413**
PCU's	**34,745**	**42,401**	**56,760**	**64,859**	**83,653**	**1,00,099**	**1,18,653**	**1,39,770**

Source: Steer analysis

Table 6.62: Final (background plus impacts) AADT CAGR (%) for upside scenario – CG Lambiya Kalan

Vehicle Type	FY22-FY25	FY25-FY28	FY28-FY32	FY32-FY35	FY35-FY38	FY22-FY41
CJV	10.4%	8.1%	7.6%	6.9%	6.5%	7.6%
Mini LCV	4.1%	4.1%	3.8%	3.5%	3.2%	3.6%
Bus	2.0%	2.0%	1.9%	1.7%	1.6%	1.8%
LCV	5.0%	4.1%	3.8%	3.5%	3.2%	3.8%
2A	7.8%	1.7%	4.5%	4.1%	3.9%	4.3%
3A	8.5%	1.7%	5.1%	4.8%	4.5%	4.8%
MAV	12.1%	5.2%	7.4%	6.9%	6.5%	7.4%
OSV	8.1%	8.1%	7.5%	6.9%	6.5%	7.2%
AADT	**9.6%**	**5.2%**	**6.5%**	**6.1%**	**5.8%**	**6.4%**
PCU's	**10.2%**	**4.5%**	**6.6%**	**6.2%**	**5.8%**	**6.5%**

Source: Steer analysis

Table 6.63: Final (background plus impacts) revenue (INR crores) forecast for upside scenario – CG Lambiya Kalan

Vehicle Type	FY21	FY22	FY25	FY28	FY32	FY35	FY38	FY41
CJV	5.9	8.8	17.1	25.7	42.3	61.8	87.4	123.1
Mini LCV	0.0	1.6	2.6	3.4	4.9	6.5	8.4	10.8
Bus	1.5	2.8	4.2	5.3	7.0	8.7	10.7	13.2
LCV	3.0	3.4	5.2	7.0	10.0	13.1	17.0	21.8
2A	8.5	15.5	27.9	34.6	51.1	67.9	89.8	117.8
3A	11.1	19.8	36.4	45.1	68.3	92.3	124.6	167.0
MAV	39.4	66.0	133.3	182.1	300.7	432.5	616.4	868.7

Vehicle Type	FY21	FY22	FY25	FY28	FY32	FY35	FY38	FY41
OSV	0.2	0.2	0.4	0.7	1.1	1.6	2.2	3.2
Total Revenue	**69.6**	**118.2**	**227.1**	**303.9**	**485.4**	**684.4**	**956.6**	**1,325.5**

Source: Steer analysis

Table 6.64: Final (background plus impacts) revenue CAGR (%) for upside scenario – CG Lambiya Kalan

Vehicle Type	FY22-FY25	FY25-FY28	FY28-FY32	FY32-FY35	FY35-FY38	FY22-FY41
CJV	24.7%	14.6%	13.3%	13.4%	12.3%	14.9%
Mini LCV	17.6%	10.3%	9.3%	9.7%	8.9%	10.6%
Bus	14.7%	7.8%	7.5%	7.3%	7.3%	8.6%
LCV	14.8%	10.2%	9.5%	9.5%	9.1%	10.2%
2A	21.6%	7.5%	10.2%	10.0%	9.8%	11.3%
3A	22.4%	7.4%	11.0%	10.6%	10.5%	11.9%
MAV	26.4%	11.0%	13.3%	12.9%	12.5%	14.5%
OSV	22.0%	14.0%	13.6%	12.9%	12.5%	14.4%
Total Revenue	**24.3%**	**10.2%**	**12.4%**	**12.1%**	**11.8%**	**13.6%**

Source: Steer analysis

UG – Khandi Obri

Table 6.65: Final (background plus impacts) AADT forecast for upside scenario – UG Khandi Obri

Vehicle Type	FY21	FY22	FY27	FY30	FY32	FY34	FY36	FY39
CJV	4,134	5,243	9,307	12,337	14,735	17,433	20,451	25,690
Mini LCV	0	382	475	536	578	621	665	733
Bus	497	616	734	809	860	911	962	1,040
LCV	775	743	941	1,062	1,146	1,231	1,317	1,451
2A	1,470	1,883	2,404	2,675	2,917	3,168	3,426	3,835
3A	1,625	2,023	2,690	3,041	3,364	3,701	4,055	4,623
MAV	3,543	4,491	6,897	8,446	9,739	11,150	12,686	15,276
OSV	8	8	12	16	18	21	23	28
AADT	**12,053**	**15,389**	**23,462**	**28,922**	**33,357**	**38,235**	**43,585**	**52,677**
PCU's	**32,056**	**40,553**	**59,774**	**72,121**	**82,361**	**93,505**	**1,05,612**	**1,25,966**

Source: Steer analysis

Table 6.66: Final (background plus impacts) AADT CAGR (%) for upside scenario – UG Khandi Obri

Vehicle Type	FY22-FY27	FY27-FY30	FY30-FY32	FY32-FY34	FY34-FY36	FY22-FY39
CJV	12.2%	9.8%	9.3%	8.8%	8.3%	9.8%
Mini LCV	4.5%	4.1%	3.9%	3.6%	3.5%	3.9%

Vehicle Type	FY22-FY27	FY27-FY30	FY30-FY32	FY32-FY34	FY34-FY36	FY22-FY39
Bus	3.6%	3.3%	3.1%	2.9%	2.8%	3.1%
LCV	4.9%	4.1%	3.9%	3.6%	3.5%	4.0%
2A	5.0%	3.6%	4.4%	4.2%	4.0%	4.3%
3A	5.9%	4.2%	5.2%	4.9%	4.7%	5.0%
MAV	9.0%	7.0%	7.4%	7.0%	6.7%	7.5%
OSV	8.1%	7.8%	7.4%	7.0%	6.7%	7.4%
AADT	**8.8%**	**7.2%**	**7.4%**	**7.1%**	**6.8%**	**7.5%**
PCU's	**8.1%**	**6.5%**	**6.9%**	**6.6%**	**6.3%**	**6.9%**

Source: Steer analysis

Table 6.67: Final (background plus impacts) revenue (INR crores) forecast for upside scenario – UG Khandi Obri

Vehicle Type	FY21	FY22	FY27	FY30	FY32	FY34	FY36	FY39
CJV	11.4	20.5	51.9	81.1	109.0	143.2	186.3	276.4
Mini LCV	0.0	1.5	2.7	3.5	4.3	5.1	6.1	7.9
Bus	4.6	8.6	14.8	19.2	22.8	26.8	31.7	40.3
LCV	3.9	5.4	9.9	13.1	15.8	19.0	22.7	29.5
2A	16.0	31.3	57.4	75.1	91.4	110.6	133.8	175.7
3A	19.5	37.7	71.7	95.2	117.8	144.5	177.1	237.2
MAV	61.9	122.4	267.9	385.1	496.8	634.2	807.1	1,142.0
OSV	0.2	0.3	0.5	0.8	1.0	1.3	1.7	2.4
Total Revenue	**117.4**	**227.6**	**476.8**	**673.2**	**859.0**	**1,084.9**	**1,366.5**	**1,911.3**

Source: Steer analysis

Table 6.68: Final (background plus impacts) revenue CAGR (%) for upside scenario – UG Khandi Obri

Vehicle Type	FY22-FY27	FY27-FY30	FY30-FY32	FY32-FY34	FY34-FY36	FY22-FY39
CJV	20.5%	16.0%	16.0%	14.6%	14.0%	16.5%
Mini LCV	12.2%	9.9%	10.2%	9.2%	8.9%	10.3%
Bus	11.5%	9.0%	8.9%	8.6%	8.6%	9.5%
LCV	13.0%	9.7%	10.0%	9.4%	9.5%	10.5%
2A	12.9%	9.4%	10.3%	10.0%	10.0%	10.7%
3A	13.7%	9.9%	11.2%	10.8%	10.7%	11.4%
MAV	17.0%	12.9%	13.6%	13.0%	12.8%	14.0%
OSV	16.1%	13.8%	13.5%	12.8%	12.8%	13.9%
Total Revenue	**15.9%**	**12.2%**	**13.0%**	**12.4%**	**12.2%**	**13.3%**

Source: Steer analysis

Traffic and Revenue Forecasts - downside scenario

KG - Khedi

Table 6.69: Final (background plus impacts) AADT forecast for downside scenario – KG Khedi

Vehicle Type	FY21	FY22	FY25	FY28	FY32	FY35	FY40	FY43
CJV	3,454	3,853	4,624	5,333	6,334	7,098	8,405	9,221
Mini LCV	0	846	910	978	1,066	1,129	1,230	1,289
Bus	266	328	340	353	369	380	396	406
LCV	878	628	689	741	808	856	932	976
2A	1,321	1,692	1,825	1,772	1,959	2,098	2,323	2,456
3A	1,658	2,061	2,227	2,150	2,402	2,602	2,930	3,127
MAV	4,149	5,034	5,948	6,353	7,492	8,392	9,934	10,899
OSV	16	16	19	22	26	29	34	38
AADT	**11,742**	**14,458**	**16,582**	**17,702**	**20,455**	**22,583**	**26,184**	**28,413**
PCU's	**33,251**	**40,608**	**46,594**	**48,935**	**56,630**	**62,641**	**72,837**	**79,159**

Source: Steer analysis

Table 6.70: Final (background plus impacts) AADT CAGR (%) for downside scenario – KG Khedi

Vehicle Type	FY22-FY25	FY25-FY28	FY28-FY32	FY32-FY35	FY35-FY40	FY22-FY43
CJV	6.3%	4.9%	4.4%	3.9%	3.4%	4.2%
Mini LCV	2.4%	2.4%	2.2%	1.9%	1.7%	2.0%
Bus	1.2%	1.2%	1.1%	1.0%	0.9%	1.0%
LCV	3.1%	2.4%	2.2%	1.9%	1.7%	2.1%
2A	2.6%	(1.0%)	2.5%	2.3%	2.1%	1.8%
3A	2.6%	(1.2%)	2.8%	2.7%	2.4%	2.0%
MAV	5.7%	2.2%	4.2%	3.9%	3.4%	3.7%
OSV	4.8%	4.8%	4.4%	3.9%	3.4%	4.0%
AADT	**4.7%**	**2.2%**	**3.7%**	**3.4%**	**3.0%**	**3.3%**
PCU's	**4.7%**	**1.6%**	**3.7%**	**3.4%**	**3.1%**	**3.2%**

Source: Steer analysis

Table 6.71: Final (background plus impacts) revenue (INR crores) forecast for downside scenario – KG Khedi

Vehicle Type	FY21	FY22	FY25	FY28	FY32	FY35	FY40	FY43
CJV	6.7	9.2	18.5	24.2	33.6	42.5	61.1	74.8
Mini LCV	0.0	2.0	3.6	4.4	5.7	6.8	8.9	10.5
Bus	2.0	2.9	4.9	5.8	7.1	8.2	10.4	11.8
LCV	3.6	3.3	5.3	6.5	8.4	9.9	13.2	15.3
2A	11.3	17.8	31.5	34.6	45.0	53.8	72.5	85.4
3A	15.6	23.6	41.8	46.0	60.1	73.0	100.1	119.1
MAV	53.5	79.2	159.6	192.8	266.6	335.5	481.1	589.1

Vehicle Type	FY21	FY22	FY25	FY28	FY32	FY35	FY40	FY43
OSV	0.3	0.3	0.6	0.8	1.1	1.4	2.0	2.5
Total Revenue	**92.9**	**138.4**	**265.9**	**315.1**	**427.6**	**531.1**	**749.3**	**908.4**

Table 6.72: Final (background plus impacts) revenue CAGR (%) for downside scenario – KG Khedi

Vehicle Type	FY22-FY25	FY25-FY28	FY28-FY32	FY32-FY35	FY35-FY40	FY22-FY43
CJV	26.2%	9.4%	8.6%	8.1%	7.5%	10.5%
Mini LCV	21.6%	6.9%	6.3%	6.1%	5.7%	8.1%
Bus	19.2%	5.4%	5.3%	4.9%	4.9%	6.9%
LCV	17.5%	6.9%	6.4%	5.7%	6.0%	7.6%
2A	21.0%	3.1%	6.8%	6.1%	6.1%	7.7%
3A	21.0%	3.2%	7.0%	6.7%	6.5%	8.0%
MAV	26.3%	6.5%	8.4%	8.0%	7.5%	10.0%
OSV	23.4%	9.2%	8.7%	7.9%	7.5%	10.1%
Total Revenue	**24.3%**	**5.8%**	**7.9%**	**7.5%**	**7.1%**	**9.4%**

Source: Steer analysis

CG – Jojaro Ka Kheda

Table 6.73: Final (background plus impacts) AADT forecast for downside scenario – CG Jojaro Ka Kheda

Vehicle Type	FY21	FY22	FY25	FY28	FY32	FY35	FY38	FY41
CJV	3,972	4,456	5,338	6,156	7,311	8,194	9,089	10,013
Mini LCV	0	775	833	895	977	1,035	1,090	1,145
Bus	278	359	372	386	403	415	426	436
LCV	960	859	934	1,004	1,095	1,160	1,222	1,283
2A	1,239	1,620	1,745	1,701	1,880	2,013	2,143	2,272
3A	1,581	2,040	2,196	2,116	2,363	2,559	2,753	2,947
MAV	4,604	5,708	6,771	7,306	8,622	9,658	10,711	11,800
OSV	18	18	21	24	29	32	36	40
AADT	**12,652**	**15,834**	**18,210**	**19,588**	**22,680**	**25,066**	**27,470**	**29,936**
PCU's	**35,506**	**44,342**	**51,076**	**54,150**	**62,799**	**69,537**	**76,340**	**83,325**

Source: Steer analysis

Table 6.74: Final (background plus impacts) AADT CAGR (%) for downside scenario – CG Jojaro Ka Kheda

Vehicle Type	FY22-FY25	FY25-FY28	FY28-FY32	FY32-FY35	FY35-FY38	FY22-FY41
CJV	6.2%	4.9%	4.4%	3.9%	3.5%	4.4%
Mini LCV	2.4%	2.4%	2.2%	1.9%	1.8%	2.1%
Bus	1.2%	1.2%	1.1%	1.0%	0.9%	1.0%
LCV	2.8%	2.4%	2.2%	1.9%	1.8%	2.1%

Vehicle Type	FY22-FY25	FY25-FY28	FY28-FY32	FY32-FY35	FY35-FY38	FY22-FY41
2A	2.5%	(0.8%)	2.5%	2.3%	2.1%	1.8%
3A	2.5%	(1.2%)	2.8%	2.7%	2.5%	2.0%
MAV	5.9%	2.6%	4.2%	3.9%	3.5%	3.9%
OSV	4.8%	4.8%	4.4%	3.9%	3.5%	4.1%
AADT	**4.8%**	**2.5%**	**3.7%**	**3.4%**	**3.1%**	**3.4%**
PCU's	**4.8%**	**2.0%**	**3.8%**	**3.5%**	**3.2%**	**3.4%**

Source: Steer analysis

Table 6.75: Final (background plus impacts) revenue (INR crores) forecast for downside scenario – CG Jojaro Ka Kheda

Vehicle Type	FY21	FY22	FY25	FY28	FY32	FY35	FY38	FY41
CJV	5.4	8.6	14.4	18.5	25.9	33.1	40.5	50.0
Mini LCV	0.0	1.5	2.2	2.7	3.5	4.2	4.9	5.7
Bus	1.5	2.6	3.7	4.4	5.4	6.2	7.1	8.2
LCV	2.7	3.1	4.6	5.6	7.2	8.6	10.1	11.8
2A	7.7	14.0	20.7	23.0	29.8	36.0	42.9	50.8
3A	9.8	18.1	27.2	29.8	39.0	47.7	57.4	69.0
MAV	42.1	72.7	120.4	146.6	203.4	256.2	318.4	392.6
OSV	0.2	0.3	0.5	0.6	0.9	1.1	1.4	1.7
Total Revenue	**69.3**	**120.9**	**193.8**	**231.2**	**315.0**	**393.0**	**482.8**	**589.8**

Source: Steer analysis

Table 6.76: Final (background plus impacts) revenue CAGR (%) for downside scenario – CG Jojaro Ka Kheda

Vehicle Type	FY22-FY25	FY25-FY28	FY28-FY32	FY32-FY35	FY35-FY38	FY22-FY41
CJV	18.5%	8.8%	8.8%	8.4%	7.0%	9.7%
Mini LCV	14.3%	6.3%	6.5%	6.4%	5.2%	7.3%
Bus	12.2%	5.5%	5.2%	5.1%	4.7%	6.2%
LCV	14.6%	6.6%	6.8%	5.7%	5.8%	7.4%
2A	13.9%	3.5%	6.7%	6.6%	6.0%	7.0%
3A	14.6%	3.2%	6.9%	7.0%	6.4%	7.3%
MAV	18.3%	6.8%	8.5%	8.0%	7.5%	9.3%
OSV	16.6%	9.1%	8.8%	7.8%	7.5%	9.4%
Total Revenue	**17.0%**	**6.1%**	**8.0%**	**7.7%**	**7.1%**	**8.7%**

Source: Steer analysis

CG – Lambiya Kalan

Table 6.77: Final (background plus impacts) AADT forecast for downside scenario – CG Lambiya Kalan

Vehicle Type	FY21	FY22	FY25	FY28	FY32	FY35	FY38	FY41
CJV	4,009	4,669	5,591	6,448	7,659	8,583	9,521	10,488
Mini LCV	0	837	900	967	1,055	1,117	1,177	1,236
Bus	300	389	404	419	437	450	462	474
LCV	1,012	843	921	990	1,080	1,144	1,206	1,266
2A	1,393	1,808	1,968	1,945	2,151	2,303	2,452	2,599
3A	1,692	2,158	2,338	2,273	2,541	2,752	2,960	3,168
MAV	4,221	4,999	5,915	6,314	7,446	8,341	9,250	10,190
OSV	16	16	18	21	24	27	30	33
AADT	**12,643**	**15,719**	**18,054**	**19,378**	**22,393**	**24,718**	**27,058**	**29,456**
PCU's	**34,745**	**42,401**	**48,697**	**51,319**	**59,338**	**65,588**	**71,891**	**78,354**

Source: Steer analysis

Table 6.78: Final (background plus impacts) AADT CAGR (%) for downside scenario – CG Lambiya Kalan

Vehicle Type	FY22-FY25	FY25-FY28	FY28-FY32	FY32-FY35	FY35-FY38	FY22-FY41
CJV	6.2%	4.9%	4.4%	3.9%	3.5%	4.4%
Mini LCV	2.4%	2.4%	2.2%	1.9%	1.8%	2.1%
Bus	1.2%	1.2%	1.1%	1.0%	0.9%	1.0%
LCV	3.0%	2.4%	2.2%	1.9%	1.8%	2.2%
2A	2.9%	(0.4%)	2.5%	2.3%	2.1%	1.9%
3A	2.7%	(0.9%)	2.8%	2.7%	2.5%	2.0%
MAV	5.8%	2.2%	4.2%	3.9%	3.5%	3.8%
OSV	4.8%	4.8%	4.4%	3.9%	3.5%	4.1%
AADT	**4.7%**	**2.4%**	**3.7%**	**3.3%**	**3.1%**	**3.4%**
PCU's	**4.7%**	**1.8%**	**3.7%**	**3.4%**	**3.1%**	**3.3%**

Source: Steer analysis

Table 6.79: Final (background plus impacts) revenue (INR crores) forecast for downside scenario – CG Lambiya Kalan

Vehicle Type	FY21	FY22	FY25	FY28	FY32	FY35	FY38	FY41
CJV	5.9	8.8	14.6	19.4	26.3	33.7	41.5	51.4
Mini LCV	0.0	1.6	2.3	2.9	3.6	4.4	5.1	6.1
Bus	1.5	2.7	3.9	4.6	5.6	6.5	7.5	8.6
LCV	3.0	3.4	4.7	5.8	7.4	8.7	10.4	12.2
2A	8.5	15.2	23.1	25.8	33.6	40.4	48.4	57.4
3A	11.1	19.8	29.6	32.5	42.7	52.1	62.9	75.2

Vehicle Type	FY21	FY22	FY25	FY28	FY32	FY35	FY38	FY41
MAV	39.4	65.2	106.8	128.9	178.5	224.4	279.9	344.6
OSV	0.2	0.2	0.4	0.5	0.7	0.9	1.1	1.4
Total Revenue	**69.6**	**117.1**	**185.5**	**220.4**	**298.4**	**371.1**	**456.7**	**556.8**

Source: Steer analysis

Table 6.80: Final (background plus impacts) revenue CAGR (%) for downside scenario – CG Lambiya Kalan

Vehicle Type	FY22-FY25	FY25-FY28	FY28-FY32	FY32-FY35	FY35-FY38	FY22-FY41
CJV	18.2%	9.9%	7.9%	8.7%	7.1%	9.7%
Mini LCV	14.0%	7.4%	5.7%	6.6%	5.3%	7.3%
Bus	12.6%	5.5%	5.2%	4.9%	4.9%	6.2%
LCV	11.1%	6.9%	6.3%	5.8%	6.0%	6.9%
2A	15.0%	3.7%	6.8%	6.4%	6.2%	7.2%
3A	14.3%	3.2%	7.1%	6.8%	6.5%	7.3%
MAV	17.9%	6.5%	8.5%	7.9%	7.6%	9.2%
OSV	16.4%	9.3%	8.6%	8.0%	7.6%	9.4%
Total Revenue	**16.6%**	**5.9%**	**7.9%**	**7.5%**	**7.2%**	**8.6%**

Source: Steer analysis

UG – Khandi Obri

Table 6.81: Final (background plus impacts) AADT forecast for downside scenario – UG Khandi Obri

Vehicle Type	FY21	FY22	FY27	FY30	FY32	FY34	FY36	FY39
CJV	4,134	5,243	7,512	8,920	9,917	10,936	11,974	13,586
Mini LCV	0	382	438	471	492	513	533	562
Bus	497	616	687	728	755	780	804	839
LCV	775	743	860	925	968	1,008	1,048	1,105
2A	1,470	1,883	1,990	2,160	2,271	2,379	2,485	2,641
3A	1,625	2,023	2,137	2,352	2,494	2,633	2,769	2,974
MAV	3,543	4,491	5,441	6,244	6,784	7,327	7,873	8,710
OSV	8	8	11	12	13	14	15	17
AADT	**12,053**	**15,389**	**19,075**	**21,813**	**23,694**	**25,592**	**27,501**	**30,435**
PCU's	**32,056**	**40,553**	**48,214**	**54,652**	**59,009**	**63,377**	**67,751**	**74,442**

Source: Steer analysis

Table 6.82: Final (background plus impacts) AADT CAGR (%) for downside scenario – UG Khandi Obri

Vehicle Type	FY22-FY27	FY27-FY30	FY30-FY32	FY32-FY34	FY34-FY36	FY22-FY39
CJV	7.5%	5.9%	5.4%	5.0%	4.6%	5.8%

Vehicle Type	FY22-FY27	FY27-FY30	FY30-FY32	FY32-FY34	FY34-FY36	FY22-FY39
Mini LCV	2.8%	2.5%	2.3%	2.1%	1.9%	2.3%
Bus	2.2%	2.0%	1.8%	1.7%	1.5%	1.8%
LCV	3.0%	2.5%	2.3%	2.1%	1.9%	2.4%
2A	1.1%	2.8%	2.5%	2.4%	2.2%	2.0%
3A	1.1%	3.3%	3.0%	2.7%	2.6%	2.3%
MAV	3.9%	4.7%	4.2%	3.9%	3.7%	4.0%
OSV	4.8%	4.5%	4.2%	3.9%	3.7%	4.2%
AADT	**4.4%**	**4.6%**	**4.2%**	**3.9%**	**3.7%**	**4.1%**
PCU's	**3.5%**	**4.3%**	**3.9%**	**3.6%**	**3.4%**	**3.6%**

Source: Steer analysis

Table 6.83: Final (background plus impacts) revenue (INR crores) forecast for downside scenario – UG Khandi Obri

Vehicle Type	FY21	FY22	FY27	FY30	FY32	FY34	FY36	FY39
CJV	11.4	20.5	38.9	52.3	63.8	74.9	89.0	113.7
Mini LCV	0.0	1.5	2.3	2.8	3.2	3.5	4.0	4.7
Bus	4.6	8.5	12.9	15.4	17.4	19.3	21.7	25.3
LCV	3.9	5.3	8.4	10.2	11.7	13.1	14.7	17.4
2A	16.0	31.0	44.4	54.2	61.9	69.8	79.2	94.1
3A	19.5	37.3	53.1	66.1	76.1	86.7	98.5	118.8
MAV	61.9	120.8	196.5	255.0	301.4	351.4	408.8	505.1
OSV	0.2	0.3	0.4	0.6	0.7	0.8	0.9	1.1
Total Revenue	**117.4**	**225.1**	**356.8**	**456.5**	**536.1**	**619.5**	**716.7**	**880.3**

Source: Steer analysis

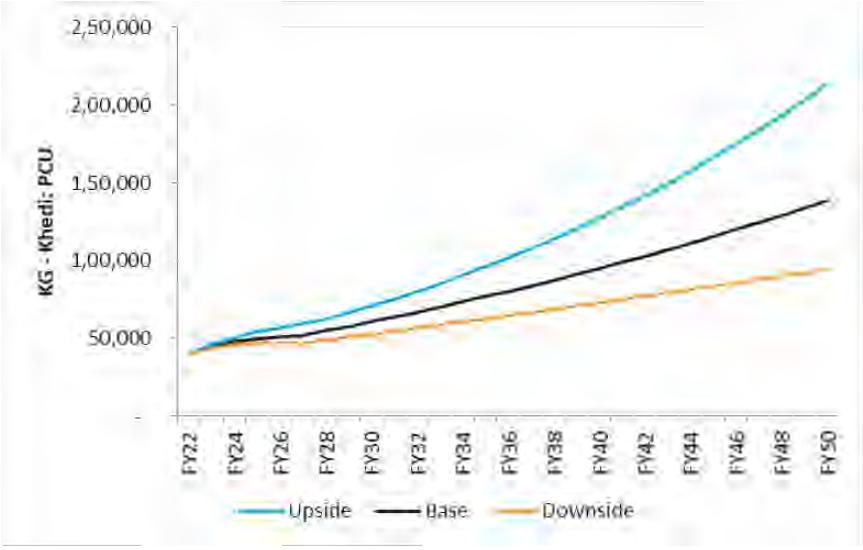
Table 6.84: Final (background plus impacts) revenue CAGR (%) for downside scenario – UG Khandi Obri

Vehicle Type	FY22-FY27	FY27-FY30	FY30-FY32	FY32-FY34	FY34-FY36	FY22-FY39
CJV	13.7%	10.4%	10.5%	8.4%	9.0%	10.6%
Mini LCV	8.7%	6.8%	7.1%	5.4%	6.1%	7.0%
Bus	8.7%	6.1%	6.1%	5.5%	5.9%	6.6%
LCV	9.7%	6.7%	6.8%	6.0%	5.9%	7.2%
2A	7.5%	6.9%	6.9%	6.1%	6.5%	6.8%
3A	7.3%	7.6%	7.3%	6.8%	6.6%	7.0%
MAV	10.2%	9.1%	8.7%	8.0%	7.9%	8.8%
OSV	11.3%	8.8%	8.5%	8.1%	7.9%	9.0%
Total Revenue	**9.6%**	**8.6%**	**8.4%**	**7.5%**	**7.6%**	**8.4%**

Source: Steer analysis

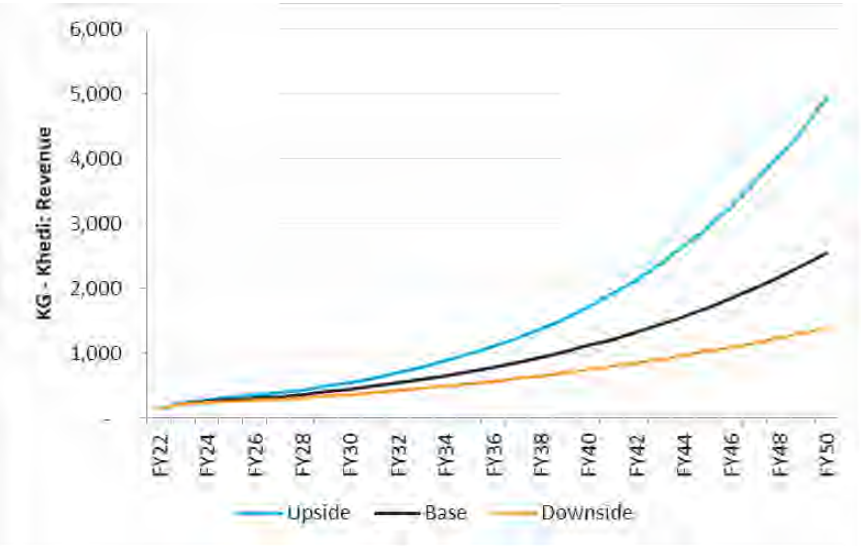
6.69 The following charts shows comparison of traffic and revenue forecasts with the Upside and downside scenarios presented in sections above.

Figure 6.15: Final AADT forecast including Upside and Downside scenarios – KG Khedi



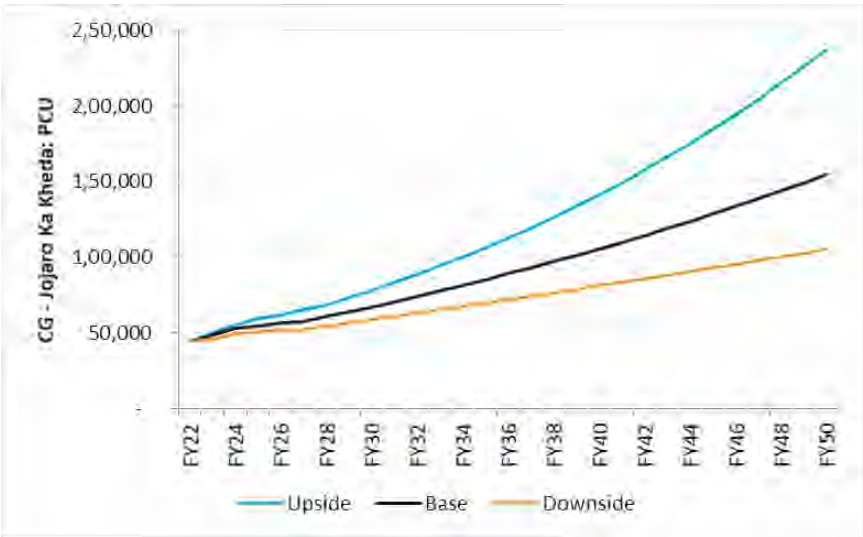
Source: Steer analysis

Figure 6.16: Final Revenue forecast including Upside and Downside scenarios – KG Khedi



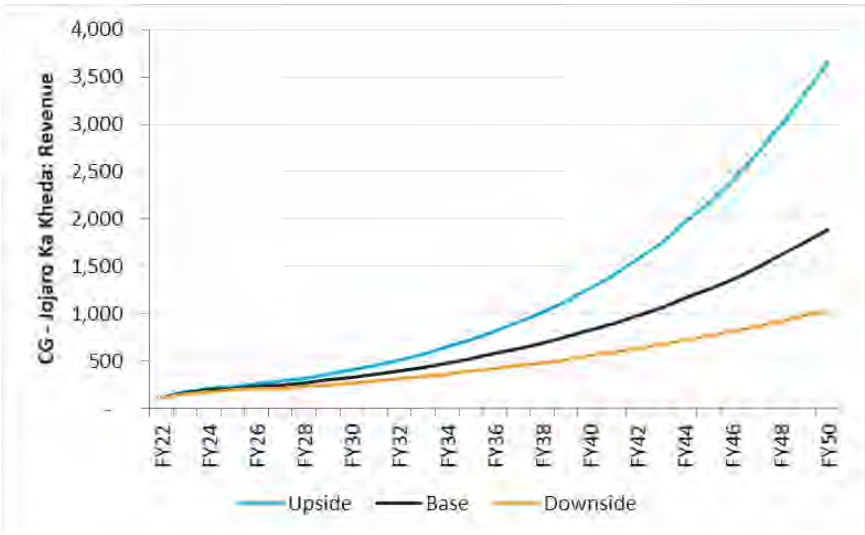
Source: Steer analysis

Figure 6.17: Final AADT forecast including Upside and Downside scenarios – CG Jojaro Ka Kheda



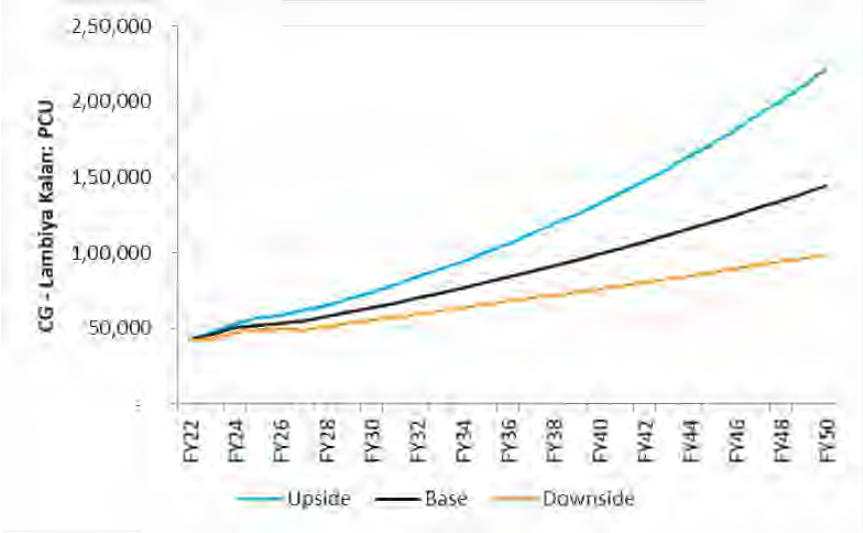
Source: Steer analysis

Figure 6.18: Final Revenue forecast including Upside and Downside scenarios CG Jojaro Ka Kheda



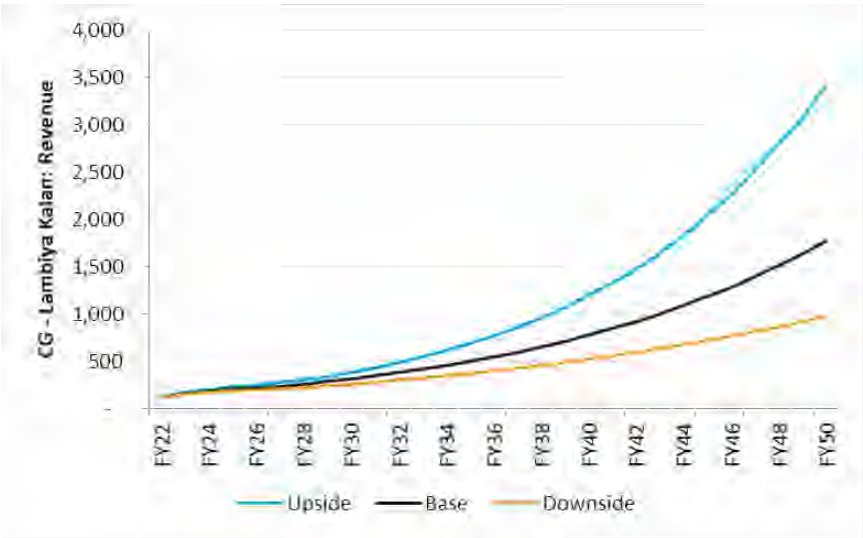
Source: Steer analysis

Figure 6.19: Final AADT forecast including Upside and Downside scenarios – CG Lambiya Kalan



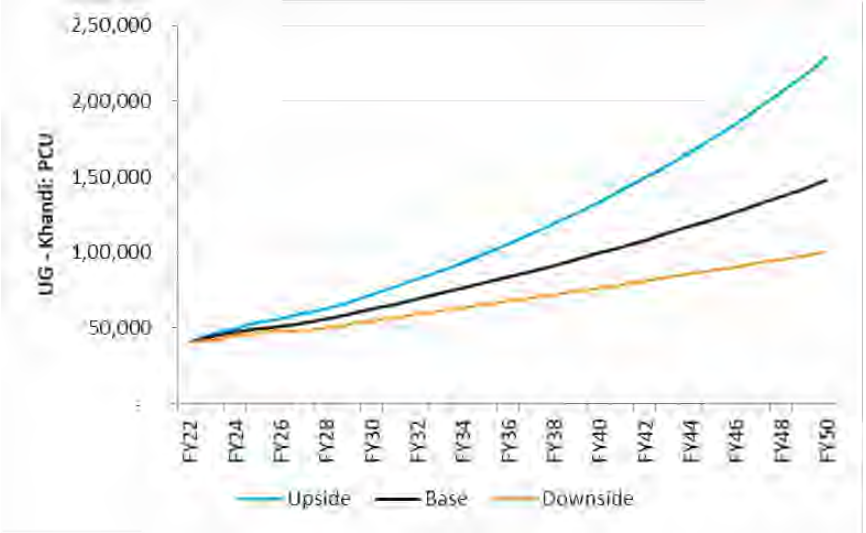
Source: Steer analysis

Figure 6.20: Final Revenue forecast including Upside and Downside scenarios CG Lambiya Kalan



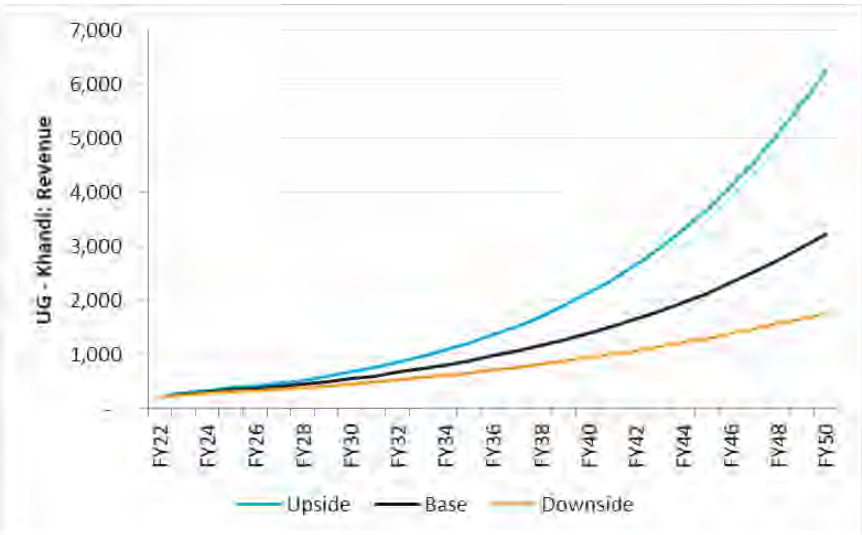
Source: Steer analysis

Figure 6.21: Final AADT forecast including Upside and Downside scenarios – UG Khandi Obri



Source: Steer analysis

Figure 6.22: Final Revenue forecast including Upside and Downside scenarios - UG Khandi Obri



Source: Steer analysis

Target traffic and modification of concession period

6.70 As per the concession agreement, the target traffic should be 76,236 PCUs for KG, 76,316 PCUs for CG, and 61,435 PCUs for UG for the target date of 1st May 2026 for KG, 1st June 2026 for CG, and 21st September 2026. The traffic sampling will be undertaken for a continuous period of 7 days during anytime within 15 days prior to the date on the specified year, previous year and following year. The average thereof will be deemed as 'actual traffic.' If the target traffic for any section falls short or exceeds by 2.5%, the concession period shall be deemed to be modified using the laid-out conditions in the concession agreement. The table below presents the summary of the analysis.

Table 6.85: Target Traffic

Asset	Target month	Estimated traffic (PCUs)			Average traffic	Target traffic	Variation (%)
		FY26	FY27	FY28	(PCUs)	(PCUs)	
KG	May-26	53,123	54,008	57,026	54,719	76,236	(28.2%)
CG	Jun-26	56,500	57,624	60,839	58,321	76,316	(23.6%)
UG	Sep-26	49,648	51,089	54,037	51,591	61,435	(16.0%)

Source: Steer analysis

6.71 We have used the average AADT forecast for target year, previous year and following year as a proxy for 'actual traffic.' We have forecast seasonality of April month to adjust for seasonal trends and arrive at April traffic from AADT traffic for KG. The same was done for the month of May for CG and for the month of September for UG.

6.72 According to the CA, based on the variation of traffic, the concession period is expected to be increased by five years (till FY48) for KG, by five years (till FY46) for CG, by four years (till FY43) for UG.

Summary outlook

6.73 Being part of the GQ NH48 corridor, the assets benefits from long distance traffic travelling between Delhi and Mumbai supported by industrial developments (organised sector) around cities of Ahmedabad, Mumbai, Udaipur, Vadodara, Bharuch, Surat, Vapi, in addition to the port movements from Kandla, Mundra and JNPT ports.

6.74 The Assets also benefits from the heavy industrial movement from industries in the vicinity. Industrial towns such as Kishangarh, Bhilwara, Chittorgarh, Rajsamand, Udaipur etc. all are home to a number of industries which contribute large volumes of traffic on the corridor. The Assets benefits from the captive nature of the traffic for both CJV and goods vehicles on the corridor which feed into the consumption demand generated by these centres.

6.75 Bhilwara, along the CG Asset, is India's largest fabric manufacturing hub in the country and generates demand on the Assets, both for raw materials to its manufacturing industries and produced fabrics getting distributed to various parts of country. Also, for intermediate processing steps such as dyeing, unfinished product is transported from Bhilwara to relevant industries located in other parts and is then transported back for further processing. This generates lot of captive traffic associated with fabric manufacturing units along the asset.

6.76 Mining is another key activity in the region with large scale mining of sandstone, soap stone feldspar, quartz, mica, China clay and granite in vicinity of asse. These generate significant amount of traffic on the assets. Further, these minerals are also used in Ceramic manufacturing and are feeding into the demand generated by Morbi.

6.77 Chittorgarh, one of the major trip influencers on all three of the Assets, is home to four major cement plants and adds a considerable number of cement bulkers and trucks on the Assets. Chanderiya Lead-Zinc Smelter, one of the largest zinc-lead smelting complexes in the world, is also located in Chittorgarh.

6.78 Udaipur, in the north end of the UG section, serves as a big tourism hub as well as a consumption centre whose demand introduces traffic on the Assets. Tourism, agriculture, and mineral industries contribute to Udaipur's diverse economic base.

6.79 It has been observed that even though traffic across the country saw significant impact of Covid 19 impact and dropped up to 70% of pre-Covid19 levels during Q1FY21, only to recover by end of Q2FY21, these Assets saw a positive growth in traffic volumes and subsequent stabilisation of traffic volumes starting as early as June-July 2021.

6.80 Similar decline is traffic was seen due to 2nd wave which impacted CJV and Bus traffic the most, however the goods vehicle performance remained robust with less reduction in traffic volumes. It is expected that by Q2FY22 the traffic across all vehicle types should return to normal trends as was after the first wave of Covid19.

6.81 With regards to the short-term background growth, we see the following risk:

- The nascent recovery from the pandemic could be subdued due stronger lockdowns being implemented and traffic growth not sustaining the coming months. However, as it was observed in FY21 that a very a strong recovery of traffic took place once the nationwide lockdown was relaxed. This included pent up demand from the lockdown period giving a major boost to traffic in FY21. It can be expected that a similar pattern, albeit to a much smaller extent, could repeat itself in FY22 with the first quarter being more subdued and the follow three quarters seeing stronger recovery.
- The underlying strengthening and sustainability of the wider economic growth, particularly for sectors like tourism, industry and agriculture could see a major comeback in the second part of FY22 resulting in increased activity in the corridor.

6.82 We expect that the implementation of FASTag rules, will also help in improving the operational efficiency and overall compliance levels on the Assets and overall corridor, thereby resulting in an improved level of service for all users.

6.83 We see a positive outlook for the region in the Assets given that it serves major urban cities such as Delhi, Ahmedabad, Vadodara, and Mumbai connecting NH48 GQ network. Local towns of Kishangarh, Bhilwara, Chittorgarh and Udaipur which lie near the Assets contribute significantly to the traffic volumes on the corridor. Each of these towns have large industrial and tourism influence in the region thereby providing healthy captive traffic on Assets.

6.84 Despite the risks of Delhi Mumbai expressway, we believe that the Assets have a robust traffic profile and connect key centres of economic growth. As seen historically the Western half of India has outgrown the India GDP, and this is expected to continue into the medium and long ter. This coupled with improved level of service due to capacity expansion, upgrades such as Udaipur bypass and construction on downstream NH48 corridors is expected to positively impact the traffic profile on the Asset. Therefore, it is reasonable to believe that the underlying growth drivers of the corridor are strong and are expected to deliver long term sustained growth

Appendices

A Top 10 OD Pairs

A.1 Further to the OD analysis presented in Chapter 3 this appendix presents the top 10 OD pairs at each toll plaza. Please see this data for both CJVs and MAVs and OSVs combined below.

Table A.1: 3A/MAV top 10 OD pair shares – KG Khedi

	OD Pair	Share
1.	Mumbai - NCT of Delhi	5.45%
2.	Ahmedabad - NCT of Delhi	3.75%
3.	Chottorgarh city including RIICO Chittorgarh - Jaipur	2.75%
4.	Bhilwara city - Jaipur	2.73%
5.	Mumbai - Haryana	2.66%
6.	Ahmedabad - Haryana	2.57%
7.	Jaipur - Udaipur	2.41%
8.	Jaipur - Ahmedabad	1.98%
9.	Chottorgarh city including RIICO Chittorgarh - NCT of Delhi	1.39%
10.	Bhilwara city - Haryana	1.29%

Source: Steer analysis

Table A.2: 3A/MAV top 10 OD pair shares – CG Jojaro Ka Kheda

	OD Pair	Share
1.	Bhilwara city - Chottorgarh city including RIICO Chittorgarh	6.26%
2.	Mumbai - NCT of Delhi	5.08%
3.	Mumbai - Haryana	2.78%
4.	Ahmedabad - Haryana	2.56%
5.	Ahmedabad - NCT of Delhi	2.48%
6.	Mumbai - Punjab	2.11%
7.	Chottorgarh city including RIICO Chittorgarh - Jaipur	2.05%
8.	Bhilwara city - Udaipur	1.73%
9.	Bhilwara city - Ahmedabad	1.58%
10.	Jaipur - Udaipur	1.42%

Source: Steer analysis

Table A.3: 3A/MAV top 10 OD pair shares – CG Lambiya Kalan

	OD Pair	Share
1.	Mumbai - NCT of Delhi	5.05%
2.	Ahmedabad - NCT of Delhi	4.44%
3.	Bhilwara city - Jaipur	2.88%
4.	Mumbai - Haryana	2.85%
5.	Ahmedabad - Haryana	2.77%
6.	Chottorgarh city including RIICO Chittorgarh - Jaipur	2.61%
7.	Bhilwara city - Ajmer	2.00%
8.	Jaipur - Ahmedabad	1.65%
9.	Bhilwara city - NCT of Delhi	1.62%
10.	Mumbai - Punjab	1.54%

Source: Steer analysis

Table A.4: 3A/MAV top 10 OD pair shares – UG Khandi Obri

	OD Pair	Share
1.	Mumbai - NCT of Delhi	7.86%
2.	Udaipur city - Ahmedabad	6.23%
3.	Udaipur city - Mehsana, Sabarkantha, Gandhinagar, Aravali, Mahisagar, Dahod, Panch Mahal, Kheda, Anand, Chota Udaipur, Narmada, Tapi, Navasari, The Dangs, Valsad, dadar and Nagar Haveli, Daman	5.74%
4.	Ahmedabad - NCT of Delhi	3.47%
5.	Mehsana, Sabarkantha, Gandhinagar, Aravali, Mahisagar, Dahod, Panch Mahal, Kheda, Anand, Chota Udaipur, Narmada, Tapi, Navasari, The Dangs, Valsad, dadar and Nagar Haveli, Daman - NCT of Delhi	3.41%
6.	Udaipur city - Morbi	2.82%
7.	Udaipur city - Mumbai	2.60%
8.	Jaipur - Ahmedabad	2.26%
9.	Jaipur - Mehsana, Sabarkantha, Gandhinagar, Aravali, Mahisagar, Dahod, Panch Mahal, Kheda, Anand, Chota Udaipur, Narmada, Tapi, Navasari, The Dangs, Valsad, dadar and Nagar Haveli, Daman	2.15%
10.	Mumbai - Haryana	2.06%

Source: Steer analysis

B Detailed forecasts

B.1 This appendix details forecast previously summarised in Chapter 6 of this report.

Traffic forecasts

KG Khedi

Table B.1: Forecasts for final (background + impacts) AADT – KG Khedi

Vehicle Category	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
CJV	3,274	3,853	4,192	4,588	4,894	5,215	5,551	5,897	6,256	6,629
Mini LCV	-	846	871	900	930	961	992	1,023	1,054	1,085
Bus	252	328	333	339	344	350	356	361	367	372
LCV	832	628	656	687	709	733	756	780	804	828
2A	1,252	1,692	1,803	1,932	1,939	1,940	1,899	1,971	2,039	2,110
3A	1,572	2,061	2,202	2,373	2,382	2,383	2,326	2,429	2,521	2,621
MAV	3,933	5,034	5,578	6,158	6,424	6,615	6,781	7,214	7,627	8,067
OSV	16	16	17	19	20	21	22	24	25	27
Total	**11,131**	**14,458**	**15,652**	**16,996**	**17,643**	**18,218**	**18,684**	**19,697**	**20,692**	**21,738**
PCU	**31,522**	**40,608**	**44,241**	**48,245**	**49,881**	**51,155**	**52,037**	**54,940**	**57,732**	**60,685**

Source: Steer analysis

Table B.2: Forecasts for final (background + impacts) AADT – KG Khedi

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
CJV	7,014	7,411	7,817	8,231	8,653	9,087	9,533	9,991	10,463	10,949
Mini LCV	1,117	1,148	1,180	1,211	1,242	1,273	1,304	1,336	1,367	1,399
Bus	377	383	388	393	398	403	408	413	418	423
LCV	852	876	900	924	947	971	995	1,019	1,043	1,067
2A	2,182	2,255	2,329	2,403	2,477	2,551	2,626	2,701	2,778	2,855
3A	2,722	2,829	2,937	3,045	3,154	3,265	3,376	3,490	3,605	3,723
MAV	8,521	9,001	9,491	9,992	10,503	11,029	11,569	12,125	12,697	13,287
OSV	28	30	32	33	35	37	38	40	42	44
Total	**22,813**	**23,933**	**25,073**	**26,231**	**27,410**	**28,615**	**29,849**	**31,115**	**32,414**	**33,747**
PCU	**63,723**	**66,912**	**70,160**	**73,462**	**76,826**	**80,267**	**83,792**	**87,411**	**91,128**	**94,942**

Source: Steer analysis

Table B.3: Forecasts for final (background + impacts) AADT – KG Khedi

Vehicle Category	FY41	FY42	FY43	FY44	FY45	FY46	FY47	FY48
CJV	11,449	11,962	12,491	13,034	13,591	14,164	14,751	15,352
Mini LCV	1,431	1,463	1,495	1,528	1,560	1,593	1,626	1,660
Bus	428	432	437	442	447	451	456	461
LCV	1,091	1,116	1,140	1,165	1,190	1,215	1,240	1,266
2A	2,934	3,013	3,092	3,173	3,255	3,337	3,420	3,503
3A	3,842	3,962	4,085	4,209	4,335	4,463	4,592	4,723
MAV	13,893	14,516	15,157	15,816	16,493	17,188	17,900	18,630
OSV	46	48	50	53	55	57	60	62
Total	**35,113**	**36,513**	**37,948**	**39,420**	**40,926**	**42,469**	**44,046**	**45,657**
PCU	**98,852**	**1,02,862**	**1,06,975**	**1,11,192**	**1,15,513**	**1,19,937**	**1,24,462**	**1,29,088**

Source: Steer analysis

CG Jojaro Ka Kheda

Table B.4: Forecasts for final (background + impacts) AADT – CG Jojaro Ka Kheda

Vehicle Category	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
CJV	4,009	4,456	4,842	5,294	5,646	6,017	6,404	6,803	7,217	7,647
Mini LCV	-	775	798	825	852	880	908	937	965	994
Bus	300	359	364	370	376	382	389	395	401	407
LCV	1,012	859	891	928	959	991	1,022	1,054	1,086	1,119
2A	1,393	1,620	1,723	1,844	1,852	1,854	1,818	1,887	1,952	2,020
3A	1,692	2,040	2,175	2,339	2,347	2,347	2,287	2,389	2,480	2,577
MAV	4,221	5,708	6,325	6,980	7,300	7,549	7,775	8,269	8,746	9,252
OSV	16	16	16	18	19	20	21	22	24	25
Total	**12,643**	**15,832**	**17,134**	**18,597**	**19,352**	**20,039**	**20,625**	**21,755**	**22,871**	**24,041**
PCU	**34,745**	**44,329**	**48,298**	**52,660**	**54,598**	**56,190**	**57,412**	**60,641**	**63,773**	**67,079**

Source: Steer analysis

Table B.5: Forecasts for final (background + impacts) AADT – CG Jojaro Ka Kheda

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
CJV	8,092	8,550	9,018	9,495	9,983	10,484	10,998	11,527	12,071	12,632
Mini LCV	1,023	1,052	1,081	1,109	1,138	1,166	1,195	1,223	1,252	1,281
Bus	412	418	424	430	435	441	446	451	457	462
LCV	1,151	1,184	1,216	1,248	1,281	1,313	1,345	1,377	1,410	1,442
2A	2,089	2,159	2,230	2,301	2,371	2,442	2,514	2,587	2,660	2,734
3A	2,676	2,782	2,888	2,994	3,102	3,210	3,320	3,432	3,545	3,661
MAV	9,775	10,325	10,888	11,462	12,049	12,651	13,271	13,908	14,565	15,242
OSV	27	28	30	31	33	35	36	38	40	42
Total	**25,245**	**26,498**	**27,774**	**29,071**	**30,391**	**31,741**	**33,124**	**34,544**	**36,001**	**37,496**
PCU	**70,481**	**74,045**	**77,676**	**81,370**	**85,134**	**88,985**	**92,931**	**96,984**	**1,01,148**	**1,05,423**

Table B.6: Forecasts for final (background + impacts) AADT – CG Jojaro Ka Kheda

Vehicle Category	FY41	FY42	FY43	FY44	FY45	FY46
CJV	13,208	13,801	14,410	15,036	15,680	16,340
Mini LCV	1,311	1,340	1,370	1,399	1,429	1,459
Bus	467	473	478	483	488	493
LCV	1,475	1,508	1,542	1,575	1,609	1,643
2A	2,809	2,885	2,961	3,038	3,116	3,195
3A	3,777	3,896	4,017	4,139	4,263	4,388
MAV	15,937	16,652	17,387	18,143	18,920	19,717
OSV	44	45	47	50	52	54
Total	**39,028**	**40,600**	**42,212**	**43,864**	**45,557**	**47,290**
PCU	**1,09,806**	**1,14,302**	**1,18,916**	**1,23,647**	**1,28,496**	**1,33,462**

Source: Steer analysis

CG Lambiya Kalan

Table B.7: Forecasts for final (background + impacts) AADT – CG Lambiya Kalan

Vehicle Category	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
CJV	3,972	4,669	5,072	5,544	5,914	6,302	6,708	7,125	7,559	8,010
Mini LCV	-	837	862	891	920	950	981	1,012	1,042	1,073
Bus	278	389	395	402	408	415	422	428	435	441
LCV	960	843	878	917	948	979	1,010	1,042	1,073	1,105
2A	1,239	1,808	1,930	2,069	2,087	2,098	2,072	2,150	2,225	2,302
3A	1,581	2,158	2,306	2,483	2,498	2,504	2,452	2,560	2,658	2,763
MAV	4,604	4,999	5,545	6,128	6,391	6,580	6,745	7,175	7,586	8,024
OSV	18	18	19	21	22	24	25	27	28	30
Total	**12,652**	**15,722**	**17,008**	**18,455**	**19,188**	**19,852**	**20,414**	**21,518**	**22,607**	**23,749**
PCU	**35,506**	**42,414**	**46,186**	**50,341**	**52,094**	**53,490**	**54,505**	**57,522**	**60,430**	**63,503**

Source: Steer analysis

Table B.8: Forecasts for final (background + impacts) AADT – CG Lambiya Kalan

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
CJV	8,476	8,955	9,445	9,945	10,456	10,980	11,519	12,073	12,643	13,230
Mini LCV	1,105	1,136	1,167	1,198	1,229	1,259	1,290	1,321	1,353	1,384
Bus	448	454	460	466	472	478	484	490	496	501
LCV	1,137	1,170	1,202	1,233	1,265	1,297	1,329	1,361	1,393	1,425
2A	2,381	2,461	2,542	2,622	2,703	2,784	2,866	2,948	3,032	3,116
3A	2,870	2,983	3,097	3,211	3,326	3,443	3,561	3,680	3,802	3,926
MAV	8,475	8,952	9,440	9,938	10,447	10,969	11,506	12,059	12,629	13,215
OSV	32	33	35	37	39	41	43	45	47	49
Total	**24,923**	**26,145**	**27,388**	**28,651**	**29,937**	**31,252**	**32,597**	**33,978**	**35,394**	**36,848**
PCU	**66,663**	**69,976**	**73,350**	**76,780**	**80,273**	**83,845**	**87,504**	**91,259**	**95,116**	**99,074**

Table B.9: Forecasts for final (background + impacts) AADT – CG Lambiya Kalan

Vehicle Category	FY41	FY42	FY43	FY44	FY45	FY46
CJV	13,834	14,455	15,093	15,749	16,423	17,115
Mini LCV	1,416	1,447	1,479	1,511	1,544	1,576
Bus	507	513	518	524	530	535
LCV	1,458	1,490	1,523	1,556	1,590	1,623
2A	3,202	3,288	3,375	3,463	3,552	3,642
3A	4,051	4,178	4,308	4,439	4,572	4,706
MAV	13,818	14,438	15,076	15,731	16,404	17,095
OSV	52	54	56	59	61	64
Total	**38,337**	**39,863**	**41,428**	**43,032**	**44,675**	**46,356**
PCU	**1,03,129**	**1,07,288**	**1,11,553**	**1,15,926**	**1,20,405**	**1,24,991**

Source: Steer analysis

UG Khandi Obri

Table B.10: Forecasts for final (background + impacts) AADT – UG Khandi Obri

Vehicle Category	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
CJV	4,134	5,243	5,967	6,498	7,072	7,682	8,323	8,988	9,682	10,413
Mini LCV	-	382	395	409	425	440	455	470	485	501
Bus	497	616	633	651	670	690	709	728	746	765
LCV	775	743	779	808	838	868	898	928	958	988
2A	1,470	1,883	2,011	2,110	2,140	2,157	2,151	2,232	2,313	2,395
3A	1,625	2,023	2,183	2,311	2,344	2,364	2,350	2,454	2,558	2,664
MAV	3,543	4,491	5,006	5,415	5,674	5,849	6,038	6,425	6,814	7,217
OSV	8	8	9	10	10	11	12	12	13	14
Total	**12,053**	**15,389**	**16,982**	**18,213**	**19,173**	**20,061**	**20,936**	**22,237**	**23,569**	**24,956**
PCU	**32,056**	**40,553**	**44,576**	**47,749**	**49,795**	**51,429**	**52,978**	**56,057**	**59,174**	**62,407**

Source: Steer analysis

Table B.11: Forecasts for final (background + impacts) AADT – UG Khandi Obri

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
CJV	11,179	11,976	12,802	13,653	14,533	15,443	16,387	17,367	18,383	19,407
Mini LCV	516	531	546	561	577	592	607	622	637	652
Bus	784	803	821	839	857	875	893	911	928	945
LCV	1,018	1,048	1,078	1,108	1,138	1,167	1,197	1,227	1,257	1,286
2A	2,478	2,562	2,645	2,729	2,813	2,897	2,982	3,068	3,155	3,243
3A	2,772	2,881	2,991	3,101	3,213	3,325	3,439	3,555	3,672	3,792
MAV	7,635	8,065	8,504	8,953	9,411	9,882	10,366	10,864	11,377	11,906
OSV	15	15	16	17	18	19	20	21	22	23
Total	**26,396**	**27,881**	**29,404**	**30,962**	**32,559**	**34,200**	**35,891**	**37,633**	**39,431**	**41,253**
PCU	**65,747**	**69,177**	**72,680**	**76,251**	**79,896**	**83,632**	**87,467**	**91,410**	**95,467**	**99,606**

Table B.12: Forecasts for final (background + impacts) AADT – UG Khandi Obri

Vehicle Category	FY41	FY42	FY43	FY44
CJV	20,469	21,571	22,714	23,899
Mini LCV	666	681	696	712
Bus	963	980	997	1,015
LCV	1,315	1,345	1,374	1,404
2A	3,332	3,422	3,513	3,604
3A	3,913	4,036	4,160	4,287
MAV	12,449	13,007	13,582	14,172
OSV	24	25	26	27
Total	**43,131**	**45,067**	**47,063**	**49,120**
PCU	**1,03,857**	**1,08,225**	**1,12,716**	**1,17,330**

Source: Steer analysis

Revenue forecasts

B1.2 KG Khedi

Table B.13: Revenue forecasts for final (background + impacts) AADT – KG Khedi

Vehicle Category	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
CJV	6.4	9.2	15.5	17.8	20.1	22.3	24.6	27.7	31.1	34.0
Mini LCV	-	2.0	3.2	3.5	3.8	4.1	4.4	4.8	5.2	5.6
Bus	1.9	2.9	4.5	4.8	5.1	5.4	5.8	6.1	6.5	7.0
LCV	3.7	3.3	5.0	5.3	5.6	6.1	6.6	7.1	7.7	8.3
2A	10.8	17.8	28.8	32.4	34.2	36.0	36.7	39.9	43.4	47.2
3A	14.9	23.6	38.5	43.7	46.0	48.2	49.2	54.1	58.3	64.0
MAV	51.1	79.2	133.0	154.6	175.9	189.5	204.0	228.0	251.5	279.0
OSV	0.3	0.3	0.5	0.6	0.7	0.7	0.8	0.9	1.0	1.1
Total	**89.1**	**138.4**	**229.0**	**262.6**	**291.5**	**312.3**	**332.1**	**368.8**	**404.9**	**446.2**

Source: Steer analysis

Table B.14: Revenue forecasts (background + impacts) AADT – KG Khedi

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
CJV	38.0	42.4	46.8	51.6	56.8	62.4	68.0	75.3	82.3	90.8
Mini LCV	6.1	6.6	7.1	7.6	8.1	8.7	9.3	10.1	10.7	11.6
Bus	7.4	7.9	8.3	8.9	9.4	10.0	10.6	11.2	11.9	12.6
LCV	8.9	9.7	10.4	11.3	12.1	12.9	13.9	14.9	16.0	17.1
2A	50.8	55.5	59.8	64.7	69.8	75.4	81.2	87.5	94.5	101.6
3A	69.4	76.0	82.4	89.3	97.1	105.6	114.4	123.4	134.0	144.9
MAV	308.6	343.1	378.0	417.6	459.8	508.0	556.4	609.5	670.2	734.7
OSV	1.3	1.4	1.5	1.7	1.9	2.1	2.3	2.5	2.7	3.0
Total	**490.5**	**542.6**	**594.3**	**652.8**	**715.0**	**785.1**	**856.1**	**934.4**	**1,022**	**1,116**

Source: Steer analysis

Table B.15: Revenue forecasts for final (background + impacts) AADT – KG Khedi

Vehicle Category	FY41	FY42	FY43	FY44	FY45	FY46	FY47	FY48
CJV	98.4	107.7	117.5	128.8	140.0	153.5	166.4	181.9
Mini LCV	12.3	13.2	14.1	15.1	16.1	17.3	18.4	19.7
Bus	13.3	14.1	14.9	15.9	16.7	17.7	18.6	19.8
LCV	18.4	19.6	21.0	22.5	24.0	25.5	27.3	29.3
2A	109.4	117.3	126.1	136.1	145.1	156.1	166.8	179.6
3A	156.1	168.9	181.6	196.8	211.6	227.7	245.1	264.0
MAV	803.4	878.8	958.6	1,051.5	1,143.9	1,245.0	1,357.6	1,480.9
OSV	3.3	3.6	3.9	4.3	4.7	5.1	5.5	6.0
Total	**1,214.6**	**1,323.1**	**1,437.7**	**1,571.0**	**1,702.2**	**1,847.8**	**2,005.9**	**2,181.2**

Source: Steer analysis

B1.3 CG Lambiya Kalan

Table B.16: Revenue forecasts for final (background + impacts) AADT – CG Lambiya Kalan

Vehicle Category	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
CJV	5.9	8.8	12.4	14.2	15.9	17.9	19.8	22.2	24.7	27.1
Mini LCV	-	1.6	2.1	2.3	2.5	2.7	2.9	3.2	3.4	3.6
Bus	1.5	2.8	3.5	3.8	4.0	4.3	4.6	4.9	5.2	5.5
LCV	3.1	3.4	4.4	4.7	5.0	5.4	5.8	6.3	6.8	7.3
2A	7.7	15.5	20.7	23.4	24.9	26.6	27.4	29.7	32.2	35.0
3A	10.5	19.8	27.0	30.5	32.1	34.0	35.0	38.0	41.3	45.4
MAV	43.3	66.0	92.7	107.2	117.7	127.0	136.2	152.8	169.2	187.5
OSV	0.2	0.3	0.4	0.4	0.5	0.5	0.6	0.7	0.8	0.8
Total	**72.1**	**118.2**	**163.2**	**186.5**	**202.6**	**218.3**	**232.3**	**257.8**	**283.5**	**312.3**

Source: Steer analysis

Table B.17: Revenue forecasts (background + impacts) AADT – CG Lambiya Kalan

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
CJV	30.0	33.2	37.1	40.6	44.3	49.3	53.8	59.2	65.4	71.7
Mini LCV	3.9	4.2	4.6	4.9	5.2	5.6	6.0	6.5	7.0	7.5
Bus	5.9	6.2	6.6	7.0	7.5	7.9	8.4	8.9	9.5	10.0
LCV	7.9	8.5	9.2	9.8	10.7	11.4	12.3	13.1	14.1	15.2
2A	37.9	41.1	44.6	47.9	51.8	56.1	60.7	65.1	70.2	75.8
3A	49.2	53.9	58.6	63.6	68.9	74.6	80.7	87.4	95.0	102.6
MAV	207.0	230.3	254.0	279.6	308.7	340.6	372.6	409.7	449.2	492.6
OSV	0.9	1.0	1.1	1.3	1.4	1.5	1.7	1.8	2.0	2.2
Total	**342.8**	**378.6**	**415.8**	**454.8**	**498.5**	**547.1**	**596.2**	**651.6**	**712.4**	**777.6**

Source: Steer analysis

Table B.18: Revenue forecasts for final (background + impacts) AADT – CG Lambiya Kalan

Vehicle Category	FY41	FY42	FY43	FY44	FY45	FY46
CJV	77.5	84.9	92.8	102.6	111.8	121.2
Mini LCV	7.9	8.5	9.1	9.8	10.5	11.2
Bus	10.6	11.2	11.9	12.6	13.3	14.0
LCV	16.2	17.3	18.4	19.9	21.1	22.6
2A	81.1	87.4	94.0	101.2	108.0	116.0
3A	110.6	119.3	129.1	139.0	150.1	161.3
MAV	538.1	587.8	643.0	703.7	766.6	835.2
OSV	2.4	2.6	2.9	3.2	3.4	3.8
Total	**844.5**	**919.1**	**1,001.2**	**1,091.9**	**1,184.8**	**1,285.2**

Source: Steer analysis

B1.4 CG Jojaro Ka Kheda

Table B.19: Revenue forecasts for final (background + impacts) AADT – CG Jojaro Ka Kheda

Vehicle Category	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
CJV	5.4	8.6	11.8	13.7	15.4	17.1	19.2	21.2	24.1	26.7
Mini LCV	-	1.5	1.9	2.1	2.3	2.5	2.7	2.9	3.2	3.5
Bus	1.6	2.6	3.4	3.6	3.8	4.1	4.4	4.7	4.9	5.3
LCV	3.1	3.2	4.1	4.4	4.9	5.2	5.7	6.2	6.7	7.2
2A	8.7	14.0	19.2	21.6	22.7	23.7	24.5	26.5	28.8	31.2
3A	10.5	18.1	24.6	28.2	29.9	31.4	32.2	34.9	38.3	41.5
MAV	38.8	72.7	103.0	119.9	132.5	143.4	155.4	172.7	191.0	212.9
OSV	0.2	0.3	0.3	0.4	0.4	0.5	0.5	0.6	0.7	0.7
Total	**68.2**	**121.0**	**168.4**	**193.9**	**211.9**	**227.9**	**244.5**	**269.8**	**297.7**	**329.0**

Source: Steer analysis

Table B.20: Revenue forecasts (background + impacts) AADT – CG Jojaro Ka Kheda

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
CJV	29.2	32.3	36.0	39.8	44.1	48.1	53.3	57.6	63.6	70.1
Mini LCV	3.7	4.0	4.3	4.6	5.0	5.3	5.8	6.1	6.6	7.1
Bus	5.6	6.0	6.3	6.7	7.1	7.6	8.0	8.5	9.0	9.5
LCV	7.8	8.4	9.0	9.6	10.4	11.1	12.0	12.7	13.7	14.7
2A	33.7	36.9	39.6	42.9	46.3	50.0	53.9	58.3	62.7	67.6
3A	45.4	49.2	53.4	58.4	63.1	68.8	74.3	80.3	87.2	94.6
MAV	235.0	260.9	287.3	317.6	350.1	385.9	423.3	464.9	509.0	559.8
OSV	0.8	0.9	1.0	1.1	1.2	1.4	1.5	1.6	1.8	2.0
Total	**361.2**	**398.6**	**436.9**	**480.7**	**527.4**	**578.2**	**632.1**	**690.0**	**753.5**	**825.4**

Source: Steer analysis

Table B.21: Revenue forecasts for final (background + impacts) AADT – CG Jojaro Ka Kheda

Vehicle Category	FY41	FY42	FY43	FY44	FY45	FY46
CJV	76.1	83.3	91.4	99.7	109.1	118.7
Mini LCV	7.6	8.1	8.7	9.3	9.9	10.6
Bus	10.1	10.7	11.3	12.0	12.6	13.4
LCV	15.7	16.9	18.0	19.4	20.5	22.0
2A	72.3	77.8	83.5	90.2	96.2	103.7
3A	101.8	109.7	118.5	128.1	137.3	148.1
MAV	610.5	668.5	730.3	800.5	870.6	947.4
OSV	2.2	2.4	2.6	2.8	3.1	3.3
Total	**896.2**	**977.2**	**1,064.3**	**1,161.9**	**1,259.4**	**1,367.2**

Source: Steer analysis

B1.5 UG Khandi Obri

Table B.22: Revenue forecasts for final (background + impacts) AADT – UG Khandi Obri

Vehicle Category	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
CJV	11.4	20.5	26.6	30.7	34.6	39.5	45.2	51.4	57.9	65.2
Mini LCV	-	1.5	1.8	1.9	2.1	2.3	2.5	2.7	2.9	3.1
Bus	4.6	8.5	10.0	10.9	11.9	12.8	13.8	14.9	15.9	17.1
LCV	3.9	5.3	6.4	6.9	7.7	8.5	9.2	10.0	10.7	11.6
2A	16.0	31.3	38.0	42.1	44.7	47.3	49.5	53.8	58.5	63.5
3A	19.7	37.7	46.1	51.5	54.8	57.9	60.5	66.4	72.3	79.1
MAV	62.4	121.6	154.7	175.7	193.5	209.0	226.8	252.6	280.8	311.9
OSV	0.2	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.6	0.7
Total	**118.1**	**226.6**	**283.9**	**320.1**	**349.8**	**377.8**	**407.8**	**452.3**	**499.6**	**552.1**

Source: Steer analysis

Table B.23: Revenue forecasts (background + impacts) AADT – UG Khandi Obri

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
CJV	73.1	81.9	91.3	102.9	114.0	127.7	141.7	157.2	174.4	193.0
Mini LCV	3.4	3.6	3.9	4.2	4.5	4.9	5.2	5.6	6.0	6.5
Bus	18.4	19.8	21.2	22.6	24.3	26.0	27.7	29.6	31.7	33.9
LCV	12.5	13.5	14.5	15.6	16.8	18.1	19.4	20.9	22.5	24.1
2A	68.7	74.8	80.8	87.2	94.3	102.0	109.4	118.0	127.4	137.6
3A	86.3	94.1	102.3	111.1	120.3	130.8	141.7	152.9	165.9	180.0
MAV	345.3	383.4	423.3	466.8	513.1	567.3	621.8	681.4	746.9	820.7
OSV	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.5	1.6	1.8
Total	**608.5**	**672.1**	**738.2**	**811.5**	**888.4**	**978.0**	**1,068**	**1,167**	**1,276**	**1,397**

Source: Steer analysis

Table B.24: Revenue forecasts for final (background + impacts) AADT – UG Khandi Obri

Vehicle Category	FY41	FY42	FY43	FY44
CJV	211.9	234.7	259.2	284.6
Mini LCV	6.9	7.4	7.9	8.5
Bus	36.0	38.4	40.8	43.6
LCV	25.6	27.5	29.5	31.6
2A	147.4	158.6	170.2	183.3
3A	193.7	209.2	225.4	243.7
MAV	896.6	981.8	1,072.3	1,173.8
OSV	1.9	2.1	2.3	2.5
Total	**1,520.1**	**1,659.7**	**1,807.6**	**1,971.6**

Source: Steer analysis

C Data collection exercise

C.1 To validate and inform various inputs used in our forecasting, we undertook primary data collection on the Asset. OD survey data was collected on behalf of the Client, TVC surveys were commissioned by Steer with a third party. OD data collection typically involves manual data entry by enumerators based on oral surveys with road users crossing toll plazas. TVC data collection involves video-graphic capture of traffic passing crossing the toll plazas, followed by manual counting.

7 days TVC count

Table C.1: 7-day TVC counts – KG Khedi

Date	Source	CJV	Mini LCV	LCV	Bus	2 Axle	3 Axle	MAV	OSV	Total
28-06-2021	TVC	3,154	655	888	249	931	1,443	3,687	2	11,009
29-06-2021	TVC	2,920	706	784	274	1,039	1,437	3,937	-	11,097
30-06-2021	TVC	2,861	772	888	270	1,062	1,725	3,885	-	11,463
01-07-2021	TVC	3,316	727	1,016	285	1,117	1,793	4,001	1	12,256
02-07-2021	TVC	3,264	708	1,067	291	1,037	1,755	4,113	-	12,235
03-07-2021	TVC	3,496	738	1,024	295	1,132	1,669	4,118	1	12,473
04-07-2021	TVC	3,850	715	1,069	299	1,055	1,865	4,240	-	13,093

Source: Steer analysis

Table C.2: 7-day TVC counts – CG Jojaro Ka Kheda

Date	Source	CJV	Mini LCV	LCV	Bus	2 Axle	3 Axle	MAV	OSV	Total
28-06-2021	TVC	3,894	720	916	334	832	1,614	4,605	-	12,915
29-06-2021	TVC	3,874	841	769	323	892	1,561	4,599	-	12,859
30-06-2021	TVC	3,832	773	715	342	1,234	1,733	4,879	-	13,508
01-07-2021	TVC	4,278	727	772	349	1,264	1,924	4,694	-	14,008
02-07-2021	TVC	4,119	804	1,047	355	1,035	1,789	5,022	-	14,171
03-07-2021	TVC	5,053	774	1,071	370	992	1,874	5,021	-	15,155
04-07-2021	TVC	5,791	726	949	349	1,118	1,891	5,170	-	15,994

Source: Steer analysis

Table C.3: 7-day TVC counts – CG Lambiya Kalan

Date	Source	CJV	Mini LCV	LCV	Bus	2 Axle	3 Axle	MAV	OSV	Total
28-06-2021	TVC	4,204	662	1,000	309	990	1,782	3,916	1	12,864
29-06-2021	TVC	4,169	861	699	333	1,146	1,608	4,244	2	13,062
30-06-2021	TVC	3,876	872	856	304	1,298	1,726	3,851	6	12,789
01-07-2021	TVC	4,415	756	1,157	341	1,236	1,971	4,262	-	14,138
02-07-2021	TVC	4,355	984	1,091	344	1,337	2,289	4,714	-	15,114
03-07-2021	TVC	4,626	605	1,061	310	1,166	1,832	3,968	5	13,573
04-07-2021	TVC	4,860	730	821	350	1,294	1,981	4,465	-	14,501

Source: Steer analysis

Table C.4: 7-day TVC counts – UG – Khandi Obri

Date	Source	CJV	Mini LCV	LCV	Bus	2 Axle	3 Axle	MAV	OSV	Total
28-06-2021	TVC	4,998	491	1,080	584	973	1,536	3,536	3	13,201
29-06-2021	TVC	4,726	446	884	595	1,128	1,588	3,492	7	12,866
30-06-2021	TVC	4,427	437	1,104	569	1,285	1,755	3,774	7	13,358
01-07-2021	TVC	4,729	386	1,193	621	1,305	1,820	3,812	-	13,866
02-07-2021	TVC	5,470	287	994	586	1,591	1,751	3,605	1	14,285
03-07-2021	TVC	5,860	326	1,128	608	1,204	1,729	3,567	-	14,422
04-07-2021	TVC	6,199	279	964	585	1,376	1,788	3,704	-	14,895

Source: Steer analysis

Table C.5: 7-WADT TVC vs TMS Table C.6: 7-WADT TVC vs TMS vs Schedule N

Toll plaza	Source	CJV	LCV	Bus	2A	3A/MAV	OSV	Total
KG khedi	TVC	3,983	962	280	1,053	5,667	1	11,947
	TMS	4,040	447	1,769	24	5,775	1	12,056
	Schedule N	4,018	429	290	1,493	5,744	4	11,978
CG Lambiyan Kalan	TVC	5,139	955	327	1,210	6,087	2	13,720
	TMS	5,162	561	1,914	68	6,274	1	13,981
	Schedule N	5,123	538	348	1,617	6,223	2	13,850
CG Jojaro ka Kheda	TVC	5,172	891	346	1,052	6,625	-	14,087
	TMS	4,926	591	1,742	38	6,810	4	14,110
	Schedule N	4,838	567	315	1,423	6,679	6	13,827
UG Khandi Obri	TVC	5,580	1,050	593	1,266	5,351	3	13,842
	TMS	5,570	547	2,305	24	5,427	4	13,878
	Schedule N	5,442	529	571	1,745	5,401	4	13,692

Source: Steer analysis

Zone list

Table C.7: Zone list used for OD analysis – KG/CG

Zone No	Zone Name	Description/State
1	Kishangarh city	town/city
2	RICCO Kishangarh	town/city
3	Silora including RIICO silora	town/city
4	Shreenagar	town/city
5	Lavera	town/city
6	Dilwari	town/city
7	Nasirabad, rata Khera, Jagpura	town/city
8	Jharwasa	town/city
9	Bhairoo Khera	town/city
10	Bandanwara	town/city
11	Bhagwanpura	town/city
12	Bijainagar	town/city
13	Gulabpura	town/city
14	Roopaheli	town/city
15	Kanwaliyas,Sanodiya	town/city
16	Raila	town/city
17	Lambiya Kalan	town/city
18	Jaswanpura	town/city
19	Ramsinghpura, Chhatri Khera	town/city
20	Reneegpura	town/city
21	Mandal	town/city
22	Bhilwara city	town/city
23	Dhool Khera	town/city
24	Pansal	town/city
25	Pur	town/city
26	Atoon	town/city
27	Mandpiya	town/city
28	Azad nagar	town/city
29	Swaroopganj	town/city
30	Baliya Kalan	town/city
31	Hamirgarh	town/city
32	Jatan Ka Khera	town/city
33	Jojron Ka Khera	town/city
34	Gangrar	town/city
35	Det	town/city
36	Salera	town/city

Zone No	Zone Name	Description/State
37	Ajolion Ka Khera	town/city
38	Chanderiya	town/city
39	Zinc Nagar	town/city
40	Rithola	town/city
41	Chottorgarh city including RIICO Chittorgarh	town/city
42	Dudu	town/city
43	Pushkar	town/city
44	Sarwar, Khekri	town/city
45	Shahpura	town/city
46	Sojat	town/city
47	Asind	town/city
48	Kapasan	town/city
49	Fatehnagar	town/city
50	Bhadsora	town/city
51	Mangalwad	town/city
52	Bassi	town/city
53	Chhoti Sadri	town/city
54	Nathdwara	town/city
55	Dabok	town/city
56	Ajmer	district
57	Alwar	district
58	Banswara	district
59	Baran	district
60	Barmer	district
61	Bharatpur	district
62	Bhilwara	district
63	Bikaner	district
64	Bundi	district
65	Chittorgarh	district
66	Churu	district
67	Dausa	district
68	Dholpur	district
69	Dungarpur	district
70	Hanumangarh	district
71	Jaipur	district
72	Jaisalmer	district
73	Jalore	district
74	Jhalawar	district

Zone No	Zone Name	Description/State
75	Jhunjhunu	district
76	Jodhpur	district
77	Karauli	district
78	Kota	district
79	Nagaur	district
80	Pali	district
81	Pratapgarh	district
82	Rajsamand	district
83	Sawai Madhopur	district
84	Sikar	district
85	Sirohi	district
86	Sri Ganganagar	district
87	Tonk	district
88	Udaipur	district
89	Neemuch	town/city
90	Mandsaur	town/city
91	Ratlam	town/city
92	Ujjain	town/city
93	Indore	town/city
94	Sheopur, Morena, Bhind, Gwalior, Datia, Shivpuri, Guna, Ashoknagar, Tikamgarh, Vidisha, Raisen	state
95	Burhanpur, Khandwa, Harda, Betul,Hoshangabad, Chhindwara, Seoni, Narsinghpur	state
96	Agar Malwa, Jhabua, Alirajpur, Dhar, Barwani, Khargone, Dewas, Shajapur, Rajgarh, Sehore, Bhopal	state
97	Chhatarpur, Panna, Satna, Rewa, Sindhi, Singrauli, Shahdol, Anuppur, Dindori, Umaria, Katni, Damoh, Jabalpur, Mandla, Balaghat, Sagar	state
98	Ahmedabad	town/city
99	Vadodara	town/city
100	Morbi	town/city
101	Vapi	town/city
102	Bharuch	town/city
103	Banaskantha, Patan, Surendranagar, Rajkor, Junagadh, Gir Somnath, Amreli, Bhavnagar, Botad, Jamnagar, Dwarka, Porbandar, Kutch, Diu	state
104	Mehsana, Sabarkantha, Gandhinagar, Aravali, Mahisagar, Dahod, Panch Mahal, Kheda, Anand, Chota Udaipur, Narmada, Tapi, Navasari, The Dangs, Valsad, dadar and Nagar Haveli, Daman, Surat	state
105	Porbandar Port	state
106	Kandala Port	state
107	Mundra Port	state

Zone No	Zone Name	Description/State
108	Mumbai	town/city
109	Dhule	town/city
110	JNPT port	town/city
111	Pune	town/city
112	Nashik	town/city
113	Nagpur	town/city
114	Maharashtra	state
115	Maharashtra	state
116	NCT of Delhi	state
117	Haryana	state
118	West Bengal	state
119	Jharkhand	state
120	Bihar	state
121	Chattisgarh	state
122	Odisha	state
123	Punjab	state
124	Himachal Pradesh	state
125	Uttarakhand	state
126	Jammu & Kashmir	state
127	Uttar Pradesh	state
128	Andhra Pradesh	state
129	Karnataka	state
130	Kerala	state
131	Tamil nadu	state
132	Telangana	state
133	Arunanchal pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland,Tripura, Sikkim	state
134	Goa	state
135	Nepal	country
136	Bangladesh	country
138	Surat	state
137	Bhutan	country

Source: OD data

Table C.8: Zone list used for OD analysis – UG

Zone No	Zone Name	Description/State
1	Udaipur city	town/city
2	Debari	town/city
3	Titrdi	town/city
4	Balicha	town/city
5	Lai, surpalaya	town/city
6	amdari	town/city
7	Kaya	town/city
8	Nimbhera	town/city
9	Barapal	town/city
10	Guman	town/city
11	Paduna	town/city
12	Parsad	town/city
13	Parai	town/city
14	Somwat, Peepli	town/city
15	Thana, Rishabhdev	town/city
16	Kagdar Bhatiya	town/city
17	Khandi Obri	town/city
18	Kherwara Chhaoni	town/city
19	Kherwara	town/city
20	Badla	town/city
21	Bhuwali	town/city
22	shishod	town/city
23	Palpadar	town/city
24	Barothi	town/city
25	Bichhiwara	town/city
26	Khajoori	town/city
27	Ratanpur	town/city
28	Samalaji	town/city
29	Raigadh	town/city
30	Modasa	town/city
31	Bawalwara	town/city
32	Nathdwara	town/city
33	Sukher	town/city
34	Ajmer	district
35	Alwar	district
36	Banswara	district
37	Baran	district

Zone No	Zone Name	Description/State
38	Barmer	district
39	Bharatpur	district
40	Bhilwara	district
41	Bikaner	district
42	Bundi	district
43	Chittorgarh	district
44	Churu	district
45	Dausa	district
46	Dholpur	district
47	Dungarpur	district
48	Hanumangarh	district
49	Jaipur	district
50	Jaisalmer	district
51	Jalore	district
52	Jhalawar	district
53	Jhunjhunu	district
54	Jodhpur	district
55	Karauli	district
56	Kota	district
57	Nagaur	district
58	Pali	district
59	Pratapgarh	district
60	Rajsamand	district
61	Sawai Madhopur	district
62	Sikar	district
63	Sirohi	district
64	Sri Ganganagar	district
65	Tonk	district
66	Udaipur	district
67	Sheopur, Morena, Bhind, Gwalior, Datia, Shivpuri, Guna, Ashoknagar, Tikamgarh, Vidisha, Raisen	state
68	Burhanpur, Khandwa, Harda, Betul,Hoshangabad, Chhindwara, Seoni, Narsinghpur	state
69	Agar Malwa, Jhabua, Alirajpur, Dhar, Barwani, Khargone, Dewas, Shajapur, Rajgarh, Sehore, Bhopal, Ratla,. Indore, Ujjain, mandsaur, Neemuch	state
70	Chhatarpur, Panna, Satna, Rewa, Sindhi, Singrauli, Shahdol, Anuppur, Dindori, Umaria, Katni, Damoh, Jabalpur, Mandla, Balaghat, Sagar	state
71	Ahmedabad	town/city
72	Vadodara	town/city
73	Himmatnagar	town/city

Zone No	Zone Name	Description/State
74	Nadiad	town/city
75	Godhra	town/city
76	Halol	town/city
77	Morbi	town/city
78	Vapi	town/city
79	Bharuch	town/city
80	Banaskantha, Patan, Surendranagar, Rajkot, Junagadh, Gir Somnath, Amreli, Bhavnagar, Botad, Jamnagar, Dwarka, Porbandar, Kutch, Diu	state
81	Mehsana, Sabarkantha, Gandhinagar, Aravali, Mahisagar, Dahod, Panch Mahal, Kheda, Anand, Chota Udaipur, Narmada, Tapi, Navasari, The Dangs, Valsad, dadar and Nagar Haveli, Daman	state
82	Porbandar Port	state
83	Kandala Port	state
84	Mundra Port	state
85	Mumbai	town/city
86	Dhule	town/city
87	JNPT port	town/city
88	Pune	town/city
89	Nashik	town/city
90	Nagpur	town/city
91	Maharashtra	state
92	Maharashtra	state
93	NCT of Delhi	state
94	Haryana	state
95	West Bengal	state
96	Jharkhand	state
97	Bihar	state
98	Chattisgarh	state
99	Odisha	state
100	Punjab	state
101	Himachal Pradesh	state
102	Uttarakhand	state
103	Jammu & Kashmir	state
104	Uttar Pradesh	state
105	Andhra Pradesh	state
106	Karnataka	state
107	Kerala	state
108	Tamil nadu	state
109	Telangana	state

Zone No	Zone Name	Description/State
110	Arunanchal pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland,Tripura, Sikkim	state
111	Goa	state
112	Nepal	country
113	Bangladesh	country
114	Bhutan	country
115	Surat	state

Source: OD data

D Vehicle Classification Chart

Vehicle Type	Description
2-Wheeler	
Auto-Rickshaw	
Car/Jeep/Van	
Taxi- shared/private	
Buses (govt/Pvt)	
Mini Bus	
Mini LCV	

Vehicle Type	Description
LCV 4 Tyre	
LCV 6 Tyre	
2 Axle Truck	
3 Axle Truck	
4 Axle Truck (MAV)	
5 Axle Truck (MAV)	
6 Axle Truck (MAV)	

Vehicle Type	Description
Oversized Vehicle/ Earth moving equipment (OSV)	

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Report
September 2021

Kundapur – Karwar Traffic and Revenue Due Diligence

IRB Infrastructure Developers Limited
Our ref: 24073601
Client ref: Project Tiger

steer

Report
September 2021

Kundapur – Karwar Traffic and Revenue Due Diligence

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Table of Contents

Disclaimer **9**

Glossary Items **11**

1 Introduction **13**

The assignment 13

Our approach 14

Evolution of Covid19 pandemic in India in FY21 and FY22 15

Contents of this Report 16

2 The Asset **18**

Introduction 18

Strategic network 18

Concession and tolling details 20

Key economic activities 21

3 Traffic description **23**

Introduction 23

Historical trends 23

Key findings of the TVC data analysis 39

Key findings of origin-destination analysis 42

Conclusions 56

4 Socio Economic Context **57**

Introduction 57

Population growth 57

Economic Indicators 58

Industrial Production 58

Vehicle ownership 59

GDP and GSDP Growth 61

Summary 62

5 Background growth relationships and forecasting assumptions **63**

Introduction 63

Estimation of background elasticities 64

Overview ... 64
Forecasts for growth drivers ... 65

6 Forecasts: Base AADT, and Traffic and Revenue forecasts ... 69

Introduction ... 69
Seasonal Correction Factors ... 69
Base year (FY21 and FY22) traffic ... 71
Estimation of FY21 Normalised and FY22* (no Covid19, hypothetical) ... 71
Assumptions on 3rd Wave of Covid19 infections ... 71
Month on Month comparison of FY22* and FY22 estimated ... 72
Estimation of Q4 FY22 ... 72
FY23 Estimation and base AADT for forecast ... 74
Base year AADT ... 74
Analysis of potential impacts ... 75
Revenue Forecasting Assumptions ... 78
Traffic and Revenue forecasts ... 85
Upside and Downside Cases ... 90
Traffic and Revenue Forecasts - upside scenario ... 92
Traffic and Revenue Forecasts – downside scenario ... 97
Target traffic and modification of concession period ... 104
Summary outlook ... 105

Figures

Figure 1: Daily Reported Covid 19 cases in India ... 16
Figure 2.1: Asset location in the regional network context ... 18
Figure 2.2 Asset context ... 19
Figure 2.3: Typical cross-sections and toll plazas on the Asset ... 20
Figure 2.4: Ongoing construction on the Asset ... 21
Figure 3.1 Category wise vehicle shares (%) and AADT at KK - Shirur toll plaza ... 24
Figure 3.2 Category wise vehicle shares (%) and AADT at KK - Holegadde ... 25
Figure 3.3 Category wise vehicle shares (%) and AADT at KK - Belekeri ... 26
Figure 3.4 Category wise Revenue share (%) and total revenue collection for the asset ... 27
Figure 3.5: Evolution of traffic (MADT) : Shirur ... 28

Figure 3.6: Evolution of traffic (MADT) : Holegadde 29
Figure 3.7: Evolution of traffic (MADT) : Belekeri 30
Figure 3.8 CJV toll segmentation for KK - Shirur 32
Figure 3.9 MAV toll segmentation for KK - Shirur 33
Figure 3.10 CJV toll segmentation at KK - Holegadde 33
Figure 3.11 MAV toll segmentation at KK - Holegadde 34
Figure 3.12 CJV toll segmentation at KK - Belekeri 35
Figure 3.13 MAV toll segmentation: KK - Belekeri 36
Figure 3.14 %age of Transactions via ETC/FastTag at KK- Shirur 36
Figure 3.15 %age of Transactions via ETC/FastTag at KK- Holegadde 37
Figure 3.16 %age of Transactions via ETC/FastTag at KK Belekeri 38
Figure 3.17: TVC camera installed at the Asset 39
Figure 3.18 TVC vs TMS: KK - Shirur 40
Figure 3.19 TVC vs TMS - Holegadde 41
Figure 3.20 TVC vs TMS - Belekeri 41
Figure 3.21 Vehicle share comparison: Kundapur - Karwar section 42
Figure 3.22 Zonal distribution: KK - Shirur 45
Figure 3.23 Zonal distribution: KK - Holegadde 45
Figure 3.24 Zonal distribution: KK - Belekeri 46
Figure 3.25 Zonal influence: KK - Shirur 47
Figure 3.26 Zonal influence: KK - Holegadde 47
Figure 3.27 Zonal influence: KK - Belekeri 48
Figure 3.28 Commodity distribution: KK - Shirur 49
Figure 3.29 Commodity distribution: KK - Holegadde 51
Figure 3.30 Commodity distribution: KK - Belekeri 52
Figure 3.31 Trip length distribution: KK - Shirur 54
Figure 3.32 Trip length distribution: KK - Holegadde 54
Figure 3.33 Trip length distribution: KK - Belekeri 55
Figure 4.1: Annual growth - Index of Industrial Production 59
Figure 4.2: Car ownership in India per 1,000 population 60
Figure 4.3: Per capita income 60
Figure 5.1: FY21-40 GDP forecast 66

Figure 5.2: Forecasts for India GDP, Karnataka, and Goa GSDP 68
Figure 6.1: FY22* (no Covid19, Hypothetical) vs FY22 Estimated: Shirur 72
Figure 6.2: FY22* (no Covid19, Hypothetical) vs FY22 Estimated: Holegadde 73
Figure 6.3: FY22* (no Covid19, Hypothetical) vs FY22 Estimated: Belekeri 73
Figure 6.4: Asset route shown against the regional network context 75
Figure 6.5: CJV toll segmentation evolution – TP1 Shirur 80
Figure 6.6: MAV toll segmentation evolution – TP1 Shirur 80
Figure 6.7: CJV toll segmentation evolution – TP2 Holegadde 81
Figure 6.8: MAV toll segmentation evolution – TP2 Holegadde 81
Figure 6.9: CJV toll segmentation evolution – TP3 Belekeri 82
Figure 6.10: MAV toll segmentation evolution – TP3 Belekeri 83
Figure 6.11: Final AADT forecast including Upside and Downside scenarios – KK Shirur 102
Figure 6.12: Final Revenue forecast including Upside and Downside scenarios – KK Shirur ... 102
Figure 6.13: Final AADT forecast including Upside and Downside scenarios – KK Holegadde 103
Figure 6.14: Final Revenue forecast including Upside and Downside scenarios – KK Holegadde 103
Figure 6.15: Final AADT forecast including Upside and Downside scenarios – KK Belekeri 104
Figure 6.16: Final Revenue forecast including Upside and Downside scenarios – KK Belekeri 104

Tables

Table 1.1: Scope of work and sources of data 13
Table 1.2: Data collection schedule 15
Table 2.1: Summary of concession 20
Table 2.2: Single toll rates on the Asset (INR), applicable April 2021 to March 2022 21
Table 3.1: Historical evolution in AADT by vehicle class: KK - Shirur 23
Table 3.2: Historical evolution in AADT by vehicle class: KK - Holegadde 24
Table 3.3: Historical evolution in AADT by vehicle class: KK - Belekeri 25
Table 3.4: Historical evolution in revenue by vehicle class (INR crores): Kundapur – Karwar section 26
Table 3.5: Evolution of traffic (MADT): Shirur toll plaza 28
Table 3.6: Evolution of traffic (MADT) : Holegadde toll plaza 29
Table 3.7: Evolution of traffic (MADT) : Belekeri toll plaza 30
Table 3.8: Typical ticket types sold at NHAI plazas 31

Table 3.9: Data collection schedule 38
Table 3.10: WADT at Asset 39
Table 3.11: Sample rates for OD data 43
Table 3.12: Zone aggregations for zonal influence analysis 44
Table 3.13: Aggregate commodity categories 48
Table 3.14: Directiowise commodity distribution - KK Shirur 50
Table 3.15: Directiowise commodity distribution - KK Holegadde 51
Table 3.16: Directiowise commodity distribution - KK Belekeri 52
Table 3.17: Average trip lengths 55
Table 4.1: CAGR of population in India 57
Table 4.2: Population Growth in India (2001 – 2011) 58
Table 4.3: Local Population Growth (2001 – 2011) 58
Table 4.4: GDP/GSDP index (2012=100) 61
Table 5.1: Identified growth drivers to model traffic growth 64
Table 5.2: Elasticity recommendations for the Asset (Kundapur - Karwar) 65
Table 6.1: Key intermediate and final outputs in the forecast 69
Table 6.2: Adopted SCF: TP1 Shirur 70
Table 6.3: Adopted SCF: TP2 Holegadde 70
Table 6.4: Adopted SCF: TP3 Belekeri 70
Table 6.5: FY22N Base AADT estimates compared to FY21 Actuals and FY22 Estimated (KK - Shirur) 74
Table 6.6: FY22N Base AADT estimates compared to FY21 Actuals and FY22 Estimated (KK - Holegadde) 74
Table 6.7: FY22N Base AADT estimates compared to FY21 Actuals and FY22 Estimated (KK - Belekeri) 74
Table 6.8: Summary of impact 76
Table 6.9: Impact of LoS improvement 76
Table 6.10: Impact of LoS improvement – NH66 77
Table 6.11: Impact of LoS improvement – Hassan - Mangalore 77
Table 6.12: Impact of local supression 77
Table 6.13: Trip factors for the forecast years – TP1 Shirur 78
Table 6.14: Trip factors for the forecast years – TP2 Holegadde 78
Table 6.15: Trip factors for the forecast years – TP3 Belekeri 79

Table 6.16: Toll segmentation for FY24 onwards – TP1 Shirur 80

Table 6.17: Toll segmentation for FY24 onwards – TP2 Holegadde 82

Table 6.18: Toll segmentation for FY24 onwards – TP3 Belekeri 83

Table 6.19: PCOD and FCOD tolling lengths for toll evolution assumed to be applicable post June 2022 84

Table 6.20: WPI growth forecast assumptions 84

Table 6.21: Revenue reconciliation summary 85

Table 6.22: PCU factors 85

Table 6.23: Final (background plus impacts) AADT forecast – TP1 Shirur 86

Table 6.24: Final (background plus impacts) AADT CAGR (%) – TP1 Shirur 86

Table 6.25: Final (background plus impacts) revenue (INR crores) forecast – TP1 Shirur 87

Table 6.26: Final (background plus impacts) revenue CAGR (%) – TP1 Shirur 87

Table 6.27: Final (background plus impacts) AADT forecast – TP2 Holegadde 87

Table 6.28: Final (background plus impacts) AADT CAGR (%) – TP2 Holegadde 88

Table 6.29: Final (background plus impacts) revenue (INR crores) forecast – TP2 Holegadde.. 88

Table 6.30: Final (background plus impacts) revenue CAGR (%) – TP2 Holegadde 88

Table 6.31: Final (background plus impacts) AADT forecast – TP3 Belekeri 89

Table 6.32: Final (background plus impacts) AADT CAGR (%) – TP3 Belekeri 89

Table 6.33: Final (background plus impacts) revenue (INR crores) forecast – TP3 Belekeri 90

Table 6.34: Final (background plus impacts) revenue CAGR (%) – TP3 Belekeri 90

Table 6.35: Summary of assumptions for upside and downside cases 91

Table 6.36: Summary of impacts on the KK asset – upside scenario 91

Table 6.37: Summary of impacts on the KK asset – downside scenario 92

Table 6.38: Final (background plus impacts) AADT forecast for upside scenario – TP1 Shirur .. 92

Table 6.39: Final (background plus impacts) AADT CAGR (%) for upside scenario – TP1 Shirur 93

Table 6.40: Final (background plus impacts) revenue (INR crores) forecast for upside scenario – TP1 Shirur 93

Table 6.41: Final (background plus impacts) revenue CAGR (%) for upside scenario – TP1 Shirur 93

Table 6.42: Final (background plus impacts) AADT forecast for upside scenario – TP2 Holegadde 94

Table 6.43: Final (background plus impacts) AADT CAGR (%) for upside scenario – TP2 Holegadde 94

Table 6.44: Final (background plus impacts) revenue (INR crores) forecast for upside scenario – TP2 Holegadde 95

Table 6.45: Final (background plus impacts) revenue CAGR (%) for upside scenario – TP2 Holegadde 95

Table 6.46: Final (background plus impacts) AADT forecast for upside scenario – TP3 Belekeri 95

Table 6.47: Final (background plus impacts) AADT CAGR (%) for upside scenario – TP3 Belekeri 96

Table 6.48: Final (background plus impacts) revenue (INR crores) forecast for upside scenario – TP3 Belekeri 96

Table 6.49: Final (background plus impacts) revenue CAGR (%) for upside scenario – TP3 Belekeri 96

Table 6.50: Final (background plus impacts) AADT forecast for downside scenario – TP1 Shirur 97

Table 6.51: Final (background plus impacts) AADT CAGR (%) for downside scenario – TP1 Shirur 97

Table 6.52: Final (background plus impacts) revenue (INR crores) forecast for downside scenario – TP1 Shirur 98

Table 6.53: Final (background plus impacts) revenue CAGR (%) for downside scenario – TP1 Shirur 98

Table 6.54: Final (background plus impacts) AADT forecast for downside scenario – TP2 Holegadde 98

Table 6.55: Final (background plus impacts) AADT CAGR (%) for downside scenario – TP2 Holegadde 99

Table 6.56: Final (background plus impacts) revenue (INR crores) forecast for downside scenario – TP2 Holegadde 99

Table 6.57: Final (background plus impacts) revenue CAGR (%) for downside scenario – TP2 Holegadde 100

Table 6.58: Final (background plus impacts) AADT forecast for downside scenario – TP3 Belekeri 100

Table 6.59: Final (background plus impacts) AADT CAGR (%) for downside scenario – TP3 Belekeri 100

Table 6.60: Final (background plus impacts) revenue (INR crores) forecast for downside scenario – TP3 Belekeri 101

Table 6.61: Final (background plus impacts) revenue CAGR (%) for downside scenario – TP3 Belekeri 101

Table 6.62: Target Traffic 104

Appendices

A Top 10 OD Pairs

B Detailed forecasts

C Data collection exercise

D Vehicle Classification

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Traffic Consultant developed the relationships in the models used to produce the forecasts for the projects based on data available through May 2021. Since March 2020, the outbreak of the virus known as COVID- 19 has spread throughout the world and has been defined by the World Health Organization as a "pandemic". As of the date of distribution of the Reports, the COVID19 outbreak is having a material impact on global economic and political affairs including having a significant impact on all the transportation industries, including toll road traffic, where in particular vehicle volumes have fallen in response to quarantine and self-care measures that governments have been imposing as a response to the different waves of infection rates in different parts of the country. The situation remains dynamic and is subject to significant change. In this challenging context, Traffic Consultant has produced base forecasts (directly produced from models using a combination of pre-COVID19 and post-COVID19 views) with a view on a possible scenario for the traffic forecasts based on an assumption of recovery from the COVID19-related traffic decrease. However, it is important to note that this is only one view, and there continues to remain uncertainty as to the short-term, intermediate or prolonged effects of and responses to the COVID19 pandemic on the projects. All of these effects could impact the COVID19-related aspects of the Reports.

As a result, no assurance can be provided by Traffic Consultant that the scenarios and assumptions Traffic Consultant has identified will prove to be accurate. Given the uncertainty inherent in this unprecedented pandemic, Traffic Consultant advises that all readers of the Reports consider the Reports in the context of their own assessment of the COVID19 outbreak and its current and potential impacts before making final decisions related to the projects.

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Glossary Items

Acronym	Meaning
AADT	Annual Average Daily Traffic
ADT	Average Daily Traffic
CAGR	Compound Annual Growth Rate
CAGR	Compound Annual Growth Rate
CJV	Cars / Jeeps / Vans
COD	Commercial Operations Date
DPR	Detailed Project Report
EDFC	Eastern Dedicated Freight corridor
ETC	Electronic Toll Collection
FY	Financial Year
GDP	Gross Domestic Product
GJC	Generalised Journey Cost
GQ	Golden Quadrilateral
GSDP	Gross State Domestic Product
HCM	Heavy Commercial Vehicles
IAOI	Immediate Area of Influence
KK	Goa/Karnataka Border-Kundapur
LCV	Light Commercial Vehicles
LoS	Level of Service
MAV	Multi Axle Vehicle
MLCV	Mini LCV
NE	National Expressway
NH	National Highway
NHAI	National Highways Authority of India
NHDP	National Highways Development Project
NSDP	Net State Domestic Product
OD	Origin Destination
PCI	Per Capita Income
PCOD	Partial Commercial Operations Date
PCU	Passenger Car Unit
RNP	Registered Number Plate
RoS	Rest of State

Acronym	Meaning
SCF	Seasonality Correction Factors
SH	State Highway
T&R	Traffic and Revenue
TMS	Traffic Management System
TP	Toll plaza
TVC	Traffic Volume Count
VOC	Vehicle Operating Costs
VOT	Value of Time
WADT	Weekly Average Daily Traffic
WDFC	Western Dedicated Freight corridor
YTD	Year to Date

1 Introduction

The assignment

1.1 IRB Infrastructure Developers Limited (the "Client") has commissioned Steer Davies Gleave India Private Limited ("Steer") for a traffic due diligence to be carried out on Kundapur - Karwar Toll Road (the "Asset").

1.2 Our scope of work for the traffic and revenue forecasts process includes:

Table 1.1: Scope of work and sources of data

Scope of work	Data source
• Review of historical Traffic Management System (TMS) data, Origin-Destination (OD) data, Vendor reports and documents	Provided by client
• Historical analysis and forecasts for baseline growth, including – Background growth, – Seasonality	Historical toll plaza data provided by Client and benchmarks from assets in the vicinity wherever long time series historical data was not available
• Validation of TMS data using independent Traffic Volume Counts (TVC) counts • Validation of Revenue reported in FY21	• TMS data provided by Client • TVC counts independently undertaken by Steer • Revenue reconciliation using toll plaza traffic and ticket type data to calculate revenue and reconciling it with toll plaza reported revenue.
• OD analysis to understand growth drivers – Zonal influence and top OD pairs – Commodity distribution – Trip length distribution	Origin Destination surveys undertaken by Steer
• Analysis of upcoming network improvements and other developments, that may have future impacts on traffic	Secondary research and our in-house experience of working in the vicinity of the asset. Impact analysis based on Generalised Journey Cost spreadsheet-based analysis
• Historical revenue analysis and forecasts for revenue estimation, including – Toll segmentation and trip factors, – Overloading shares,	Calculated from historical data provided by Client
• Final traffic growth forecasts including baseline growth rates and potential future impacts	Elasticity based base growth and potential impacts from secondary research and our in-house experience of working in the vicinity of the asset
• Toll revenue estimation for the entire concession including toll evolution	Toll evolution based on toll notification published by NHAI and WPI line based on forecast published by Consensus and RBI (FY23)

Scope of work	Data source
• Target traffic estimation	The target traffic calculation is based on the clause as per the concession agreement.

1.3 This report presents our draft T&R forecasts.

Our approach

The information related to the traffic, concession agreements, toll notifications, toll calculations, and all other relevant data required was provided by the vendor in the virtual data room on the Dropbox. The key traffic data file used by us for the analysis from the data room is the monthly historical data for each asset for each category of vehicles.

To understand the current traffic on the Asset, we have analysed traffic data from multiple independent sources:

- Assemble traffic/revenue data for up-to-date representation of the performance of the project roads. Client-provided TMS data starting from February 2019 up till May 2021
- Concession agreement and toll notifications provided by client
- To arrive at the base position, asset-wise traffic data required for analysis was used from the monthly traffic and revenue files shared by the client. In order to gain confidence in the traffic data, and validate the TMS data, 7 days (24 hours) traffic volume counts (TVC) were undertaken by an independent agency at all the toll plaza locations. The TMS data for the same dates was requested from the client which was then compared to the TVC data collected.
- Revenue Reconciliation: We undertook revenue reconciliation, by building up revenue from the traffic reported by each of the toll plaza and subsequently match it to the reported revenue using the prevalent toll rates and reported segmentation/toll-frequencies, this is a key part of our analysis to validate the segmentation/toll-frequency assumptions and the AADT reported for each of the toll plaza.

1.4 The estimation of future traffic demand on the Assets was undertaken through:

- Detailed assessment of the asset performance from traffic and revenue perspective based on the site visit observation, discussions with the toll plaza managers and client team.
- The OD survey data was cleaned and analysed to determine the key commodity drivers of the traffic on the asset. This information was further utilised in developing the views on the forecasts of traffic on this corridor. Outputs from OD data such as zonal influence, trip lengths, and commodity distribution are presented in this report.
- Developing a bespoke growth model for each asset/plaza/toll class to forecast year-on-year traffic growth from FY21 to the end of each concession period;
- Investigating the elasticity of historic traffic growth compared to state (GSDP) and national (GDP) growth. Where historic data is limited, we have benchmarked the asset against our Steer knowledge base (e.g. similar asset types in the same state), to derive appropriate elasticities
- Applying our elasticities to independent GDP/GSDP forecasts;
- Identifying and analysing the potential impacts of any relevant changes to the competitive position of each asset – these include impacts of changes to road network including expressways and opening of competitive modes of travel;
- Identifying and analysing any other potential impacts to traffic and revenue on each asset – these include axle load norms, FASTag implementation

- Considering changes in trends of segmentation over time and making suggestions for changes in exemptions in the future
- Preparing traffic and revenue forecast for the Asset for the complete length of concession. The analysis here includes the specific impacts of toll, network or other exogenous factors specific to the asset. We have developed a set of forecasting assumptions for three scenarios: a base case and upside and downside scenarios.

Table 1.2: Data collection schedule

Toll Plaza	TMS data	7-day videography-based TVC		1-day OD survey	
		Start date	**End date**	**Start date**	**End Date**
Shirur	February 2019 - May 2021	28 June 2021	04 July 2021	01 July 2021	02 July 2021
Holegadde	February 2019 - May 2021	28 June 2021	04 July 2021	30 June 2021	01 July 2021
Belekeri	February 2019 - May 2021	28 June 2021	04 July 2021	28 June 2021	29 June 2021

Evolution of Covid19 pandemic in India in FY21 and FY22

1.5 On 24 March FY20, the Central government announced a nationwide 21-day lockdown which was extended for another three weeks until May 3rd. Further extensions until May 17th and again until May 31 featured relaxations in 'green' and 'orange' zones. Starting 8th June 2021, 'Unlock' phases began. States have also taken their own measures, with Central guidelines being the minimum expected restrictions from States. The tolling across all highways in India was stopped between 25th Mar and 20th Apr for national highways. These lockdowns resulted in significant disruptions to traffic, with a reduction of both commuting trips to work (as people were required to work from home or stay at home) and leisure trips (due to the closure of various entertainment venues, places of worship, tourist destinations, etc.). Goods movements, while still impacted, continued to a lesser extent due to a need to supply essential goods such as food, etc.

1.6 The traffic volumes since then gradually started recovering on most Assets in India, with varying extent. By Q3 of FY21 traffic levels were already at par FY20 AADT numbers and even higher in some cases. Q4 of FY21 was largely unimpacted by COVID and toll plazas reported stabilised traffic numbers for the quarter.

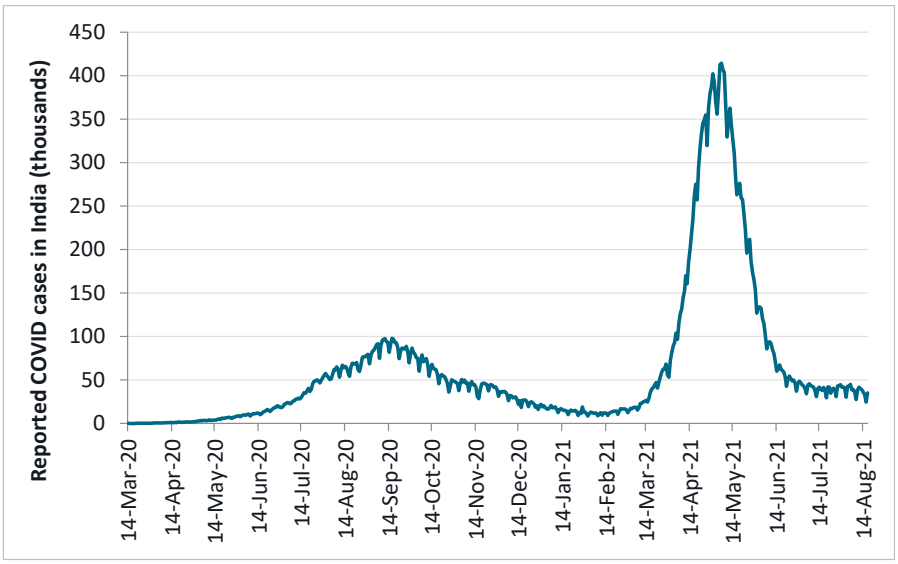
1.7 Data from various roads across the country indicates that the largest impact on traffic was experienced between the months of March 2020 and May 2020, with the rest of the months showing volumes surpassing FY20 levels for most months of FY21. It is important to note that FY20 itself was a subdued year due to the nosedive in Indian economic growth to lowest in a decade (4.0% in FY20 relative to a FY10-20 average of 6.5%). The recovery of traffic in Q3 FY21 was being driven by two factors - a release of pent-up demand in certain vehicle categories, as well as, underlying long-term growth trends in various sectors of the economy which are contributing to the growth of commercial traffic across the road network. We believe that the pent-up demand was most confined till the October-November FY21 period which coincides with the Diwali festival related increase in traffic levels.

1.8 The traffic trends observed on most of the India toll roads during Q4FY21, showed sustained traffic levels as were witnessed in Q3FY21, which reflected sustained demand revival in the Indian economy. These traffic levels reflected the longer-term trends of a strong economic

recovery, in segments like auto manufacturing, road construction, energy consumption /production etc., are more stable and are driving the growth over and above FY20 levels and are expected to continue as more segments of the economy, like hospitality, tourism, etc., recover fully from the pandemic.

1.9 Last week of March 2021 onwards, another spike in COVID cases was observed which gradually kept increasing to reach a peak value of 415,000 daily cases by 6th May 2021. The figure below presents the daily reported Covid19 cases in India up-to 14th August 2021.

Figure 1: Daily Reported Covid 19 cases in India



Source: Steer analysis, https://data.COVID19india.org/

1.10 This second wave of Covid19 was accompanied by various local and state level night curfews and lockdowns starting from April until end of June. The second wave of Covid19, although had a higher infection rate, the movement of traffic and goods was not impacted by the same magnitude as the first wave when whole country went under strict lockdown for two quarters. This can be attributed to the fact that almost all the restrictions were localised or at state level. Moreover, there was no restriction on movement of goods vehicles and other services. As the industries and agricultural activities continued to operate, the truck traffic did not fall as steeply as it did in Q1 FY21.

1.11 There is also a behavioral shift of passengers towards personal mobility due to perceptions of safety and reduction of public transport services which we have been observed across the road network. This shift is expected to sustain and continue in the short term as such perception shifts for longer periods of time could result in more permanent changes in passenger choices. For example, once a family starts using a personal CJV for inter-urban travel to avoid public transport during the pandemic period over 1-2 years, it is likely that they continue using their personal vehicles even as the pandemic recedes. In our analysis around the short/medium-term impact of this pandemic, we have included assumptions around the above, as well as longer-term impacts of the pandemic.

Contents of this Report

1.12 The report has been divided into 6 chapters, including Chapter 1 providing an introduction:

- Chapter 2 describes the key characteristics of the Asset and its surrounding road network, primarily based on site visits.
- Chapter 3 summarises the current and historical traffic on the Asset, including results from the TMS, TVC and OD analysis.
- Chapter 4 discusses the socio-economic context of the Asset corridor and region/state.
- Chapter 5 summarises our approach and results on estimating background traffic demand growth; and
- Chapter 6 summarises our key forecasting assumptions, assessment of network impacts, and presents our traffic and revenue forecasts for the Asset.

2 The Asset

Introduction

2.1 This chapter provides a description of the Asset, based on primary data (from site visits), our understanding of the region and network surrounding the Asset. We cover the strategic network context, followed by key economic activities and network developments around the Asset.

Strategic network

2.2 The Asset is situated in the state of Karnataka, connecting Goa-Karnataka border to Kundapur in the south. The Asset forms part of Panvel-Kochi-Kanyakumari Highway (NH66) on the west coast of India. The asset is **currently under construction and the Commercial operation Date (COD) is expected in June 2022**. The figure below shows the asset and its regional road network.

Figure 2.1: Asset location in the regional network context

Source: Steer cartography using OpenStreetMap data

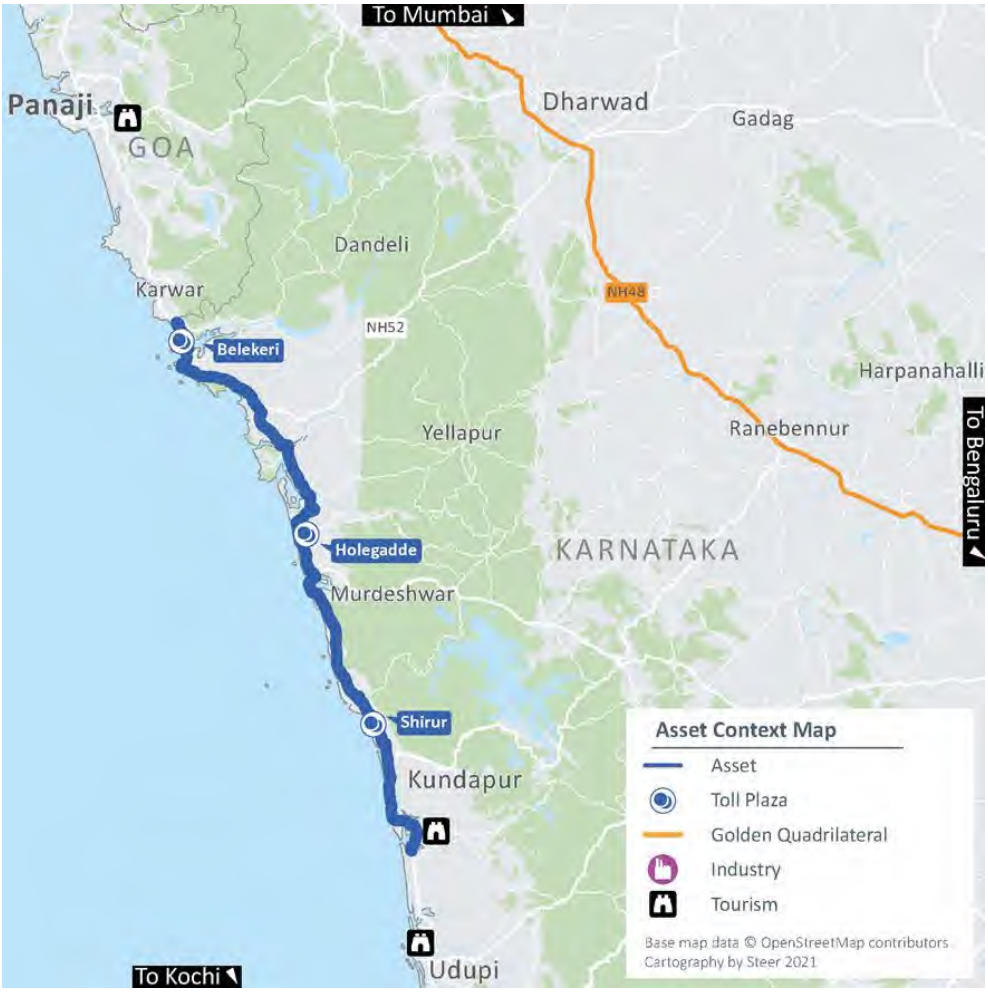
2.3 This Asset primarily caters to three different types of strategic movements:

- **Short-distance trips** undertaken largely by passenger vehicles for work/business and tourism trips wherein the movement is predominantly local between Goa, Kundapur, Karwar, Udupi as well as religious centres of Shivamogga and Murdeshwar.
- **Medium-distance trips** undertaken largely by the trips plying between Karwar/Goa and Mangalore/Bangalore. Mangalore port has a high influence on medium-distance trips.
- **Long-distance trips**, predominantly by MAVs, caters to the movement between Goa/Karwar/Ratnagiri and Kerala, Chennai, Mysore as well as other southern cities.

2.4 The Asset consists of the following three plazas:

- TP1: Shirur
- TP2: Holegadde
- TP3: Belekeri

Figure 2.2 Asset context



Source: Steer cartography using OpenStreetMap data

2.5 The NH52 connector between Dharwad and Ankola connects the asset to Mumbai Bengaluru section of NH48 Golden Quadrilateral. This connector feeds long distance traffic to assets on Holegadde and Shirur toll plazas. The assets section between Ankola and Shirur connects traffic movement between Udupi and Southern parts of NH66 with Solapur and further North.

Concession and tolling details

Table 2.1: Summary of concession

	Particulars
State	Karnataka
Highway and lane configuration	NH66, four-laned (divided)
Toll plazas	• TP1 Shirur at KM 239+640 • TP2 Holegadde at KM 182+853 • TP3 Belekeri at KM 131+200
Length (km) as per concession agreement	• TP1 Shirur: 63.460 km. 71.260 km (tollable) • TP2 Holegadde: 41.674 km, 54.480 km (tollable) • TP3 Belekeri: 35.866 km, 59.850 km (tollable)
Commencement of operations*	PCOD/FCOD: February 2020/June 2022
Operated by Client since	February 2020
Concession period	34 years
Last year of concession	FY48

Source: Client data

2.6 Figure 2.3 below shows a typical cross-section of the Asset and its toll plazas.

Figure 2.3: Typical cross-sections and toll plazas on the Asset

Source: Steer site visit

2.7 Toll are collected for the toll categories and rates as shown in the following table. The toll plazas have dedicated ETC/FASTag lanes for electronic tolling. Like the other National Highway plazas, the Asset has Single, Return, Local Commercial, Local Personal, Monthly, and Local Monthly tickets. The asset is currently under construction; therefore, toll collection is 75% of FY20 toll rates. The toll rates are expected to increase in FY23 on completion of construction once COD is achieved.

Table 2.2: Single toll rates on the Asset (INR), applicable April 2021 to March 2022

Type of Vehicle	Shirur	Holegadde	Belekeri
CJV	80	75	80
LCV	125	120	125
Bus/Truck	265	250	260
3A	290	275	285
MAV/ HCM/EME	415	385	400
OSV	505	485	510

Source: NHAI Revision of User fee Rate w.e.f 01.04.2021

2.8 The Asset is undergoing an expansion from two to four lanes. As observed on the site visit, the construction on the southernmost section of the Asset which is tolled under Shirur toll plaza is almost complete, with maximum construction work ongoing on northern side of the asset which is tolled under Belekeri toll plaza. The construction work was undergoing rapidly near Kumta town, which is densely populated. A considerable progress was observed on the site, with construction almost complete on Shirur and Holegadde section and rapidly progressing on Belekeri sections.

Figure 2.4: Ongoing construction on the Asset

Key economic activities

2.9 The Asset is situated in the state of Karnataka, a southern state in India surrounded by Arabian Sea on the west, Goa on the northwest, Maharashtra on the North, Andhra Pradesh on the East, Tamil Nadu on the southeast, and Kerala on the southwest. Some of the key urban centers along the asset are Ankola, Bhatkal, Kumta and Karwar.

2.10 The Asset forms part of the Panvel-Kochi-Kanyakumari Highway (NH-66) on the west coast of India. The NH66 is 1,608 km long and is currently being upgraded to four-laned highway in

sections. The highway facilitates the north-south movement as it connects Maharashtra in the north to Kerala in the south.

2.11 NH66 becomes a vital part in connecting the rest of the country to North Kerala and hence, benefiting the Asset. The same is validated by OD analysis, further discussed in the report, as Kerala has around 12% of zonal influence on 3A/MAV trips. The Asset becomes a key entry for the trips between Maharashtra/northern states travelling towards Kerala. For such trips, the traffic follows NH48 in the north, gets diverted towards NH52 at Dharwad, meets NH66 at Ankola, and crosses Shirur and Holegadde plazas of the Asset, in order to reach Kerala. This is also the reason for higher truck numbers on the two southern plazas as compared to the northern-most plaza, Belekeri.

2.12 Kumta, Murdeshwar and Shivamogga are major religious and recreational tourism centres in the region and introduce an appreciable proportion of CJV traffic on the Asset. Kumta, a coastal town near Gokarna, is famous for its beaches and temples. Its serene nature and forests attract tourists all-round the year. Murdeshwar houses world's second tallest Shiva statue apart from its beaches, forts and islands. Shivamogga is a famous hill station near the Asset and induces tourism related traffic because of its hill peaks, bird sanctuaries, elephant camps as well as waterfalls. Apart from these tourism-related cities, the Asset generates tourism on its own as the highway runs parallel to the Arabian Sea.

2.13 The port of Mangalore which is located 90 km south of Kundapur is a major commercial traffic generator. The New Mangalore Port is the seventh largest port in India and handled 39.15 million tonnes of traffic in FY20. The major commodities exported/imported from the port are iron ore pellets, granite stones, petroleum products, LPG etc. The gas capsule trucks which travel from Mangalore to Solapur BPCL plant and Dharwad IOCL bottling plant appear on the asset. These trucks travel via Shirur and Holegadde and divert eastward just south of Belekeri towards NH52 at Akola. In the future, any upgrades in port traffic handling capacity will directly add on to the traffic on the asset.

2.14 Coal traffic also moves from Mangalore port to Bagalkotti, Bijapur and Gulbarga following the same route as described above.

2.15 The Belekeri plaza in North of asset has agricultural activity in close vicinity and hosts a naval base. For the locals, fishing and agriculture become a considerable source of livelihood. Apart from the commodities discussed above, fish and farm produce are the key commodities being carried on the Asset.

3 Traffic description

Introduction

3.1 This chapter outlines the current traffic and revenues on the Asset, as well as our analysis of origin-destination (OD) data and traffic count data. This covers data which was collected as a part of this study as well as data provided by the Client.

3.2 Traffic demand data is generally collected and analysed to understand the volume and vehicle composition of demand currently using the Asset, while OD data is used to obtain a better understanding of travel patterns, trip lengths, trip purposes and areas of influence in the vicinity of the Asset, as well as the commodities being moved by goods vehicles. This analysis, combined with our understanding of the Asset (based on our site visits), enables us to identify the key drivers of demand on the Asset.

3.3 Actual toll plaza data is used as the basis from which the current/base year annual average daily traffic (AADT) is established. This data is typically provided by the Client and independently analysed and validated by us using traffic volume count (TVC) information.

Historical trends

3.4 The following tables and figures indicate the historical variation in traffic volume at each of the toll plazas, in terms of vehicle shares and total AADT.

3.5 The Asset achieved PCOD in Feb 2020. The plaza only operated for 44 days in FY20 as operations commenced from 11th February 2020. FY20 AADT presented below is average traffic of tolling during these days. The traffic patterns are still in a very nascent stage on the Asset. The first full year of tolling is FY21, which was impacted by the Covid19 related lockdowns, therefore the growth trends presented in the table below might not be an actual representation of the historical traffic growth on the Asset.

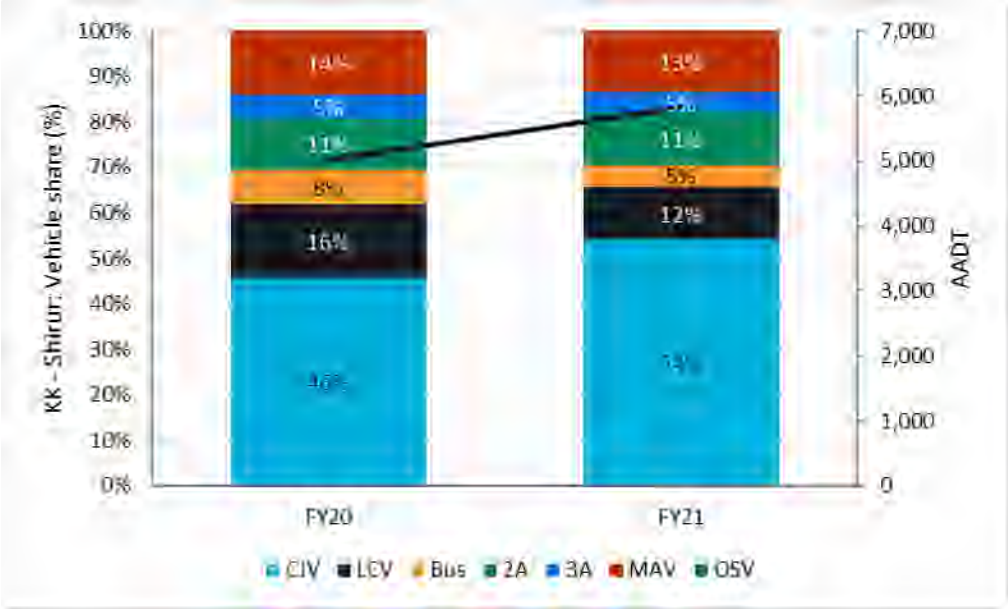
Table 3.1: Historical evolution in AADT by vehicle class: KK - Shirur

Vehicle Class	FY20*	FY21	CAGR FY20-21
CJV	2,296	3,153	37.4%
LCV	798	674	(15.5%)
Bus	380	286	(24.8%)
2A	572	665	16.3%
3A	264	268	1.7%
MAV	697	782	12.2%
OSV	2	3	31.9%
Total	**5,008**	**5,831**	**16.4%**
PCU	**10,283**	**11,352**	**10.4%**
Toll Paying Traffic	**4,693**	**5,454**	**16.2%**

Vehicle Class	FY20*	FY21	CAGR FY20-21
Toll Paying PCU	**9,904**	**10,912**	**10.2%**

Source: Steer analysis of the Client data, *Tolling undertaken only for 44 Days at the toll plazas

Figure 3.1 Category wise vehicle shares (%) and AADT at KK - Shirur toll plaza



Source: Steer analysis of the Client data

3.6 Both Shirur and Holegadde plazas saw a healthy growth of 16.4% and 13.0% respectively from FY20 to FY21 which was majorly driven by CJVs as the category observed healthy growth. The decline in LCVs shares and a subsequent increase in 2As can be attributed to the vehicle reclassification with FASTag implementation.

3.7 Buses saw a decline in FY21 in comparison to FY20 owing to Covid19 induced lockdowns. The decrease can also be attributed to the behavioural shift of traffic towards personal mobility due to Covid19 related safety concerns.

3.8 The opening up of industrial sector with ease in last two quarters of FY21 contributed to truck traffic growth at both the plazas. The Shirur and Holegadde plaza observe similar level of truck traffic as they both cater to the long-distance through traffic from Udupi, Kochi and Mangalore port that uses the Asset to reach Dharwad via NH52 and continue further to destination such as Solapur, Pune, Mumbai. This traffic does not appear on the Belekeri plaza.

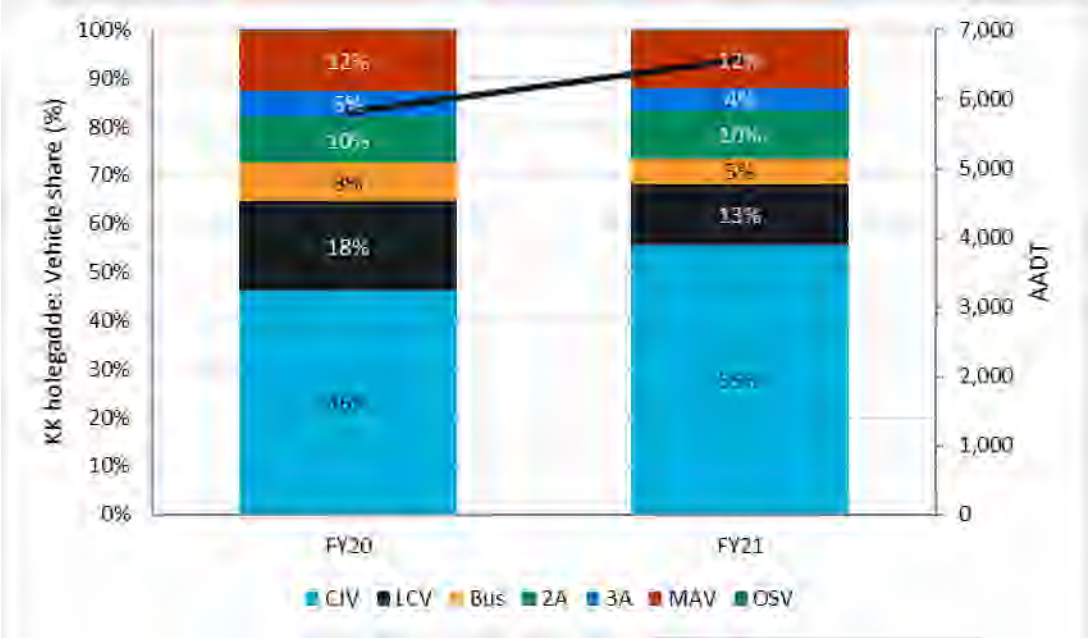
Table 3.2: Historical evolution in AADT by vehicle class: KK - Holegadde

Vehicle Class	FY20*	FY21	CAGR FY20-21
CJV	2,691	3,646	35.5%
LCV	1,069	843	(21.1%)
Bus	468	342	(26.9%)
2A	558	669	19.7%
3A	310	285	(8.0%)
MAV	725	794	9.5%

Vehicle Class	FY20*	FY21	CAGR FY20-21
OSV	2	3	38.9%
Total	**5,824**	**6,582**	**13.0%**
PCU	**11,576**	**12,384**	**7.0%**
Toll Paying AADT	**4,738**	**5,311**	**12.1%**
Toll Paying PCU	**10,249**	**10,903**	**6.4%**

Source: Steer analysis of the Client data

Figure 3.2 Category wise vehicle shares (%) and AADT at KK - Holegadde



Source: Steer analysis of the Client data

3.9 Belekeri TP acts differently from Shirur and Holegadde and has lower traffic volume. The traffic observed on this plaza is primarily local in nature. The north-south long-distance traffic appearing on Shirur and Holegadde diverts from the Asset on to NH-52 at Ankola only a few kilometres south of Belekeri plaza. Hence, this traffic doesn't appear at Belekeri TP. Belekeri is influenced primarily by traffic moving to and from Goa to Karnataka and local movements originating/destined in vicinity of asset.

3.10 The Belekeri plaza observed a growth of 9.4% from FY20 to FY21 which was majorly driven by CJVs as the category observed a growth of 29.3%. As observed in the table below, MAVs have also grown by 22.2%. Although MAVs observed a healthy growth, the CAGR is with respect to a smaller base number as the toll plaza had only operated for 44 days in FY20.

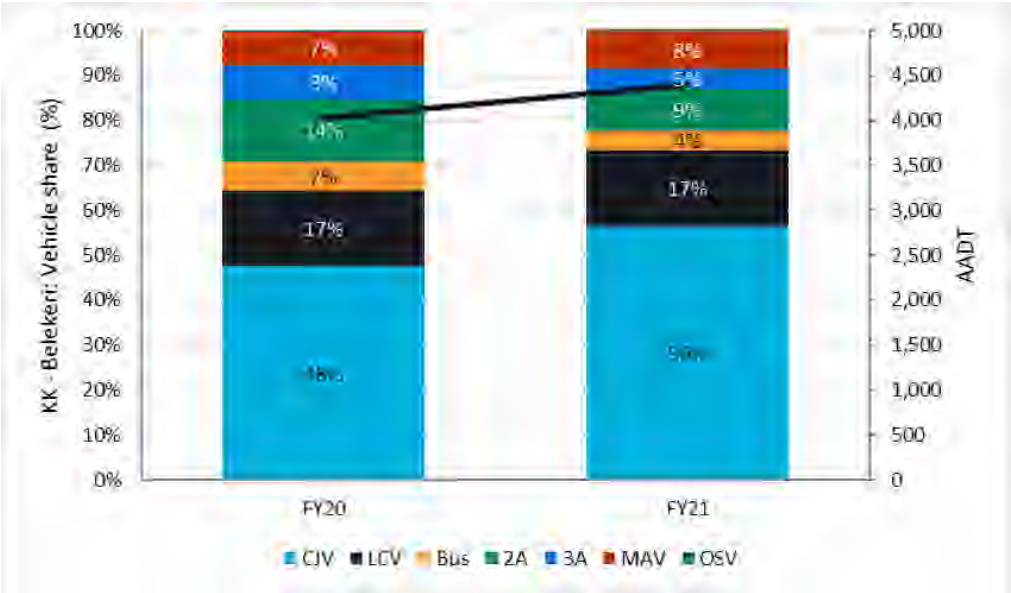
Table 3.3: Historical evolution in AADT by vehicle class: KK - Belekeri

Vehicle Class	FY20	FY21	CAGR FY20-21
CJV	1,920	2,483	29.3%
LCV	670	744	11.1%
Bus	263	197	(25.3%)
2A	559	410	(26.7%)

Vehicle Class	FY20	FY21	CAGR FY20-21
3A	307	198	(35.3%)
MAV	301	368	22.2%
OSV	6	3	(51.9%)
Total	**4,026**	**4,403**	**9.4%**
PCU	**7,692**	**7,681**	**(0.1%)**
Toll Paying AADT	**2,497**	**2,727**	**9.2%**
Toll Paying PCU	**5,035**	**5,054**	**0.4%**

Source: Steer analysis of the Client data

Figure 3.3 Category wise vehicle shares (%) and AADT at KK - Belekeri



Source: Steer analysis of the Client data

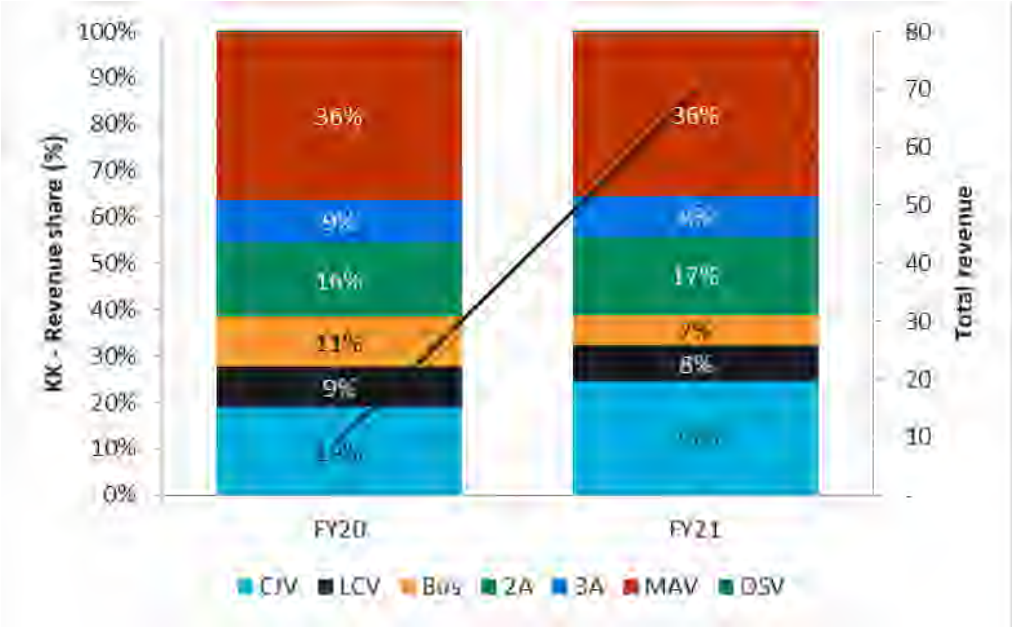
3.11 The table below show the category-wise reported revenue for the Asset in FY20 and FY21. In terms of revenue, 36% of asset's revenue is generated from the heavy truck traffic followed by CJVs. This shows that the largest drivers in demand along the corridor are CJVs and MAVs and growth in these classes will drive future revenue growth.

Table 3.4: Historical evolution in revenue by vehicle class (INR crores): Kundapur – Karwar section

Vehicle Class	FY20	FY21
CJV	1.7	17.1
LCV	0.8	5.4
Bus	1.0	4.6
2A	1.5	11.8
3A	0.8	5.9
MAV	3.3	24.8
OSV	0.0	0.1
Total	**9.2**	**69.7**

Source: Steer analysis of the Client data (*FY20 only includes 44 day's revenue as tolling started in Feb 2020)

Figure 3.4 Category wise Revenue share (%) and total revenue collection for the asset



Source: Steer analysis of the Client data (*FY20 only includes 44 day's revenue as tolling started in Feb 2020)

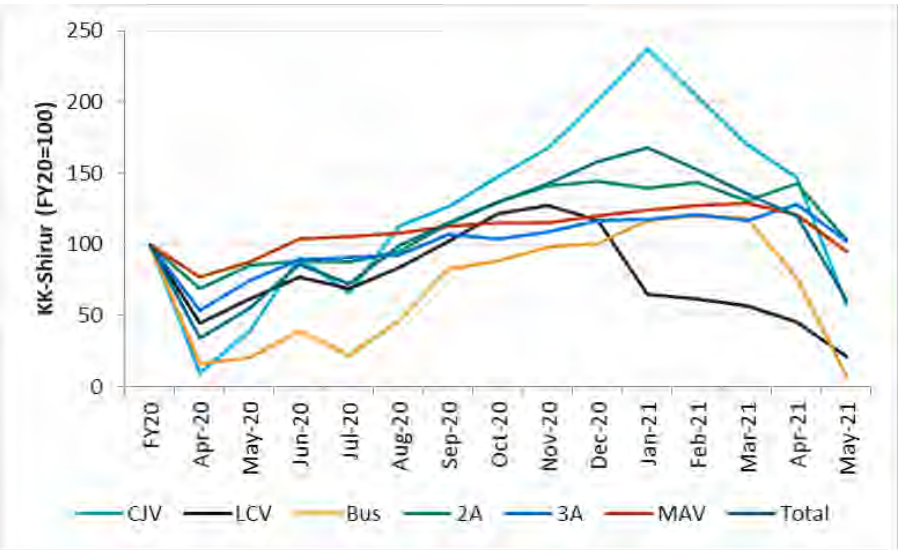
3.12 In sum, the vehicle-wise revenue shares remained comparable from FY20-21. Since FY20 was a partial year of operation, a stark growth in revenue can be observed in the chart above. This growth is not a representative growth for the Asset as the revenue in FY20 was a result of just 44 days of tolling as compared to 346 days of tolling in FY21. Nevertheless, the Asset has shown good performance in its first full year of tolling even when the region and the country was under Covid19 related lockdowns. This is validated by the fact the total traffic averaged over the number of days of operation grew positively by ~12% at the plazas. The total PCU level grew by ~8% at Shirur and Holegadde whereas the PCU level remained almost constant at Belekeri in FY21.

Impact of Covid19 on traffic

3.13 On 24th March 2020, the Central government announced a nationwide 25-days lockdown which was extended for another three weeks until May 3. As previously mentioned, all toll operations were suspended from 26th March – 19th April 2020. Further extensions until May 17 and again until May 31 featured relaxations in 'green' and 'orange' zones. Starting 8 June 2020, 'Unlock' phases began. States have also taken their own measures, with Central guidelines being the minimum expected restrictions from States.

3.14 In direct relation to these 'Lockdown' and 'Unlock' phases, traffic on roads across the country dropped significantly in the last week of March 2020 continuing into April and May 2020. While traffic for MAVs had a quick recovery in June back to FY20 AADT levels, the other vehicle classes have seen longer recovery trends. However, as we can see Q3 and Q4FY21 levels have been higher as compared to FY20, a pattern that has been witnessed on other Assets. The onset of the second wave of Covid19 infections has impacted traffic in April and May 2021 as compared to FY21N. Where CJV's have seen larger impacts as compared to 3A+ MAV traffic.

Figure 3.5: Evolution of traffic (MADT) : Shirur



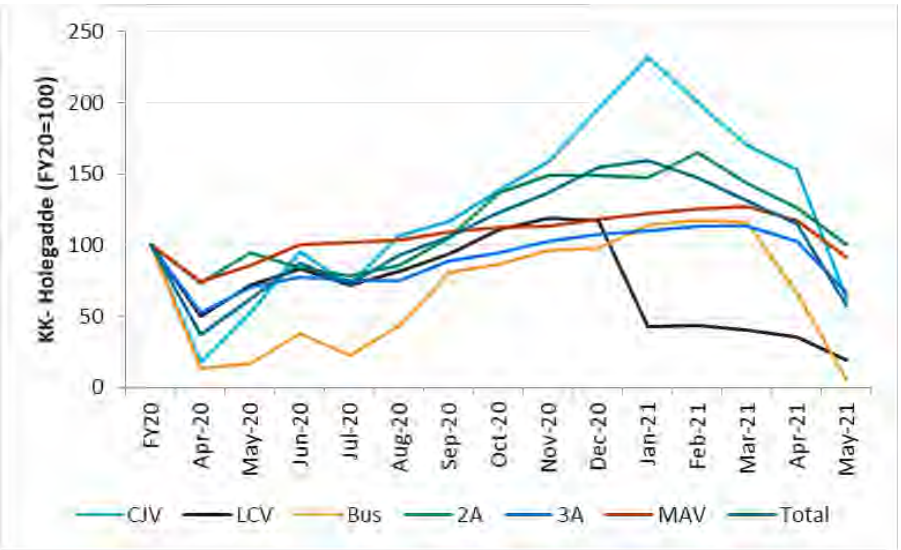
Source: Steer Analysis of client TMS data

Table 3.5: Evolution of traffic (MADT): Shirur toll plaza

	FY20	Q1FY21	Q2FY21	Q3FY21	Q4FY21	FY21	Apr-21	May-21
CJV	2,296	1,501	2,956	4,638	4,285	3,153	3,362	1,320
LCV	798	554	817	821	472	674	363	166
Bus	380	103	276	399	453	286	290	29
2A	572	497	646	810	783	665	814	590
3A	264	225	266	301	313	268	337	268
MAV	697	690	779	834	894	782	839	659
Total	**5,006**	**3,569**	**5,740**	**7,804**	**7,199**	**5,828**	**6,005**	**3,032**
PCU	**10,274**	**7,912**	**11,251**	**14,154**	**13,660**	**11,340**	**12,005**	**7,196**

Source: Steer Analysis of client TMS data

Figure 3.6: Evolution of traffic (MADT) : Holegadde



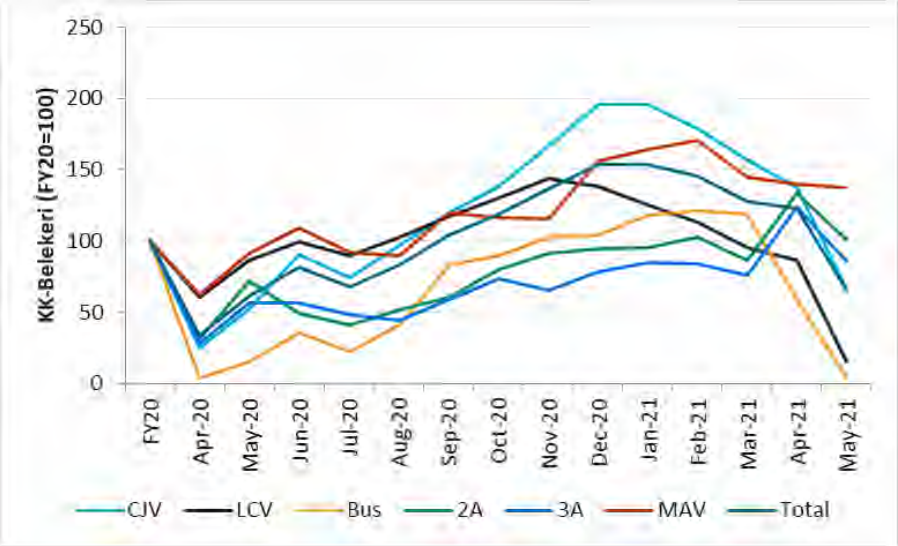
Source: Steer Analysis of client TMS data

Table 3.6: Evolution of traffic (MADT) : Holegadde toll plaza

	FY20	Q1FY21	Q2FY21	Q3FY21	Q4FY21	FY21	Apr-21	May-21
CJV	2,691	1,971	3,244	5,260	4,972	3,646	4,109	1,666
LCV	1,069	810	1,021	992	450	843	375	205
Bus	468	121	329	481	546	342	309	24
2A	558	478	610	827	859	669	704	558
3A	310	230	267	331	350	285	319	205
MAV	725	697	786	853	915	794	853	663
Total	**5,822**	**4,308**	**6,257**	**8,744**	**8,092**	**6,579**	**6,670**	**3,321**
PCU	**11,567**	**8,812**	**11,931**	**15,503**	**15,029**	**12,372**	**12,509**	**7,319**

Source: Steer Analysis of client TMS data

Figure 3.7: Evolution of traffic (MADT) : Belekeri



Source : Steer Analysis of client TMS data

Table 3.7: Evolution of traffic (MADT) : Belekeri toll plaza

	FY20	Q1FY21	Q2FY21	Q3FY21	Q4FY21	FY21	Apr-21	May-21
CJV	1,920	1,384	2,270	3,568	3,222	2,483	2,643	1,263
LCV	670	615	783	910	696	744	580	101
Bus	263	64	187	285	315	197	154	10
2A	559	300	358	524	527	410	747	562
3A	307	164	181	233	245	198	379	263
MAV	301	294	327	437	475	368	420	413
Total	**4,020**	**2,823**	**4,105**	**5,957**	**5,481**	**4,400**	**4,923**	**2,612**
PCU	**7,667**	**5,218**	**7,093**	**10,026**	**9,668**	**7,669**	**9,244**	**5,778**

Source: Steer Analysis of client TMS data

Toll Frequencies

3.15 Toll frequency or segmentation is typically the share of each ticket category recorded for a particular vehicle type. Each vehicle category has different segmentation. As a part of historical analysis, we calculate the toll frequency for each vehicle category from the monthly data shared by the client. The most common ticket categories observed on a typical National Highway concession are: Single, Return, Monthly, Local and Exempt. Given the local nature of traffic, some assets offer custom made local passes to attract the local commuters to opt for these category passes instead of evading toll. Brief description of different ticket-types is given in table below.

3.16 Understanding the toll frequency gives insights into the nature of traffic. CJVs generally have higher shares of return passes or monthly passes, while heavy trucks mostly have single tickets since they travel long distance. However, this varies from asset to asset or even toll plaza to toll plaza. The asset catering to short distance local traffic generally observes high share of

return or other local monthly passes while the asset catering to strategic long-distance traffic generally observes high share of single ticket traffic.

3.17 The following are the types of tickets being sold at the plazas of the Asset.

Table 3.8: Typical ticket types sold at NHAI plazas

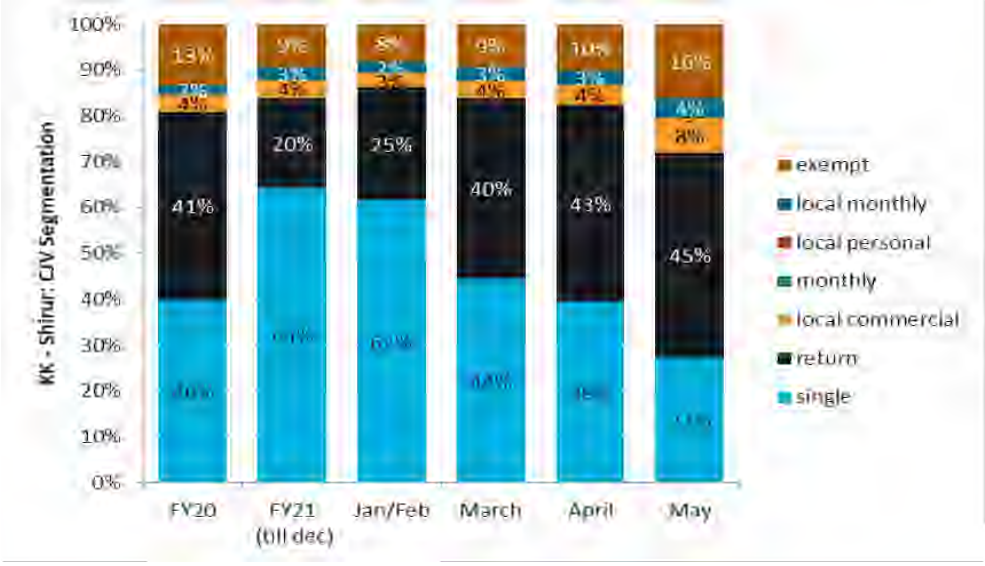
Category	Description
Single	Allows the vehicle to cross the toll plaza once
Return	Daily pass for crossing the toll plaza multiple times within 24 hours. Charged 1.5 times the single toll
Monthly	Monthly pass
Local Personal	Discounted monthly pass only for private cars of residents within 20km radius of toll plaza
Local Commercial	50% discount on single trips for commercial vehicles registered in the local district
Exemptions	Officially exempted vehicles like ambulance, police cars, key political personnel etc.

3.18 In addition to the above ticket categories, a special category pass of “Local Monthly” is also being sold on the Asset. This pass has been issued by the toll plazas individually and the toll plaza is deciding on the toll for such special passes.

3.19 Generally, over the period of time the shares of single/return/monthly tickets tend to stabilise within 3-4 years of asset operations. Only in the cases where trip patterns are expected to change significantly due to urban expansion is where we expect these shares to change over the period or due to some external events impacting the trip patterns. During the last one year, two key events impacted the traffic patterns throughout the country: Covid19 and ETC implementation. With the FASTag implementation in December 2020, it was ensured that only FASTag users benefited from discounted tickets such as return/monthly and cash users were only allowed to buy single tickets, thus leading to a drastic increase in single ticket users. However, with the increase in FASTag, it was observed that traffic patterns have begun to return to their initial segmentation.

3.20 The figures below show the ticket segmentation for CJV and MAV categories for the plazas.

Figure 3.8 CJV toll segmentation for KK - Shirur



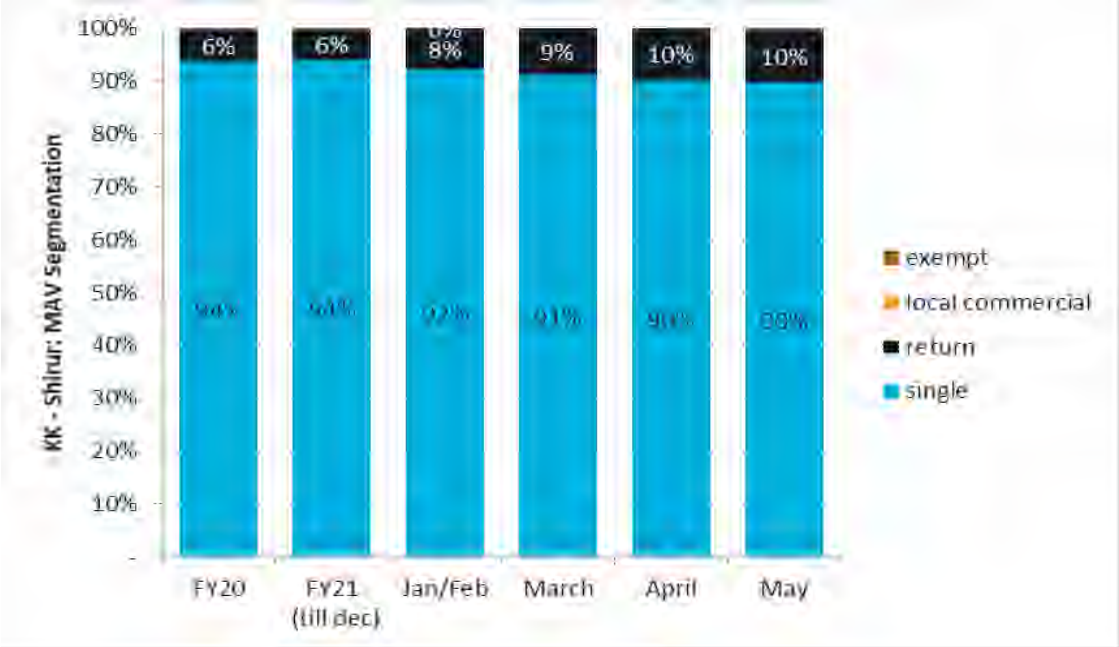
Source: Steer analysis of the Client data

3.21 The single tickets increased form 40% in FY20 to 62-65% during FY21 while return shares increased starting March 2021. This shift can be attributed to gradual implementation of FASTag norms from 2019. The FASTag implementation ensured that only valid users benefited from discounts for return trips undertaken in 24 hours. Only single tickets were sold against cash payments thereby forcing non-FASTag users to buy only single tickets. As FASTag implementation was achieved in February FY21, the CJV vehicles had no other option than buying single tickets in order to use the Asset. March FY21 onwards single trips have decease with subsequent increase in return trips with increase FASTag compliance.

3.22 The CJVs have seen almost 10% traffic contributing to exemptions. This is primarily due to the ongoing construction activity on the asset and the resistance of local users to pay tolls due to reduced LOS as a result of the construction activity.

3.23 CJV exemptions grew from 10% to 16% from FY21 to May which can be attributed to the fact that the Asset saw a drop in long-distance traffic because of Covid19 related lockdowns as well as state border closure of Goa and Karnataka and hence, mostly local traffic was plying on the Asset. Generally, the local movement results in multiple CJV trips though the plaza. Due to these multiple trips, users do not pay every time they cross the plaza. Hence, the level of exemptions is influenced by local factors and got increased with increase in the share of local traffic on the Asset.

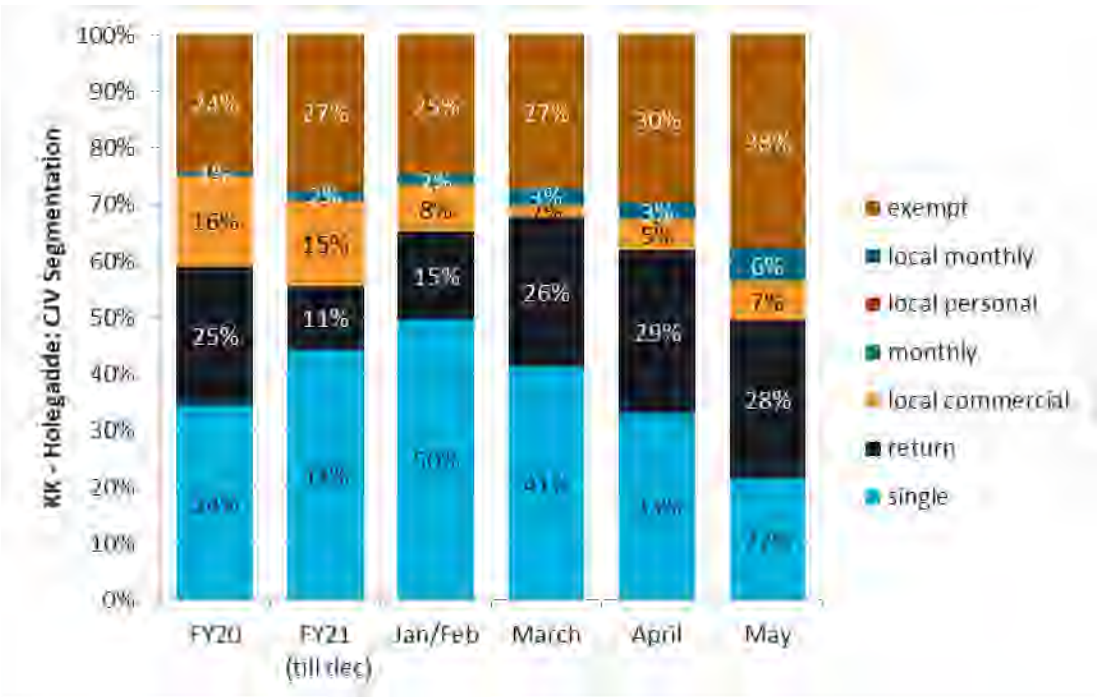
Figure 3.9 MAV toll segmentation for KK - Shirur



Source: Steer analysis of the Client data

3.24 MAVs are observed to have high share of single tickets which is aligned to observation of MAVs doing medium to Long distance trips on the asset. There is only miniscule level of exemptions reported in MAVs. A slight increase of 4% in Return tickets from FY20 to May 2022 is due to implementation of FASTag, allowing trucks to avail return-journey discounts.

Figure 3.10 CJV toll segmentation at KK - Holegadde



Source: Steer analysis of the Client data

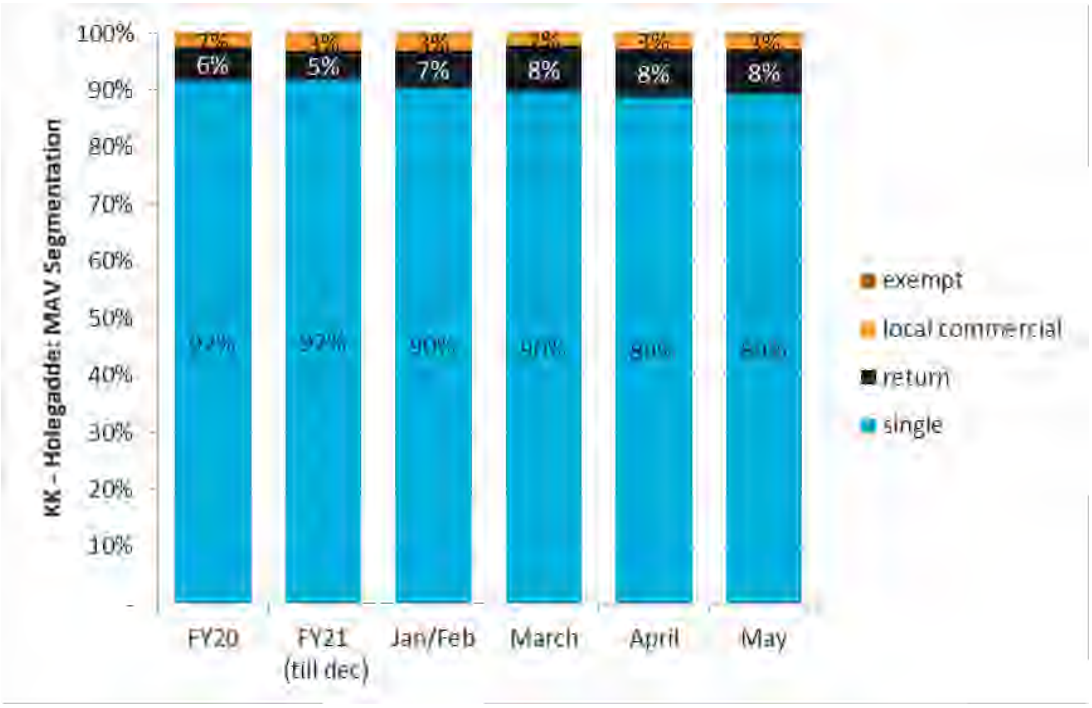
3.25 At Holegadde TP, 34% of the CJVs bought Single tickets in FY20 while 25% of the CJVs bought Return tickets. The return shares started to increase after February 2020 with Single journeys decreasing owing to the gradual implementation of FASTag norms from 2019.

3.26 CJV exemptions grew from ~25% in FY21 to 38% in April. The high exemption shares as compared to Shirur is due to Holegadde's local nature as the plaza is in close vicinity of urban centre of Bhatkal and religious centre of Murdeshwar. Moreover, Asset saw a drop in long-distance traffic because of Covid19 related lockdowns as well as state border closure of Goa and Karnataka and hence, mostly local traffic was plying on the Asset. Generally, the local movement results in multiple CJV trips though the plaza. Due to these multiple trips, users do not pay every time they cross the plaza. Hence, the level of exemptions is influenced by local factors and got increased with increase in the share of local traffic on the Asset.

3.27 As discussed above the high levels of exemptions in the CJV category are expected to reduce with gradual increase in FASTag use resulting in behavioural shift towards paying tolls and improved toll collection once asset construction completes.

3.28 It should be noted that CJVs are not the key driver of revenue at the Asset and hence, high shares of exemptions cause relatively lower loss in revenue.

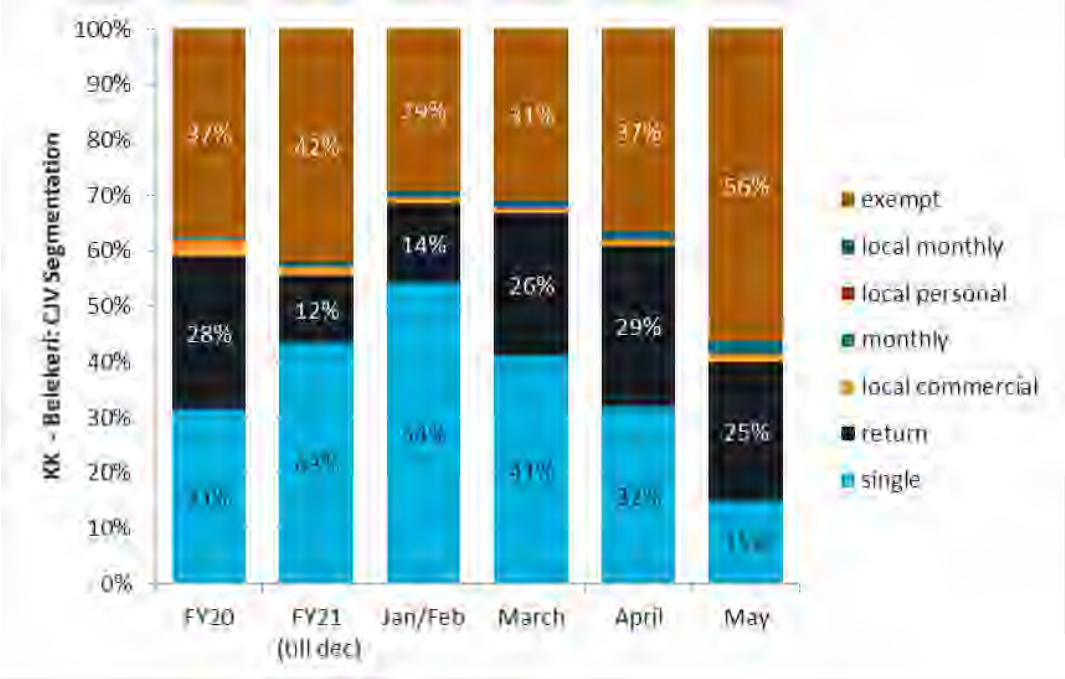
Figure 3.11 MAV toll segmentation at KK - Holegadde



Source: Steer analysis of the Client data

3.29 The proportion of Single tickets at Holegadde remained stable over the years with MAVs doing medium to long distance trips. The Return tickets increase slightly in May 2022 as FASTag users benefitting from automatic journey discounts for returns trips made within 24 hours.

Figure 3.12 CJV toll segmentation at KK - Belekeri



Source: Steer analysis of the Client data

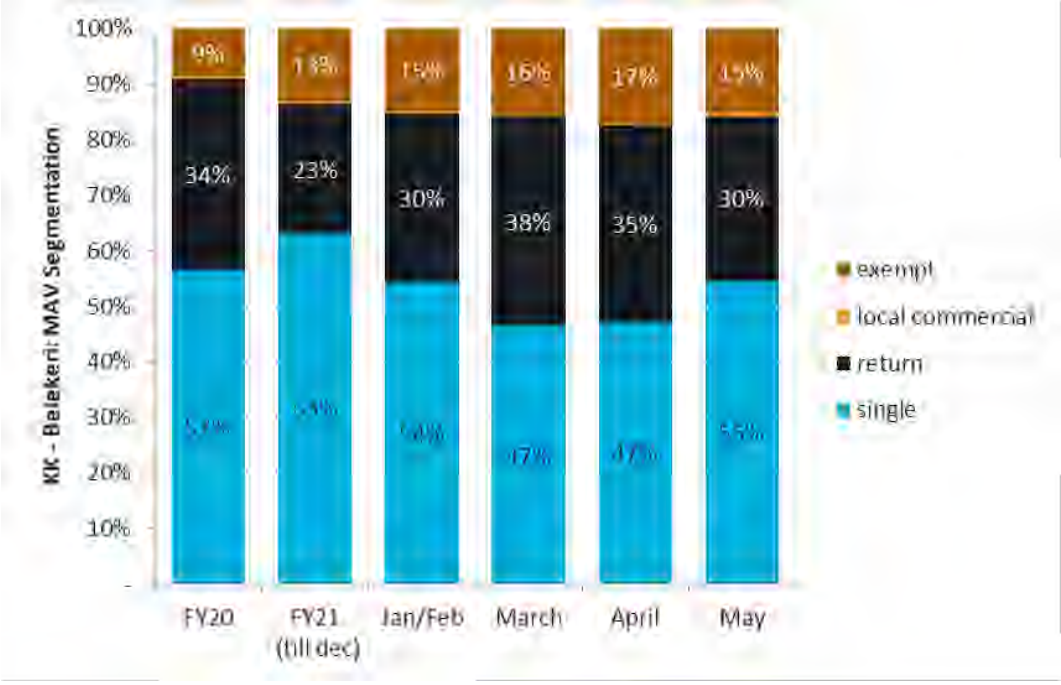
3.30 Belekeri TP, being closest to the naval base, observed the highest number of exemptions. Like the trends observed at Shirur and Holegadde, the proportion of Single tickets increased as the FASTag norms got stricter in FY21 with curbs in Return journey discounts in case of cash payments. The increase in Single journey tickets was observed till January. Post the 100% FASTag implementation mandate in February 2022, the proportion of Return journey tickets started increasing as the penetration of FASTag among CJV users increased.

3.31 The travel behaviour of MAVs differs on Belekeri TP as compared to Shirur and Holgadde TPs. MAVs, carrying commodities from the Mangalore port and travelling north, cross Holegadde and Shirur TPs in order to take NH52 to reach Dharwad from where they travel towards their destination. These MAVs traverse long distances per trip and do not tend to buy return tickets. These MAVs do not appear at Belekeri TP, this plaza primarily caters to the demand of the local industries and hence, sees an increased proportion of Return tickets as compared to other plazas. High shares of exemptions are also observed at this plaza due to the presence of naval base nearby.

3.32 Similar to CJVs, the proportion of Single tickets increased as the FASTag norms got stricter in FY21 with curbs in Return journey discounts in case of cash payments. Post the 100% FASTag implementation mandate in February 2022, the proportion of Return journey tickets started increasing as the penetration of FASTag among MAV users increased.

3.33 The CJVs have seen almost 56% traffic contributing to exemptions due to ongoing construction activity on the asset and its proximity to naval base resulting in high share of exempted trips. These exemptions are expected to go down once the asset completes construction. Further, FASTag implementation will ensure only genuine naval vehicles get exemption tags while remaining traffic either buys regular tickets or shift to monthly passes in case of frequent trips. Moreover, the high exemption shares as compared to other plazas is due to Belekeri's local nature as the plaza is in close vicinity of urban centre of Karwar as well as Goa.

Figure 3.13 MAV toll segmentation: KK - Belekeri

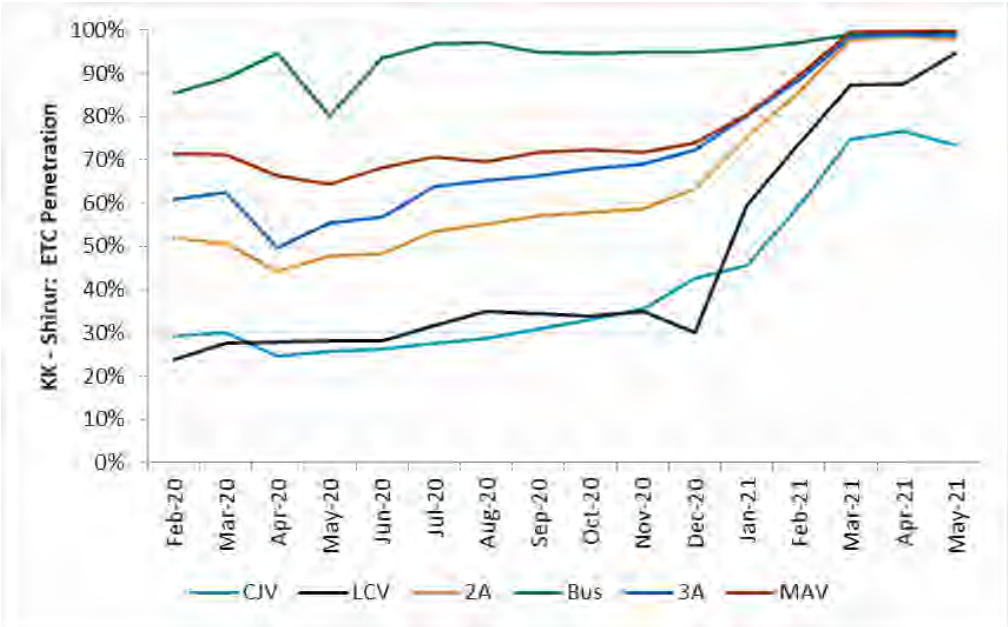


Source: Steer analysis of the Client data

Impact of FASTag implementation

3.34 As discussed earlier, FY20-21 saw an increased use of FASTag. The increase FASTag ensured efficient tolling operations as well as increased compliance. In May 2021, ETC penetration was over 70% across vehicle categories at the Shirur and Holegadde plazas and reaching 95% for 3A/MAVs. However, at the Belekeri plaza we observe ETC penetration to be slightly lower as compared to the other two plazas. We expect this penetration to further increase post construction and given the recent government mandate to 100% tolling via FASTag. The figure below illustrates the Transactions via ETC at all the plazas.

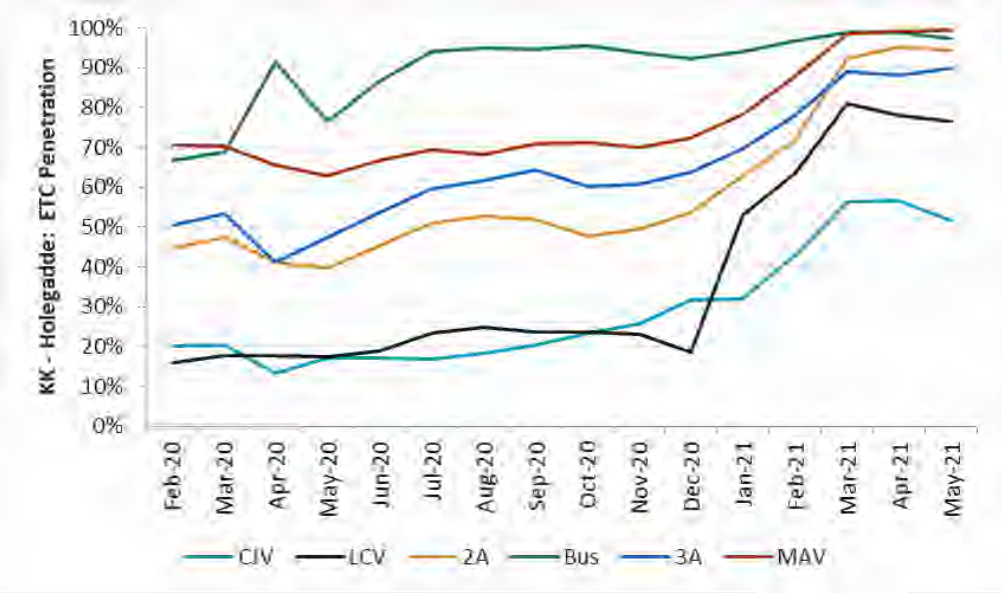
Figure 3.14 %age of Transactions via ETC/FastTag at KK- Shirur



Source: Steer analysis of the Client data

3.35 Shirur and Holegadde observe similar ETC share of transactions as the nature of traffic is comparable on these plazas. Both of these plazas cater to long-distance traffic majorly plying between the northern states and Mangalore Port/Kerala/Southern states. Generally, trucks traveling for long distances have higher ETC penetration levels as FASTag permits seamless and time-efficient travel.

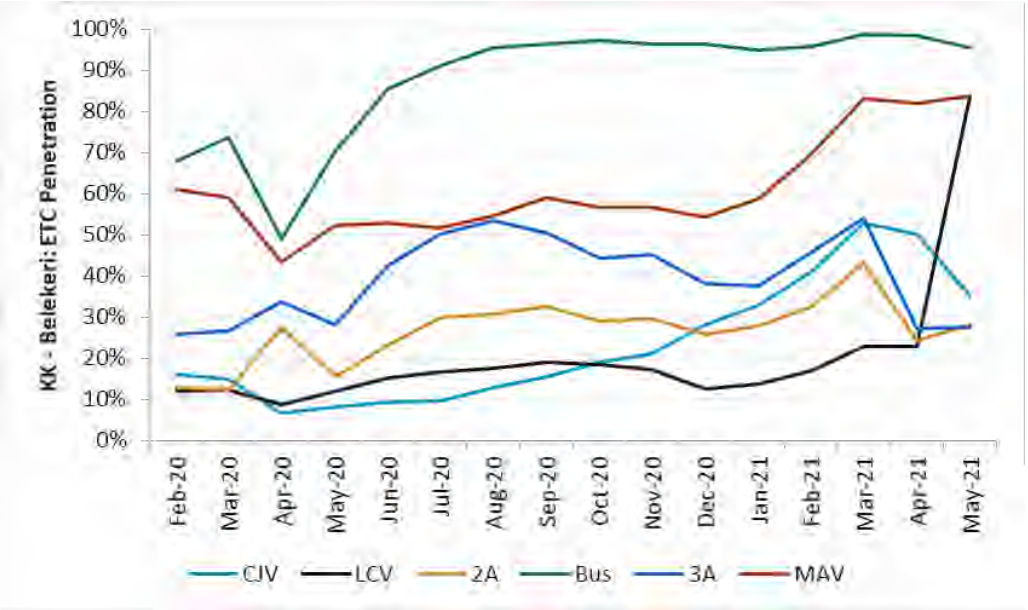
Figure 3.15 %age of Transactions via ETC/FastTag at KK- Holegadde



Source: Steer analysis of the Client data

3.36 Belekeri acts differently that the other two plazas as it caters to short/medium distance movement between Goa/Karwar and Mangalore Port/Kerala or between the local zones of the Asset. The same is the reason for low share of ETC transactions across all vehicle categories as the local users try to save on tolls by crossing the plaza as exemptions. Hence, lower share of ETC transactions can be directly proportioned to the high share of exemptions as discussed in the above sections.

Figure 3.16 %age of Transactions via ETC/FastTag at KK Belekeri



Source: Steer analysis of the Client data

3.37 CJVs and LCVs observed a dip in ETC shares of transaction in May 2021 across all the plazas. As discussed above, this is due to the fact that the Asset saw a drop in long-distance traffic because of Covid19 related lockdowns and hence, mostly local traffic was plying on the Asset. Generally, the local movement results in multiple CJV/LCV trips though the plaza. In order to save on tolls, these CJV/LCVs do not have FASTags installed as they cross the plaza as exemptions. The same is the reason for high exemption shares in May 2021 across these plazas as discussed in the above sections.

3.38 It is expected that as regional lockdowns are lifted and the travel curbs are relaxed, the long-distance movement traffic will once again appear at the Asset leading to better shares of ETC transaction levels and lowered exemptions.

Data Collection exercise

3.39 As mentioned previously, in order to validate and inform various inputs used in our forecasting, we undertook primary data collection on the Asset, comprising the surveys listed in the table below. OD surveys, TVC surveys were commissioned by Steer. OD data collection typically involves manual data entry by enumerators based on oral surveys with road users crossing toll plazas, which Steer also commissioned with a third party. TVC data collection involves video-graphic capture of traffic passing crossing the toll plazas, followed by manual counting.

Table 3.9: Data collection schedule

Toll Plaza	7-day videography-based TVC			1-day OD survey	
	Start date	**End date**	**Time (hrs)**	**Start date**	**End Date**
Shirur	28 June 2021	04 July 2021	0000 -2359	01 July 2021	02 July 2021
Holegadde	28 June 2021	04 July 2021	0000 -2359	30 June 2021	01 July 2021
Belekeri	28 June 2021	04 July 2021	0000 -2359	28 June 2021	29 June 2021

Source: Steer

3.40 It should be noted that, in our experience, traffic on national highways shows variation across the week due to the economic activities surrounding each road. To derive a representative TVC count considering daily variation, three-day to seven-day traffic counts are generally recommended, and hence, in order to fully understand the impact of this weekly fluctuation on the Asset, we collected seven-day counts at each toll plaza.

Key findings of the TVC data analysis

WADT estimates

3.41 Taking a simple average of the seven-day TVC counts, we obtained the following weekly average daily traffic (WADT) for each toll plaza. This WADT excludes non-tollable vehicle such as tractors, two-wheelers, bullock-carts, etc., but includes officially exempt vehicles such as police cars, ambulances, emergency response vehicle, government vehicle and other vehicle types officially allowed as 'exempted' under the concession agreement.

3.42 The TVC data is directly used for base year AADT and splits between vehicle types, in cases where TMS is not available. In cases where TMS is the main source of historical data, just like our Asset, the TVC data is used to validate TMS data and estimate the unreported violations.

3.43 Additionally, TVC counts are also used to identify traffic on alternates, feeders, and diversions as well as study the daily and hourly variation on the Asset.

3.44 During the site visits, our team makes sure that the cameras are located at a location where complete tollable traffic is captured. Additionally, emphasis is laid on positioning camera at such a location that the traffic from local leakages or bypass is also captured, if any.

3.45 In order to check the reliance of the TVC data, several checks are applied before using it in our analysis. Directional counts are verified by matching the sum of both the directions with the total counts.

Figure 3.17: TVC camera installed at the Asset

Table 3.10: WADT at Asset

Toll Plaza	CJV	Mini LCV	LCV	Bus	2 Axle	3 Axle	MAV	Total
Shirur	2,602	465	352	218	544	345	792	5,318
Holegadde	2,991	610	514	267	422	254	848	5,905

Toll Plaza	CJV	Mini LCV	LCV	Bus	2 Axle	3 Axle	MAV	Total
Belekeri	2,058	467	290	195	236	156	409	3,811

Source: Steer analysis of TVC data

TVC (Total Volume Count) v/s TMS (Traffic Management System) v/s Schedule-N

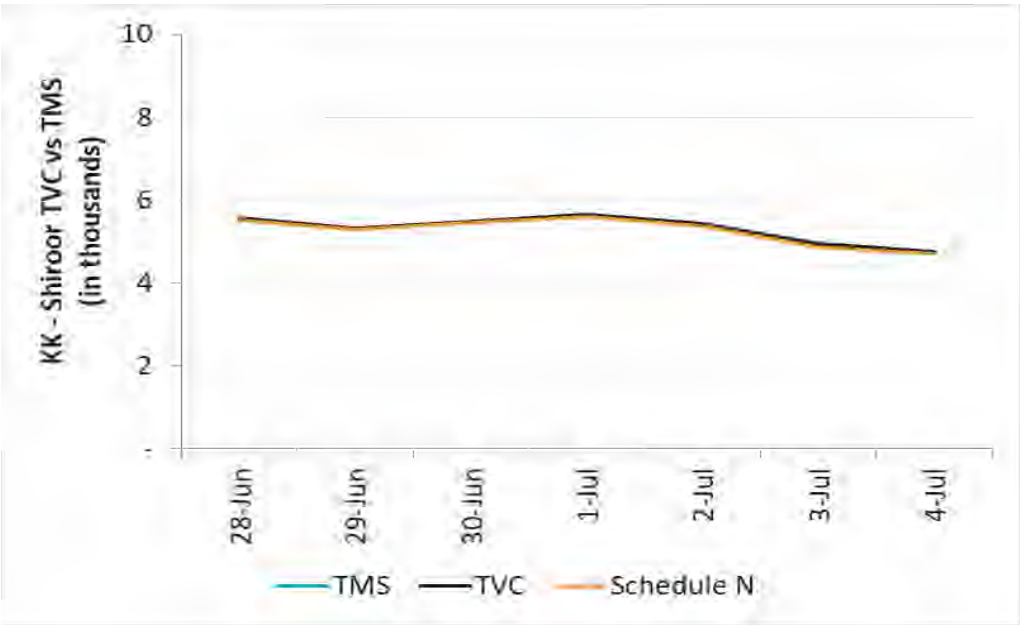
3.46 The below analysis compares the three sources of data :

- Independent 7-day video-based counts (TVC)
- Toll Plaza data (TMS)
- Schedule N (reported to NHAI by Client on a weekly basis)

3.47 This analysis is undertaken to verify independently the data being reported by toll plaza. Its is a key step in our analysis to validate the traffic that the toll plaza is recording and its accuracy. Since the onset of FASTtag there have been classification issues within the TMS due to nature of the tag issued to various vehicle types, hence Schedule-N data is also being used to validate the reporting of the data by the respective toll plaza.

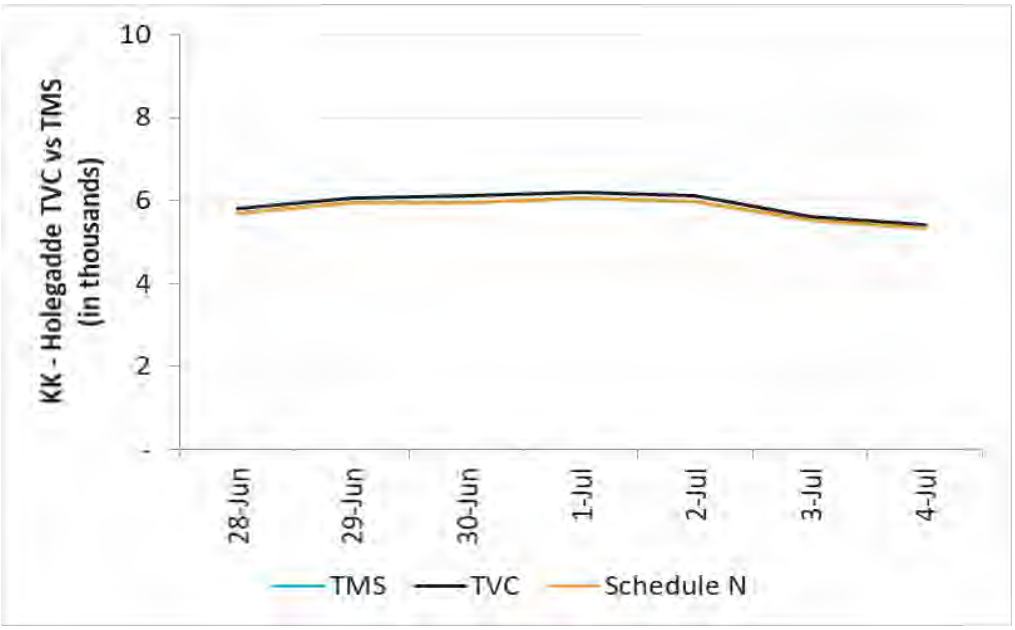
3.48 The following figures show the comparison between the daily traffic observed by TVC and TMS for the toll plazas.

Figure 3.18 TVC vs TMS: KK - Shirur



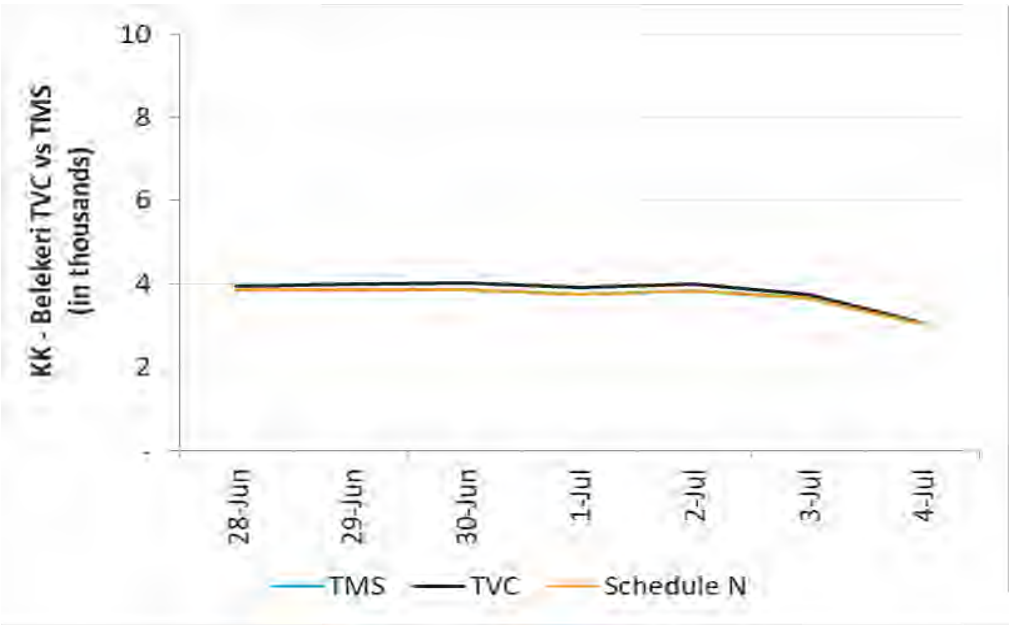
Source: Steer analysis of TVC, TMS and Schedule-N data

Figure 3.19 TVC vs TMS - Holegadde



Source: Steer analysis of TVC, TMS and Schedule-N data

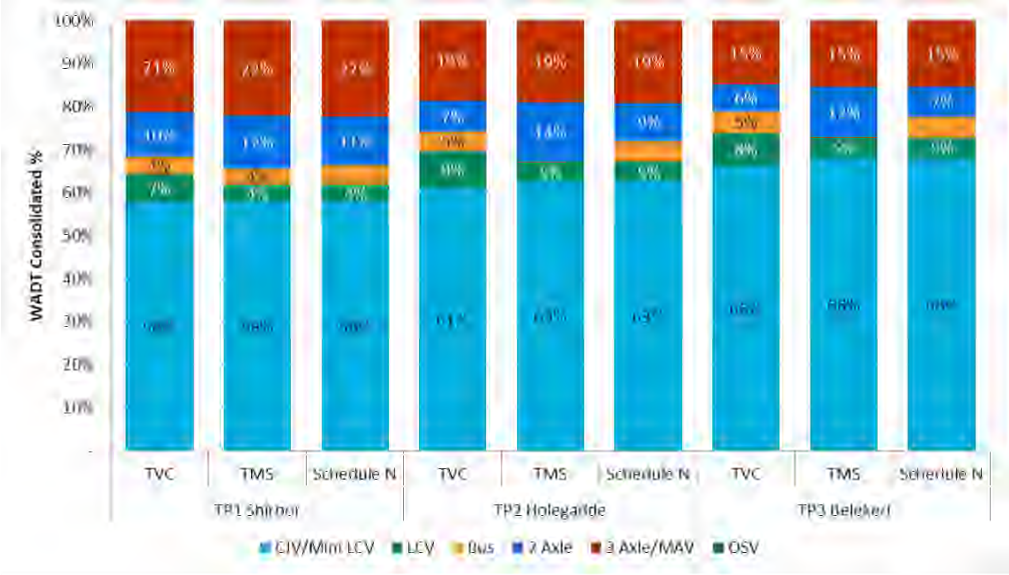
Figure 3.20 TVC vs TMS - Belekeri



Source: Steer analysis of TVC, TMS and Schedule-N data

3.49 The figure below compares the vehicle wise shares as recorded by TVC, TMS, and Schedule-N.

Figure 3.21 Vehicle share comparison: Kundapur - Karwar section



Source: Steer analysis of TVC, TMS and Schedule-N data

3.50 WADT TVC is ~2% higher than TMS for all the toll plazas. The number of CJV and 3A+MAV counted across the three data sources are consistent. However, there are visible variations observed between the 2A, Bus, and LCV category. As discussed, the 2A and Bus category is tolled together. Further, the LCV and 2A category are visually very similar and thereby resulting in misclassification with one category being counted in another. For most LCV's and 2A trucks the only way to classify them correctly is by verifying the tonnage allowed for these vehicles to carry. With the implementation of FASTag and high level of FASTag penetration for this category the systems are now reporting the true vehicle types as they are registered. Therefore, since the total 2A+Bus+LCV volumes match between Schedule-N and TVC, Schedule-N splits are considered reasonable.

3.51 Considering the smaller variation between the TVC and TMS data for the largest revenue generators-CJV and 3A+MAVs, and an overall good fit in the traffic volumes, TVC-TMS analysis gives us the confidence that the base year traffic calculated using the Client data forms a reliable base year traffic estimate.

Key findings of origin-destination analysis

Overview

3.52 OD surveys were conducted using roadside interviews for 24 hours at each toll location, typically starting at 8 AM and finishing at same time on the following day. Each toll lane had an interviewer filling OD records and a supervisor monitoring them to minimise errors in data collected.

3.53 A total of 11,138 samples were collected on the Asset which involved segregation of data into vehicle types, origin area, origin zone, destination area, destination zones, commodity being carried, total load, and frequency of travel. The zones were further segmented into Internal, Rest of State, and External zones. The zones were also used to calculate the trip distances of the traffic plying on the Asset.

3.54 Before using the data for final analysis, the data is first cleaned, and numerous checks are applied. Some of these checks include verifying that the zones are physically apart as well as these zones are located within a reasonable distance and boundary. Reliability checks are also used which confirms that the sample rates are 30-50% for passenger and 50-70% for goods. Sanity checks includes verifying the meaningfulness of origins' and destinations' directions as well as establishing that the share of empty vehicles is in line with the site visit observations (not more than 50% in any case). The final check includes matching the OD numbers with the TVC counts of the particular day and substantiating that the OD numbers aren't greater than the TVC counts.

3.55 Origin-destination (OD) analysis enables the understanding of the nature of traffic movement on the Asset. We have analysed the regional drivers of demand based on the following analysis:

- Zonal influence
- Commodity distribution
- Top OD pairs
- Trip length distribution

3.56 While zonal analysis and the list of top OD pairs help to understand 'where' people and goods travel, commodity distribution sheds light on 'what' goods get transported on this asset. Trip length distribution shows 'how far' vehicles and people travel, and goods get transported. This set of analysis is used to estimate key drivers of traffic and aid in making informed forecasting assumptions related to traffic demand elasticities, growth drivers and exogenous impacts.

Sample rates

3.57 Sample rates help understand the reliability of OD data. They are calculated by dividing OD samples by the TVC count observed on the same date for each vehicle category at the toll plaza. The table below presents the sample rates for key vehicle type aggregations at the toll plaza. We believe that the sample rates of the OD data are reasonable for the analysis required.

Table 3.11: Sample rates for OD data

Vehicle type	Shirur	Holegadde	Belekeri
CJV	51%	49%	61%
MLCV	46%	59%	56%
LCV	52%	58%	64%
2A	91%	69%	66%
3A	91%	61%	71%
MAV	93%	98%	79%

Source: Steer analysis of OD data

Zone Categories

3.58 To facilitate better interpretation of key regional drivers of traffic as determined by their OD zones, and influenced by various towns, cities, states, and regions in the vicinity of the Asset, we have aggregated zonal data as described in the table below. The methodology behind this aggregation of zones may vary as per the characteristics displayed by the different Assets being studied.

Table 3.12: Zone aggregations for zonal influence analysis

Aggregate Zone	Description
Local	Local zones are those that fall on or very close to the Asset.
IAOI	IAOI zones are the locations which generate traffic and lie within approximately 75-150 km distance from the Asset.
Rest of State	Rest of the cities/Districts in the state that Asset lies in (other than Local/IAOI)
Madhya Pradesh	Madhya Pradesh
Karnataka	Karnataka
North India	Uttarakhand, Haryana, Punjab, Jammu and Kashmir, Delhi NCT
South India	Andhra Pradesh, Kerala, Tamil Nadu, Telangana
East India	Arunachal Pradesh, Assam, Bihar, Jharkhand, Manipur, Meghalaya, Mizoram, Nagaland, Odisha, Tripura, Sikkim, Chhattisgarh
West India	Gujarat, Rajasthan
Outside India	Nepal, Bangladesh, Bhutan

Source: Steer analysis

Zonal influence

3.59 The zonal influence is the contribution of the zone or the zonal aggregation to trips by a vehicle type. This section presents the zonal influence[1] at the toll plaza for the Asset, based on zonal aggregation listed in the previous sub-section. it should be noted that zonal influence is analysed on trip ends and not trips.

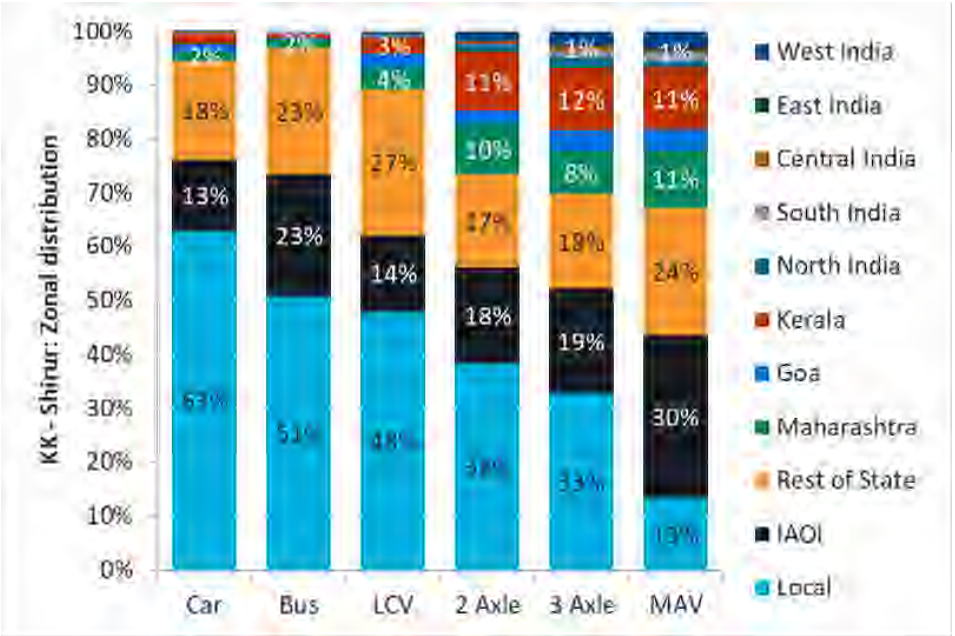
3.60 The traffic generated within the state (Local+ IAOI+ Rest of State) contributes more than 80% in the CJV and LCV category at all the plazas, reducing to 65% in the 3A and MAV categories, signifying a larger contribution by the long-distance goods traffic. A large proportion of LCV's and 2A's have shorter trip lengths as they fulfil the local demand generated by the cities of Kundapur, Karwar, Kumta, Bhatkal etc.

3.61 At Belekeri TP, the zonal influence of Goa is considerable across all categories. For 3A/MAVs, the zonal influence of Goa is ~28% at Belekeri as compared to ~5% influence on Shirur and Holegadde plazas. This is due to Belekeri being situated nearest to Goa when compared with other plazas.

3.62 An appreciable zonal influence of Kerala, Maharashtra, North India is present on Shirur and Holegadde plazas. This is because the trucks travelling from Maharashtra and north and moving towards Mangalore port and south travel via NH48 meet the NH66 via Dharwad-Dandeli route at Ankola using NH52. This route bypasses Belekeri plaza and hence, the trucks completing north-south movement show up at Shirur and Holegadde leading to higher zonal influence of other states on these plazas as compared to Belekeri. This observation also validates our reasoning behind lower truck numbers on Belekeri plaza as found in the historical TMS data as discussed in Chapter 3.

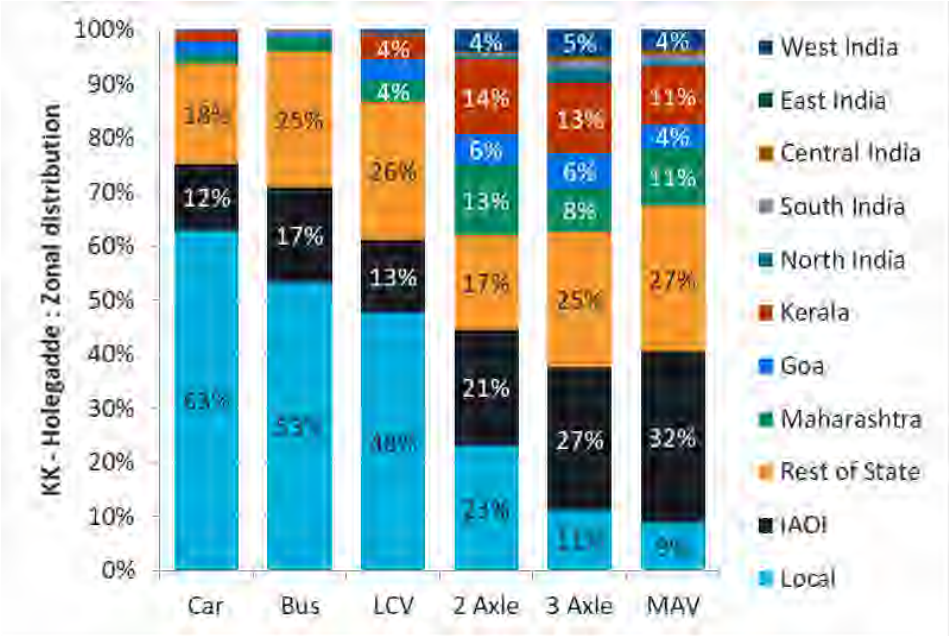
[1] For example, if out of 100 trips at a toll plaza on an Asset, 10 trips are between Hyderabad and Delhi and 90 trips are between Hyderabad and Chennai, then zonal influence of Hyderabad would be 50% since one end of all trips are at Hyderabad. Likewise, zonal influence of Delhi and Chennai would be 5% and 45%, respectively.

Figure 3.22 Zonal distribution: KK - Shirur



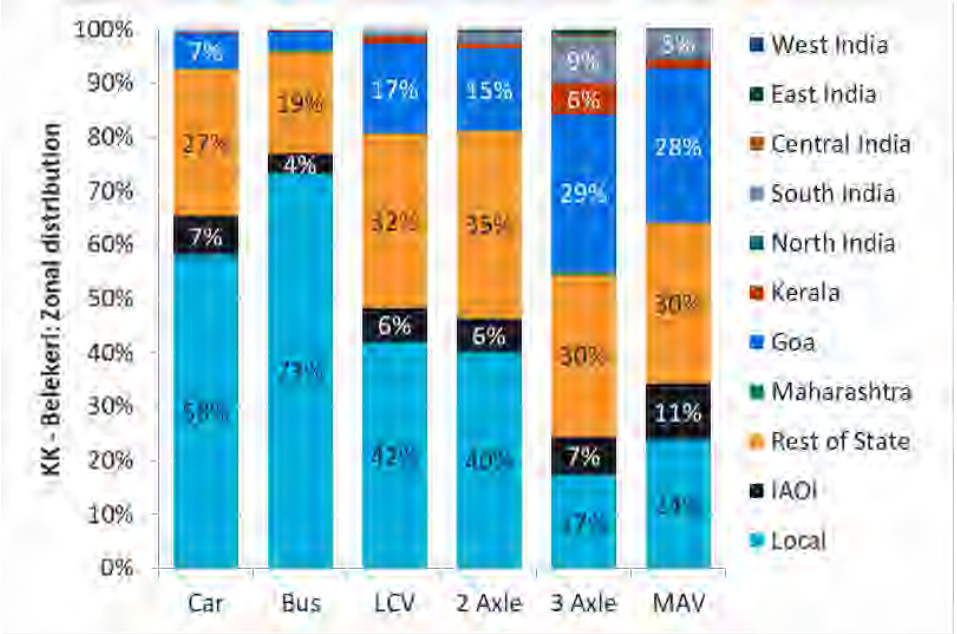
Source: Steer analysis

Figure 3.23 Zonal distribution: KK - Holegadde



Source: Steer analysis

Figure 3.24 Zonal distribution: KK - Belekeri



Source: Steer analysis

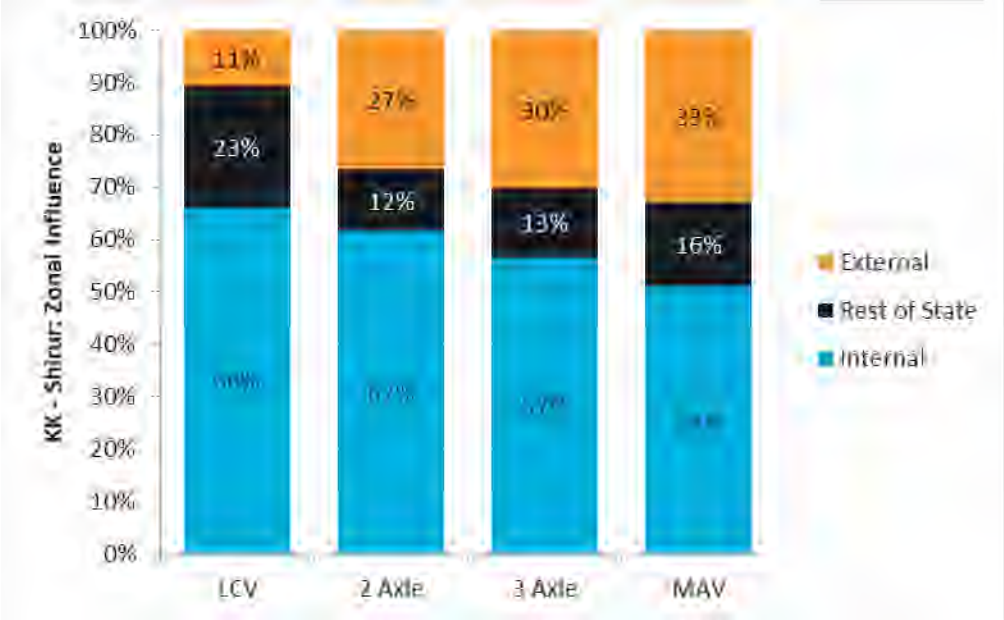
Internal External analysis

3.63 Internal-External analysis helps in identifying the trips which have both an origin and destination on or near the Asset i.e., local/IAOI zones (Internal-Internal or I-I), any one end on the Asset (Internal-External or I-E), or neither end on the Asset i.e., through trips (External-External or E-E). RoS here represents areas within the state which are neither local nor IAOI. 'Internal' zones are those that were analysed as 'local' and 'IAOI' in the zonal influence analysis, i.e., lying on the Asset, while 'External' zones are areas lying outside the state.

3.64 Shirur and Holegadde follow a relatively similar I-E pattern. The Internal trips are generally made between Kundapur, Bhatkal, Mangalore, Karwar, Udupi in order to meet the local demands as well as to maintain supply chain of the nearby industrial centres. The Rest of State trips are generally medium-distance trips between Shirur, Kollur, Bangalore, Belgaum, Hasan done by trucks carrying manufactured goods, construction material, groceries, couriers, and parcels to meet the state-centric demands of Karnataka.

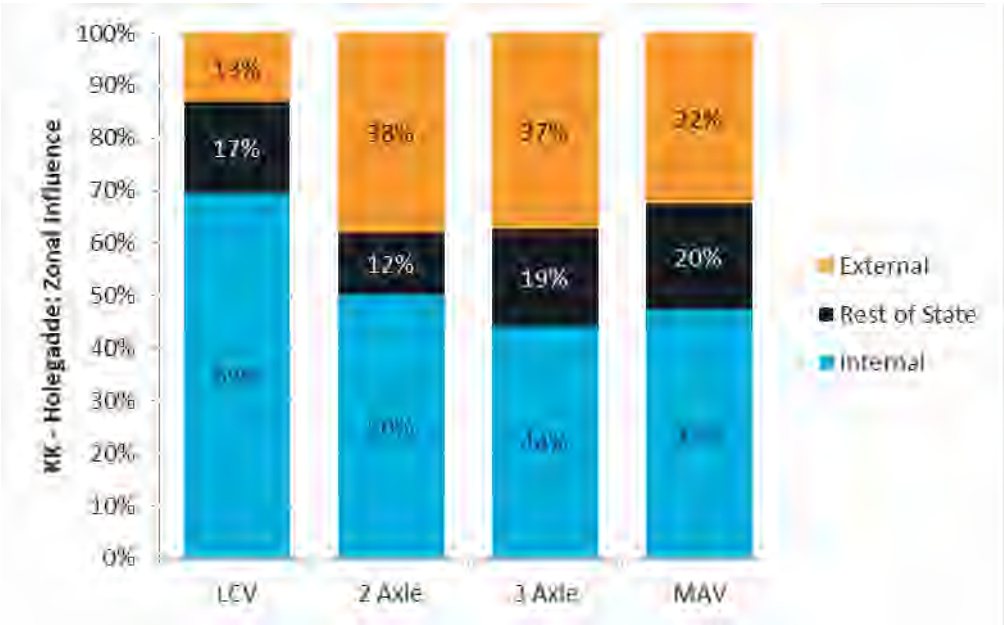
3.65 The External trips are the long-distance trips plying between Maharashtra, Rajasthan, northern states and Kerala, Tamil Nadu and other southern trips. This is the through traffic on the Asset plying to meet the demands of the country. As observed in the chart below, LCVs have the lowest External share of ~15% as compared to ~35% share in MAVs. This trend substantiates the fact LCVs are more local in nature and the strategic nature of trucks increases with increase in the number of axles.

Figure 3.25 Zonal influence: KK - Shirur



Source: Steer analysis

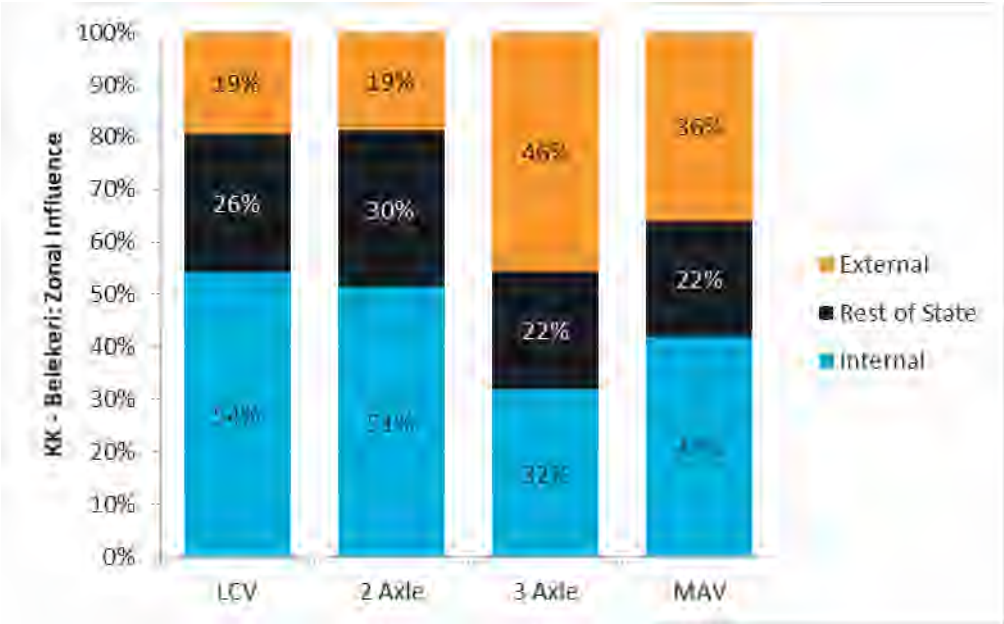
Figure 3.26 Zonal influence: KK - Holegadde



Source: Steer analysis

3.66 Belekeri differs from Shirur and Holegadde as the long-distance External trips appearing at this plaza are between Goa and the southern states. The trips from Maharashtra and northern states appear at the other two plazas taking NH52 in order to reach NH48 diverting before Belekeri.

Figure 3.27 Zonal influence: KK - Belekeri



Source: Steer analysis

Commodity distribution

3.67 We have grouped various commodities into aggregate categories for ease of interpretation, as shown in the table below. The charts in the following sub-section present information in terms of aggregate commodity categories.

Table 3.13: Aggregate commodity categories

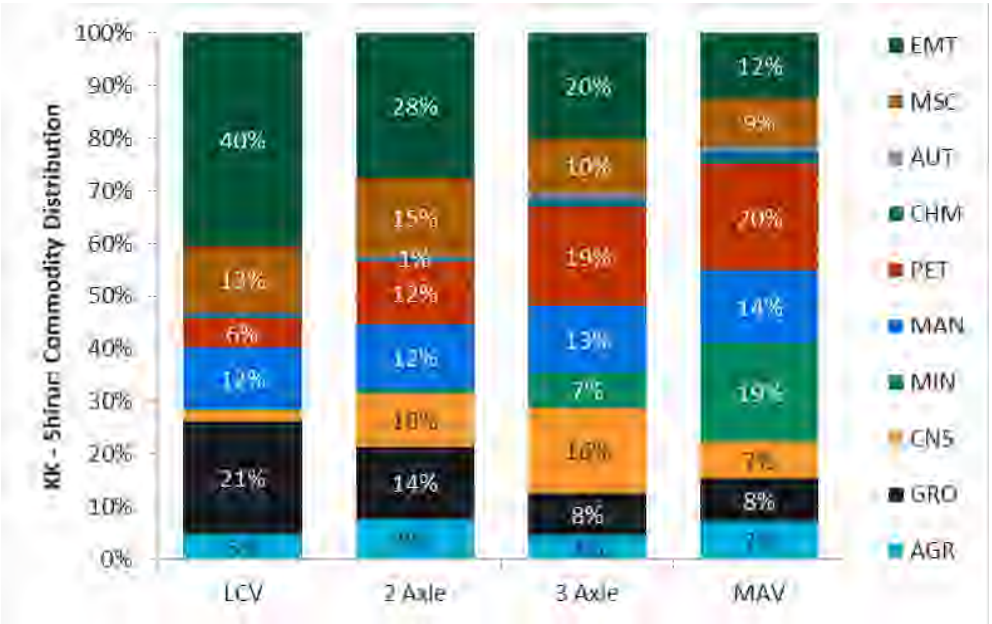
Commodity Description	Code	Combined codes used for charts
Agricultural Products / Cash crops (Wheat, Rice, Sugar cane, Maize etc.)	AGR	AGR
Perishable Items (Fruits, vegetables, milk, meat, fish etc.)	PER	
Cattle Food / Livestock (sheep, goat, cow, cattle food etc)	LIV	
Building Material / Construction (Cement, Lime, Brick etc)	CNS	CNS
Container	CTR	CTR
Empty	EMT	EMT
Groceries / Food items (Soap, Salt, Sugar, Pulses, Spices, Biscuits, bread, cool drinks, beer etc.)	GRO	GRO
Machinery / Spare parts	MAC	MAC
Steel / Metal (Iron, steel etc)	STL	MAN
Chemicals / Fertilizers (Acids, Fertilizers etc.)	CHM	
Manufacturing (Electronic items, Medicine, Leather, Wine, Rubber/ Tyre, Plastics, Cloth, Paper etc.)	MAN	
Automobiles (Finished products)	AUT	
Basic / Fabricated Metals (steel, iron)	MET	
Raw Wood, Cork & Wood Products, Fern	WUD	

Commodity Description	Code	Combined codes used for charts
Mining Minerals (Coal, Gypsum, Cobalt etc.)	MIN	MIN
Miscellaneous (Parcel, Courier, Household items etc.)	MSC	MSC
Passengers	PAS	
Petroleum Products (Oil, LPG, CNG, etc.)	PET	PET
Sand	SND	SND
Stone (Kota stone, marble, Granite, Aggregate stone etc.)	STN	STN
Cement	CMT	CMT

Source: Steer Analysis

3.68 The following figures present the commodity distribution for goods vehicles at the total level and split by direction, towards Kundapur and towards Karwar.

Figure 3.28 Commodity distribution: KK - Shirur



Source: Steer analysis

3.69 LCVs and 2As majorly groceries and miscellaneous goods comprising of parcels and couriers. The groceries are being carried majorly between the Goa-Mangalore route whereas the parcel/courier goods are being transported from the warehouses in Mumbai, New Delhi, Mangalore, Bangalore to the zones along the Asset route as well as the external zones that are being connected by the Asset. Both of these vehicle categories carry 12% manufacturing goods each which is due to the movement of plastic goods from industries in Mangalore/Bangalore moving towards Mumbai.

3.70 If not empty, 3A and MAVs are dominated by Petroleum related commodities which are being carried from Mangalore Port and are transported to various parts in the country. The coal (mineral) being transported from Kerala makes up for 19% of the total commodity share for MAVs. 3A/MAVs carry 13-14% manufacturing goods from industrial centres of Mangalore,

Bangalore, Kerela travelling north. 3As also carry 16% construction goods which is made up of stone being carried from plants in Kundapur, Udupi, Bhatkal for further processing.

Table 3.14: Directiowise commodity distribution - KK Shirur

Karwar to Kundapur				Commodity	Kundapur to Karwar			
LCV	**2 Axle**	**3 Axle**	**MAV**		**LCV**	**2 Axle**	**3 Axle**	**MAV**
6%	11%	7%	10%	Agriculture	3%	4%	2%	5%
18%	11%	10%	12%	Groceries	24%	18%	7%	6%
2%	2%	9%	13%	Construction	3%	21%	23%	3%
0%	1%	-	1%	Mineral	-	1%	13%	30%
12%	12%	14%	16%	Manufacturing	11%	12%	11%	12%
2%	8%	10%	14%	Petroleum	8%	17%	26%	24%
0%	0%	1%	2%	Chemicals	1%	0%	2%	2%
0%	1%	2%	3%	Automobile	0%	-	1%	0%
12%	16%	12%	14%	Miscellaneous	13%	13%	9%	6%
47%	38%	36%	16%	Empty	35%	14%	6%	10%

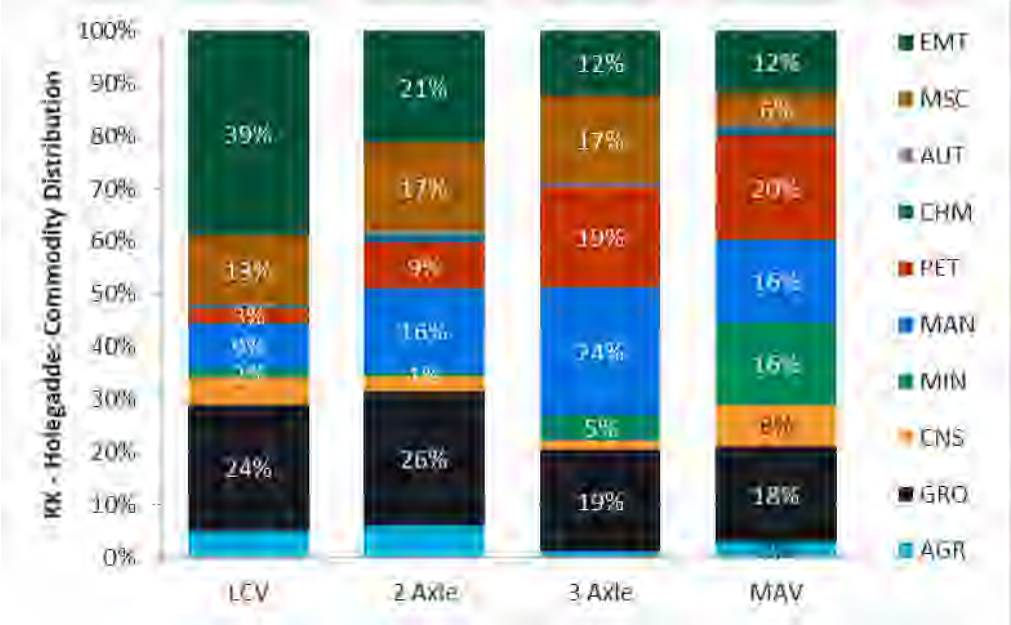
Source: Steer Analysis of OD data

3.71 The directional commodity analysis differs from the total commodity analysis as the share of petroleum and mineral related commodities increases in the direction towards Karwar as majority of the trucks carry these mentioned commodities from Mangalore port to Mumbai, New Delhi, Gujarat, and further northern zones. The share of empty vehicles is higher towards Kundapur as the trucks travel to Mangalore port to get loaded. The share of construction goods is higher for 2A/3As travelling towards Karwar as compared to towards Kundapur as the trucks carry stone from centres in Bhatkal, Kundapur, and Kerala to zones in the north.

3.72 Similar to Shirur TP, at Holegadde TP, LCVs and 2As majorly groceries and miscellaneous goods comprising of parcels and couriers. The groceries are being carried majorly between the Goa-Mangalore route whereas the parcel/courier goods are being transported from the warehouses in Mumbai, New Delhi, Mangalore, Bangalore to the zones along the Asset route as well as the external zones that are being connected by the Asset. Both of these vehicle categories carry 9-16% manufacturing goods which is due to the movement of plastic goods from industries in Mangalore/Bangalore moving towards Mumbai.

3.73 If not empty, MAVs are dominated by Petroleum related commodities which are being carried from Mangalore Port and are transported to various parts in the country. The coal (mineral) being transported from Kerala makes up for 16% of the total commodity share for MAVs. 3A and MAVs carry 24% and 16% manufacturing goods respectively from industrial centres of Mangalore, Bangalore, Kochin, Kerala travelling north. 16% of 3As carry parcels and couriers either from warehouses in Gujarat, New Delhi, Maharashtra travelling south or from warehouses in Karnataka and Kerela travelling north.

Figure 3.29 Commodity distribution: KK - Holegadde



Source: Steer analysis

3.74 The directional commodity analysis differs from the total commodity analysis as the share of petroleum and mineral related commodities increases in the direction towards Karwar as majority of the trucks carry these mentioned commodities from Mangalore port to Mumbai, New Delhi, Gujarat, and further northern zones. The share of empty vehicles is higher towards Kundapur as the trucks travel to Mangalore port to get loaded.

Table 3.15: Directiowise commodity distribution - KK Holegadde

Karwar to Kundapur				Commodity	Kundapur to Karwar			
LCV	**2 Axle**	**3 Axle**	**MAV**		**LCV**	**2 Axle**	**3 Axle**	**MAV**
3%	6%	1%	4%	Agriculture	8%	6%	1%	2%
25%	28%	19%	30%	Groceries	23%	22%	19%	9%
4%	4%	4%	13%	Construction	7%	1%	-	4%
1%	-	-	1%	Mineral	3%	2%	9%	27%
10%	14%	29%	13%	Manufacturing	7%	18%	20%	18%
2%	5%	10%	13%	Petroleum	5%	13%	27%	25%
0%	2%	-	0%	Chemicals	0%	1%	-	2%
1%	2%	1%	1%	Automobile	-	-	-	0%
11%	14%	21%	8%	Miscellaneous	15%	20%	13%	5%
44%	26%	15%	17%	Empty	33%	16%	10%	8%

Source: Steer Analysis of OD data

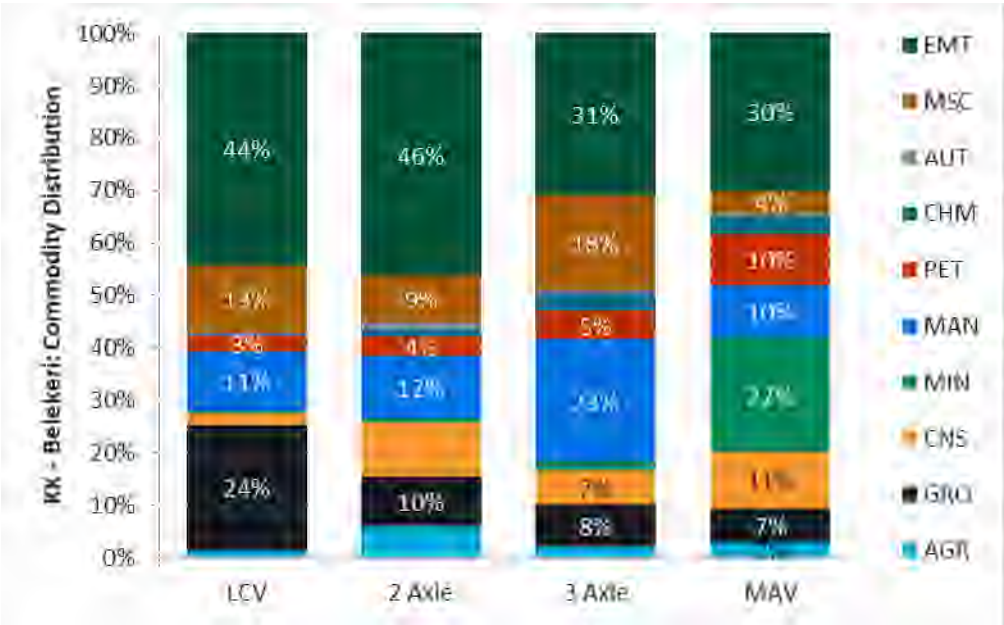
3.75 At Belekeri as well, LCVs and 2As majorly groceries and miscellaneous goods comprising of parcels and couriers. The groceries are being carried majorly between the Goa-Mangalore route whereas the parcel/courier goods are being transported from the warehouses in Goa, Mangalore, Bangalore to the zones along the Asset route as well as the external zones that are

being connected by the Asset. Both vehicle categories carry 11-12% manufacturing goods each which is due to the movement of tyre and related goods from industries in Goa moving towards the southern zones of Mangalore, Hyderabad, Tamil Nadu, and Kerala.

3.76 If not empty, 3A and MAVs carry 5-10% Petroleum related commodities which are being carried from Mangalore Port and are transported to zones towards and beyond Goa. The coal (mineral) being transported from the centres near Goa and Karwar and Manganese from Hospete makes up for 22% of the total commodity share for MAVs. 3A and MAVs carry 23% and 10% manufacturing goods respectively which is, like LCV/2As, majorly due to the movement of tyre and related goods from industries in Goa moving towards the southern zones of Mangalore, Hyderabad, Tamil Nadu, and Kerala. Both 3A and MAVs carry comparable share of construction related goods as Coal tar gets transported from Karwar towards southern zones.

3.77 The directional commodity analysis differs from the total commodity analysis as the share of petroleum increases in the direction towards Karwar as majority of the trucks carry these mentioned commodities from Mangalore port to Goa and further northern zones. The share of empty vehicles is higher towards Kundapur as the trucks travel to Mangalore port to get loaded. The share of mineral commodities is higher for the direction towards Karwar as Manganese gets transported from Hospete to Goa.

Figure 3.30 Commodity distribution: KK - Belekeri



Source: Steer analysis

Table 3.16: Directiowise commodity distribution - KK Belekeri

Karwar to Kundapur				Commodity	Kundapur to Karwar			
LCV	**2 Axle**	**3 Axle**	**MAV**		**LCV**	**2 Axle**	**3 Axle**	**MAV**
-	9%	-	-	Agriculture	3%	3%	4%	5%
16%	3%	11%	6%	Groceries	33%	17%	5%	7%
2%	10%	9%	14%	Construction	2%	11%	4%	9%

Karwar to Kundapur				Commodity	Kundapur to Karwar			
-	2%	1%	9%	Mineral	1%	-	1%	30%
10%	14%	23%	13%	Manufacturing	13%	10%	24%	8%
1%	3%	4%	8%	Petroleum	4%	5%	7%	11%
0%	1%	3%	3%	Chemicals	-	1%	4%	3%
1%	-	-	1%	Automobile	0%	4%	1%	1%
10%	4%	15%	2%	Miscellaneous	16%	14%	22%	6%
60%	55%	35%	44%	Empty	27%	37%	27%	21%

Source: Steer Analysis of OD data

3.78 Belekeri toll plaza has high share of 30-46% empty vehicle on the asset across categories owing to its local demand. Directional variation is observed on Belekeri wherein traffic moving towards Karwar is carrying mix of commodities while returning empty while going towards Kundapur. Karwar's local demand is fulfilled by manufacturing and agricultural produce coming from Kundapur. There is considerable construction related traffic serving naval demand.

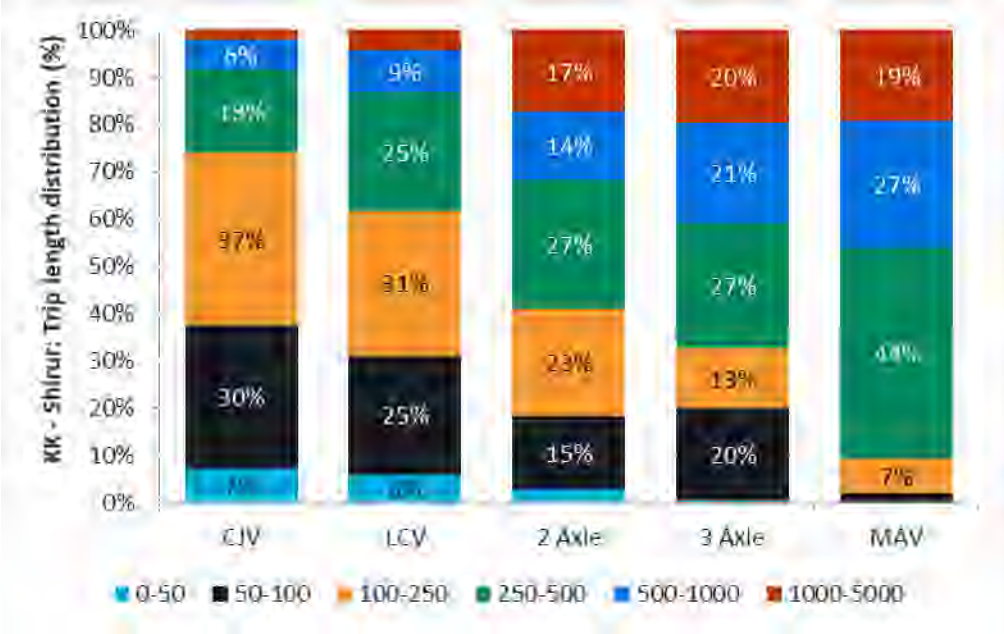
3.79 The directional commodity analysis differs from the total commodity analysis as the share of petroleum and mineral related commodities increases in the direction towards Karwar as majority of the trucks carry these mentioned commodities from Mangalore port to Mumbai, Gujarat, and further northern zones. The share of empty vehicles is higher towards Kundapur as the trucks travel to Mangalore port get loaded. The share of construction goods is higher for 2A/3As travelling towards Karwar as compared to towards Kundapur as the trucks carry stone from centres in Bhatkal, Kundapur, and Kerala to zones in the north.

Trip length analysis

3.80 Trip-length distribution provides the distance-based profile of various vehicle categories. This aids in validating assumptions around the share of macro-economic drivers, inputs from zonal influence and toll segmentation. For ease of interpretation, we have categorised distances into 5 groups – local (0-65km), short-distance (65-300 km), medium-distance (300-500 km), long-distance (500-1000 km) and very-long-distance (+1,000 km). The trip distances were derived as driving distances from Google Distance Matrix Tool based on zonal coordinates for OD pairs.[2]

[2] Google Distance API is a tool that is available on a chargeable basis from Google Maps Platform. Link: https://developers.google.com/maps/documentation/distance-matrix/start. Travel distance and time information for driving/transit under various congestion scenarios can be extracted through this tool by using macro-enabled Excel, R, etc.

Figure 3.31 Trip length distribution: KK - Shirur

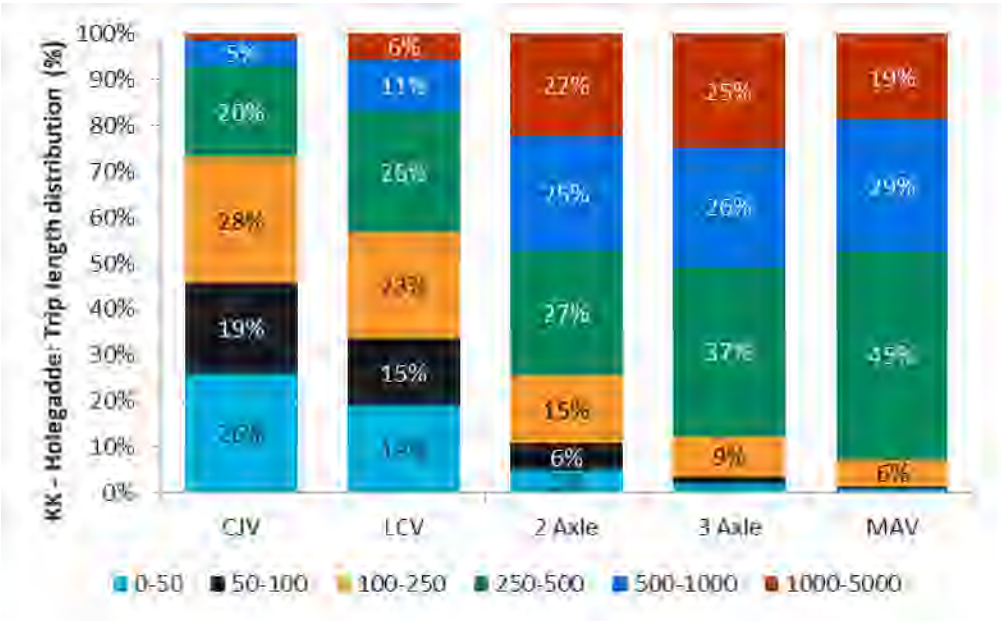


Source: Steer analysis

3.81 Shirur and Holegadde plazas observe a similar trip length distribution. 3A and MAVs are dominated by trips plying distances between 250-500 kms. These trips are majorly between Mangalore port and Goa/Dharwad/Hubli/Belgaum.

3.82 3A/MAVs also observe ~25% trips traversing a distance between 500-1000 kms per trip. These trips are originating from Mangalore Port from where the trucks travel towards Maharashtra using NH48 after diverting from NH52 at Dharwad or towards Andhra Pradesh or Kerala.

Figure 3.32 Trip length distribution: KK - Holegadde

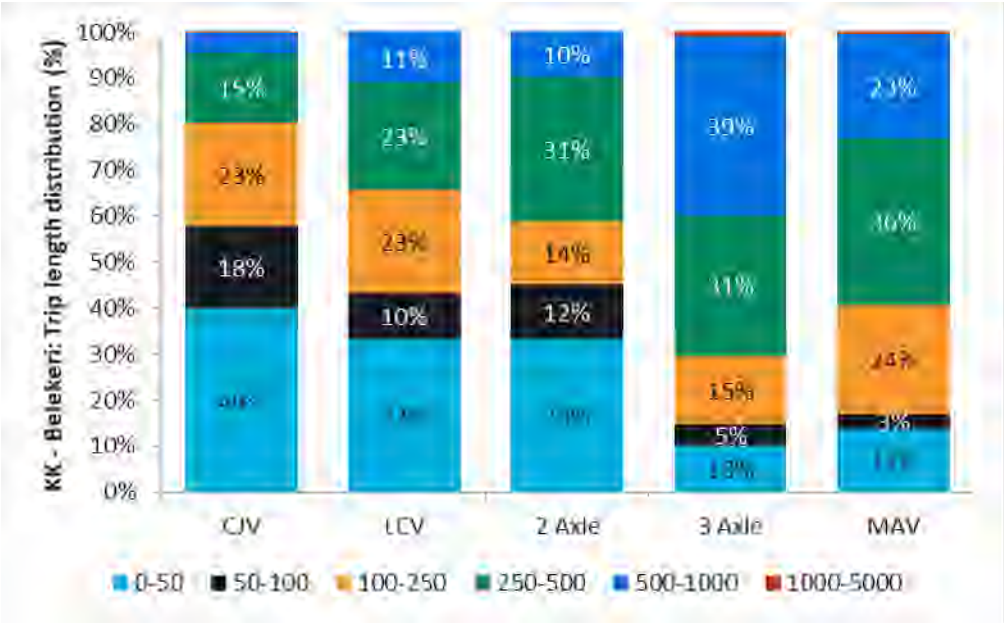


Source: Steer analysis

3.83 2A/3A/MAVs at these plazas also observe ~20% trips traversing distances more than 1000 kms per trips. These trips are originating from Mangalore Port from where the trucks travel towards Delhi NCR, Rajasthan, Gujarat, Uttar Pradesh using NH48 after diverting from NH52 at Dharwad. These trips also ply between the southern zones of Kerala, Andhra Pradesh and the relatively northern zones of Maharashtra, Gujarat, and Delhi NCR.

3.84 The CJVs and LCVs traverse relatively shorter distances contributing to the local movements on the Asset.

Figure 3.33 Trip length distribution: KK - Belekeri



Source: Steer analysis

3.85 Belekeri TP observes a different trip length distribution than Shirur and Belekeri plazas as the maximum trips' traverse distances between 250-1000 kms. The trips traversing distances between 250-500 kms generally ply between Mangalore Port and Goa/Karwar or between the local zones along the Asset.

3.86 The trips traversing distances more than 500 kms ply between the southern zones of Andhra Pradesh, Kerala and Goa.

3.87 The following table states the average trip lengths of traffic plying on the Asset across the three toll plazas.

Table 3.17: Average trip lengths

	CJV	Mini LCV	LCV	2 Axle	3 Axle	MAV
TP1 Shirur	225	207	410	526	609	695
TP2 Holegadde	190	189	441	637	774	680
TP3 Belekeri	147	144	303	233	454	346

Source: Steer analysis of OD data

Conclusions

3.88 In summary, The Asset has started tolling recently, with first full year of tolling in FY21. Even with Covid19 impacting traffic patterns and ongoing construction on the Assets reducing the LOS, each vehicle type has seen positive growth (except 3A, where we believe some Axle shifts are taking place between 3A and MAV) trend as compared to FY20. The base traffic volumes are low, therefore the growth rates are higher, but they do represent the strength of the Asset in terms of the road users.

3.89 Reassuringly, the TVC shows minimal variation on the TMS, especially at the total levels only showing differences of within 2%. These differences are well within the acceptable limits and reinsures the fact that the systems installed on the toll plaza are robust and are correctly capturing the traffic volumes currently appearing on the toll plaza.

3.90 The OD analysis found that in terms of zonal influence, for CJVs all three plazas have high shares of local trips, whereas the highest share is on the Belekeri plaza which is on the Goa/Karnataka border. Trip patterns for goods vehicles are similar on Shirur and Holegadde toll plaza with both the toll plazas being influenced by the Mangalore port. The traffic on Belekeri is more local in nature. Trip lengths as summarised earlier, are higher for Shirur and Holegadde plaza, which further confirms the difference in the traffic profile from the Belekeri plaza.

3.91 The presence of tourism centres across the Asset and at both ends of the Asset adds to the captive nature of the traffic both CJV and goods vehicles which feed into the consumption demand generated by these tourist destinations.

3.92 Shirur and Holegadde follow a relatively similar I-E pattern. The internal trips are mostly catering to local demand. The Rest of State trips are generally medium-distance trips between Shirur, Kollur, Bangalore, Belgaum, Hasan done by trucks carrying manufactured goods, construction material, groceries, couriers, and parcels to meet the state-centric demands of Karnataka.

3.93 The External trips are the long-distance trips plying between Maharashtra, Rajasthan, northern states and Kerala, Tamil Nadu and other southern trips. External share in MAV is almost similar on all the three toll plazas is similar >30-40% however, at Belekeri Goa forms part of the most external trips, while at Shirur and Holegadde the trips are more national and long distance in nature.

4 Socio Economic Context

Introduction

4.1 The growth of traffic on existing (brownfield) roads depends on, firstly, how fast the background travel demand grows (background growth); and secondly, how successful the Asset is in attracting that traffic (traffic capture). Background travel demand is driven by the socio-economic conditions of the region where the Asset is located and conditions on a national scale. These include:

- Changes in factors such as population, economic growth (regional and national) and industrial production; and
- Other local factors such as strategic port growth, and growth in local industries near the Assets.

4.2 In turn, the change in the competitive position of the Asset (and thus of the traffic capture it will achieve) derives from how the service offered and the prices charged on the Asset change in comparison to competing roads; and whether any new competing road facilities are available.

4.3 In this chapter, we assess the socio-economic indicators relevant to traffic growth on the Asset.

Population growth

4.4 The total population in India has grown at a Compound Annual Growth Rate (CAGR) of 1.5% since 2000, decreasing over the years, as shown in the table below. The World Bank forecasts this growth to decrease to 0.6% CAGR by the 2030-45 period.

Table 4.1: CAGR of population in India

Years	CAGR		
	Total Population (m)	Rural Population (m)	Urban Population (m)
1970 - 1985	2.3%	1.9%	3.8%
1985 - 2000	2.0%	1.7%	2.9%
2000 - 2015	1.5%	1.0%	2.6%
2015 – 2030*	1.0%	0.3%	2.3%
2030 – 2045*	0.6%	-0.3%	1.9%

Source: World Bank Data on Health Nutrition and Population Statistics, *forecast population growth

4.5 The Asset lies close to the Goa-Karnataka border and is hence influenced by both these states.

4.6 Karnataka and Goa are both southern western states of India with a population of 61 million and 1.5 million (2011 Census), representing 5.0% and 0.1% respectively of India's total population. The rate of growth of the urban population in Goa and Karnataka has been consistently higher than that of the total population, indicating a trend towards urban

agglomeration. The proportion of urban population in Goa increased from 50% to 62% and 34% to 39% between 2001 and 2011 for Karnataka.

4.7 The following table shows the evolution of population in Goa and Karnataka compared to that of the country.

Table 4.2: Population Growth in India (2001 – 2011)

State	2001 Population (m)			2011 Population (m)			CAGR (2001 – 2011)		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Goa	1.35	0.68	0.67	1.46	0.55	0.91	0.8%	-2.0%	3.0%
Karnataka	52.85	34.88	17.96	61.0	37.4	23.6	1.5%	0.7%	2.8%
India	1,028.7	742.6	286.1	1,210.9	833.7	377.1	1.6%	1.2%	2.8%

Source: Census 2011 Data

Table 4.3: Local Population Growth (2001 – 2011)

Region	2001 Population (m)	2011 Population (m)	CAGR (2001 – 2011)
South Goa	0.58	0.64	1.0%
Coastal Karnataka	4.36	4.70	0.9%

Source: Census 2011 Data
Coastal Karnataka includes district of Udupi, Dakshin and Uttara Kannada

4.8 The growth of the local population, i.e., the southern part of Goa and coastal region of Karnataka, are of more direct relevance to the asset. Both these regions have observed healthy growth in population in the last decade indicating that the asset is expected to continue serving the local needs. However, due to the complexities of the patterns in which urbanisation takes place, and the very dynamic nature of local population migration (which are very difficult to forecast with accuracy), we do not use population growth as a proxy for understanding future travel demand growth on the Asset. It has been included in this section simply to provide a general context of the region in which the Asset is located.

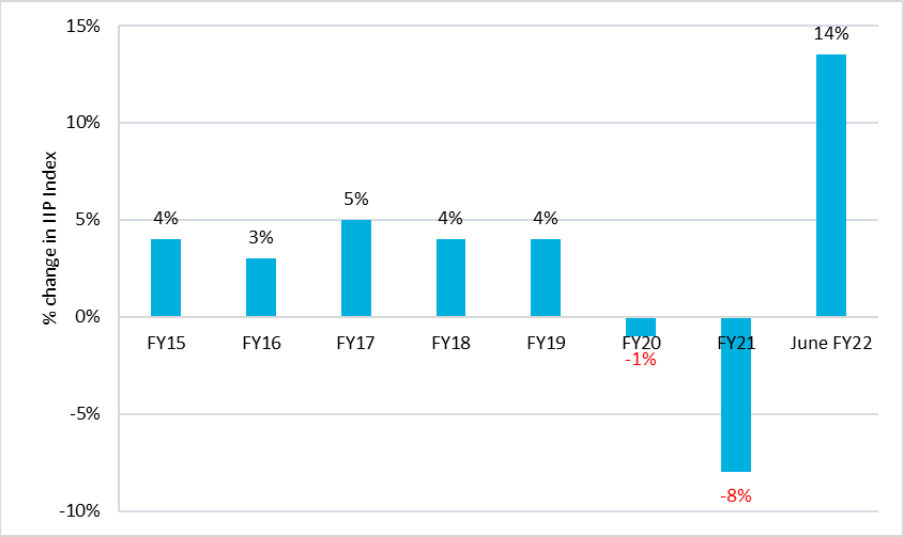
Economic Indicators

Industrial Production

4.9 The Index of Industrial Production (IIP) is a composite indicator that measures the short-term changes in the volume of production for a basket of industrial products. The IIP data tracks the manufacturing activity in different sectors of an economy, with mining, manufacturing, and electricity being the three broad sectors in which IIP constituents fall.

4.10 At an annual level, the IIP was growing on an average of 4% between FY15-19, before being hit by liquidity crisis and overall economic slowdown in FY20. Post that, the IIP shrank by over 8% in FY21, due to a decline in economic activities in the wake of global lockdowns introduced to curb coronavirus pandemic. However, with the gradual opening of economy and rebound observed in demand, the IIP on a month-on-month grew by +28.6% in May 2021 and 13.5% in June 2021, as per the latest available data.

Figure 4.1: Annual growth - Index of Industrial Production



Source: Central Statistical Organisation (CSO)

4.11 Since the IIP data in India is released only at a national level and not at the state level, we do not use IIP growth as a proxy for understanding future travel demand growth on the Asset. Also, availability of long-term forecast is the key for using an indicator as a growth driver, while IIP long-term forecast are not available we refrain from using it to forecast traffic.

Vehicle ownership

4.12 Car ownership in India has traditionally been very low, however this is slowly changing with the increasing per capita income levels. Between 2007-17, number of cars per 1,000 people has more than doubled and increased at a CAGR of about 11%. The corresponding ownership rates for urban cities like Delhi, Mumbai, Bengaluru, and Chennai are over 100 cars per 1,000 people. As per the India Energy Outlook, the car ownership is projected to grow steeply to 175 cars per 1,000 population by 2040 in India[3].

4.13 However, India overall still stands at a very nascent stage in the vehicle saturation curve. Moreover, the semi-urban region where the asset lies is at the lower side of the Indian average of 22 cars per 1,000 people. As the income per capita of India and the region itself grows, we expect the car ownership levels to increase. Given the low car ownership base and relatively high affluence will lead to a long term sustained growth of the Cars on the corridor.

[3] https://www.gita.org.in/Attachments/Reports/IndiaEnergyOutlook_WEO2015.pdf

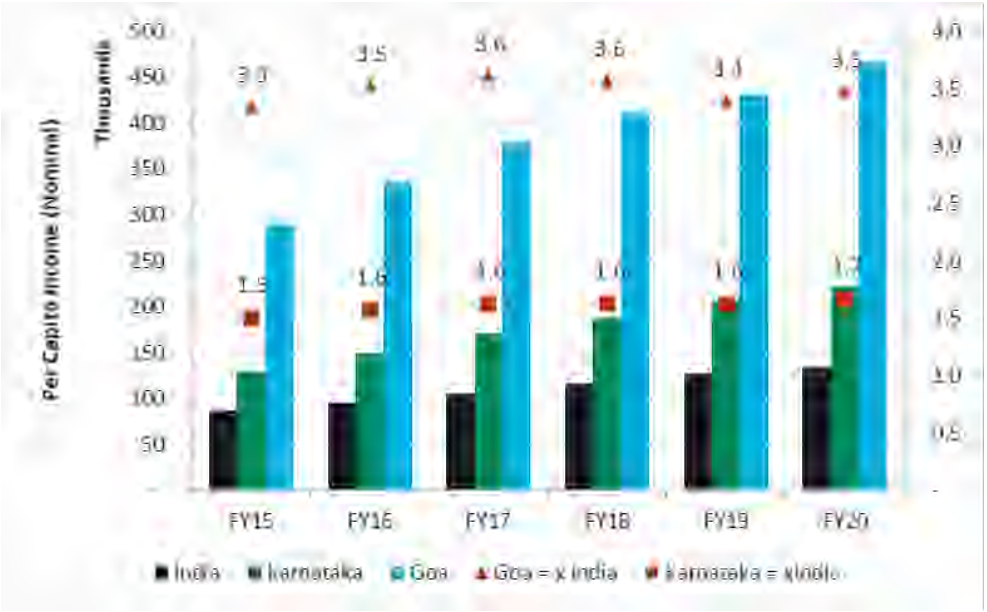
Figure 4.2: Car ownership in India per 1,000 population

Source: Central Statistical Organisation (CSO)

Per Capita Income (PCI)

4.14 The per capita income of the state where the asset lies i.e., Karnataka is higher as compared to the national average, however in dollar terms, PCI of just $2,000 per head indicates that the state is at a very early stage of consumption curve. Going forward, we therefore expect local consumption to be strong which would drive the growth in both passenger and commercial traffic.

Figure 4.3: Per capita income



Source: Central Statistical Organisation (CSO)

4.15 However, given the difficulty in obtaining granular district level PCI data it is not advisable to use this as a growth driver. Also, the long-term forecast for PCI are not available we therefore refrain from using it to forecast traffic.

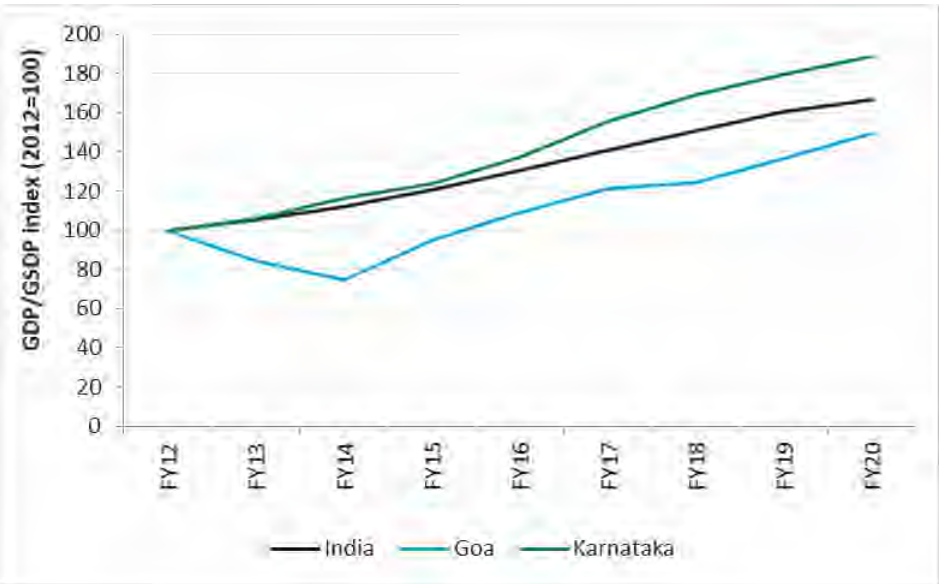
GDP and GSDP Growth

4.16 The Indian economy has grown at a CAGR of 6.6% during FY12-20, aided by a strong growth in the services/tertiary sector. The economic growth of Goa (GSDP)[4] has been weaker while that of Karnataka has been stronger than the country overall. Goa and Karnataka each approximately contribute 0.5% and 8% respectively to the India's GDP. In terms of per capita income, Goa has the highest per capita income in India followed by the national capita Delhi.

4.17 In the past decades, the state of Karnataka followed the same upwards economic growth trend observed at the national level, but at a faster rate. The growth of Karnataka can be attributed to the boom in IT services sector in the region and policies encouraging the establishment of research and development facilities. Apart from the IT sector, automobile, aerospace, textiles, biotechnology, and heavy engineering industries are also contributing to the state's growth. Karnataka also houses one of the 13 Major Ports in India, the Mangalore port. In terms of sectoral contribution, the services sector is the biggest contributor (66%), followed by secondary (20%) and primary sector (14%). Karnataka's GSDP CAGR was 8.3% between FY12-20 and its relative share to the national GDP was around 8% in FY20.

4.18 Goa's economic growth is driven by the strong performance of tourism, mining, and pharmaceutical sectors. The state is located on the west coast of India and is considered as a traditional tourist destination known for its natural scenery and beaches. Goa received 8.06 million tourists in 2019, of which 7.1 million were domestic tourists (88%). The state is also richly endowed with minerals such as iron ore, manganese, ferro-manganese, bauxite, and silica sand and is a key exporter of iron ore. Goa also houses one of the 13 Major Ports in India, the Mormugao port. In terms of sectoral contribution to the state GDP, manufacturing sector has the highest share (63%) followed by services (32%) and primary (5%). Goa's GSDP has observed healthy growth historically, except for FY14, where the state's economy was heavily impacted due to the mining ban in the state due to environmental concerns.

Table 4.4: GDP/GSDP index (2012=100)



Source: Central Statistical Organisation (CSO)

[4] GSDP is the Gross State Domestic Product i.e., the GDP equivalent for a particular state, it is the final value of goods and services produced by a particular state

4.19 The official historical GDP and GSDP data for India are released by the Central Statistical Organisation (CSO). The GDP forecasts for India are available from various reliable sources such as Oxford and Consensus, but the GSDP forecasts for the same are not published. However, using the past trends for the relationship between GDP and GSDP, we can develop reasonable GSDP forecasts.

4.20 Therefore, in our view, GDP is the best source to use as a growth driver for long term forecasts of traffic.

Summary

4.21 For any indicator to be used as a growth driver to forecast traffic, a reliable source of historical and forecast available for that indicator is the key requirement. Of the key socioeconomic indicators discussed above GDP seems to be the only growth driver for which reliable data is available both in terms of historical and forecast data, therefore, to forecast traffic we would be using GDP/GSDP as our key growth drivers.

Indicator	Remarks
GDP/GSDP	Available annually ***National level reliable historical and forecast available***
Population/Urbanisation	Revised every 10 years, last available 2011. Population estimates are not available annually, making it difficult to run regressions. Also, the very dynamic nature of local population migration (which are very difficult to forecast with accuracy), we do not use population growth as a proxy for understanding future travel demand growth on the Asset. *Forecast available but historical data is a constraint*
Per Capita income	National and state level per capita historical data is available, but future estimates for the same are not to base traffic growth on. *Historical data available but forecast data is a constraint*
IIP Index (Industrial production)	Unlike GDP, reliable IIP forecast are not available, also the IIP data is only available at national levels and not for each state individually.
Vehicle ownership	Vehicle ownership at India level is available latest for 2017. At state level, not all states release their vehicle ownership data annually making it difficult for consistency. A lot of research organisations have published forecast at national level, but a reliable estimate is not available.

5 Background growth relationships and forecasting assumptions

Introduction

5.1 In this chapter, we present our approach, assumptions around estimation of elasticities and forecast assumptions of Macro parameters for each vehicle category on the Asset.

5.2 Traffic growth is commonly related to a variety of macro-economic and industry- or commodity-specific factors (hereafter referred to as 'traffic growth drivers'). These growth drivers are typically identified from the results of the OD data analysis and the site visits that help us appreciate the nature of traffic movement – 'what' travels 'where' and 'why'.

5.3 On Assets where long time series historical data is available, to understand the historical traffic trends in relation to these growth drivers, we typically carry out regression analysis, to determine the historical relationship between traffic belonging to each major vehicle category and its macroeconomic growth driver at the toll plaza. The dynamics of traffic demand is the dependent variable while the dynamics of one or more identified growth drivers are the independent or explanatory variables. This is the primary approach to determine the elasticity relationships. However, for Asset under consideration where only limited historical data is available, we have adopted an approach which is explained in detail in the sections below.

5.4 While working on several Assets across the country where historical data is available, it has been observed that typically, growth of passenger and light commercial vehicles like cars, buses and LCVs which have relatively shorter trip lengths (<200-250 km) is more closely linked to the local economic growth drivers where the toll road is located. These categories are generally driven by the demand driven by local production/consumption centres and are in most cases captive to the toll plazas. Local factors coupled with tourism driven demand is often seen as the key driver for consumption of goods and services in the areas. Therefore, we typically link the growth rate of these vehicle categories with GSDP growth rates of the state where the asset is located as that is closest proxy of the local economic activity in the region.

5.5 Whereas Heavy vehicle traffic like 3-axle trucks (sometimes 2A trucks as well) and MAVs tend to have a much longer average trip lengths (>350-500 km) and serve multiple economic activity centres located along an Asset as well beyond the Asset across multiple states of the country. For these vehicle categories we therefore assume these vehicle categories to grow in line with the national GDP. This is because most light goods vehicles tend to travel shorter distances within the state, whereas a significant proportion of heavy vehicles carry commodities for long - distances across the country and have much longer trip lengths. These commodities also tend to be part of industry ecosystems whose demand-supply relationships are scattered across the country and therefore relate more with GDP growth. Therefore, using the OD data trip lengths of various vehicle types and the commodity carried by these goods vehicles form the basis for estimating the elasticity relationships

Estimation of background elasticities

Overview

5.6 For brownfield Assets, where sufficient historical traffic evolution is available, it is common practice to use regression model analysis to determine the relationship, expressed as elasticity, between traffic growth and key socioeconomic drivers. This relationship is then applied to assumptions of future socio-economic evolution to estimate future traffic growth.

5.7 As for the Asset under consideration, the tolling started recently in Feb'2019, and a consistent historical trend was not available. Therefore, we undertook a benchmarking analysis in order to estimate our forecast elasticities. Sources used include our understanding of the Asset, outputs of the OD data analysis and our understanding of the regional Assets having similar traffic profiles, which give us reasonable confidence to the relationships proposed.

5.8 In terms of selection of growth drivers for vehicle types, in general we have assumed state GSDP as the key driving factor for the passenger traffic given this traffic is generally driven by the local economies of the cities and state containing the Asset. As discussed earlier in Chapter 2 and Chapter 3, through the site visit observations and further corroborated by the OD data analysis, it was confirmed that the heavy commercial vehicles (2A, 3A, MAV) on this Asset ply long-distance catering to multiple economic centres along and beyond the Asset corridor especially on the Shirur and Holegadde toll plazas. Therefore their underlying growth can be reasonably considered to be governed by the general economies of several states or nation as whole.

5.9 The forecast elasticities are assumed to remain constant over the concession period as the logistics sector in still in early stages of development in India (95% of trucks still owned by operators owning less than 5 trucks). Car ownership levels are still around 22+ per 1000 people, and it is likely to take a few years before the market reaches maturity. These trends are based on a long-term understanding of historical relationships and an overall outlook on the growth of the region and the country.

5.10 The below table presents the growth drivers identified to model the forecast background traffic growth rates.

Table 5.1: Identified growth drivers to model traffic growth

Vehicle type	GDP India	GSDP Karnataka, Goa
Car		Belekeri: 50% each Shirur, Holegadde: 100% GSDP Karnataka
LCV		Belekeri: 50% each Shirur, Holegadde: 100% GSDP Karnataka
Bus		Belekeri: 50% each Shirur, Holegadde: 100% GSDP Karnataka
2A	100%	
3A	100%	
MAV	100%	

Source: Steer analysis of Client data

5.11 The sections below detail out the reasoning for selection of respective growth driver(s) for each vehicle category.

Table 5.2: Elasticity recommendations for the Asset (Kundapur - Karwar)

Vehicle Category	Proposed*	Growth Driver	Comments
CJV	Shirur 1.0 Holegadde: 1.0 Belekeri: 1.2	TP1: GSDP Karnataka & Goa TP2, TP3: GSDP Karnataka	Car traffic is largely driven by the tourism industry in the region. Goa, Gokarna, Murdeshwar, Shivamogga, Udupi and Mangalore and the various destinations for tourists in the region and CJV's are expected to grow with 1.2 elasticity on TP3 due to its vicinity to Goa-Karnataka border. With more local and less tousism influence TP1 and TP2 CJV's are expected to evolve with elasticity of 1.0.
Buses	Shirur: 0.4 Holegadde: 0.4 Belekeri: 0.4	TP1: GSDP Karnataka and GSDP Goa TP2, TP3: GSDP Karnataka	Buses are primarily a mix of public and private inter-city buses. Currently these buses serve the local movement and religious and recreational tourist demand.
LCV	Shirur: 0.4 Holegadde: 0.4 Belekeri: 0.4	GSDP Karnataka	LCV have been observed to carry a mix of commodities, mostly catering to local demand. As the region grows, we expect the consumption of these to also increase, combined with an increase in demand due to tourism industry.
2A	Shirur: 0.5 Holegadde: 0.5 Belekeri: 0.6	GDP	2A are very low in volume on the corridor and mostly local. With the allowance of more tonnage under the axle load revisions, this category has witnessed growth over the last couple of years. Therefore, an elasticity of 0.5-0.6 is considered reasonable for this category.
3A	Shirur: 0.7 Holegadde: 0.7 Belekeri: 0.5	GDP	3A and MAVs on this asset serve the demand and supply from Mangalore port to Maharashtra. TP1 and TP2 have a higher volume of truck traffic as they take a diversion from Ankola to reach Hubli, Solapur and further north. As the import and export industry is expected to grow in future, an MAV elasticity of 0.8 is assumed for TP1 and TP2. TP3 has a lower volume of trucks and an elasticity of 0.6 is assumed for MAVs. TP3 has an average trip length of 350 km for MAVs while TP1 and TP2 have close to 600 km. As nature of trips on TP3 is mostly local, a lower elasticity as compared to other TPs is a reasonable assumption.
MAV	Shirur: 0.8 Holegadde: 0.8 Belekeri: 0.6	GDP	

Source: Steer analysis, *KK TP1 Shirur, TP2 Holegadde, TP3 Belekeri

Forecasts for growth drivers

5.12 Following the discussion in Chapter 4 on the nature of economic activity in the state of Karnataka, in this section, we describe the assumptions in relation to forecasts of the key macro-economic drivers of traffic growth. Particularly, we have based our forecast on GDP and GSDP projections provided by the Client.

National GDP

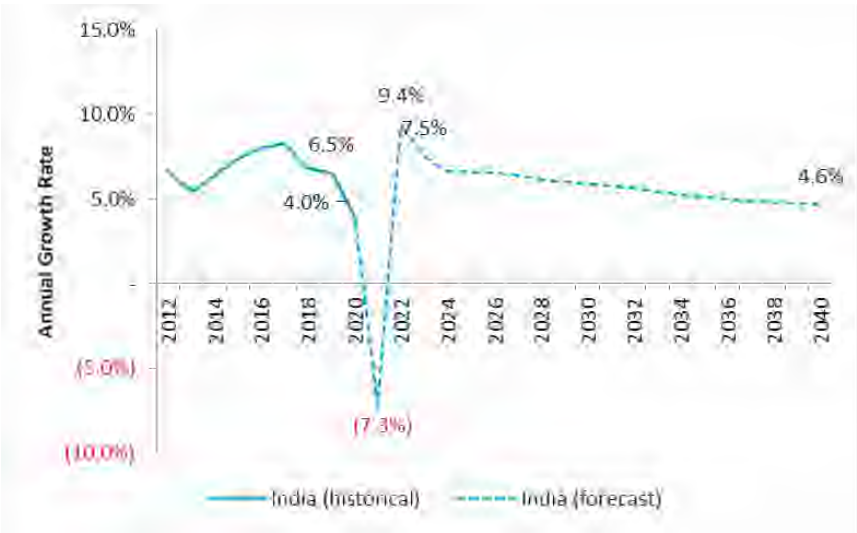
5.13 India's GDP and the relevant state GSDPs are the primary macroeconomic variables that have been modelled to drive our traffic growth forecasts.

5.14 After the last period of economic slowdown in FY11-12, the country has been experiencing an economic downturn since late FY19 with the FY20 reporting 4% GDP growth. India's GDP growth declined as domestic investment and consumption demand were already under stress because of the liquidity crunch before Covid-19. Related events to the economic slowdown include reduced growth rates in automobile sales and production, liquidity crunch, rising number of non-performing assets, lower manufacturing outputs and lower rural consumption. Furthermore, the last months of FY20 and FY21 have been affected by Covid19, with impacts on industry (economic activity) and society (social activity). This bias has been addressed in terms of base traffic estimation by normalising the traffic projections for FY21 (as described in Chapter 6) and we based our forecast on the GDP projections as shown in figure below.

5.15 There was a substantial impact of the covid-19 outbreak on the Indian economy during the first two quarters of FY21. The growth momentum eventually picked up in Q3-Q4 FY21. A sharp rebound is expected in FY22 with economy projected to grow by 9.4%. In the long term, Indian GDP would reduce gradually after 2030, to reach 5% by 2030 and 4.5% by FY40.

5.16 Our national GDP forecasts are a blend of published forecasts by independent sources such as Consensus, World Bank, IMF, OECD, and RBI.

Figure 5.1: FY21-40 GDP forecast



Source: Steer analysis of GDP forecast by various organisations.
Average of long-term forecast of Consensus, OECD, Oxford and short-term forecast of IMF and World Bank

Normalisation of FY22 GDP and FY23 GDP

5.17 To arrive at the FY22 normalized position, we have assumed that the Q4FY22 would be a normal period, with no further impact of Covid-19. However, we cannot directly use FY22-Q4 estimates because of inherent seasonality attached to it. In India, it is typically observed that during the first half of the financial year (April-September) the GDP growth and contribution to overall GDP is generally lower than the annual average. Widespread monsoon-related disruptions result in subdued economic activity in this period. The second half of the financial year (October-March) typically shows a gradual pick-up in economic activity as the monsoon

recedes and construction, mining and agricultural activities start ramping. The agricultural harvest season coupled with the festive season around Diwali boosts the consumer spend in the second half of the financial year.

5.18 We have analysed how Q4 grew with respect to annual GDP for the last five years and have taken an average of FY16 and FY18 and excluding FY17, FY19 and FY20 as they were impacted years due to demonisation and slowdown in Indian Economy.

5.19 The Q4 grew on an average of 1.22 times the annual GDP, applying this factor to the FY22-Q4 estimates, we have arrived at FY22 normalised GDP position of 5.4%.

Quarter	FY16	FY17*	FY18	FY19*	FY20	FY22
Q1	7.6%	8.7%	6.1%	7.6%	5.4%	18.5%
Q2	8.0%	9.7%	5.3%	6.5%	4.6%	7.9%
Q3	7.2%	8.6%	6.7%	6.3%	3.3%	7.2%
Q4	9.1%	6.3%	8.9%	5.8%	3.0%	6.6%
FY	8.0%	8.3%	6.8%	6.5%	4.0%	9.5%
Q4 factor wrt to FY	**1.14**	**0.76**	**1.31**	**0.89**	**0.74**	
Adopted Q4 factor wrt to FY	**1.22**					
Normalised FY22	**5.4%**					
Normalised FY23	**5.9%**					

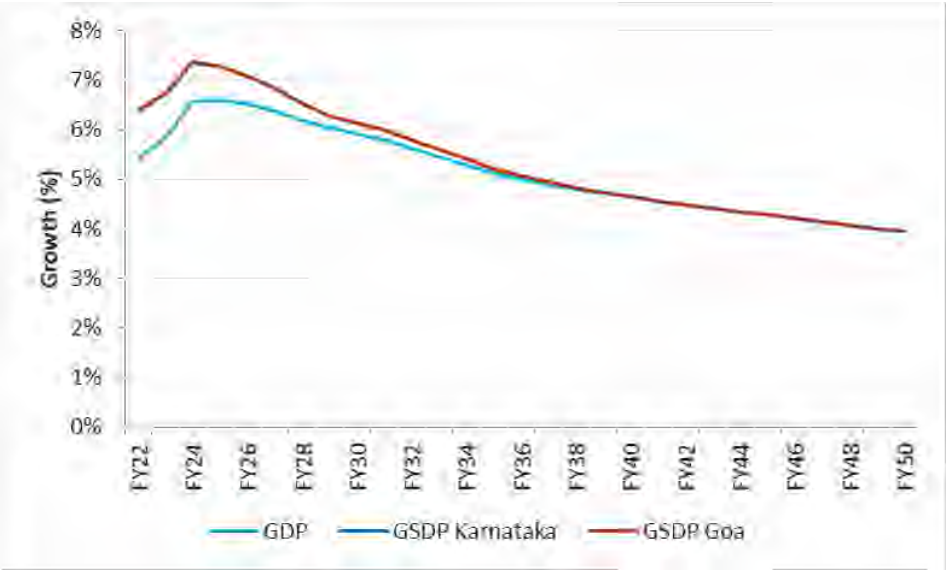
Source: RBI for FY22 estimates, and historical QoQ GDP have been sourced from MOSPI (Ministry of Statistics and Programme Implementation, Central Statistical Organisation), *FY17 and FY19 have been ignored due to exogenous impacts such as Demonetisation and slowdown the economy in FY19

State GSDP

5.20 By comparing historic trends of state level GSDP growth with the national GDP growth we have established GSDP projections for each state. We assumed that as the Indian economy grows, the states which have historically grown at a faster pace will, over 10 years, see a slowdown in GSDP growth, tending to the national average, whereas the states that have grown slower than the national GDP will begin to pick-up and grow faster. The GDP-GSDP gap would partially converge by 2040, and fully converge by 2049.

5.21 The Karnataka GSDP is expected to grow faster than the national GDP for next 10 years and is expected to start converging towards national average by 2040. The chart below shows the forecast growth lines for GDP and Karnataka and Goa GSDP.

Figure 5.2: Forecasts for India GDP, Karnataka, and Goa GSDP



Source: Steer analysis of historical State GSDP data and India GDP projections

6 Forecasts: Base AADT, and Traffic and Revenue forecasts

Introduction

6.1 Following the discussion on our forecast of background growth elasticity relationships in the previous chapter, this chapter first covers the forecasting assumptions around estimation of base year AADT and potential network impacts on traffic growth on the Asset. Thereafter, we present our assumptions around toll segmentations, trip factors and evolution of toll rates for the forecast period which are used to forecast revenues as derived from forecast traffic. In the final section, this chapter summarises traffic growth rates for the forecast years.

6.2 The following table lists key intermediate and final outputs that have presented in previous Chapters and in this chapter.

Table 6.1: Key intermediate and final outputs in the forecast

Forecast	Final outputs	Intermediate outputs	Inputs	Chapter
Traffic	Base year AADT	ADT, SCF estimate for base year	Historical SCF and year-to-date AADT	Chapter 3, 6
	Background traffic growth	Background forecast elasticity	Background historical elasticities with respect to growth drivers	Chapter 5, Appendix C
		Forecasts for growth drivers	Historical performance of growth drivers along with Macro assumptions (GDP and GSDP)	Chapter 4, 5, Appendix C
	Impact growth rates and staging	Impacts	Network analysis	Chapters 6
Revenue	Annual/daily revenue forecasts	Forecast toll segmentation: Trip frequencies and trip factors	Historical trip frequencies	Chapter 3, 6
			Historical trip factors	Chapter 6
		Future toll rates	Toll evolution	Chapter 6

Source: Steer

Seasonal Correction Factors

6.3 Traffic on any Asset varies on a month-on-month level. Such variations maybe due to monsoons (typically Jul to Sept) or due to festivals in the region. For e.g. It is observed that typically the truck traffic during the first half of the financial year (April-September) is generally lower than the annual average, mainly because of peak summer season followed by monsoons affecting

the freight movement patterns in large parts of the country in the July-September period. In addition to these there may be other seasonal variations specific to the Asset.

6.4 In order to normalise for these variations across the year to provide an AADT estimate, Seasonality Correction Factors (SCF) are used. SCFs are estimated to convert the monthly traffic numbers to an AADT level while accounting for seasonal variation due to local/national festivals, weather changes and/or temporary external impacts. These are typically estimated using historical data for each plaza and vehicle category over multiple years. An SCF >1 means that the traffic for the month is lower than the annual average and vice-versa.

6.5 Historical traffic data was available for all toll vehicle categories starting February 2020 up-to May 2021. Therefore, in absence of longer-term historical data to arrive at the SCF, we have benchmarked our SCF from various sources:

- Assets in the vicinity, south or north of the Asset carrying very similar traffic profiles
- SCF from toll plaza data
- Site observations and information provided by the toll plaza to validate SCF assumptions (such as traffic volume drop during monsoon months).

6.6 The below table presents the assumptions in SCF used to estimate the AADT:

Table 6.2: Adopted SCF: TP1 Shirur

Vehicle Category	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
CJV	0.99	0.83	1.02	1.14	1.07	1.13	1.03	0.96	0.89	0.99	0.98	1.09
LCV	0.91	0.88	1.14	1.26	1.16	1.08	1.05	1.01	0.88	0.91	0.94	0.98
Bus	0.93	0.94	1.06	1.11	1.11	1.25	1.08	0.99	0.80	0.93	1.00	1.06
2A	0.94	0.96	1.08	1.20	1.02	1.01	1.03	0.98	0.95	0.98	0.96	0.97
3A	0.98	0.96	1.02	1.07	1.01	1.02	1.02	1.01	0.99	1.02	0.95	0.99
MAV	0.98	0.96	1.02	1.07	1.01	1.02	1.02	1.01	0.99	1.02	0.95	0.99

Source: Steer analysis of various sources

Table 6.3: Adopted SCF: TP2 Holegadde

Vehicle Category	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
CJV	0.93	0.74	1.08	1.28	1.23	1.22	1.04	1.05	0.81	0.93	1.06	1.15
LCV	0.91	0.88	1.14	1.26	1.16	1.08	1.05	1.01	0.88	0.91	0.94	0.98
Bus	0.93	0.94	1.06	1.11	1.11	1.25	1.08	0.99	0.80	0.93	1.00	1.06
2A	0.94	0.96	1.08	1.20	1.02	1.01	1.03	0.98	0.95	0.98	0.96	0.97
3A	0.98	0.96	1.02	1.07	1.01	1.02	1.02	1.01	0.99	1.02	0.95	0.99
MAV	0.98	0.96	1.02	1.07	1.01	1.02	1.02	1.01	0.99	1.02	0.95	0.99

Source: Steer analysis of various sources

Table 6.4: Adopted SCF: TP3 Belekeri

Vehicle Category	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
CJV	0.86	0.66	1.13	1.42	1.39	1.31	1.06	1.14	0.74	0.86	1.14	1.22

Vehicle Category	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
LCV	0.92	0.83	1.24	1.36	1.16	1.05	0.98	0.98	0.83	0.86	1.02	1.08
Bus	0.87	0.89	1.10	1.14	1.16	1.42	1.10	0.99	0.67	0.91	1.06	1.14
2A	0.91	0.94	1.15	1.32	0.99	0.94	0.99	0.96	0.97	1.01	0.98	0.97
3A	0.96	0.91	1.03	1.06	0.98	1.03	1.01	0.99	1.01	1.04	0.98	1.05
MAV	0.96	0.91	1.03	1.06	0.98	1.03	1.01	0.99	1.01	1.04	0.98	1.05

Source: Steer analysis of various sources

Base year (FY21 and FY22) traffic

6.7 The Asset has recently started tolling with first full year of tolling in FY21. As discussed earlier, the impact of Covid19 caused steep fluctuations on traffic numbers throughout the year and have therefore made it extremely difficult to estimate an actual base traffic level for FY21. Additionally, these fluctuations in traffic were widely different across different assets depending their locations, commodities carried, and the overall nature of traffic being served by the asset. Therefore, an approach to estimate a base AADT number for FY21 must be used, which not only accounts for the impact of Covid19 related national lockdowns, but also the localised restrictions, and traffic profile on each asset.

6.8 The methodology and assumptions taken to estimate FY21 and FY22 is discussed in the following sections.

Estimation of FY21 Normalised and FY22* (no Covid19, hypothetical)

6.9 After the initial drop in traffic volumes across categories in Q1 and Q2 FY21, gradual recovery to pre-Covid19 levels was seen on several Assets starting Q3FY21 (refer chapter 3). Some of this recovery was related to the pent-up demand that was witnessed across Assets. However, the increased traffic volume levels sustained in Q4FY21 as well (refer chapter 3). This reflected a sustained economic recovery and therefore a normalised FY21N base traffic has been estimated based on the Jan-Feb-March of FY21 after adjusting for seasonality.

6.10 FY22 if no 2nd wave (FY22*): FY22* AADT (no Covid19, Hypothetical) has been estimated to arrive at an FY22 AADT position assuming a normal FY22 (no further Covid19 waves of infection in FY22). FY22* was estimated based on a normalised FY22 GDP (as discussed in chapter 4) to elasticity relationship. This estimation was undertaken to compare the FY22 estimates to actual outturn for Q1FY22.

Assumptions on 3rd Wave of Covid19 infections

6.11 As we have already seen the third wave of Covid19 infections in other countries (UK, USA, Israel, Russia), it is prudent to assume that a 3rd wave of Covid19 infections is likely to occur in India too. Its impact will depend on individual states' preparedness and level of vaccination throughout the country. We have, after compiling information from various sources, taken an assumption for the timing of the 3rd wave and assumed that its magnitude will, in general be smaller than the 2nd wave of infections. ***Note here that this is one of several scenarios that may unfold as the Covid-19 pandemic is currently still unpredictable in terms of its spread due to various variants, the impact of the vaccination programme in different parts of a region, and most importantly the response from local/regional/state/national authorities due to increased rates of infections remains unpredictable. The scenario outlined below is***

considered to be a reasonable outcome based on information currently available, however the exact outturn remains unpredictable due to the factors outlined above.

6.12 As per the latest evidence available from public sources, the 3rd wave of infections is expected to peak during the months of October and November 2021. However, the number of cases in third wave are expected to be lower, due to external interventions like vaccinations, and the lockdowns to be more regional. Further the length of the third wave is expected to be 6 weeks as compared to 10-12 weeks during the second wave. Therefore, the overall impact on traffic of 3rd wave is expected to be half of the impact that was seen on Asset in the second wave with a faster recovery back to FY22* levels by Dec'2021.

Month on Month comparison of FY22* and FY22 estimated

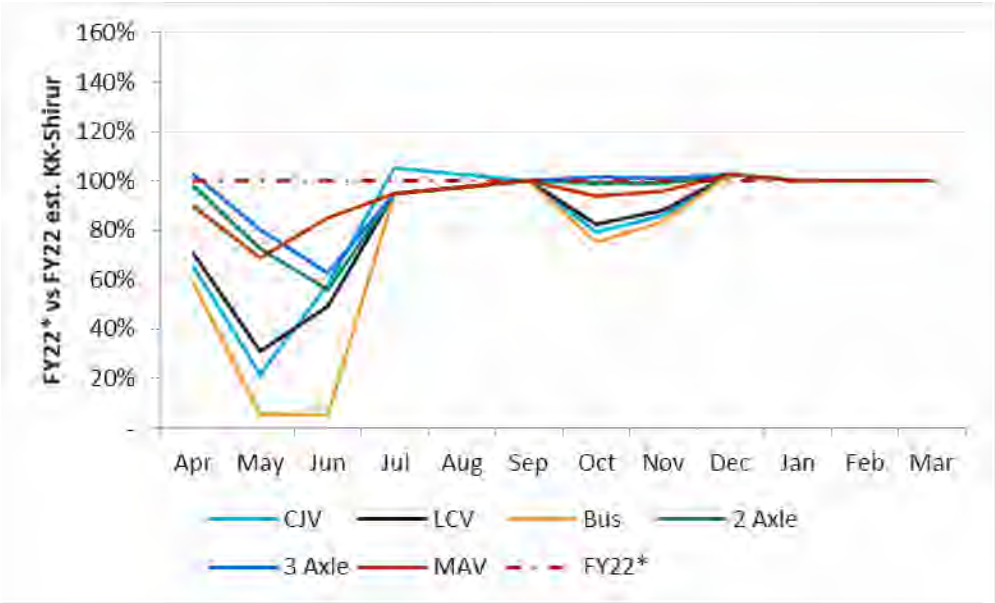
6.13 Actual toll plaza data was available upto May-21, and three weeks of June 2021 was also made available. A comparison between FY22* and outturn traffic was undertaken to evaluate the impact of 2nd wave of Covid19. Based on the methodology stated above This comparison is used as an indicator to estimate the magnitude of third wave of Covid19 also to affirm that Q4 of FY22 is likely to follow a pattern largely unimpacted by lockdowns, movement restrictions etc. The assumption for a normal Q4FY22 is considered to be reasonable as the number of cases go down and normal economic activity resumes.

Estimation of Q4 FY22

6.14 Q4FY22 is likely to follow the pattern from FY21 and is estimated to stabilize at the FY22* estimated numbers. This Q4 traffic level for each asset is used as a proxy to get a FY22 normalized or FY22N position. Note here the F22N and FY22* will be the same as it is assumed that Q4 of FY22* will become the basis of estimating FY22N. As these AADT levels are expected to be free of COVID related fluctuations, they serve as a stable base position for traffic for the Asset.

6.15 The output of above analysis is presented below charts:

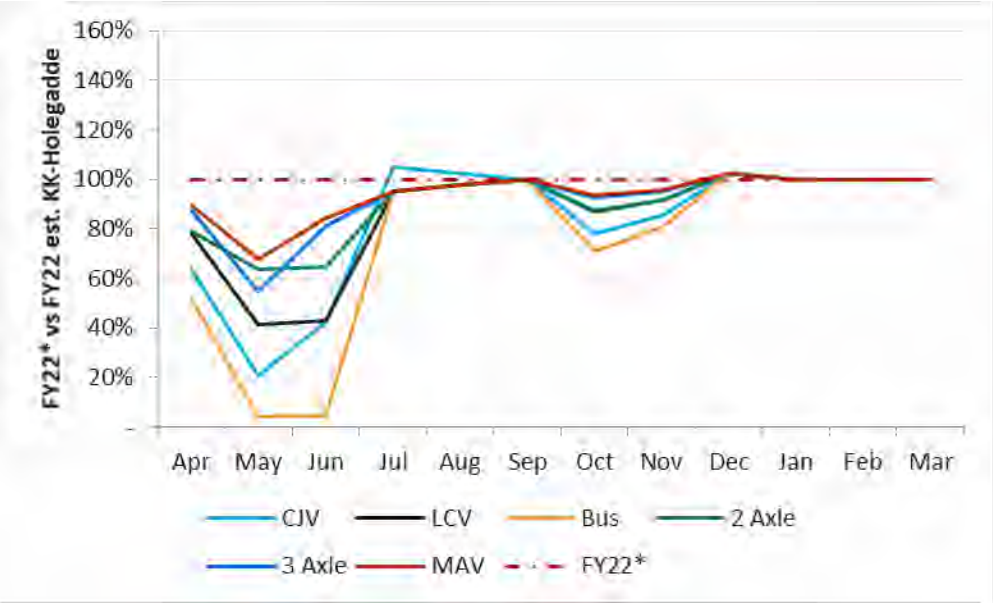
Figure 6.1: FY22* (no Covid19, Hypothetical) vs FY22 Estimated: Shirur



Source: Steer Analysis

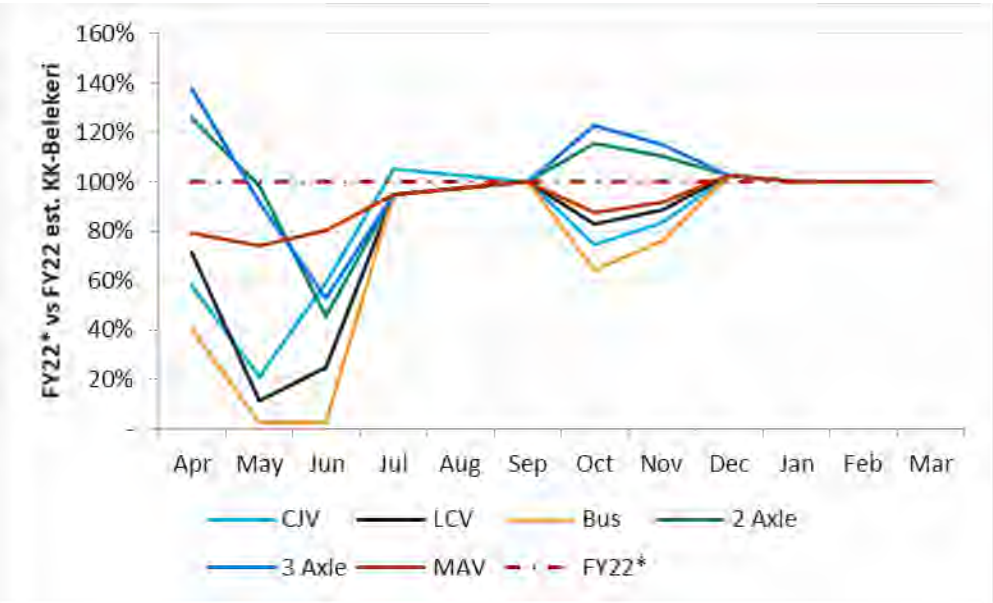
6.16 As we can see from the chart above the impact of 2nd wave of Covid19 is expected to subside by May with traffic recovery back to FY22* levels by end of Q2FY22 levels. The impact of third wave is expected to be lower than the impact of 2nd wave with recovery back to FY22* levels by Dec'2021. The rest of the months assuming no further waves of Covid19 are expected to return to FY22*/FY22N levels.

Figure 6.2: FY22* (no Covid19, Hypothetical) vs FY22 Estimated: Holegadde



Source: Steer Analysis

Figure 6.3: FY22* (no Covid19, Hypothetical) vs FY22 Estimated: Belekeri



Source: Steer Analysis

FY23 Estimation and base AADT for forecast

6.17 These FY22N AADT are then used to estimate a FY23 AADT position, with an underlying assumption of no further COVID waves. FY23 then becomes the basis of all future forecasts which again start to follow the GDP and elasticity-based growth pattern for traffic.

Base year AADT

6.18 Based on the methodology discussed above, the tables below present the FY22N for each of the toll plaza.

Table 6.5: FY22N Base AADT estimates compared to FY21 Actuals and FY22 Estimated (KK - Shirur)

	FY20	FY21	FY21N	FY22	FY22*	FY22N
	Actual	**Actual**	**Q4 N**	**Estimated**	**No covid**	**Q4 N**
CJV	2,296	3,153	4,744	4,243	5,083	5,083
LCV	798	674	458	395	472	472
Bus	380	286	448	350	460	460
2A	572	665	765	732	786	786
3A	264	268	308	304	320	320
MAV	697	782	876	857	914	914
Total	**5,006**	**5,828**	**7,600**	**6,881**	**8,035**	**8,035**
PCU	**10,274**	**11,340**	**13,939**	**12,848**	**14,602**	**14,602**

Source: Steer Analysis, FY22* if 2nd Covid wave had happened.

Table 6.6: FY22N Base AADT estimates compared to FY21 Actuals and FY22 Estimated (KK - Holegadde)

	FY20	FY21	FY21N	FY22	FY22*	FY22N
	Actual	**Actual**	**Q4 N**	**Estimated**	**No covid**	**Q4 N**
CJV	2,691	3,646	5,585	4,758	5,984	5,984
LCV	1,069	843	426	376	438	438
Bus	468	342	539	414	555	555
2A	558	669	820	757	842	842
3A	310	285	343	327	356	356
MAV	725	794	896	873	935	935
Total	**5,822**	**6,579**	**8,610**	**7,505**	**9,110**	**9,110**
PCU	**11,567**	**12,372**	**15,366**	**13,745**	**16,108**	**16,108**

Source: Steer Analysis, FY22* if 2nd Covid wave had happened.

Table 6.7: FY22N Base AADT estimates compared to FY21 Actuals and FY22 Estimated (KK - Belekeri)

	FY20	FY21	FY21N	FY22	FY22*	FY22N
	Actual	**Actual**	**Q4 N**	**Est.**	**No covid**	**Q4 N**

	FY20	FY21	FY21N	FY22	FY22*	FY22N
CJV	1,920	2,483	3,597	3,082	3,918	3,918
LCV	670	744	723	600	745	745
Bus	263	197	325	243	335	335
2A	559	410	522	539	539	539
3A	307	198	256	266	263	263
MAV	301	368	492	466	508	508
Total	**4,020**	**4,400**	**5,915**	**5,195**	**6,307**	**6,307**
PCU	**7,667**	**7,669**	**10,203**	**9,221**	**10,729**	**10,729**

Source: Steer Analysis, FY22* if 2nd Covid wave had happened.

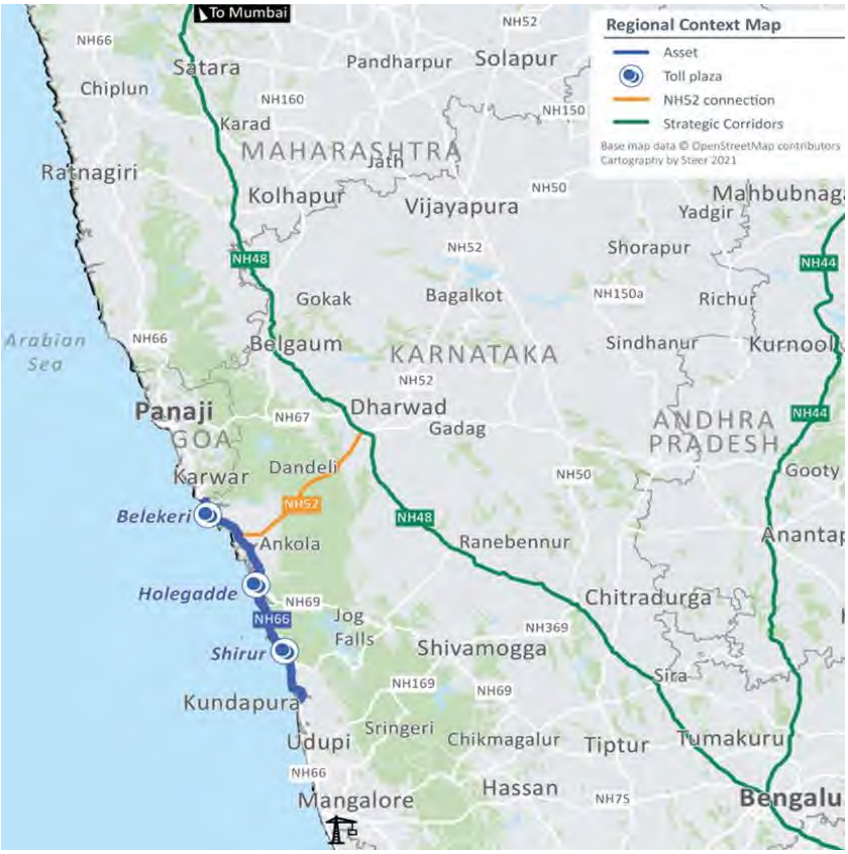
Analysis of potential impacts

Summary of alternate routes and planned changes

6.19 The section below details the impacts which we believe would affect traffic on the Asset during the concession period. As discussed in earlier Chapters, in order to assess the impacts on the Asset, whether positive or negative, we have studied developments (alternate roads, feeder roads and regulatory) in the surrounding road network.

6.20 The map below shows the road network surrounding the Asset.

Figure 6.4: Asset route shown against the regional network context



Source: Steer analysis and cartography

Summary of impact assessments

6.21 The following table lists the impacts considered on the Asset.

Table 6.8: Summary of impact

Impact	Year of impact	Probability/ scale of impact	Impact (+/-)
LoS Improvement (construction completion)	FY22: Shirur and Holegadde, FY23: Belekeri	High/ Medium	+ve
LoS Improvement – NH66 (Mumbai – Cochin corridor)	FY25	Medium/ Low	+ve
Hassan – Mangalore LoS Improvement	FY23	Medium/ Low	+ve
Local suppression of trips due to introduction of full tolling	FY23	High	-ve

Source: Steer analysis of OD data, Client TMS data and publicly available information

6.22 The subsections below include a narrative of each of the improvements, and impacts associated from each of these on our traffic forecasts. Please note that all traffic volumes for impacts were estimated as impact rates applied on FY22 AADT.

LoS Improvement (construction completion)

6.23 The Asset is currently under construction with the section near Belekeri plaza currently witnessing the maximum construction activity. The Asset is expected to achieve COD by June 2022. Once the construction in completed, the asset would provide improved level of service with reduced travel times and will act as an incentive for the local trips which have at least Origin or Destination trip end on the asset.

6.24 The in-scope traffic includes all the trips with Origins & Destinations locate on asset, Immediate Area of Influence and trips originating in Udupi and Uttara Kannada districts. The impact is included in forecasts starting FY23.

Table 6.9: Impact of LoS improvement

	CJV	LCV	2A	3A	MAV
Impact % (KK-Shirur)	6.1%	3.7%	4.2%	2.7%	3.4%
Impact % (KK-Holegadde)	5.9%	3.5%	2.4%	1.8%	1.6%
Impact % (KK-Belekeri)	6.2%	4.6%	3.5%	3.7%	1.9%

Source: Steer analysis of OD data, and publicly available information

LoS Improvement – NH66 (Mumbai – Cochin corridor)

6.25 The Asset is part of NH66 corridor between Mumbai and Kochi. The corridor is getting four laned in separate concessions. It is expected that by FY24 few more sections of the corridor are expected to complete upgrades. Currently the traffic from Mumbai takes NH48 till Dharwad before reconnecting with asset near Ankola and appears on both Holegadde and Shirur toll plazas.

6.26 Once the construction in completed, the asset would provide improved level of service with reduced travel times for all the long-distance trips moving between Mumbai and south of

Kundapur. This improvement will impact the Belekeri toll plaza as other two plazas already have that traffic appearing on them. The impact is included starting FY25.

Table 6.10: Impact of LoS improvement – NH66

	CJV	LCV	2A	3A	MAV
Impact % (KK-Shirur)	-	-	-	-	-
Impact % (KK-Holegadde)	-	-	-	-	-
Impact % (KK-Belekeri)	0.6%	0.4%	0.5%	0.3%	0.4%

Source: Steer analysis of OD data, and publicly available information

LoS Improvement – Hassan – Mangalore corridor improvement

6.27 The Hassan Mangalore section of NH75 that further connects to Bengaluru is under upgradation to four laning which is expected to be completed by end of FY22. The Asset is part of Goa-Udupi-Mangalore corridor influenced by tourism related activity in the region.

6.28 Once the construction in completed, the connectivity will improve the overall attractiveness of asset for CJV traffic movement on asset traveling for tourism. The in-scope traffic includes all the trips with Origins & Destinations located either on asset in east of Mangalore towards Hassan. The impact is included starting FY23.

Table 6.11: Impact of LoS improvement – Hassan - Mangalore

	CJV	LCV	2A	3A	MAV
Impact % (KK-Shirur)	0.7%	0.8%	1.0%	0.7%	2.5%
Impact % (KK-Holegadde)	0.7%	0.8%	1.0%	0.7%	2.5%
Impact % (KK-Belekeri)	0.7%	0.8%	1.0%	0.7%	2.5%

Source: Steer analysis of OD data, and publicly available information

Local Suppression of trips: Belekeri toll plaza

6.29 As discussed in chapter 3, Belekeri toll plaza has significant influence of local traffic coupled with the existence of a naval base in the vicinity. The toll plaza is currently witnessing a very high percentage of exemptions. This in part due to resistance by the local users to pay toll due to reduced level of service due to ongoing construction of the Asset and in part due to influence of local factors. As the level of exemptions are high on this plaza, when full tolling and stricter toll plaza operations are implemented, it is expected that a large proportion of the local users who are getting these exemptions will move to a local pass category, however a small proportion of the same will find other routes or stop making multiple trips resulting in a reduction in number of users on the toll plaza. By identifying the proportion of local trips which use the toll plaza, a traffic suppression percentage is estimated for each vehicle type and proportions are presented below.

Table 6.12: Impact of local supression

	MLCV	LCV	2A	3A	MAV
Impact % (KK-Shirur)	-	-	-	-	-
Impact % (KK-Holegadde)	-	-	-	-	-
Impact % (KK-Belekeri)	-5.6%	-3.1%	-4.6%	-1.1%	-2.4%

Source: Steer analysis of OD data

Revenue Forecasting Assumptions

6.30 To forecast the revenues for a particular financial year, the traffic forecast for each vehicle type is converted into tickets sold, which is then multiplied with the corresponding toll rate, which grows over the years as defined in the Concession Agreement. While "trip factors" provide the conversion factor to the former, i.e. traffic (trips) to tickets sold, "toll segmentation" provides the latter i.e. the breakup of trips paying each ticket type. This section discusses assumptions related to trip factors, toll segmentation and toll rates for the forecast period.

Trip factors

6.31 As discussed in chapter 3, a user can by different type of tickets to pay toll depending on the vehicle type. Apart from the Single trips, trips such as Return, Monthly, Local Commercial, Local Personal, Local Monthly are discounted tickets that are offered to the users. The revenue realised from these discounted trips is lower than a single trip fare. Therefore, in order to calculate the revenue for the trips made on discounted tickets (or passes) a trip factor is applied to calculate revenue realised from that particular pass sold.

6.32 The monthly passes allow 50 trips to the user at a discounted rate. Since the Asset has not achieved Full COD, and travel patterns on the Asset are still nascent, these discounted categories have not yet stabilised. Therefore, a standard assumption of 45 has been taken as the trip factors for such categories where historical data is not available. Once full tolling is undertaken on the Asset, the trip factors for these categories are expected to stabilise. However, as a starting assumption it is reasonable to assume that each pass sold will be utilised more than 90% (or 45 trips per pass).

6.33 The trip factors assumed are based on the latest FY21 data available and listed in the table below:

Table 6.13: Trip factors for the forecast years – TP1 Shirur

Ticket category	CJV	LCV	Bus	2A	3A	MAV	OSV
Single	1	1	1	1	1	1	1
Return	2	2	2	2	2	2	2
Monthly	45	45	45	45	45	45	45
Local Commercial	1	1	1	1	1	1	1
Local Personal	1	1	1	1	1	1	1
Local Monthly	469	33	101	45	45	45	45

Source: Steer analysis of Client TMS data

Table 6.14: Trip factors for the forecast years – TP2 Holegadde

Ticket category	CJV	LCV	Bus	2A	3A	MAV	OSV
Single	1	1	1	1	1	1	1
Return	2	2	2	2	2	2	2
Monthly	45	45	45	45	45	45	45
Local Commercial	1	1	1	1	1	1	1
Local Personal	1	1	1	1	1	1	1
Local Monthly	373	64	108	45	45	45	45

Source: Steer analysis of Client TMS data

Table 6.15: Trip factors for the forecast years – TP3 Belekeri

Ticket category	CJV	LCV	Bus	2A	3A	MAV	OSV
Single	1	1	1	1	1	1	1
Return	2	2	2	2	2	2	2
Monthly	45	45	45	45	45	45	45
Local Commercial	1	1	1	1	1	1	1
Local Personal	1	1	1	1	1	1	1
Local Monthly	54	34	82	45	45	45	45

Source: Steer analysis of Client TMS data

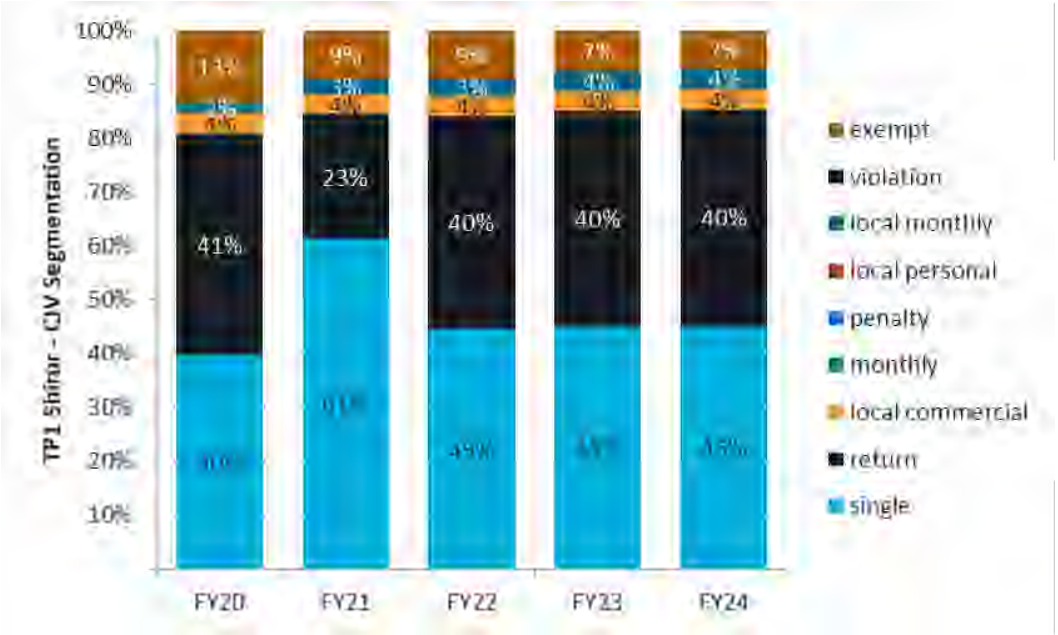
Toll segmentation

6.34 Toll segmentation on the Asset has been discussed in detail in chapter 3. Segmentation trends have largely been stabilising over the last few months post the mandatory implementation of fast tag 15th Feb 2021 onwards indicating a reduction in the share of exemptions and violations due to FASTag implementation and penetration. By March 2021, it was observed that for most vehicle types as the penetration of fast tag increased the trip patterns for vehicle types were normalised within Single and Return category across the vehicle categories. April and May 2021 were impacted by Covid19 related restrictions leading to substantial reduction in traffic again disrupting traffic patterns. Therefore, the segmentation observed in March 2021 has been taken as a starting point to estimate the future segmentation.

6.35 Since, the asset is currently under construction there is resistance of local users to pay tolls due to reduced LOS. These exemptions are expected to go down once the asset completes construction and better implementation of tolling operations takes place. The asset is expected to achieve COD by FY23, post which we expect the travel patterns and ticket segmentation to stabilize and exemptions to come down. We have gradually reduced the exemptions on the asset by FY24 and assumed FY24 segmentation to continue for the rest of the concession. However, we do believe that the violators will get passes under the local personal/local commercial/monthly discounted category, thereby improving the overall compliance, with not a significant impact on the revenue realisation from such trips. These assumptions are presented in the tables and charts below.

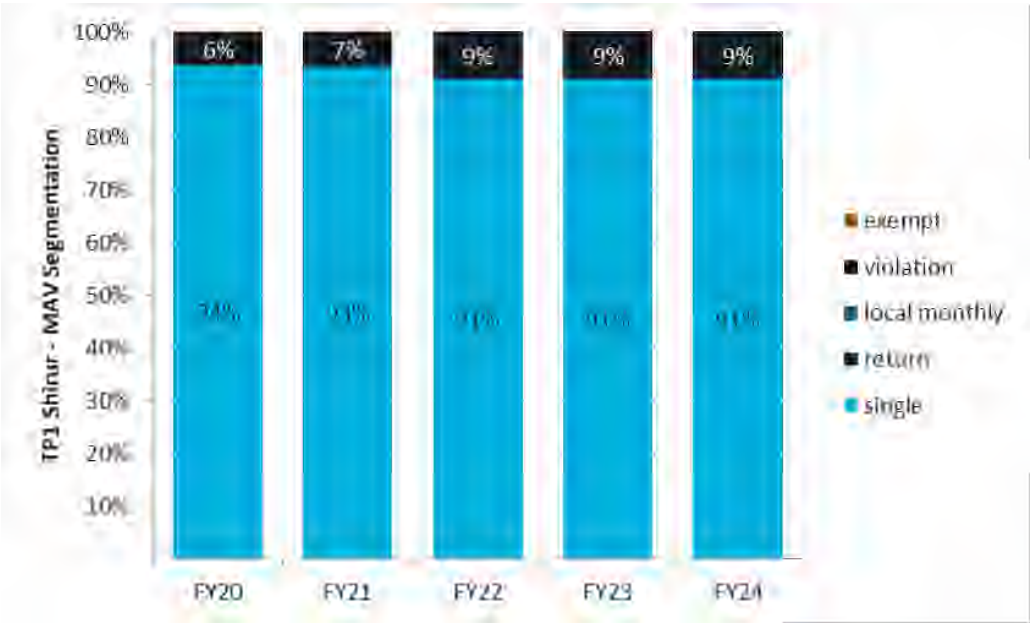
6.36 The toll segmentation adopted in the future years for calculating revenue is presented below for all the vehicle types and toll plazas.

Figure 6.5: CJV toll segmentation evolution – TP1 Shirur



Source: Steer analysis

Figure 6.6: MAV toll segmentation evolution – TP1 Shirur



Source: Steer analysis

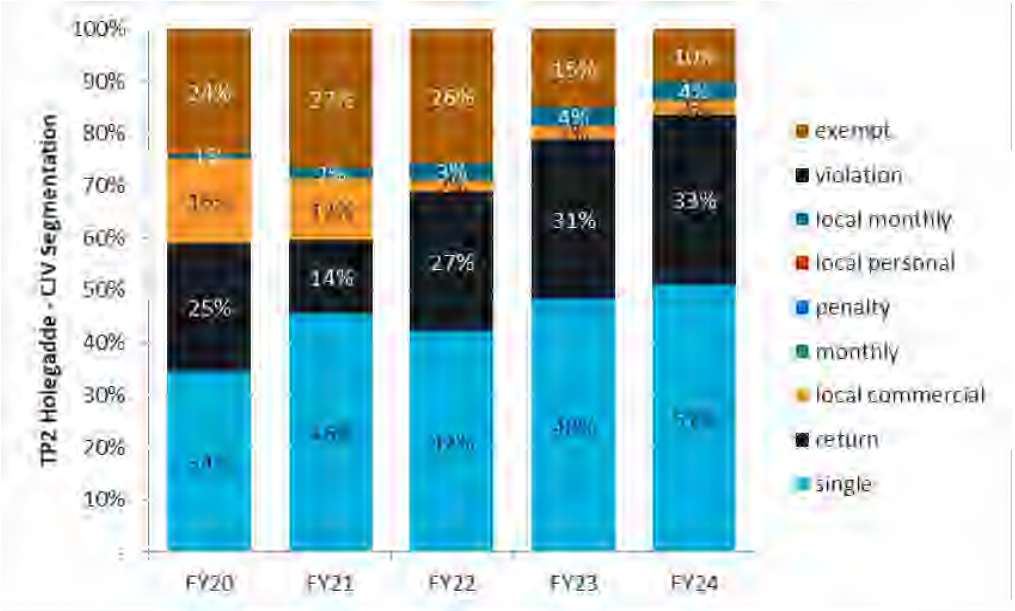
Table 6.16: Toll segmentation for FY24 onwards – TP1 Shirur

Ticket type	CJV	Bus	LCV	2A	3A	MAV
Single	45.2%	16.0%	49.5%	68.9%	77.9%	91.1%
Return	40.2%	66.1%	34.5%	28.1%	21.8%	8.9%
Monthly	-	-	-	-	-	-
Local commercial	3.8%	16.7%	8.5%	2.8%	0.1%	-
Local personal	-	-	-	-	-	-

Ticket type	CJV	Bus	LCV	2A	3A	MAV
Local monthly	3.8%	1.2%	4.4%	0.1%	-	-
Exemptions	-	-	-	-	-	-
Violations	7.0%	0.0%	3.2%	0.1%	0.2%	0.0%

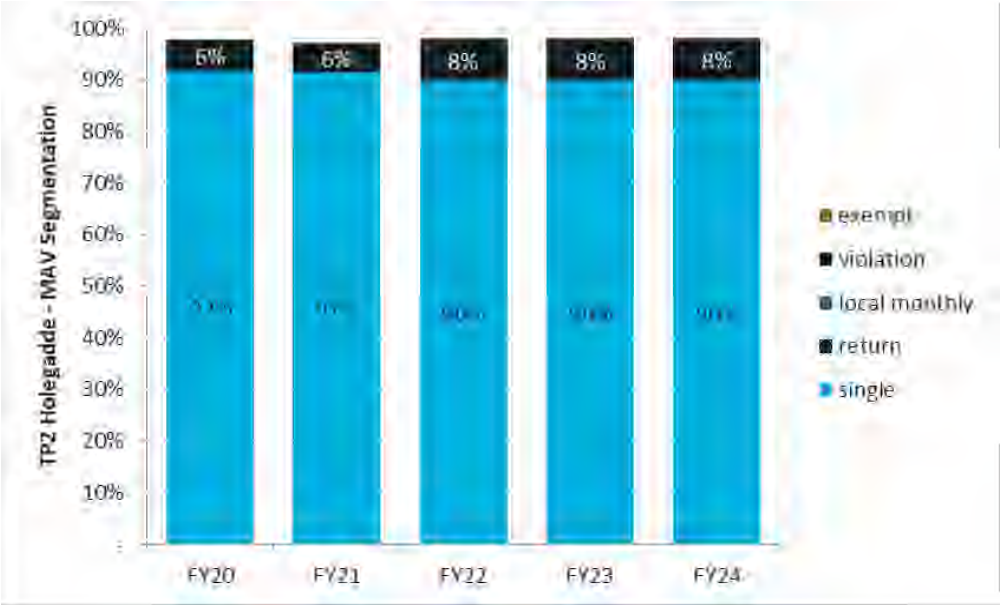
Source: Steer analysis of Client TMS data

Figure 6.7: CJV toll segmentation evolution – TP2 Holegadde



Source: Steer analysis

Figure 6.8: MAV toll segmentation evolution – TP2 Holegadde



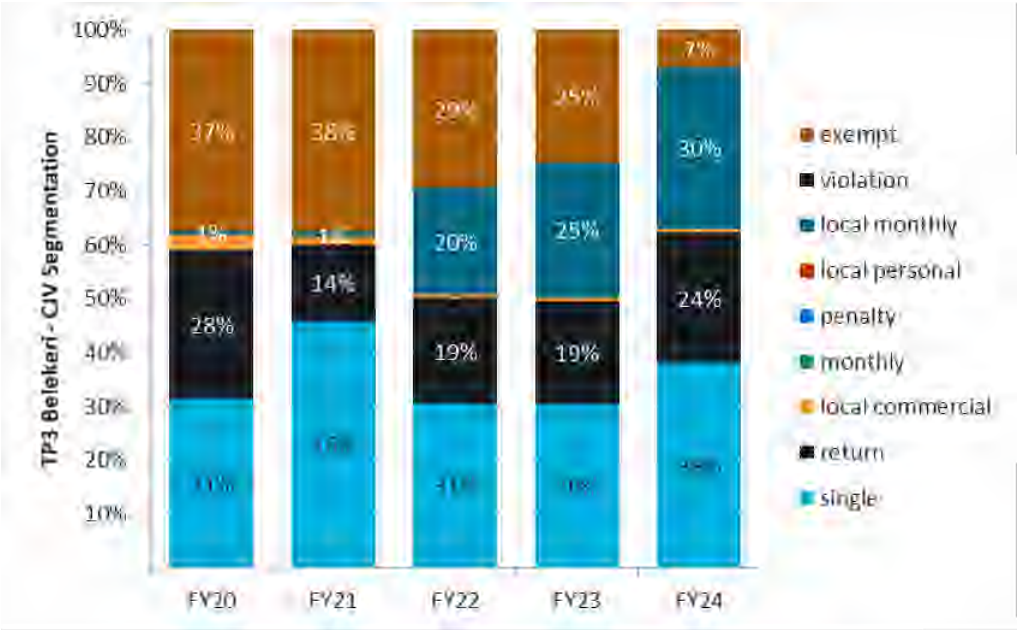
Source: Steer analysis

Table 6.17: Toll segmentation for FY24 onwards – TP2 Holegadde

Ticket type	CJV	Bus	LCV	2A	3A	MAV
Single	51.1%	13.9%	57.6%	66.3%	72.2%	89.8%
Return	32.5%	48.2%	24.2%	18.6%	17.2%	8.0%
Monthly	-	-	-	-	-	-
Local commercial	2.6%	19.8%	2.3%	11.8%	3.9%	2.1%
Local personal	-	-	-	-	-	-
Local monthly	3.7%	18.1%	7.3%	2.4%	-	-
Exemptions	-	-	-	-	-	-
Violations	10.0%	0.0%	8.6%	1.0%	6.8%	0.1%

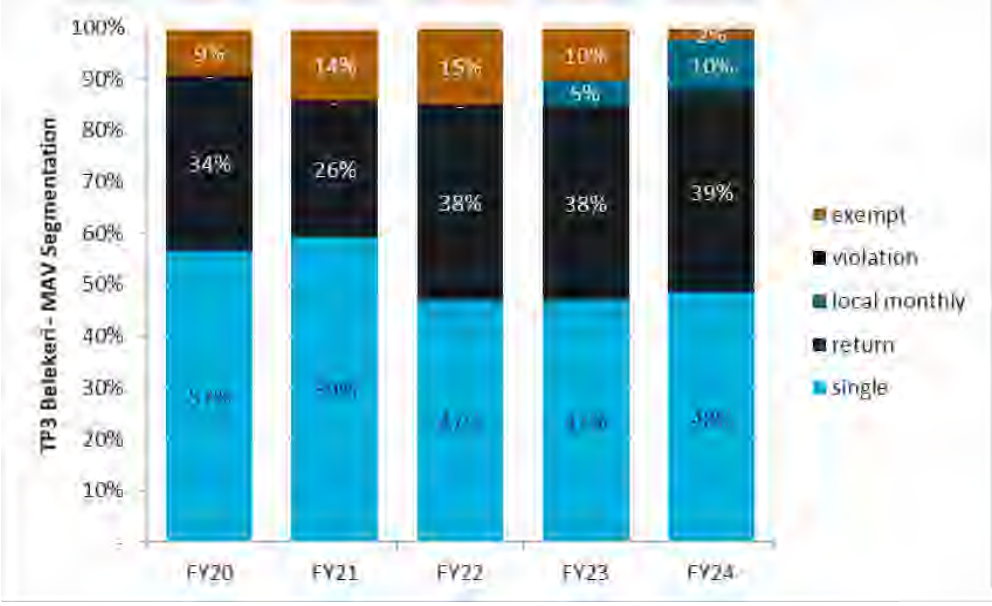
Source: Steer analysis of Client TMS data

Figure 6.9: CJV toll segmentation evolution – TP3 Belekeri



Source: Steer analysis

Figure 6.10: MAV toll segmentation evolution – TP3 Belekeri



Source: Steer analysis

Table 6.18: Toll segmentation for FY24 onwards – TP3 Belekeri

Ticket type	CJV	Bus	LCV	2A	3A	MAV
Single	38.2%	5.7%	36.1%	39.1%	42.5%	48.5%
Return	24.1%	34.6%	21.2%	19.1%	21.8%	39.3%
Monthly	-	-	-	-	-	-
Local commercial	0.8%	26.2%	0.7%	6.8%	0.7%	0.2%
Local personal	-	-	-	-	-	-
Local monthly	30.0%	33.1%	35.0%	30.0%	30.0%	10.0%
Exemptions	-	-	-	-	-	-
Violations	7.0%	0.4%	7.0%	5.0%	5.0%	2.0%

Source: Steer analysis of Client TMS data

6.37 Based on our analysis of recent trends in FASTag penetration rates by vehicle class, we believe that this will largely peak by FY23 for light vehicles and 2A after which it will remain stable. Heavy vehicles, already showing 90-95% of penetration already. Whilst FASTag has become mandatory for all vehicles at all toll plazas as of February 2021, in reality we still anticipate a small percentage of vehicles to continue to pay via cash and other mode of payment. A full shift to FASTtag will be extremely difficult and unlikely, explaining FASTag targets being set to below 100%.

Toll evolution

6.38 Based on the concession agreement and the toll notification, we see that base toll rates increase every year based on WPI-linked inflation to provide us unrounded toll rates. These are rounded as per the CA and toll notifications to estimate the rounded toll rates charged to the road user. We have used actual toll rates from FY20 and FY21 toll notifications to validate the modelling of the toll evolution. Since construction is ongoing on the Asset the tolling lengths are currently

difference than the final tolling lengths which will be applicable post June 2022. These existing toll lengths and revised toll lengths are presented in the table below:

Table 6.19: PCOD and FCOD tolling lengths for toll evolution assumed to be applicable post June 2022

	Existing toll lengths (PCOD)			Revised toll Lengths (FCOD)		
Length (km)	Shirur	Belekeri	Holegadde	Shirur	Belekeri	Holegadde
Road length excluding bypass	71.260	54.480	59.850	71.224	54.480	59.850
Structure on road	-	1.686		-	1.686	
Converted length of structures	-	16.860	-	-	16.860	-
Net Tollable length	71.260	54.480	59.850	71.224	71.340	59.850

Source: Steer analysis of toll notifications and concession agreement (CA)

6.39 WPI growth forecast numbers are based on the latest year number released by RBI for Q3FY22 while the long-term forecast is based on the numbers estimated in annual report published by Consensus, as shown in the table below. The upward trend in inflation is expected to continue in the medium term, before gradually tapering to 4.0% in the long term.

Table 6.20: WPI growth forecast assumptions

Financial year	WPI growth (%)
FY22	2.0%
FY23	9.2%
FY24	4.8%
FY25	5.1%
FY26	4.6%
FY27	4.6%
FY28	4.6%
FY29	4.6%
FY30	4.6%
FY31	4.6%
FY32	4.5%
FY33	4.5%
FY34	4.5%
FY35	4.4%
FY36	4.4%
FY37	4.4%
FY38	4.3%
FY39	4.3%
FY40	4.3%
FY41	4.2%
FY42	4.2%
FY43	4.1%

Financial year	WPI growth (%)
FY44	4.1%
FY45	4.1%
FY46	4.0%
FY47	4.0%

Source: RBI, Annual report by Consensus

Revenue reconciliation

6.40 As part of validating the traffic data provided by the Client, as well as our assumptions around toll segmentation and trip factors, we have reconciled the actual reported revenue for FY21 for the Asset. To reconcile we have used the reported segmentation, and FY21 AADT (actual) and compared it with the reported revenue. Due to the mandatory implementation of FastTAG, all cash trips had to pay penalty fare. In our segmentation we do not assume any penalty in the future years as the revenue from penalty fares is currently being claimed by NHAI. In addition, several special local passes (local monthly) are being issued on a toll plaza level to deal with local users not willing to pay toll. The usage for these local passes change on a month to month basis hence larger differences in reconciliation is observed.

6.41 Therefore, the delta is more between the reported revenue and the modelled revenue for FY2021. However, we believe our segmentation assumptions are robust since the differences in are within 2% on the Asset level. The comparison, as shown in the table below, shows the modelled revenue and the reported revenue.

6.42 The comparison, as shown in the table below, shows revenues overall within acceptable differences and therefore the model shows a good fit with the forecast assumptions.

Table 6.21: Revenue reconciliation summary

Steer modelled revenue (INR cr)	Reported revenue (INR cr)	Difference (%)
68.14	69.78	(2.4%)

Source: Steer comparison between modelled and reported revenue

Traffic and Revenue forecasts

PCU factor assumption for forecasts

6.43 The PCU factors considered are given in the table below. These are derived from IRC: 16-1990 code.

Table 6.22: PCU factors

Vehicle Category	PCU Factor
CJV	1.0
LCV	1.5
Bus	3.0
2A	3.0
3A	3.0
MAV	4.5

Vehicle Category	PCU Factor
OSV	4.5

Source: Steer analysis, IRC Codes

6.44 Based on the traffic and revenue-related forecast assumptions discussed above, we have modelled the traffic and revenue forecasts for the forecast period for the Asset. The table below presents the AADT/PCU and revenue forecast growth rates and CAGRs on this Asset.

TP1 Shirur

Table 6.23: Final (background plus impacts) AADT forecast – TP1 Shirur

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY42	FY45	FY48
CJV	4,744	4,420	6,636	8,942	11,546	14,491	16,464	18,598
Mini LCV	0	790	908	1,025	1,138	1,247	1,314	1,380
Bus	448	350	402	454	504	553	582	611
LCV	458	483	576	651	722	791	833	876
2A	765	915	1,116	1,292	1,467	1,645	1,755	1,866
3A	308	323	413	506	604	709	775	845
MAV	876	923	1,225	1,544	1,889	2,267	2,512	2,770
OSV	1	1	1	2	2	2	3	3
AADT	**7,601**	**8,206**	**11,279**	**14,416**	**17,871**	**21,706**	**24,238**	**26,949**
PCU's	**13,943**	**14,860**	**19,724**	**24,654**	**30,000**	**35,858**	**39,680**	**43,737**

Source: Steer analysis

Table 6.24: Final (background plus impacts) AADT CAGR (%) – TP1 Shirur

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY42-FY45	FY22-FY48
CJV	8.5%	6.1%	5.2%	4.6%	4.3%	5.7%
Mini LCV	2.8%	2.5%	2.1%	1.9%	1.7%	2.2%
Bus	2.8%	2.5%	2.1%	1.9%	1.7%	2.2%
LCV	3.6%	2.5%	2.1%	1.9%	1.7%	2.3%
2A	4.1%	3.0%	2.6%	2.3%	2.2%	2.8%
3A	5.0%	4.1%	3.6%	3.3%	3.0%	3.8%
MAV	5.8%	4.7%	4.1%	3.7%	3.5%	4.3%
OSV	5.1%	4.7%	4.1%	3.7%	3.5%	4.2%
AADT	**6.6%**	**5.0%**	**4.4%**	**4.0%**	**3.7%**	**4.7%**
PCU's	**5.8%**	**4.6%**	**4.0%**	**3.6%**	**3.4%**	**4.2%**

Source: Steer analysis

Table 6.25: Final (background plus impacts) revenue (INR crores) forecast – TP1 Shirur

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY42	FY45	FY48
CJV	10.0	9.8	21.4	36.5	60.1	94.1	122.9	158.0
Mini LCV	0.0	2.5	4.1	5.9	8.3	11.3	13.7	16.4
Bus	3.1	2.5	4.2	6.0	8.4	11.7	14.0	16.9
LCV	1.5	1.8	3.1	4.5	6.3	8.7	10.5	12.6
2A	6.2	8.1	14.4	21.2	30.3	42.8	52.2	63.7
3A	2.8	3.2	6.0	9.3	14.0	20.7	26.0	32.5
MAV	12.1	13.7	26.5	42.5	65.4	98.7	125.5	158.6
OSV	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2
Total Revenue	**35.6**	**41.6**	**79.7**	**126.0**	**193.0**	**288.2**	**365.0**	**459.0**

Source: Steer analysis

Table 6.26: Final (background plus impacts) revenue CAGR (%) – TP1 Shirur

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY42-FY45	FY22-FY48
CJV	16.8%	11.3%	10.5%	9.4%	9.3%	11.3%
Mini LCV	10.7%	7.4%	7.2%	6.5%	6.5%	7.6%
Bus	10.8%	7.5%	7.0%	6.6%	6.4%	7.6%
LCV	11.9%	7.6%	6.9%	6.5%	6.6%	7.8%
2A	12.1%	8.1%	7.5%	7.1%	6.8%	8.3%
3A	13.1%	9.3%	8.5%	8.1%	7.9%	9.3%
MAV	14.1%	10.0%	9.0%	8.6%	8.3%	9.9%
OSV	13.5%	9.8%	9.0%	8.6%	8.3%	9.7%
Total Revenue	**13.9%**	**9.6%**	**8.9%**	**8.4%**	**8.2%**	**9.7%**

Source: Steer analysis

TP2 Holegadde

Table 6.27: Final (background plus impacts) AADT forecast – TP2 Holegadde

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY42	FY45	FY48
CJV	5,585	5,095	7,637	10,290	13,287	16,676	18,947	21,402
Mini LCV	0	1,038	1,193	1,348	1,495	1,639	1,726	1,814
Bus	539	507	582	657	729	800	842	885
LCV	426	449	534	603	669	733	772	811
2A	820	913	1,094	1,266	1,437	1,612	1,720	1,829
3A	343	360	456	559	667	783	856	933
MAV	896	944	1,231	1,551	1,898	2,278	2,524	2,783

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY42	FY45	FY48
OSV	1	1	1	2	2	2	3	3
AADT	**8,611**	**9,307**	**12,729**	**16,276**	**20,184**	**24,524**	**27,390**	**30,460**
PCU's	**15,370**	**16,398**	**21,575**	**26,976**	**32,836**	**39,260**	**43,456**	**47,911**

Source: Steer analysis

Table 6.28: Final (background plus impacts) AADT CAGR (%) – TP2 Holegadde

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY42-FY45	FY22-FY48
CJV	8.4%	6.1%	5.2%	4.6%	4.3%	5.7%
Mini LCV	2.8%	2.5%	2.1%	1.9%	1.7%	2.2%
Bus	2.8%	2.5%	2.1%	1.9%	1.7%	2.2%
LCV	3.5%	2.5%	2.1%	1.9%	1.7%	2.3%
2A	3.7%	3.0%	2.6%	2.3%	2.2%	2.7%
3A	4.9%	4.1%	3.6%	3.3%	3.0%	3.7%
MAV	5.5%	4.7%	4.1%	3.7%	3.5%	4.2%
OSV	5.1%	4.7%	4.1%	3.7%	3.5%	4.2%
AADT	**6.5%**	**5.0%**	**4.4%**	**4.0%**	**3.8%**	**4.7%**
PCU's	**5.6%**	**4.6%**	**4.0%**	**3.6%**	**3.4%**	**4.2%**

Source: Steer analysis

Table 6.29: Final (background plus impacts) revenue (INR crores) forecast – TP2 Holegadde

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY42	FY45	FY48
CJV	8.9	8.9	27.9	48.0	78.4	123.9	159.8	207.7
Mini LCV	0.0	2.4	5.8	8.4	11.7	16.1	19.3	23.3
Bus	2.8	2.9	5.6	8.1	11.3	15.6	18.8	22.6
LCV	1.0	1.5	3.1	4.5	6.3	8.7	10.5	12.7
2A	5.9	7.2	14.9	21.7	31.2	44.1	53.9	65.6
3A	2.7	3.1	6.8	10.6	15.9	23.5	29.4	36.7
MAV	11.3	12.9	28.9	46.2	71.1	107.5	136.5	172.7
OSV	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2
Total Revenue	**32.6**	**38.9**	**93.1**	**147.5**	**226.0**	**339.5**	**428.3**	**541.5**

Source: Steer analysis

Table 6.30: Final (background plus impacts) revenue CAGR (%) – TP2 Holegadde

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY42-FY45	FY22-FY48
CJV	25.6%	11.5%	10.3%	9.6%	8.8%	12.9%

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY42-FY45	FY22-FY48
Mini LCV	19.0%	7.6%	7.0%	6.6%	6.2%	9.1%
Bus	14.6%	7.4%	7.0%	6.6%	6.5%	8.3%
LCV	15.6%	7.5%	7.0%	6.7%	6.4%	8.5%
2A	15.6%	7.8%	7.5%	7.2%	6.9%	8.9%
3A	17.2%	9.2%	8.5%	8.1%	7.7%	10.0%
MAV	17.6%	9.8%	9.0%	8.6%	8.3%	10.5%
OSV	17.0%	9.7%	9.1%	8.6%	8.3%	10.4%
Total Revenue	**19.1%**	**9.6%**	**8.9%**	**8.5%**	**8.0%**	**10.7%**

Source: Steer analysis

TP3 Belekeri

Table 6.31: Final (background plus impacts) AADT forecast – TP3 Belekeri

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY42	FY45	FY48
CJV	3,597	3,194	5,154	7,358	9,984	13,097	15,256	17,647
Mini LCV	0	724	786	887	984	1,079	1,137	1,194
Bus	325	356	409	462	512	561	591	621
LCV	723	745	872	985	1,093	1,198	1,262	1,325
2A	522	518	622	740	862	989	1,068	1,150
3A	256	263	316	366	415	466	497	528
MAV	492	508	610	726	846	970	1,048	1,128
OSV	1	1	1	1	2	2	2	2
AADT	**5,916**	**6,308**	**8,770**	**11,525**	**14,697**	**18,362**	**20,860**	**23,596**
PCU's	**10,208**	**10,733**	**14,039**	**17,699**	**21,786**	**26,395**	**29,478**	**32,813**

Source: Steer analysis

Table 6.32: Final (background plus impacts) AADT CAGR (%) – TP3 Belekeri

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY42-FY45	FY22-FY48
CJV	10.0%	7.4%	6.3%	5.6%	5.2%	6.8%
Mini LCV	1.6%	2.5%	2.1%	1.9%	1.7%	1.9%
Bus	2.8%	2.5%	2.1%	1.9%	1.7%	2.2%
LCV	3.2%	2.5%	2.1%	1.9%	1.7%	2.2%
2A	3.7%	3.5%	3.1%	2.8%	2.6%	3.1%
3A	3.8%	3.0%	2.6%	2.3%	2.2%	2.7%
MAV	3.7%	3.5%	3.1%	2.8%	2.6%	3.1%
OSV	3.8%	3.5%	3.1%	2.8%	2.6%	3.1%

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY42-FY45	FY22-FY48
AADT	**6.8%**	**5.6%**	**5.0%**	**4.6%**	**4.3%**	**5.2%**
PCU's	**5.5%**	**4.7%**	**4.2%**	**3.9%**	**3.8%**	**4.4%**

Source: Steer analysis

Table 6.33: Final (background plus impacts) revenue (INR crores) forecast – TP3 Belekeri

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY42	FY45	FY48
CJV	5.7	4.6	16.0	29.5	50.3	82.7	110.3	146.1
Mini LCV	0.0	1.4	3.2	4.6	6.5	8.9	10.7	12.9
Bus	0.9	1.7	3.3	4.7	6.5	9.0	10.9	13.1
LCV	1.2	1.0	4.4	6.2	8.7	12.1	14.5	17.6
2A	1.9	2.0	6.5	9.8	14.3	20.7	25.6	31.6
3A	1.4	1.4	4.9	7.2	10.4	14.6	17.9	21.8
MAV	5.3	5.6	12.3	18.5	27.2	39.3	48.7	60.1
OSV	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2
Total Revenue	**16.4**	**17.8**	**50.6**	**80.6**	**124.0**	**187.5**	**238.8**	**303.3**

Source: Steer analysis

Table 6.34: Final (background plus impacts) revenue CAGR (%) – TP3 Belekeri

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY42-FY45	FY22-FY48
CJV	28.2%	13.0%	11.3%	10.5%	10.1%	14.2%
Mini LCV	18.4%	7.7%	6.9%	6.6%	6.4%	9.0%
Bus	14.4%	7.5%	6.9%	6.6%	6.5%	8.3%
LCV	33.5%	7.3%	7.0%	6.7%	6.3%	11.5%
2A	25.9%	8.6%	8.0%	7.6%	7.4%	11.1%
3A	27.8%	8.0%	7.4%	7.1%	7.0%	11.0%
MAV	16.9%	8.6%	8.0%	7.6%	7.4%	9.5%
OSV	15.3%	8.6%	7.9%	7.7%	7.3%	9.2%
Total Revenue	**23.2%**	**9.8%**	**9.0%**	**8.6%**	**8.4%**	**11.5%**

Source: Steer analysis

Upside and Downside Cases

Upside and Downside scenario assumptions

6.45 We have developed our base case scenario considering a balanced view on the risks associated with input assumptions around GDP growth and traffic growth elasticities. There is always a risk that the outturn values of these inputs will vary as compared to the assumptions taken

due to exogenous impacts, e.g. GDP growth could be influenced both positively and negatively by the impact of monsoons, export-import balances, political changes etc.

6.46 Similarly, traffic growth elasticities could be influenced by increased efficiencies achieved by technology, large shifts in commodity prices globally, changes in local manufacturing practices. However, at this stage we consider that the base case represents a central case scenario given the risks of variation of input assumptions.

6.47 To account for the possible variations in the growth drivers, we are also presenting the forecasts for an Upside (optimistic) and a Downside (pessimistic) scenario. These scenarios are defined by the following variations from the base assumptions:

Table 6.35: Summary of assumptions for upside and downside cases

Asset	Input	Upside	Downside
Macro Assumptions			
KK	GDP/GSDP	+1% every year	-1% every year
KK	WPI	+1% every year	-1% every year
KK	Elasticities	+ 10%	- 10%

Source: Steer analysis

6.48 Further, network developments are highly dependent on governmental directions, policies, legal and financial measure which might result in early or delayed completion of developments discussed in previous section of this Chapter. Therefore, we have included an Upside (optimistic) and a Downside (pessimistic) case for impacts below. However, at this stage, we consider that the base case represents a central case scenario given the risks of variation of input assumptions.

Impacts-Upside Case

6.49 The upside case impacts included in forecasts are summarised in below.

Table 6.36: Summary of impacts on the KK asset – upside scenario

Impact	Year	Shirur	Holegadde	Belekeri
LoS Improvement (construction completion)	FY23 onwards	CJV: 7.6% LCV: 4.4% 2A: 6% 3A: 2.9% MAV: 3.6%	CJV: 7.3% LCV: 4.1% 2A: 3.4% 3A: 2% MAV: 1.7%	CJV: 7.7% LCV: 5.5% 2A: 5% 3A: 4% MAV: 2%
LoS Improvement – NH66 (Mumbai – Cochin corridor)	FY24 onwards	-	-	CJV: 0.73% 2A: 0.5% 3A: 0.7% MAV: 0.3%
Hassan – Mangalore LoS Improvement	FY23 onwards	CJV: 0.88% LCV: 1.33% 2A: 0.8% 3A: 1.04% MAV: 1.28%	CJV: 0.88% LCV: 1.33% 2A: 0.8% 3A: 1.04% MAV: 1.28%	CJV: 0.88% LCV: 1.33% 2A: 0.8% 3A: 1.04% MAV: 1.28%
Local suppression of trips due to introduction of full tolling	FY23 onwards	-	-	MLCV: 5.6% LCV: 3.1% 2A: 4.6%

Impact	Year	Shirur	Holegadde	Belekeri
				3A: 1.1% MAV: 2.4%

Source: Steer analysis of OD data, and publicly available information

Impacts-Downside Case

6.50 The downside case impacts included in forecasts are summarised in below.

Table 6.37: Summary of impacts on the KK asset – downside scenario

Impact	Year	Shirur	Holegadde	Belekeri
LoS Improvement (construction completion)	FY23 onwards	CJV: 4.5% LCV: 2.6% 2A: 3.6% 3A: 1.7% MAV: 2.1%	CJV: 7.3% LCV: 4.1% 2A: 3.4% 3A: 2% MAV: 1.7%	CJV: 4.6% LCV: 3.3% 2A: 3% 3A: 2.3% MAV: 1.1%
LoS Improvement – NH66 (Mumbai – Cochin corridor)	FY26 onwards	-	-	CJV: 0.4% 2A: 0.3% 3A: 0.4% MAV: 0.2%
Hassan – Mangalore LoS Improvement	FY25 onwards	CJV: 0.5% LCV: 0.8% 2A: 0.5% 3A: 0.6% MAV: 0.7%	CJV: 0.5% LCV: 0.8% 2A: 0.5% 3A: 0.6% MAV: 0.7%	CJV: 0.5% LCV: 0.8% 2A: 0.5% 3A: 0.6% MAV: 0.7%
Local suppression of trips due to introduction of full tolling	FY23 onwards	-	-	MLCV: 5.6% LCV: 3.1% 2A: 4.6% 3A: 1.1% MAV: 2.4%

Source: Steer analysis of OD data, and publicly available information

6.51 The traffic forecast and growth, and revenue incorporating the upside and downside assumptions are presented in the following sections.

Traffic and Revenue Forecasts - upside scenario

TP1 Shirur

Table 6.38: Final (background plus impacts) AADT forecast for upside scenario – TP1 Shirur

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY42	FY45	FY48
CJV	3,153	4,420	7,329	10,700	14,915	20,163	23,934	28,232
Mini LCV	0	790	940	1,098	1,257	1,422	1,524	1,630
Bus	286	350	417	487	557	630	675	722
LCV	674	483	608	710	813	920	986	1,055
2A	665	915	1,193	1,438	1,698	1,979	2,158	2,347
3A	268	323	443	574	724	895	1,010	1,135

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY42	FY45	FY48
MAV	782	923	1,326	1,781	2,318	2,954	3,391	3,873
OSV	1	1	1	2	2	3	4	4
AADT	**5,829**	**8,206**	**12,259**	**16,791**	**22,286**	**28,965**	**33,683**	**38,998**
PCU's	**11,345**	**14,860**	**21,314**	**28,385**	**36,773**	**46,782**	**53,746**	**61,503**

Source: Steer analysis

Table 6.39: Final (background plus impacts) AADT CAGR (%) for upside scenario – TP1 Shirur

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY42-FY45	FY22-FY48
CJV	10.6%	7.9%	6.9%	6.2%	5.9%	7.4%
Mini LCV	3.5%	3.1%	2.7%	2.5%	2.4%	2.8%
Bus	3.5%	3.1%	2.7%	2.5%	2.4%	2.8%
LCV	4.7%	3.1%	2.7%	2.5%	2.4%	3.0%
2A	5.4%	3.8%	3.4%	3.1%	2.9%	3.7%
3A	6.5%	5.3%	4.7%	4.3%	4.1%	4.9%
MAV	7.5%	6.1%	5.4%	5.0%	4.7%	5.7%
OSV	6.5%	6.1%	5.4%	5.0%	4.7%	5.5%
AADT	**8.4%**	**6.5%**	**5.8%**	**5.4%**	**5.2%**	**6.2%**
PCU's	**7.5%**	**5.9%**	**5.3%**	**4.9%**	**4.7%**	**5.6%**

Source: Steer analysis

Table 6.40: Final (background plus impacts) revenue (INR crores) forecast for upside scenario – TP1 Shirur

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY42	FY45	FY48
CJV	6.6	9.8	24.6	46.7	86.0	151.4	212.4	295.9
Mini LCV	0.0	2.5	4.4	6.7	10.1	15.0	18.9	23.9
Bus	2.0	2.5	4.5	6.9	10.3	15.4	19.4	24.5
LCV	2.1	1.8	3.4	5.3	7.8	11.7	14.8	18.6
2A	5.4	8.1	15.9	25.1	38.8	59.5	76.4	98.2
3A	2.4	3.2	6.6	11.3	18.7	30.3	40.4	53.5
MAV	10.8	13.7	29.6	52.3	89.0	149.2	201.5	271.6
OSV	0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.3
Total Revenue	**29.4**	**41.6**	**89.1**	**154.3**	**261.0**	**432.6**	**584.0**	**786.5**

Source: Steer analysis

Table 6.41: Final (background plus impacts) revenue CAGR (%) for upside scenario – TP1 Shirur

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY42-FY45	FY22-FY48
CJV	20.1%	13.7%	13.0%	12.0%	12.0%	14.0%
Mini LCV	12.3%	8.8%	8.6%	8.1%	8.2%	9.1%

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY42-FY45	FY22-FY48
Bus	12.3%	8.9%	8.5%	8.2%	8.1%	9.1%
LCV	13.8%	9.0%	8.3%	8.3%	8.0%	9.4%
2A	14.5%	9.5%	9.2%	8.9%	8.7%	10.1%
3A	15.5%	11.3%	10.6%	10.2%	10.0%	11.4%
MAV	16.7%	12.1%	11.2%	10.9%	10.5%	12.2%
OSV	15.6%	12.0%	11.3%	10.8%	10.6%	12.0%
Total Revenue	**16.4%**	**11.6%**	**11.1%**	**10.6%**	**10.5%**	**12.0%**

Source: Steer analysis

TP2 Holegadde

Table 6.42: Final (background plus impacts) AADT forecast for upside scenario – TP2 Holegadde

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY42	FY45	FY48
CJV	3,646	5,095	8,431	12,309	17,158	23,194	27,532	32,476
Mini LCV	0	1,038	1,236	1,443	1,652	1,868	2,003	2,142
Bus	342	507	603	704	806	911	977	1,045
LCV	843	449	564	658	753	852	913	977
2A	669	913	1,162	1,400	1,653	1,926	2,101	2,285
3A	285	360	489	634	799	988	1,115	1,253
MAV	794	944	1,332	1,789	2,329	2,967	3,406	3,890
OSV	1	1	1	2	2	3	4	4
AADT	**6,580**	**9,307**	**13,818**	**18,939**	**25,152**	**32,710**	**38,052**	**44,072**
PCU's	**12,377**	**16,398**	**23,273**	**31,012**	**40,204**	**51,183**	**58,831**	**67,356**

Source: Steer analysis

Table 6.43: Final (background plus impacts) AADT CAGR (%) for upside scenario – TP2 Holegadde

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY42-FY45	FY22-FY48
CJV	10.6%	7.9%	6.9%	6.2%	5.9%	7.4%
Mini LCV	3.5%	3.1%	2.7%	2.5%	2.4%	2.8%
Bus	3.5%	3.1%	2.7%	2.5%	2.4%	2.8%
LCV	4.6%	3.1%	2.7%	2.5%	2.4%	3.0%
2A	4.9%	3.8%	3.4%	3.1%	2.9%	3.6%
3A	6.3%	5.3%	4.7%	4.3%	4.1%	4.9%
MAV	7.1%	6.1%	5.4%	5.0%	4.7%	5.6%
OSV	6.5%	6.1%	5.4%	5.0%	4.7%	5.5%
AADT	**8.2%**	**6.5%**	**5.8%**	**5.4%**	**5.2%**	**6.2%**
PCU's	**7.3%**	**5.9%**	**5.3%**	**4.9%**	**4.8%**	**5.6%**

Source: Steer analysis

Table 6.44: Final (background plus impacts) revenue (INR crores) forecast for upside scenario – TP2 Holegadde

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY42	FY45	FY48
CJV	5.8	8.9	31.8	60.9	110.9	198.4	277.7	384.4
Mini LCV	0.0	2.4	6.2	9.5	14.2	21.2	26.8	33.6
Bus	1.8	2.9	6.0	9.2	13.8	20.5	25.9	32.7
LCV	1.9	1.5	3.5	5.3	7.9	11.7	14.9	18.7
2A	4.8	7.2	16.2	25.8	39.8	60.9	78.2	100.3
3A	2.3	3.1	7.5	12.7	21.1	34.2	45.5	60.4
MAV	10.0	12.9	32.2	56.8	96.7	162.6	219.2	295.8
OSV	0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.4
Total Revenue	**26.6**	**38.9**	**103.4**	**180.2**	**304.4**	**509.8**	**688.4**	**926.4**

Source: Steer analysis

Table 6.45: Final (background plus impacts) revenue CAGR (%) for upside scenario – TP2 Holegadde

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY42-FY45	FY22-FY48
CJV	29.0%	13.9%	12.7%	12.3%	11.9%	15.6%
Mini LCV	20.6%	8.9%	8.4%	8.4%	8.1%	10.7%
Bus	15.9%	9.1%	8.4%	8.3%	8.1%	9.8%
LCV	17.9%	8.8%	8.3%	8.3%	8.3%	10.2%
2A	17.5%	9.8%	9.1%	8.9%	8.6%	10.7%
3A	19.6%	11.1%	10.6%	10.2%	10.0%	12.1%
MAV	20.2%	12.0%	11.2%	10.9%	10.5%	12.8%
OSV	19.2%	12.1%	11.3%	10.8%	10.5%	12.7%
Total Revenue	**21.6%**	**11.7%**	**11.1%**	**10.9%**	**10.5%**	**13.0%**

Source: Steer analysis

TP3 Belekeri

Table 6.46: Final (background plus impacts) AADT forecast for upside scenario – TP3 Belekeri

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY42	FY45	FY48
CJV	2,483	3,194	5,789	9,087	13,502	19,345	23,738	28,910
Mini LCV	0	724	814	950	1,088	1,230	1,319	1,411
Bus	197	356	423	494	566	640	686	734
LCV	744	745	924	1,078	1,235	1,396	1,497	1,601
2A	410	518	669	837	1,021	1,226	1,360	1,503
3A	198	263	334	402	475	554	604	657

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY42	FY45	FY48
MAV	368	508	650	812	991	1,190	1,320	1,460
OSV	1	1	1	2	2	2	3	3
AADT	**4,401**	**6,308**	**9,604**	**13,663**	**18,880**	**25,583**	**30,527**	**36,278**
PCU's	**7,674**	**10,733**	**15,198**	**20,517**	**27,097**	**35,293**	**41,207**	**47,985**

Source: Steer analysis

Table 6.47: Final (background plus impacts) AADT CAGR (%) for upside scenario – TP3 Belekeri

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY42-FY45	FY22-FY48
CJV	12.6%	9.4%	8.2%	7.5%	7.1%	8.8%
Mini LCV	2.4%	3.1%	2.7%	2.5%	2.4%	2.6%
Bus	3.5%	3.1%	2.7%	2.5%	2.4%	2.8%
LCV	4.4%	3.1%	2.7%	2.5%	2.4%	3.0%
2A	5.3%	4.6%	4.1%	3.7%	3.5%	4.2%
3A	4.9%	3.8%	3.4%	3.1%	2.9%	3.6%
MAV	5.1%	4.6%	4.1%	3.7%	3.5%	4.1%
OSV	4.9%	4.6%	4.1%	3.7%	3.5%	4.1%
AADT	**8.8%**	**7.3%**	**6.7%**	**6.3%**	**6.1%**	**7.0%**
PCU's	**7.2%**	**6.2%**	**5.7%**	**5.4%**	**5.3%**	**5.9%**

Source: Steer analysis

Table 6.48: Final (background plus impacts) revenue (INR crores) forecast for upside scenario – TP3 Belekeri

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY42	FY45	FY48
CJV	3.9	4.6	18.6	38.5	74.6	141.8	204.4	292.5
Mini LCV	0.0	1.4	3.4	5.3	7.9	11.8	14.8	18.6
Bus	0.8	1.7	3.5	5.3	8.0	11.9	15.0	18.9
LCV	1.3	1.0	4.7	7.3	10.9	16.3	20.5	25.9
2A	1.6	2.0	7.1	11.8	18.8	29.7	38.9	50.7
3A	1.1	1.4	5.4	8.5	13.1	20.1	25.9	33.2
MAV	3.9	5.6	13.5	22.1	35.4	55.8	73.0	95.1
OSV	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.3
Total Revenue	**12.7**	**17.8**	**56.3**	**98.9**	**168.9**	**287.6**	**392.7**	**535.3**

Source: Steer analysis

Table 6.49: Final (background plus impacts) revenue CAGR (%) for upside scenario – TP3 Belekeri

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY42-FY45	FY22-FY48
CJV	32.0%	15.7%	14.1%	13.7%	12.9%	17.3%

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY42-FY45	FY22-FY48
Mini LCV	20.0%	9.0%	8.4%	8.4%	8.0%	10.5%
Bus	16.0%	9.0%	8.4%	8.2%	8.2%	9.8%
LCV	35.6%	9.0%	8.4%	8.3%	8.1%	13.2%
2A	28.4%	10.5%	9.8%	9.6%	9.4%	13.1%
3A	30.0%	9.6%	9.1%	8.9%	8.8%	12.8%
MAV	19.2%	10.4%	9.8%	9.5%	9.3%	11.5%
OSV	17.1%	10.4%	9.8%	9.6%	9.4%	11.1%
Total Revenue	**25.8%**	**11.9%**	**11.3%**	**11.2%**	**10.9%**	**14.0%**

Source: Steer analysis

Traffic and Revenue Forecasts – downside scenario

TP1 Shirur

Table 6.50: Final (background plus impacts) AADT forecast for downside scenario – TP1 Shirur

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY42	FY45	FY48
CJV	3,153	4,420	6,055	7,594	9,159	10,765	11,768	12,796
Mini LCV	0	790	880	965	1,041	1,111	1,152	1,191
Bus	286	350	390	427	461	492	510	528
LCV	674	483	557	611	659	703	729	754
2A	665	915	1,074	1,198	1,314	1,426	1,491	1,555
3A	268	323	391	455	518	580	618	655
MAV	782	923	1,149	1,367	1,584	1,803	1,936	2,071
OSV	1	1	1	1	2	2	2	2
AADT	**5,829**	**8,206**	**10,498**	**12,619**	**14,738**	**16,882**	**18,206**	**19,552**
PCU's	**11,345**	**14,860**	**18,512**	**21,876**	**25,203**	**28,547**	**30,593**	**32,662**

Source: Steer analysis

Table 6.51: Final (background plus impacts) AADT CAGR (%) for downside scenario – TP1 Shirur

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY42-FY45	FY22-FY48
CJV	6.5%	4.6%	3.8%	3.3%	3.0%	4.2%
Mini LCV	2.2%	1.9%	1.5%	1.3%	1.2%	1.6%
Bus	2.2%	1.9%	1.5%	1.3%	1.2%	1.6%
LCV	2.9%	1.9%	1.5%	1.3%	1.2%	1.7%
2A	3.2%	2.2%	1.9%	1.6%	1.5%	2.1%
3A	3.9%	3.1%	2.6%	2.3%	2.1%	2.8%
MAV	4.5%	3.5%	3.0%	2.6%	2.4%	3.2%
OSV	3.9%	3.5%	3.0%	2.6%	2.4%	3.0%
AADT	**5.0%**	**3.7%**	**3.2%**	**2.8%**	**2.5%**	**3.4%**

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY42-FY45	FY22-FY48
PCU's	**4.5%**	**3.4%**	**2.9%**	**2.5%**	**2.3%**	**3.1%**

Source: Steer analysis

Table 6.52: Final (background plus impacts) revenue (INR crores) forecast for downside scenario – TP1 Shirur

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY42	FY45	FY48
CJV	6.6	9.8	19.5	31.0	47.7	69.9	87.8	108.7
Mini LCV	0.0	2.5	4.0	5.5	7.6	10.1	12.0	14.2
Bus	2.0	2.5	4.1	5.7	7.7	10.4	12.3	14.6
LCV	2.1	1.8	3.0	4.2	5.8	7.7	9.2	10.9
2A	5.4	8.1	13.8	19.6	27.2	37.1	44.3	53.1
3A	2.4	3.2	5.7	8.4	12.0	17.0	20.7	25.2
MAV	10.8	13.7	24.8	37.7	54.8	78.5	96.7	118.6
OSV	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2
Total Revenue	**29.4**	**41.6**	**74.9**	**112.2**	**162.9**	**230.8**	**283.3**	**345.4**

Source: Steer analysis

Table 6.53: Final (background plus impacts) revenue CAGR (%) for downside scenario – TP1 Shirur

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY42-FY45	FY22-FY48
CJV	14.7%	9.7%	9.0%	8.0%	7.9%	9.7%
Mini LCV	10.0%	6.8%	6.6%	5.9%	6.0%	7.0%
Bus	10.1%	6.9%	6.4%	6.1%	5.8%	7.0%
LCV	11.1%	6.9%	6.3%	6.0%	6.1%	7.2%
2A	11.3%	7.3%	6.7%	6.4%	6.1%	7.5%
3A	11.9%	8.2%	7.4%	7.1%	6.9%	8.2%
MAV	12.7%	8.7%	7.8%	7.4%	7.2%	8.7%
OSV	12.1%	8.6%	7.8%	7.5%	7.2%	8.5%
Total Revenue	**12.5%**	**8.4%**	**7.7%**	**7.2%**	**7.1%**	**8.5%**

Source: Steer analysis

TP2 Holegadde

Table 6.54: Final (background plus impacts) AADT forecast for downside scenario – TP2 Holegadde

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY42	FY45	FY48
CJV	3,646	5,095	6,971	8,743	10,545	12,394	13,548	14,731
Mini LCV	0	1,038	1,157	1,268	1,368	1,460	1,513	1,565
Bus	342	507	564	619	667	712	738	764
LCV	843	449	517	566	611	652	676	699

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY42	FY45	FY48
2A	669	913	1,055	1,177	1,291	1,401	1,465	1,528
3A	285	360	433	504	574	643	684	726
MAV	794	944	1,162	1,383	1,602	1,824	1,959	2,095
OSV	1	1	1	1	2	2	2	2
AADT	**6,580**	**9,307**	**11,861**	**14,261**	**16,659**	**19,087**	**20,586**	**22,110**
PCU's	**12,377**	**16,398**	**20,296**	**23,990**	**27,643**	**31,314**	**33,562**	**35,834**

Source: Steer analysis

Table 6.55: Final (background plus impacts) AADT CAGR (%) for downside scenario – TP2 Holegadde

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY42-FY45	FY22-FY48
CJV	6.5%	4.6%	3.8%	3.3%	3.0%	4.2%
Mini LCV	2.2%	1.9%	1.5%	1.3%	1.2%	1.6%
Bus	2.2%	1.9%	1.5%	1.3%	1.2%	1.6%
LCV	2.8%	1.9%	1.5%	1.3%	1.2%	1.7%
2A	2.9%	2.2%	1.9%	1.6%	1.5%	2.0%
3A	3.8%	3.1%	2.6%	2.3%	2.1%	2.7%
MAV	4.2%	3.5%	3.0%	2.6%	2.4%	3.1%
OSV	3.9%	3.5%	3.0%	2.6%	2.4%	3.0%
AADT	**5.0%**	**3.8%**	**3.2%**	**2.8%**	**2.6%**	**3.4%**
PCU's	**4.4%**	**3.4%**	**2.9%**	**2.5%**	**2.3%**	**3.1%**

Source: Steer analysis

Table 6.56: Final (background plus impacts) revenue (INR crores) forecast for downside scenario – TP2 Holegadde

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY42	FY45	FY48
CJV	5.8	8.9	25.5	40.8	62.2	92.1	114.2	143.0
Mini LCV	0.0	2.4	5.6	7.9	10.7	14.4	16.9	20.1
Bus	1.8	2.9	5.5	7.6	10.3	13.9	16.5	19.5
LCV	1.9	1.5	3.0	4.2	5.8	7.7	9.2	10.9
2A	4.8	7.2	14.4	20.2	28.0	38.3	45.9	54.8
3A	2.3	3.1	6.5	9.5	13.7	19.3	23.5	28.5
MAV	10.0	12.9	27.3	41.2	60.0	86.1	106.0	130.0
OSV	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2
Total Revenue	**26.6**	**38.9**	**87.8**	**131.4**	**190.8**	**271.8**	**332.3**	**407.0**

Source: Steer analysis

Table 6.57: Final (background plus impacts) revenue CAGR (%) for downside scenario – TP2 Holegadde

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY42-FY45	FY22-FY48
CJV	23.3%	9.9%	8.8%	8.2%	7.4%	11.3%
Mini LCV	18.3%	7.0%	6.4%	6.1%	5.6%	8.5%
Bus	13.9%	6.7%	6.4%	6.1%	5.9%	7.7%
LCV	14.9%	6.9%	6.4%	6.1%	5.9%	7.9%
2A	14.7%	7.1%	6.8%	6.5%	6.2%	8.1%
3A	16.0%	8.1%	7.4%	7.1%	6.8%	8.9%
MAV	16.3%	8.6%	7.8%	7.5%	7.2%	9.3%
OSV	15.7%	8.5%	7.9%	7.4%	7.2%	9.2%
Total Revenue	**17.7%**	**8.4%**	**7.7%**	**7.3%**	**6.9%**	**9.5%**

Source: Steer analysis

TP3 Belekeri

Table 6.58: Final (background plus impacts) AADT forecast for downside scenario – TP3 Belekeri

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY42	FY45	FY48
CJV	2,483	3,194	4,631	6,069	7,594	9,213	10,249	11,329
Mini LCV	0	724	762	835	901	961	996	1,031
Bus	197	356	396	434	468	500	518	536
LCV	744	745	840	921	993	1,060	1,099	1,137
2A	410	518	593	676	756	833	879	925
3A	198	263	302	337	370	401	420	438
MAV	368	508	584	665	743	819	864	909
OSV	1	1	1	1	1	2	2	2
AADT	**4,401**	**6,308**	**8,109**	**9,939**	**11,826**	**13,790**	**15,027**	**16,306**
PCU's	**7,674**	**10,733**	**13,159**	**15,628**	**18,117**	**20,661**	**22,242**	**23,859**

Source: Steer analysis

Table 6.59: Final (background plus impacts) AADT CAGR (%) for downside scenario – TP3 Belekeri

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY42-FY45	FY22-FY48
CJV	7.7%	5.6%	4.6%	3.9%	3.6%	5.0%
Mini LCV	1.0%	1.9%	1.5%	1.3%	1.2%	1.4%
Bus	2.2%	1.9%	1.5%	1.3%	1.2%	1.6%
LCV	2.4%	1.9%	1.5%	1.3%	1.2%	1.6%
2A	2.8%	2.7%	2.2%	2.0%	1.8%	2.3%
3A	2.8%	2.2%	1.9%	1.6%	1.5%	2.0%
MAV	2.8%	2.7%	2.2%	2.0%	1.8%	2.3%

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY42-FY45	FY22-FY48
OSV	2.9%	2.7%	2.2%	2.0%	1.8%	2.3%
AADT	**5.2%**	**4.2%**	**3.5%**	**3.1%**	**2.9%**	**3.7%**
PCU's	**4.2%**	**3.5%**	**3.0%**	**2.7%**	**2.5%**	**3.1%**

Source: Steer analysis

Table 6.60: Final (background plus impacts) revenue (INR crores) forecast for downside scenario – TP3 Belekeri

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY42	FY45	FY48
CJV	3.9	4.6	14.4	24.3	38.3	58.2	74.1	93.8
Mini LCV	0.0	1.4	3.1	4.4	5.9	7.9	9.4	11.1
Bus	0.8	1.7	3.2	4.4	6.0	8.0	9.5	11.3
LCV	1.3	1.0	4.2	5.8	8.0	10.7	12.7	15.1
2A	1.6	2.0	6.2	8.9	12.6	17.4	21.1	25.4
3A	1.1	1.4	4.7	6.7	9.2	12.6	15.1	18.1
MAV	3.9	5.6	11.7	17.0	23.9	33.2	40.2	48.4
OSV	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1
Total Revenue	**12.7**	**17.8**	**47.5**	**71.5**	**103.9**	**148.2**	**182.2**	**223.3**

Source: Steer analysis

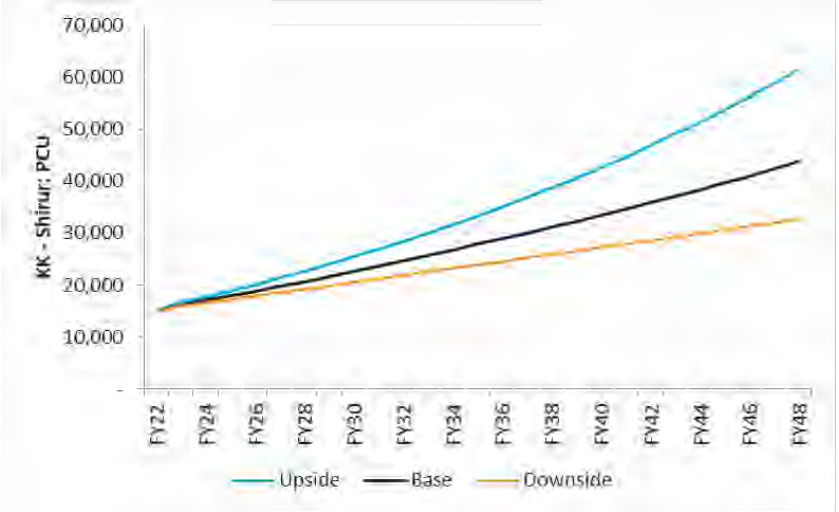
Table 6.61: Final (background plus impacts) revenue CAGR (%) for downside scenario – TP3 Belekeri

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY42-FY45	FY22-FY48
CJV	25.5%	11.0%	9.5%	8.7%	8.4%	12.3%
Mini LCV	17.7%	7.1%	6.3%	6.0%	5.9%	8.4%
Bus	13.7%	6.9%	6.3%	6.1%	5.9%	7.7%
LCV	32.5%	6.7%	6.4%	6.1%	5.8%	10.9%
2A	24.7%	7.6%	7.1%	6.8%	6.5%	10.2%
3A	26.7%	7.2%	6.7%	6.4%	6.3%	10.2%
MAV	15.9%	7.7%	7.1%	6.8%	6.5%	8.6%
OSV	14.2%	7.7%	7.0%	6.8%	6.5%	8.3%
Total Revenue	**21.7%**	**8.5%**	**7.8%**	**7.4%**	**7.1%**	**10.2%**

Source: Steer analysis

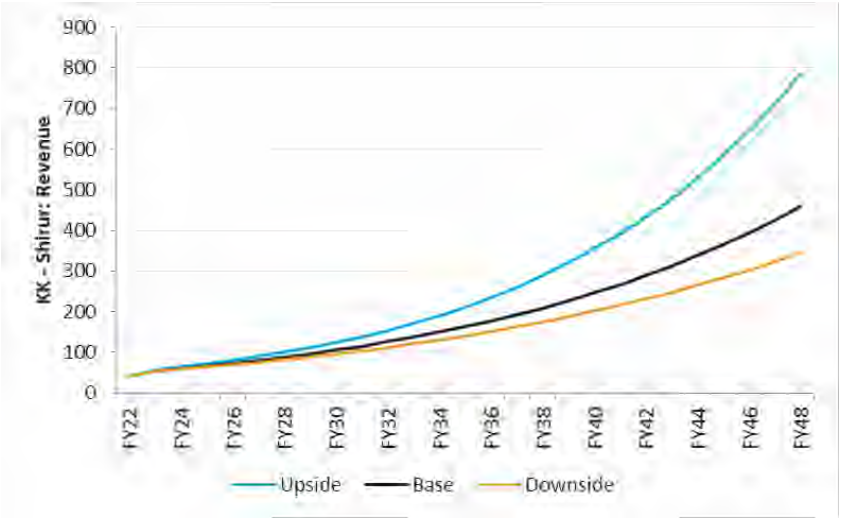
6.52 The following charts shows comparison of traffic and revenue forecasts with the Upside and downside scenarios presented in sections above.

Figure 6.11: Final AADT forecast including Upside and Downside scenarios – KK Shirur



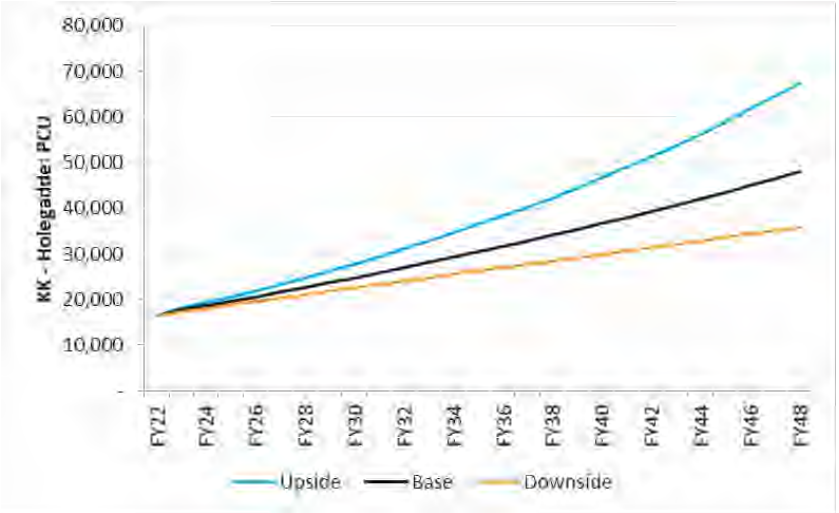
Source: Steer analysis

Figure 6.12: Final Revenue forecast including Upside and Downside scenarios – KK Shirur



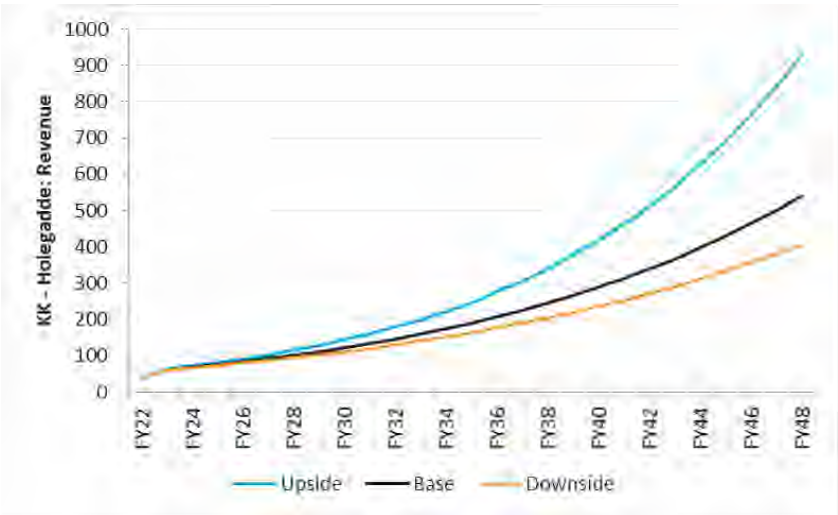
Source: Steer analysis

Figure 6.13: Final AADT forecast including Upside and Downside scenarios – KK Holegadde



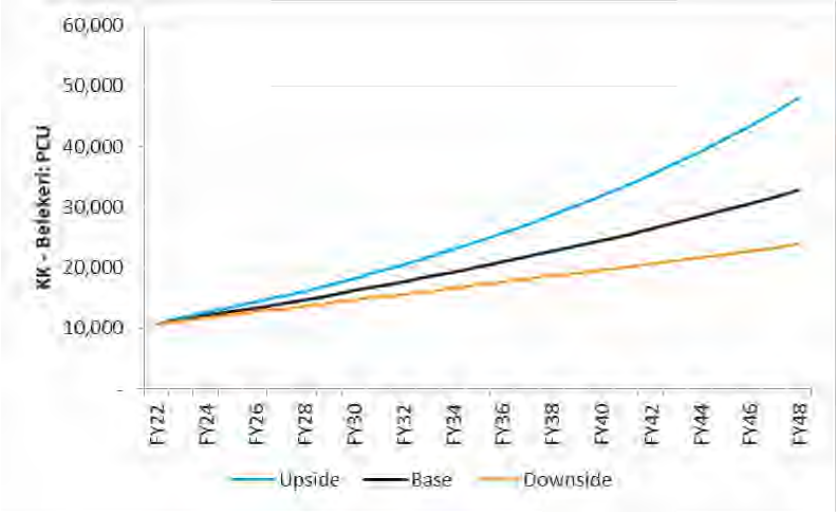
Source: Steer analysis

Figure 6.14: Final Revenue forecast including Upside and Downside scenarios – KK Holegadde



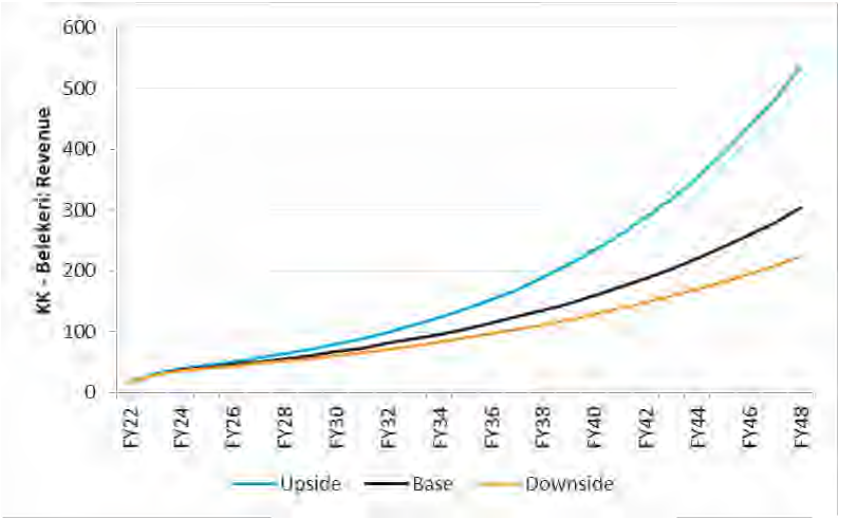
Source: Steer analysis

Figure 6.15: Final AADT forecast including Upside and Downside scenarios – KK Belekeri



Source: Steer analysis

Figure 6.16: Final Revenue forecast including Upside and Downside scenarios – KK Belekeri



Source: Steer analysis

Target traffic and modification of concession period

6.53 As per the concession agreement, the target traffic should be 21,307 PCUs for KK for the target date of 1st April 2022. The traffic sampling will be undertaken for a continuous period of 7 days during anytime within 15 days prior to the date on the specified year, previous year and following year. The average thereof will be deemed as 'actual traffic.' If the target traffic for any section falls short or exceeds by 2.5%, the concession period shall be deemed to be modified using the laid-out conditions in the concession agreement. The table below presents the summary of the analysis.

Table 6.62: Target Traffic

Asset	Target month	Estimated traffic (PCUs)			Average traffic	Target traffic	Variation (%)
		FY21	FY22	FY23	(PCUs)	(PCUs)	

Asset	Target month	Estimated traffic (PCUs)			Average traffic	Target traffic	Variation (%)
KK	Apr-22	12,213	13,285	14,299	13,266	21,307	(37.7%)

Source: Steer analysis

6.54 We have used the average AADT forecast for target year, previous year and following year as a proxy for 'actual traffic.' We have forecast seasonality of March month to adjust for seasonal trends and arrive at March traffic from AADT traffic.

6.55 According to the CA, based on the variation in traffic, the concession period is expected to be increased by **seven years** (till FY55).

Summary outlook

6.56 Passenger movement on the asset is the largest share of traffic on this asset with major tourism centres all along the Asset and at both ends of the Asset. This drive both passenger traffic and the consumption demand generated by these tourism centres leading to a natural growth path for Mini LCV, LCV and 2A trucks.

6.57 The western coastline has been a key attractor for tourism, and development of a 4-lane road (Asset) will result in a expansion in demand along the corridor. This captive nature of the traffic is expected to result in a positive long term growth profile for the corridor.

6.58 The Asset also benefits from large traffic generator such as the Mangalore port and the only connectivity to NH48 just south of Belekeri plaza. The expansion of Mangalore port will result in a positive outlook for cargo carrying long distance traffic to the nearby states.

6.59 It has been observed that even though traffic across the country saw significant impact of Covid 19 impact and dropped upto 70% of pre-Covid19 levels during Q2FY21, only to recover during the second half of the year, this asset saw a growth and subsequent stabilisation of traffic volumes. The impact is much more on passenger vehicles as all the tourism related activities were completely stopped in the Area. Similar decline is traffic was seen due to 2nd wave which impacted CJV and Bus traffic the most, however the good vehicle performance remained good with lesser dropes in volumes. It is expected that by Q2FY22 the traffic across all vehicle types should return to normal trends as was after the first wave of Covid19.

6.60 With regards to the short-term background growth, we see the following risk:

- The nascent recovery from the pandemic could be subdued due stronger lockdowns being implemented and traffic growth not sustaining the coming months. However as it was observed in FY21 that a very a strong recovery of traffic took place once the nationwide lockdown was relaxed. This included pent up demand from the lockdown period giving a major boost to traffic in FY21. It can be expected that a similar pattern, albeit to a much smaller extent, could repeat itself in FY22 with the first quarter being more subdued and the follow three quarters seeing stronger recovery.
- The underlying strengthening and sustainability of the wider economic growth, particularly for sectors like tourism, hospitality, leisure could see a major comeback in the second part of FY22 resulting in increased activity in the corridor.

6.61 We expect that the implementation of FASTag rules, will also help in improving the operational efficiency and overall compliance levels on the Asset and overall corridor, thereby resulting in an improved level of service for all users.

6.62 Overall, we see a positive outlook for the region in the Asset given that it serves and connects major urban centres of Delhi NCR, Maharashtra, Rajasthan, Punjab, Kerala, Karnataka, Tamil Nadu, and Andhra Pradesh while connecting Mangalore Port to the rest of the country. The underlying growth drivers of the corridor are strong and are expected to deliver long term sustained growth.

Appendices

A Top 10 OD Pairs

A.1 Further to the OD analysis presented in Chapter 3 this appendix presents the top 10 OD pairs at each toll plaza. Please see this data for both CJVs and MAVs and OSVs combined below.

Table A.1: 3A/MAV top 10 OD pair shares – TP1 Shirur

	OD Pair	Share
1.	Hubli - Mangalore	10%
2.	Mangalore - Koppal	7%
3.	Mangalore - Goa	5%
4.	Gujarat - Kerala	3%
5.	Solapur - Mangalore	3%
6.	Kundapur - Bhatkal	3%
7.	Karwar - Mangalore	3%
8.	Pune - Kerala	3%
9.	Mumbai - Mangalore	3%
10.	Mangalore - Bagalkot	3%

Source: Steer analysis

Table A.2: 3A/MAV top 10 OD pair shares – TP2 Holegadde

	OD Pair	Share
1.	Mangalore Port - Hubli	10%
2.	Mangalore Port - Goa	6%
3.	Mangalore Port - Belagavi (Belgaum)	4%
4.	Mangalore Port - Koppal	4%
5.	Mangalore Port - Gujarat	4%
6.	Mangalore Port - Dharwad	3%
7.	Mangalore Port - Bagalkot	3%
8.	Pune - Kerala	3%
9.	Mumbai - Kerala	2%
10.	Gujarat - Kerala	2%

Source: Steer analysis

Table A.3: 3A/MAV top 10 OD pair shares – TP3 Belekeri

	OD Pair	Share
1.	Mangalore - Goa	12%
2.	Ballari (Bellary) - Goa	10%
3.	Hubli - Goa	8%
4.	Karwar - Hubli	6%
5.	Karwar - Ankola	6%
6.	Goa - Kerala	5%
7.	Bengaluru (Bangalore) - Goa	5%
8.	Koppal - Goa	4%
9.	Karwar - Mangalore	4%
10.	Goa - Chennai	3%

Source: Steer analysis

B Detailed forecasts

B.1 Further to the summary of forecasts presented in Chapter 6, this appendix presents detailed forecasts.

Traffic forecasts

B.2 This section presents the detailed traffic forecasts for the forecast period until FY48, year of expected close of the concession. The following two tables show the traffic growth rates and AADT, respectively.

TP1 Shirur

Table B.1: Forecasts for final (background + impacts) AADT – TP1 Shirur

Vehicle Category	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
CJV	4,744	4,420	5,004	5,408	5,801	6,211	6,636	7,069	7,514	7,975
Mini LCV	-	790	811	835	860	884	908	932	955	979
Bus	448	350	360	370	381	392	402	413	423	434
LCV	458	483	515	530	545	561	576	591	606	621
2A	765	915	982	1,014	1,048	1,082	1,116	1,151	1,186	1,221
3A	308	323	345	361	378	395	413	431	449	468
MAV	876	923	1,000	1,052	1,108	1,166	1,225	1,286	1,348	1,412
OSV	1	1	1	1	1	1	1	1	1	1
Total	**7,601**	**8,206**	**9,019**	**9,573**	**10,122**	**10,692**	**11,279**	**11,874**	**12,483**	**13,111**
PCU	**13,943**	**14,860**	**16,153**	**17,017**	**17,891**	**18,795**	**19,724**	**20,665**	**21,626**	**22,613**

Source: Steer analysis

Table B.2: Forecasts for final (background + impacts) AADT – TP1 Shirur

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
CJV	8,452	8,942	9,442	9,952	10,471	11,002	11,546	12,103	12,675	13,264
Mini LCV	1,002	1,025	1,048	1,071	1,093	1,116	1,138	1,160	1,181	1,203
Bus	444	454	465	475	484	494	504	514	524	533
LCV	636	651	665	680	694	708	722	736	750	764
2A	1,256	1,292	1,327	1,362	1,397	1,432	1,467	1,502	1,537	1,573
3A	487	506	525	545	564	584	604	624	645	666
MAV	1,477	1,544	1,611	1,679	1,748	1,818	1,889	1,962	2,036	2,112
OSV	2	2	2	2	2	2	2	2	2	2
Total	**13,756**	**14,416**	**15,085**	**15,764**	**16,453**	**17,155**	**17,871**	**18,602**	**19,350**	**20,117**
PCU	**23,625**	**24,654**	**25,696**	**26,749**	**27,815**	**28,898**	**30,000**	**31,123**	**32,270**	**33,441**

Source: Steer analysis

Table B.3: Forecasts for final (background + impacts) AADT – TP1 Shirur

Vehicle Category	FY41	FY42	FY43	FY44	FY45	FY46	FY47	FY48
CJV	13,869	14,491	15,131	15,789	16,464	17,158	17,869	18,598
Mini LCV	1,225	1,247	1,269	1,291	1,314	1,336	1,358	1,380
Bus	543	553	562	572	582	592	602	611
LCV	777	791	805	819	833	848	862	876
2A	1,609	1,645	1,681	1,718	1,755	1,792	1,829	1,866
3A	687	709	730	753	775	798	821	845
MAV	2,189	2,267	2,347	2,429	2,512	2,597	2,683	2,770
OSV	2	2	2	3	3	3	3	3
Total	**20,902**	**21,706**	**22,530**	**23,374**	**24,238**	**25,122**	**26,026**	**26,949**
PCU	**34,636**	**35,858**	**37,105**	**38,380**	**39,680**	**41,007**	**42,360**	**43,737**

Source: Steer analysis

TP2 Holegadde

Table B.4: Forecasts for final (background + impacts) AADT – TP2 Holegadde

Vehicle Category	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
CJV	5,585	5,095	5,797	6,223	6,676	7,148	7,637	8,135	8,647	9,178
Mini LCV	-	1,038	1,066	1,098	1,130	1,162	1,193	1,225	1,255	1,286
Bus	539	507	520	536	551	567	582	597	613	628
LCV	426	449	477	491	505	520	534	548	562	575
2A	820	913	962	994	1,027	1,060	1,094	1,128	1,162	1,197
3A	343	360	382	399	418	437	456	476	496	517
MAV	896	944	1,005	1,057	1,113	1,171	1,231	1,292	1,354	1,419
OSV	1	1	1	1	1	1	1	1	1	1
Total	**8,611**	**9,307**	**10,211**	**10,799**	**11,421**	**12,066**	**12,729**	**13,402**	**14,090**	**14,800**
PCU	**15,370**	**16,398**	**17,697**	**18,607**	**19,565**	**20,557**	**21,575**	**22,606**	**23,658**	**24,740**

Source: Steer analysis

Table B.5: Forecasts for final (background + impacts) AADT – TP2 Holegadde

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
CJV	9,727	10,290	10,866	11,452	12,050	12,661	13,287	13,928	14,586	15,264
Mini LCV	1,317	1,348	1,378	1,407	1,437	1,466	1,495	1,524	1,553	1,581
Bus	643	657	672	687	701	715	729	743	758	772
LCV	589	603	616	630	643	656	669	682	695	708
2A	1,231	1,266	1,300	1,335	1,369	1,403	1,437	1,472	1,507	1,542
3A	538	559	580	601	623	645	667	689	712	735
MAV	1,484	1,551	1,619	1,687	1,756	1,827	1,898	1,971	2,046	2,122

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
OSV	2	2	2	2	2	2	2	2	2	2
Total	**15,530**	**16,276**	**17,033**	**17,801**	**18,580**	**19,374**	**20,184**	**21,012**	**21,858**	**22,725**
PCU	**25,848**	**26,976**	**28,119**	**29,273**	**30,441**	**31,628**	**32,836**	**34,068**	**35,325**	**36,609**

Source: Steer analysis

Table B.6: Forecasts for final (background + impacts) AADT – TP2 Holegadde

Vehicle Category	FY41	FY42	FY43	FY44	FY45	FY46	FY47	FY48
CJV	15,960	16,676	17,413	18,170	18,947	19,745	20,564	21,402
Mini LCV	1,610	1,639	1,668	1,697	1,726	1,755	1,784	1,814
Bus	786	800	814	828	842	856	871	885
LCV	720	733	746	759	772	785	798	811
2A	1,577	1,612	1,648	1,684	1,720	1,756	1,792	1,829
3A	759	783	807	831	856	881	907	933
MAV	2,199	2,278	2,358	2,440	2,524	2,609	2,695	2,783
OSV	2	2	2	3	3	3	3	3
Total	**23,613**	**24,524**	**25,456**	**26,412**	**27,390**	**28,391**	**29,415**	**30,460**
PCU	**37,921**	**39,260**	**40,629**	**42,028**	**43,456**	**44,912**	**46,398**	**47,911**

Source: Steer analysis

TP3 Belekeri

Table B.7: Forecasts for final (background + impacts) AADT – TP3 Belekeri

Vehicle Category	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
CJV	3,597	3,194	3,666	4,016	4,390	4,763	5,154	5,558	5,978	6,418
Mini LCV	-	724	702	723	744	765	786	806	827	847
Bus	325	356	365	376	387	398	409	419	430	441
LCV	723	745	776	799	826	849	872	895	918	940
2A	522	518	530	551	576	599	622	645	668	692
3A	256	263	277	286	297	306	316	326	336	346
MAV	492	508	523	544	565	588	610	633	656	679
OSV	1	1	1	1	1	1	1	1	1	1
Total	**5,916**	**6,308**	**6,841**	**7,296**	**7,786**	**8,269**	**8,770**	**9,283**	**9,813**	**10,364**
PCU	**10,208**	**10,733**	**11,410**	**12,030**	**12,701**	**13,359**	**14,039**	**14,730**	**15,438**	**16,171**

Source: Steer analysis

Table B.8: Forecasts for final (background + impacts) AADT – TP3 Belekeri

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
CJV	6,879	7,358	7,852	8,360	8,884	9,424	9,984	10,562	11,161	11,783
Mini LCV	867	887	907	927	946	965	984	1,003	1,022	1,041

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
Bus	451	462	472	482	492	502	512	522	532	542
LCV	963	985	1,007	1,029	1,050	1,071	1,093	1,114	1,135	1,156
2A	716	740	764	788	813	837	862	886	912	937
3A	356	366	376	386	395	405	415	425	435	445
MAV	703	726	750	774	797	821	846	870	895	920
OSV	1	1	1	2	2	2	2	2	2	2
Total	**10,936**	**11,525**	**12,129**	**12,747**	**13,379**	**14,029**	**14,697**	**15,385**	**16,093**	**16,826**
PCU	**16,926**	**17,699**	**18,486**	**19,287**	**20,101**	**20,934**	**21,786**	**22,659**	**23,555**	**24,476**

Source: Steer analysis

Table B.9: Forecasts for final (background + impacts) AADT – TP3 Belekeri

Vehicle Category	FY41	FY42	FY43	FY44	FY45	FY46	FY47	FY48
CJV	12,428	13,097	13,791	14,511	15,256	16,027	16,824	17,647
Mini LCV	1,060	1,079	1,098	1,118	1,137	1,156	1,175	1,194
Bus	552	561	571	581	591	601	611	621
LCV	1,177	1,198	1,219	1,240	1,262	1,283	1,304	1,325
2A	963	989	1,015	1,041	1,068	1,095	1,122	1,150
3A	456	466	476	486	497	507	518	528
MAV	945	970	996	1,022	1,048	1,075	1,101	1,128
OSV	2	2	2	2	2	2	2	2
Total	**17,582**	**18,362**	**19,169**	**20,001**	**20,860**	**21,746**	**22,658**	**23,596**
PCU	**25,422**	**26,395**	**27,395**	**28,422**	**29,478**	**30,562**	**31,674**	**32,813**

Source: Steer analysis

Revenue forecasts

B.3 The following table presents the year-wise annual revenue forecasts for the forecast period until FY48.

B1.2 TP1 Shirur

Table B.10: Revenue forecasts for final (background + impacts) AADT – TP1 Shirur

Vehicle Category	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
CJV	10.0	9.8	13.3	15.3	17.1	19.3	21.4	24.0	26.7	29.6
Mini LCV	-	2.5	3.0	3.3	3.5	3.8	4.1	4.4	4.8	5.1
Bus	3.1	2.5	3.1	3.4	3.6	3.9	4.2	4.6	4.9	5.2
LCV	1.5	1.8	2.3	2.5	2.7	2.9	3.1	3.4	3.7	3.9
2A	6.2	8.1	10.5	11.4	12.3	13.4	14.4	15.6	16.8	18.1
3A	2.8	3.2	4.2	4.6	5.0	5.5	6.0	6.6	7.2	7.8
MAV	12.1	13.7	17.8	19.8	21.9	24.1	26.5	29.2	32.0	35.3

Vehicle Category	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
OSV	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	**35.6**	**41.6**	**54.2**	**60.3**	**66.2**	**73.0**	**79.7**	**87.9**	**96.1**	**105.1**

Source: Steer analysis

Table B.11: Revenue forecasts (background + impacts) AADT – TP1 Shirur

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
CJV	33.1	36.5	40.0	45.0	49.0	54.3	60.1	65.0	71.6	78.9
Mini LCV	5.5	5.9	6.2	6.8	7.2	7.7	8.3	8.7	9.3	10.0
Bus	5.6	6.0	6.4	6.9	7.4	7.9	8.4	9.0	9.6	10.3
LCV	4.2	4.5	4.8	5.1	5.5	5.9	6.3	6.8	7.2	7.7
2A	19.5	21.2	22.8	24.5	26.3	28.3	30.3	32.5	34.9	37.4
3A	8.5	9.3	10.1	11.0	11.9	13.0	14.0	15.2	16.4	17.8
MAV	38.5	42.5	46.3	50.6	55.2	60.2	65.4	71.1	77.4	84.2
OSV	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Total	**115.0**	**126.0**	**136.7**	**150.0**	**162.6**	**177.3**	**193.0**	**208.3**	**226.5**	**246.4**

Source: Steer analysis

Table B.12: Revenue forecasts for final (background + impacts) AADT – TP1 Shirur

Vehicle Category	FY41	FY42	FY43	FY44	FY45	FY46	FY47	FY48
CJV	86.2	94.1	102.6	112.4	122.9	133.6	145.7	158.0
Mini LCV	10.7	11.3	12.0	12.9	13.7	14.6	15.5	16.4
Bus	10.9	11.7	12.4	13.2	14.0	14.9	15.9	16.9
LCV	8.2	8.7	9.3	9.9	10.5	11.2	11.9	12.6
2A	40.0	42.8	45.8	49.1	52.2	55.9	59.5	63.7
3A	19.2	20.7	22.4	24.2	26.0	28.0	30.1	32.5
MAV	91.0	98.7	107.2	116.5	125.5	135.8	146.5	158.6
OSV	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2
Total	**266.2**	**288.2**	**311.8**	**338.3**	**365.0**	**394.2**	**425.3**	**459.0**

Source: Steer analysis

B1.3 TP2 Holegadde

Table B.13: Revenue forecasts for final (background + impacts) AADT – TP2 Holegadde

Vehicle Category	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
CJV	8.9	8.9	16.8	20.1	22.5	25.0	27.9	31.1	35.1	38.7
Mini LCV	-	2.4	4.1	4.7	5.1	5.4	5.8	6.2	6.7	7.2
Bus	2.8	2.9	4.1	4.5	4.8	5.2	5.6	6.1	6.5	7.0
LCV	1.0	1.5	2.3	2.5	2.7	2.9	3.1	3.4	3.6	3.9
2A	5.9	7.2	10.8	11.7	12.7	13.8	14.9	16.1	17.3	18.7
3A	2.7	3.1	4.6	5.2	5.6	6.2	6.8	7.4	8.1	8.9

Vehicle Category	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
MAV	11.3	12.9	19.5	21.6	23.8	26.3	28.9	31.8	35.0	38.4
OSV	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	**32.6**	**38.9**	**62.3**	**70.2**	**77.3**	**84.8**	**93.1**	**102.2**	**112.3**	**122.8**

Source: Steer analysis

Table B.14: Revenue forecasts for final (background + impacts) AADT – TP2 Holegadde

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
CJV	43.4	48.0	53.3	57.9	64.3	71.4	78.4	86.1	94.3	103.2
Mini LCV	7.8	8.4	8.9	9.4	10.2	11.0	11.7	12.5	13.3	14.2
Bus	7.5	8.1	8.6	9.2	9.8	10.6	11.3	12.0	12.8	13.7
LCV	4.2	4.5	4.8	5.2	5.5	5.9	6.3	6.7	7.2	7.7
2A	20.1	21.7	23.5	25.2	27.0	29.1	31.2	33.5	35.8	38.4
3A	9.6	10.6	11.4	12.4	13.5	14.7	15.9	17.2	18.6	20.1
MAV	42.0	46.2	50.4	55.2	59.9	65.7	71.1	77.3	84.2	91.8
OSV	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Total	**134.7**	**147.5**	**161.0**	**174.6**	**190.4**	**208.4**	**226.0**	**245.5**	**266.4**	**289.3**

Source: Steer analysis

Table B.15: Revenue forecasts for final (background + impacts) AADT – TP2 Holegadde

Vehicle Category	FY41	FY42	FY43	FY44	FY45	FY46	FY47	FY48
CJV	112.1	123.9	134.3	148.0	159.8	175.1	190.7	207.7
Mini LCV	15.0	16.1	17.1	18.3	19.3	20.7	22.0	23.3
Bus	14.6	15.6	16.6	17.6	18.8	19.9	21.2	22.6
LCV	8.2	8.7	9.3	9.9	10.5	11.2	11.9	12.7
2A	41.1	44.1	47.2	50.4	53.9	57.5	61.2	65.6
3A	21.7	23.5	25.2	27.4	29.4	31.6	34.0	36.7
MAV	99.1	107.5	116.7	126.7	136.5	147.6	159.6	172.7
OSV	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2
Total	**312.0**	**339.5**	**366.4**	**398.5**	**428.3**	**463.9**	**500.8**	**541.5**

Source: Steer analysis

B1.4 TP3 Belekeri

Table B.16: Revenue forecasts for final (background + impacts) AADT – TP3 Belekeri

Vehicle Category	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
CJV	5.7	4.6	7.7	11.1	12.5	14.2	16.0	18.4	20.6	23.4
Mini LCV	-	1.4	1.9	2.6	2.8	3.0	3.2	3.5	3.7	4.0
Bus	0.9	1.7	2.4	2.6	2.8	3.0	3.3	3.5	3.8	4.0
LCV	1.2	1.0	2.2	3.5	3.8	4.1	4.4	4.7	5.0	5.4
2A	1.9	2.0	4.0	5.0	5.5	5.9	6.5	7.1	7.7	8.3

Vehicle Category	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
3A	1.4	1.4	3.0	3.9	4.2	4.6	4.9	5.4	5.8	6.2
MAV	5.3	5.6	8.3	9.5	10.4	11.3	12.3	13.4	14.5	15.8
OSV	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	**16.4**	**17.8**	**29.5**	**38.1**	**41.9**	**46.1**	**50.6**	**56.0**	**61.0**	**67.2**

Source: Steer analysis

Table B.17: Revenue forecasts for final (background + impacts) AADT – TP3 Belekeri

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
CJV	26.1	29.5	32.4	36.4	40.7	45.5	50.3	55.7	61.4	67.7
Mini LCV	4.3	4.6	4.9	5.3	5.7	6.1	6.5	6.9	7.3	7.8
Bus	4.4	4.7	5.0	5.3	5.7	6.1	6.5	7.0	7.5	8.0
LCV	5.8	6.2	6.7	7.2	7.7	8.2	8.7	9.3	9.9	10.7
2A	9.0	9.8	10.6	11.4	12.3	13.3	14.3	15.5	16.7	18.0
3A	6.7	7.2	7.8	8.4	9.0	9.7	10.4	11.1	11.9	12.8
MAV	17.1	18.5	20.1	21.6	23.4	25.3	27.2	29.3	31.6	34.1
OSV	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Total	**73.4**	**80.6**	**87.5**	**95.6**	**104.5**	**114.3**	**124.0**	**134.8**	**146.3**	**159.2**

Source: Steer analysis

Table B.18: Revenue forecasts for final (background + impacts) AADT – TP3 Belekeri

Vehicle Category	FY41	FY42	FY43	FY44	FY45	FY46	FY47	FY48
CJV	75.3	82.7	91.3	100.1	110.3	121.2	132.8	146.1
Mini LCV	8.4	8.9	9.5	10.1	10.7	11.4	12.1	12.9
Bus	8.4	9.0	9.6	10.3	10.9	11.6	12.3	13.1
LCV	11.3	12.1	12.9	13.7	14.5	15.5	16.5	17.6
2A	19.3	20.7	22.2	24.0	25.6	27.4	29.4	31.6
3A	13.7	14.6	15.7	16.8	17.9	19.1	20.4	21.8
MAV	36.6	39.3	42.2	45.5	48.7	52.2	56.0	60.1
OSV	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2
Total	**173.0**	**187.5**	**203.5**	**220.5**	**238.8**	**258.6**	**279.7**	**303.3**

Source: Steer analysis

C Data collection exercise

C.1 To validate and inform various inputs used in our forecasting, we undertook primary data collection on the Asset. OD survey data was collected on behalf of the Client, TVC surveys were commissioned by Steer with a third party. OD data collection typically involves manual data entry by enumerators based on oral surveys with road users crossing toll plazas. TVC data collection involves video-graphic capture of traffic passing crossing the toll plazas, followed by manual counting.

7 days TVC count

Table C.1: 7-day TVC counts – TP1 Shirur

Date	Source	CJV	Mini LCV	LCV	Bus	2 Axle	3 Axle	MAV	OSV	Total
28-06-2021	TVC	3,113	465	349	153	482	301	708	-	5,571
29-06-2021	TVC	2,479	557	349	226	522	380	821	-	5,334
30-06-2021	TVC	2,687	479	322	218	584	343	856	-	5,489
01-07-2021	TVC	2,642	481	357	262	666	410	847	-	5,665
02-07-2021	TVC	2,643	471	409	263	539	382	733	-	5,440
03-07-2021	TVC	2,306	408	376	219	516	321	816	-	4,962
04-07-2021	TVC	2,347	396	300	187	497	275	763	-	4,765

Source: Steer analysis

Table C.2: 7-day TVC counts – TP2 Holegadde

Date	Source	CJV	Mini LCV	LCV	Bus	2 Axle	3 Axle	MAV	OSV	Total
28-06-2021	TVC	3,291	617	451	215	345	188	708	-	5,815
29-06-2021	TVC	2,918	665	579	295	420	244	948	-	6,069
30-06-2021	TVC	2,993	649	539	278	455	219	976	-	6,109
01-07-2021	TVC	2,967	680	616	307	461	265	899	-	6,195
02-07-2021	TVC	3,023	656	592	320	403	253	870	-	6,117
03-07-2021	TVC	2,829	588	455	234	425	306	779	-	5,616
04-07-2021	TVC	2,919	413	364	223	443	300	753	-	5,415

Source: Steer analysis

Table C.3: 7-day TVC counts – TP1 Shirur

Date	Source	CJV	Mini LCV	LCV	Bus	2 Axle	3 Axle	MAV	OSV	Total
28-06-2021	TVC	2,332	467	292	173	196	114	371	-	3,945

Date	Source	CJV	Mini LCV	LCV	Bus	2 Axle	3 Axle	MAV	OSV	Total
29-06-2021	TVC	2,059	506	337	237	226	159	469	-	3,993
30-06-2021	TVC	2,135	488	297	253	243	158	448	-	4,022
01-07-2021	TVC	2,077	485	320	211	255	167	394	-	3,909
02-07-2021	TVC	2,034	481	324	239	285	193	449	-	4,005
03-07-2021	TVC	2,011	471	263	137	287	178	403	-	3,750
04-07-2021	TVC	1,760	369	197	112	159	125	330	-	3,052

Source: Steer analysis

Table C.4: 7-WADT TVC vs TMS vs Schedule N

Toll plaza	Source	CJV	LCV	Bus	2A	3A/MAV	OSV	Total
TP1 Shiroor	TVC	3,068	352	218	544	1,137	-	5,318
	TMS	3,045	208	200	639	1,167	0	5,260
	Schedule N	3,044	213	230	601	1,168	1	5,257
TP2 Holegadde	TVC	3,601	514	267	422	1,101	-	5,905
	TMS	3,619	266	7	791	1,106	0	5,790
	Schedule N	3,621	261	284	511	1,107	1	5,784
TP3 Belekeri	TVC	2,525	290	195	236	565	-	3,811
	TMS	2,511	177	3	436	565	1	3,693
	Schedule N	2,513	175	178	259	565	1	3,691

Source: Steer analysis

Zone list

Table C.5: Zone list used for OD analysis

Zone No	Zone Name	Description/State
1	Kumta	Kumta city
2	Karwar	Karwar city
3	Kundapur	Kundapur city
4	Murdeshwar	Murdeshwar city
5	Ankola	Ankola city
6	Udupi	Udupi city
7	Bhatkal	Bhatkal city
8	Gokarna	Gokarna city
9	Honnavar	Honnavar city
10	Baindoor	Baindoor city
11	Sirsi	Sirsi city
12	Shiroorpete	Shiroorpete city
13	Mangalore Port	Mangalore Port
14	Hubli	Hubli city

Zone No	Zone Name	Description/State
15	Kolhapur	Kolhapur city
16	Mumbai	Mumbai city
17	Pune	Pune city
18	Vijayapura	Vijayapura town/city
19	Solapur	Solapur town/city
20	Mangalore	Mangalore city
21	Shivamogga (Shimoga)	Shivamogga (Shimoga) town/city
22	Ballari (Bellary)	Rest of Ballari (Bellary) district
23	Belagavi (Belgaum)	Rest of Belagavi (Belgaum) district
24	Bengaluru (Bangalore)	Bengaluru (Bangalore) district
25	Daramasthala	Daramasthala city
26	Shravanbela Gola	Shravanbela Gola city
27	Madikeri	Madikeri city
28	Chikkamagaluru (Chikmagalur)	Chikkamagaluru (Chikmagalur) district
29	Chitradurga	Rest of Chitradurga district
30	Dakshina Kannada	Rest of Dakshina Kannada district
31	Davangere	Rest of Davangere district
32	Dharwad	Rest of Dharwad district
33	Gadag	Rest of Gadag district
34	Hassan	Hassan district
35	Haveri	Haveri district
36	Kalaburagi (Gulbarga)	Rest of Kalaburagi (Gulbarga) district
37	Kodagu	Kodagu district
38	Kolar	Kolar district
39	Koppal	Koppal district
40	Mysuru (Mysore)	Rest of Mysuru (Mysore) district
41	Raichur	Raichur district
42	Ramanagara	Ramanagara district
43	Shivamogga (Shimoga)	Rest of Shivamogga (Shimoga) district
44	Tumakuru (Tumkur)	Rest of Tumakuru (Tumkur) district
45	Udupi	Udupi district
46	Uttara Kannada (Karwar)	Rest of Uttara Kannada (Karwar) district
47	Vijayapura (Bijapur)	Rest of Vijayapura (Bijapur) district
48	Yadgir	Yadgir district
49	Anantapur	Anantapur district
50	Visakhapatnam	Visakhapatnam district
51	Andhra Pradesh	Rest of Andhra Pradesh state
52	Arunachal Pradesh	Arunachal Pradesh state

Zone No	Zone Name	Description/State
53	Bihar	Bihar state
54	Chhattisgarh	Chhattisgarh state
55	Goa	Goa state
56	Gujarat	Rest of Gujarat state
57	Haryana	Haryana state
58	Himachal Pradesh	Himachal Pradesh state
59	Jharkhand	Jharkhand state
60	Kerala	Kerala state
61	Madhya Pradesh	Madhya Pradesh state
62	Eastern Maharashtra	Rest of Eastern Maharashtra state
63	Western Maharashtra	Rest of Western Maharashtra state
64	Odisha	Odisha state
65	Punjab	Punjab state
66	Rajasthan	Rajasthan state
67	Chennai	Chennai district
68	Coimbatore	Coimbatore district
69	Hosur	Hosur district
70	Tamil Nadu	Rest of Tamil Nadu state
71	Hyderabad	Hyderabad district
72	Telangana	Rest of Telangana state
73	Uttarakhand	Uttarakhand state
74	Uttar Pradesh	Uttar Pradesh state
75	West Bengal	West Bengal state
76	Chandigarh	Chandigarh Union Territory
77	Dadra and Nagar Haveli	Dadra and Nagar Haveli Union Territory
78	Daman & Diu	Daman & Diu Union Territory
79	Delhi	The Government of NCT of Delhi Union Territory
80	Jammu & Kashmir & Ladakh	Jammu & Kashmir Union Territory
81	Meghalaya, Manipur, Tripura, Mizoram, Sikkim, Nagaland, Assam, Arunachal Pradesh	North Eastern states
82	Puducherry	Puducherry Union Territory
83	Bagalkot	Bagalkot

Source: OD data

D Vehicle Classification

Auto-Rickshaw	Car/Jeep/Van	Taxi- shared/private	
2-Wheeler	**Buses (govt/Pvt)**	**Mini Bus**	**Exempt vehicles**
Mini LCV		**LCV 4 tyre**	
LCV 6 Tyre		**2 Axle Truck**	
3 Axle Truck		**4 Axle Truck**	**5 Axle Truck**
6 Axle Truck		**Oversized Vehicle/ Earth moving equipment**	

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Table of Contents

Disclaimer **7**

Glossary Items **9**

1 Introduction **11**

The assignment 11

Our approach 12

Evolution of Covid19 pandemic in India in FY21 and FY22 13

Contents of this Report 14

2 The Asset **16**

Introduction 16

Asset and regional context 16

Concession and tolling details 18

Key economic activities 20

3 Traffic description **22**

Introduction 22

Historical trends 22

Conclusions 35

4 Socio Economic Context **36**

Introduction 36

Population growth 36

Economic Indicators 37

Industrial Production 37

Vehicle ownership 38

Summary 41

5 Background growth relationships and forecasting assumptions **42**

Introduction 42

Estimation of background elasticities 43

Overview 43

Forecasts for growth drivers 44

6 Forecasts: Base AADT, and Traffic and Revenue forecasts 47

Introduction 47

Seasonal Correction Factors 47

Base year (FY21 and FY22) traffic 49

Estimation of FY21 Normalised and FY22* (no Covid19, hypothetical) 49

Estimation of Q4 FY22 49

FY23 Estimation and base AADT for forecast 50

Base year AADT 50

Analysis of potential impacts 51

Revenue Forecasting Assumptions 54

Traffic and Revenue forecasts 61

Upside and Downside Cases 66

Traffic and Revenue Forecasts - upside scenario 67

Traffic and Revenue Forecasts – downside scenario 71

Target traffic and modification of concession period 78

Summary outlook 79

Figures

Figure 1: Daily Reported Covid 19 cases in India 14

Figure 2.1: Asset location in the regional network context 16

Figure 2.2 Asset context 18

Figure 2.3: Typical cross-sections and toll plazas on the Asset 19

Figure 3.1 Category wise vehicle shares (%) and AADT at KR Narwana 23

Figure 3.2 Category wise vehicle shares (%) and AADT at KR - Badopatti 25

Figure 3.3 Category wise vehicle shares (%) and AADT at KR – Chaudharyvas 26

Figure 3.4 %age of Transactions via ETC/FASTag at KR - Narvana 30

Figure 3.5 %age of Transactions via ETC/FASTag at KR - Badopatti 30

Figure 3.6 %age of Transactions via ETC/FASTag at KR - Chaudharyvas 31

Figure 3.7 CJV toll segmentation for KR – Narvana 32

Figure 3.8 MAV toll segmentation for KR – Narvana 32

Figure 3.9 CJV toll segmentation at KR - Badopatti 33

Figure 3.10 MAV toll segmentation at KR - Badopatti 33

Figure 3.11 CJV toll segmentation at KR - Chaudharyvas 34
Figure 3.12 MAV toll segmentation: KR - Chaudharyvas 34
Figure 4.1: Annual growth - Index of Industrial Production 38
Figure 4.2: Car ownership in India per 1,000 population 39
Figure 4.3: Per capita income 39
Figure 5.1: FY21-40 GDP forecast 45
Figure 5.2: Forecasts for India GDP, Haryana GSDP 46
Figure 6.1: Asset route shown against the regional network context 51
Figure 6.2: CJV toll segmentation evolution – TP1 Narvana 55
Figure 6.3: MAV toll segmentation evolution – TP1 Narvana 56
Figure 6.4: CJV toll segmentation evolution – TP2 Badopatti 56
Figure 6.5: MAV toll segmentation evolution – TP2 Badopatti 57
Figure 6.6: CJV toll segmentation evolution – TP3 Chaudharyvas 57
Figure 6.7: MAV toll segmentation evolution – TP3 Chaudharyvas 58
Figure 6.8: Final AADT forecast including Upside and Downside scenarios – KR Narvana 76
Figure 6.9: Final Revenue forecast including Upside and Downside scenarios – KR Narvana ... 76
Figure 6.10: Final AADT forecast including Upside and Downside scenarios – KR Badopatti 77
Figure 6.11: Final Revenue forecast including Upside and Downside scenarios – KR Badopatti 77
Figure 6.12: Final AADT forecast including Upside and Downside scenarios – KR Chaudharyvyas 78
Figure 6.13: Final Revenue forecast including Upside and Downside scenarios – KR Chaudharyvyas 78

Tables

Table 1.1: Scope of work and sources of data 11
Table 2.1: Summary of concession 18
Table 2.2: Single toll rates on the Asset (INR), applicable April 2021 to March 2022 20
Table 3.1: Historical evolution in AADT by vehicle class: KR - Narwana 22
Table 3.2: Historical evolution in AADT by vehicle class: KR - Badopatti 24
Table 3.3: Historical evolution in AADT by vehicle class: KR – Chaudharyvas 25
Table 3.4: Historical evolution in revenue by vehicle class (INR crores): Kaithal - Rajasthan section 26
Table 3.5: Evolution of traffic (MADT): KR - Narvana 27

Table 3.6: Evolution of traffic (MADT): KR - Badopatti 27
Table 3.7: Evolution of traffic (MADT): KR - Chaudharyvas 28
Table 3.8: Typical ticket types sold at NHAI plazas 29
Table 3.9: Timeline of national ETC implementation 29
Table 4.1: CAGR of population in India 36
Table 4.2: Population Growth in India (2001 – 2011) 37
Table 4.3: Local Population Growth (2001 – 2011) 37
Table 4.4: GDP/GSDP index (2012=100) 40
Table 5.1: Identified growth drivers to model traffic growth 43
Table 5.2: Elasticity recommendations for the Asset (Kaithal - Rajasthan) 44
Table 6.1: Key intermediate and final outputs in the forecast 47
Table 6.2: Adopted SCF: TP1 Narvana 48
Table 6.3: Adopted SCF: TP2 Badopatti 48
Table 6.4: Adopted SCF: TP3 Chaudharyvas 49
Table 6.5: FY22N Base AADT estimates compared to FY21 Actuals and FY22 Estimated (KR - Narvana) 50
Table 6.6: FY22N Base AADT estimates compared to FY21 Actuals and FY22 Estimated (KR-Badopatti) 50
Table 6.7: FY22N Base AADT estimates compared to FY21 Actuals and FY22 Estimated (KR-Chaudharyvas) 50
Table 6.8: Summary of impact 52
Table 6.9: Impact of Trans Haryana Expressway 52
Table 6.10: Impact of Delhi – Katra Expressway (long distance traffic shift) 53
Table 6.11: Impact of Delhi – Katra Expressway (LoS improvement) 53
Table 6.12: Summary of impacts on the Assets 53
Table 6.13: Trip factors for the forecast years – KR Narvana 54
Table 6.14: Trip factors for the forecast years – KR Badopatti 54
Table 6.15: Trip factors for the forecast years – KR Chaudharyvas 54
Table 6.16: Toll segmentation for FY22 onwards – TP1 Narvana 56
Table 6.17: Toll segmentation for FY22 onwards – TP2 Badopatti 57
Table 6.18: Toll segmentation for FY24 onwards – TP3 Chaudharyvas 58
Table 6.19: Overloading assumptions from FY22 onwards 59
Table 6.20: PCOD and FCOD tolling lengths for toll evolution assumed to be applicable post June 2022 59

Table 6.21: WPI growth forecast assumptions 59
Table 6.22: Revenue reconciliation summary 61
Table 6.23: PCU factors 61
Table 6.24: Final (background plus impacts) AADT forecast – TP1 Narvana 61
Table 6.25: Final (background plus impacts) AADT CAGR (%) – TP1 Narvana 62
Table 6.26: Final (background plus impacts) revenue (INR crores) forecast – TP1 Narvana 62
Table 6.27: Final (background plus impacts) revenue CAGR (%) – TP1 Narvana 62
Table 6.28: Final (background plus impacts) AADT forecast – TP2 Badopatti 63
Table 6.29: Final (background plus impacts) AADT CAGR (%) – TP2 Badopatti 63
Table 6.30: Final (background plus impacts) revenue (INR crores) forecast – TP2 Badopatti ... 63
Table 6.31: Final (background plus impacts) revenue CAGR (%) – TP2 Badopatti 64
Table 6.32: Final (background plus impacts) AADT forecast – TP3 Chaudharyvas 64
Table 6.33: Final (background plus impacts) AADT CAGR (%) – TP3 Chaudharyvas 64
Table 6.34: Final (background plus impacts) revenue (INR crores) forecast – TP3 Chaudharyvas 65
Table 6.35: Final (background plus impacts) revenue CAGR (%) – TP3 Chaudharyvas 65
Table 6.36: Summary of Macro Assumptions for upside and downside cases 66
Table 6.37: Summary of impacts on the Assets 66
Table 6.38: Summary of impacts on the Assets 67
Table 6.39: Final (background plus impacts) AADT forecast for upside scenario – TP1 Narvana 67
Table 6.40: Final (background plus impacts) AADT CAGR (%) for upside scenario – TP1 Narvana 68
Table 6.41: Final (background plus impacts) revenue (INR crores) forecast for upside scenario – TP1 Narvana 68
Table 6.42: Final (background plus impacts) revenue CAGR (%) for upside scenario – TP1 Narvana 68
Table 6.43: Final (background plus impacts) AADT forecast for upside scenario – TP2 Badopatti 69
Table 6.44: Final (background plus impacts) AADT CAGR (%) for upside scenario – TP2 Badopatti 69
Table 6.45: Final (background plus impacts) revenue (INR crores) forecast for upside scenario – TP2 Badopatti 69
Table 6.46: Final (background plus impacts) revenue CAGR (%) for upside scenario – TP2 Badopatti 70

Table 6.47: Final (background plus impacts) AADT forecast for upside scenario – TP3 Chaudharyvas 70

Table 6.48: Final (background plus impacts) AADT CAGR (%) for upside scenario – TP3 Chaudharyvas 70

Table 6.49: Final (background plus impacts) revenue (INR crores) forecast for upside scenario – TP3 Chaudharyvas 71

Table 6.50: Final (background plus impacts) revenue CAGR (%) for upside scenario – TP3 Chaudharyvas 71

Table 6.51: Final (background plus impacts) AADT forecast for downside scenario – TP1 Narvana 71

Table 6.52: Final (background plus impacts) AADT CAGR (%) for downside scenario – TP1 Narvana 72

Table 6.53: Final (background plus impacts) revenue (INR crores) forecast for downside scenario – TP1 Narvana 72

Table 6.54: Final (background plus impacts) revenue CAGR (%) for downside scenario – TP1 Narvana 72

Table 6.55: Final (background plus impacts) AADT forecast for downside scenario – TP2 Badopatti 73

Table 6.56: Final (background plus impacts) AADT CAGR (%) for downside scenario – TP2 Badopatti 73

Table 6.57: Final (background plus impacts) revenue (INR crores) forecast for downside scenario – TP2 Badopatti 74

Table 6.58: Final (background plus impacts) revenue CAGR (%) for downside scenario – TP2 Badopatti 74

Table 6.59: Final (background plus impacts) AADT forecast for downside scenario – TP3 Chaudharyvas 74

Table 6.60: Final (background plus impacts) AADT CAGR (%) for downside scenario – TP3 Chaudharyvas 75

Table 6.61: Final (background plus impacts) revenue (INR crores) forecast for downside scenario – TP3 Chaudharyvas 75

Table 6.62: Final (background plus impacts) revenue CAGR (%) for downside scenario – TP3 Chaudharyvas 75

Table 6.63: Target Traffic 79

Appendices

A Detailed forecasts 82

B Vehicle Classification Chart 89

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Traffic Consultant developed the relationships in the models used to produce the forecasts for the projects based on data available through May 2021. Since March 2020, the outbreak of the virus known as COVID- 19 has spread throughout the world and has been defined by the World Health Organization as a "pandemic". As of the date of distribution of the Reports, the COVID19 outbreak is having a material impact on global economic and political affairs including having a significant impact on all the transportation industries, including toll road traffic, where in particular vehicle volumes have fallen in response to quarantine and self-care measures that governments have been imposing as a response to the different waves of infection rates in different parts of the country. The situation remains dynamic and is subject to significant change. In this challenging context, Traffic Consultant has produced base forecasts (directly produced from models using a combination of pre-COVID19 and post-COVID19 views) with a view on a possible scenario for the traffic forecasts based on an assumption of recovery from the COVID19-related traffic decrease. However, it is important to note that this is only one view, and there continues to remain uncertainty as to the short-term, intermediate or prolonged effects of and responses to the COVID19 pandemic on the projects. All of these effects could impact the COVID19-related aspects of the Reports.

As a result, no assurance can be provided by Traffic Consultant that the scenarios and assumptions Traffic Consultant has identified will prove to be accurate. Given the uncertainty inherent in this unprecedented pandemic, Traffic Consultant advises that all readers of the Reports consider the Reports in the context of their own assessment of the COVID19 outbreak and its current and potential impacts before making final decisions related to the projects.

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Glossary Items

Acronym	Meaning
AADT	Annual Average Daily Traffic
ADT	Average Daily Traffic
CAGR	Compound Annual Growth Rate
CAGR	Compound Annual Growth Rate
CJV	Cars / Jeeps / Vans
COD	Commercial Operations Date
DPR	Detailed Project Report
EDFC	Eastern Dedicated Freight corridor
ETC	Electronic Toll Collection
FY	Financial Year
GDP	Gross Domestic Product
GJC	Generalised Journey Cost
GQ	Golden Quadrilateral
GSDP	Gross State Domestic Product
HCM	Heavy Commercial Vehicles
IAOI	Immediate Area of Influence
KR	Kaithal to Haryana Rajasthan Border
LCV	Light Commercial Vehicles
LoS	Level of Service
MAV	Multi Axle Vehicle
MLCV	Mini LCV
NE	National Expressway
NH	National Highway
NHAI	National Highways Authority of India
NHDP	National Highways Development Project
NSDP	Net State Domestic Product
OD	Origin Destination
PCI	Per Capita Income
PCOD	Partial Commercial Operations Date
PCU	Passenger Car Unit
RNP	Registered Number Plate
RoS	Rest of State

Acronym	Meaning
SCF	Seasonality Correction Factors
SH	State Highway
T&R	Traffic and Revenue
TMS	Traffic Management System
TP	Toll plaza
TVC	Traffic Volume Count
VOC	Vehicle Operating Costs
VOT	Value of Time
WADT	Weekly Average Daily Traffic
WDFC	Western Dedicated Freight corridor
YTD	Year to Date

1 Introduction

The assignment

1.1 IRB Infrastructure Developers Limited (the "Client") has commissioned Steer Davies Gleave India Private Limited ("Steer") for a traffic due diligence to be carried out on Kaithal – Rajasthan section referred to as the "Asset" in the report.

1.2 Our scope of work for the traffic and revenue forecasts process includes:

Table 1.1: Scope of work and sources of data

Scope of work	Data source
• Review of historical Traffic Management System (TMS) data, Origin-Destination (OD) data, Vendor reports and documents	Provided by client
• Historical analysis and forecasts for baseline growth, including – Background growth, – Seasonality	Historical toll plaza data provided by Client and benchmarks from assets in the vicinity wherever long time series historical data was not available
• Validation of TMS data using independent Traffic Volume Counts (TVC) counts • Validation of Revenue reported in FY21	• TMS data provided by Client • TVC counts independently undertaken by Steer • Revenue reconciliation using toll plaza traffic and ticket type data to calculate revenue and reconciling it with toll plaza reported revenue.
• Analysis of upcoming network improvements and other developments, that may have future impacts on traffic	Secondary research and our in-house experience of working in the vicinity of the asset. Impact analysis based on Generalised Journey Cost spreadsheet-based analysis
• Historical revenue analysis and forecasts for revenue estimation, including – Toll segmentation and trip factors, – Overloading shares,	Calculated from historical data provided by Client
• Final traffic growth forecasts including baseline growth rates and potential future impacts	Elasticity based base growth and potential impacts from secondary research and our in-house experience of working in the vicinity of the asset
• Toll revenue estimation for the entire concession including toll evolution	Toll evolution based on toll notification published by NHAI and WPI line based on forecast published by Consensus and RBI (FY23)
• Review of historical Traffic Management System (TMS) data, Origin-Destination (OD) data, Vendor reports and documents	Provided by client

1.3 This report presents our draft T&R forecasts.

Our approach

1.4 The information related to the traffic, concession agreements, toll notifications, toll calculations, and all other relevant data required was provided by the client in the virtual data room. The key traffic data file used by us for the analysis from the data room is the monthly historical data for each of the Asset for each category of vehicles.

1.5 To understand the current traffic on the Assets, we have analysed traffic data from multiple independent sources, these are presented below, further approach to analysis is detailed below:

- Assemble traffic/revenue data for up-to-date representation of the performance of the project road. Client-provided TMS data starting from September 2017 till December 2020.
- Concession agreement and toll notifications provided by client.
- To arrive at the base position, asset-wise traffic data required for analysis was used from the monthly traffic and revenue files shared by the client. **The toll plazas on the Asset have been non-operational under "Force Majeure" event following nation-wide farmer protests against farm laws since Jan 2021**. The primary data collection was not possible due to farmer protests and associated security and safety risks for the data collection teams and toll plaza staff. Therefore, TVC and OD surveys weren't conducted on the Asset. However, during our previous commission for same Asset in 2018, we had undertaken 7 days (24 hours) traffic volume counts (TVC) survey on the Asset. The TMS system was observed to be close match to our independent TVC counts at that time. Therefore, we have relied on our previous understanding for TMS reporting. This was discussed and agreed with client.
- Revenue Reconciliation: We undertook revenue reconciliation, by building up revenue from the traffic reported by each of the toll plaza and subsequently match it to the reported revenue using the prevalent toll rates and reported segmentation/toll-frequencies, this is a key part of our analysis to validate the segmentation/toll-frequency assumptions and the AADT reported for each of the toll plaza.

1.6 The estimation of future traffic demand on the Assets was undertaken through:

- Detailed assessment of the asset performance from traffic and revenue perspective based on our understanding of Asset and discussions with the client team.
- Developing a bespoke growth model for each asset/plaza/toll class to forecast year-on-year traffic growth from FY21 to the end of each concession period.
- Investigating the elasticity of historic traffic growth compared to state (GSDP) and national (GDP) growth. Where historic data is limited, we have benchmarked the asset against our Steer knowledge base (e.g., similar asset types in the same state), to derive appropriate elasticities
- Applying our elasticities to independent GDP/GSDP forecasts.
- Identifying and analysing the potential impacts of any relevant changes to the competitive position of each asset – these include impacts of changes to road network including expressways and opening of competitive modes of travel.
- Identifying and analysing any other potential impacts to traffic and revenue on each asset – these include axle load norms, FASTag implementation
- Considering changes in trends of segmentation over time and making suggestions for changes in exemptions in the future

- Preparing traffic and revenue forecast for the Asset for the complete length of concession. The analysis here includes the specific impacts of toll, network, or other exogenous factors specific to the asset. We have developed a set of forecasting assumptions for three scenarios: a base case and upside and downside scenarios.

Evolution of Covid19 pandemic in India in FY21 and FY22

1.7 On 24 March FY20, the Central government announced a nationwide 21-day lockdown which was extended for another three weeks until May 3rd. Further extensions until May 17th and again until May 31 featured relaxations in 'green' and 'orange' zones. Starting 8th June 2021, 'Unlock' phases began. States have also taken their own measures, with Central guidelines being the minimum expected restrictions from States. The tolling across all national highways in India was stopped between 25th March and 20th April. These lockdowns resulted in significant disruptions to traffic, with a reduction of both commuting trips to work (as people were required to work from home or stay at home) and leisure trips (due to the closure of various entertainment venues, places of worship, tourist destinations, etc.). Goods movements, while still impacted, continued to a lesser extent due to a need to supply essential goods such as food, etc.

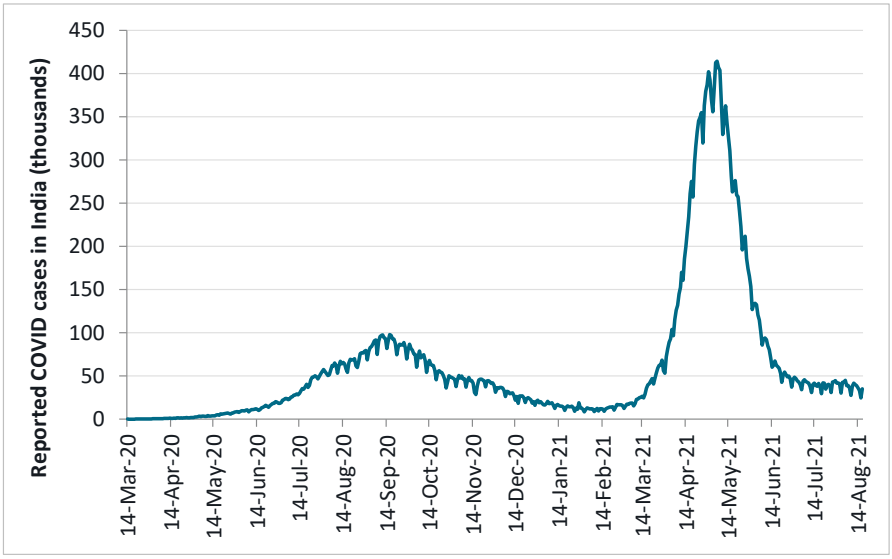
1.8 The traffic volumes since then gradually started recovering on most Assets in India, with varying extent. By Q3 of FY21 traffic levels were already at par FY20 AADT numbers and even higher in some cases. Q4 of FY21 was largely unimpacted by COVID and toll plazas reported stabilised traffic numbers for the quarter.

1.9 Data from various roads across the country indicates that the largest impact on traffic was experienced between the months of March 2020 and May 2020, with the rest of the months showing volumes surpassing FY20 levels for most months of FY21. It is important to note that FY20 itself was a subdued year due to the nosedive in Indian economic growth to lowest in a decade (4.0% in FY20 relative to a FY10-20 average of 6.5%). The recovery of traffic in Q3 FY21 was being driven by two factors - a release of pent-up demand in certain vehicle categories, as well as, underlying long-term growth trends in various sectors of the economy which are contributing to the growth of commercial traffic across the road network. We believe that the pent-up demand was most confined till the October-November FY21 period which coincides with the Diwali festival related increase in traffic levels.

1.10 The traffic trends observed on most of the India toll roads during Q4FY21, showed sustained traffic levels as were witnessed in Q3FY21, which reflected sustained demand revival in the Indian economy. These traffic levels reflected the longer-term trends of a strong economic recovery, in segments like auto manufacturing, road construction, energy consumption /production etc., are more stable and are driving the growth over and above FY20 levels and are expected to continue as more segments of the economy, like hospitality, tourism, etc., recover fully from the pandemic.

1.11 Last week of March 2021 onwards, another spike in COVID cases was observed which gradually kept increasing to reach a peak value of 415,000 daily cases by 6th May 2021. The figure below presents the daily reported Covid19 cases in India up-to 14th August 2021.

Figure 1: Daily Reported Covid 19 cases in India



Source: Steer analysis, https://data.COVID19india.org/

1.12 This second wave of Covid19 was accompanied by various local and state level night curfews and lockdowns starting from April until end of June. The second wave of Covid19, although had a higher infection rate, the movement of traffic and goods was not impacted by the same magnitude as the first wave when whole country went under strict lockdown for two quarters. This can be attributed to the fact that almost all the restrictions were localised or at state level. Moreover, there was no restriction on movement of goods vehicles and other services. As the industries and agricultural activities continued to operate, the truck traffic did not fall as steeply as it did in Q1 FY21.

1.13 There is also a behavioral shift of passengers towards personal mobility due to perceptions of safety and reduction of public transport services which we have been observed across the road network. This shift is expected to sustain and continue in the short term as such perception shifts for longer periods of time could result in more permanent changes in passenger choices. For example, once a family starts using a personal CJV for inter-urban travel to avoid public transport during the pandemic period over 1-2 years, it is likely that they continue using their personal vehicles even as the pandemic recedes. In our analysis around the short/medium-term impact of this pandemic, we have included assumptions around the above, as well as longer-term impacts of the pandemic.

Contents of this Report

1.14 The report has been divided into 6 chapters, including

- Chapter 1 introduces the methodology and approach to undertake the traffic and revenue due diligence;
- Chapter 2 describes the key characteristics of the Asset and its surrounding road network, primarily based on site visits;
- Chapter 3 summarises the current and historical traffic on the Asset, including results from the TMS, TVC and OD analysis;
- Chapter 4 discusses the socio-economic context of the corridor and region/state containing the Asset;

- Chapter 6 summarises our approach and results on estimating background traffic demand growth; and
- Chapter 6 summarises our key forecasting assumptions, estimation of Base year AADT, assessment of network impacts, and presents our traffic and revenue forecasts for the Asset.

2 The Asset

Introduction

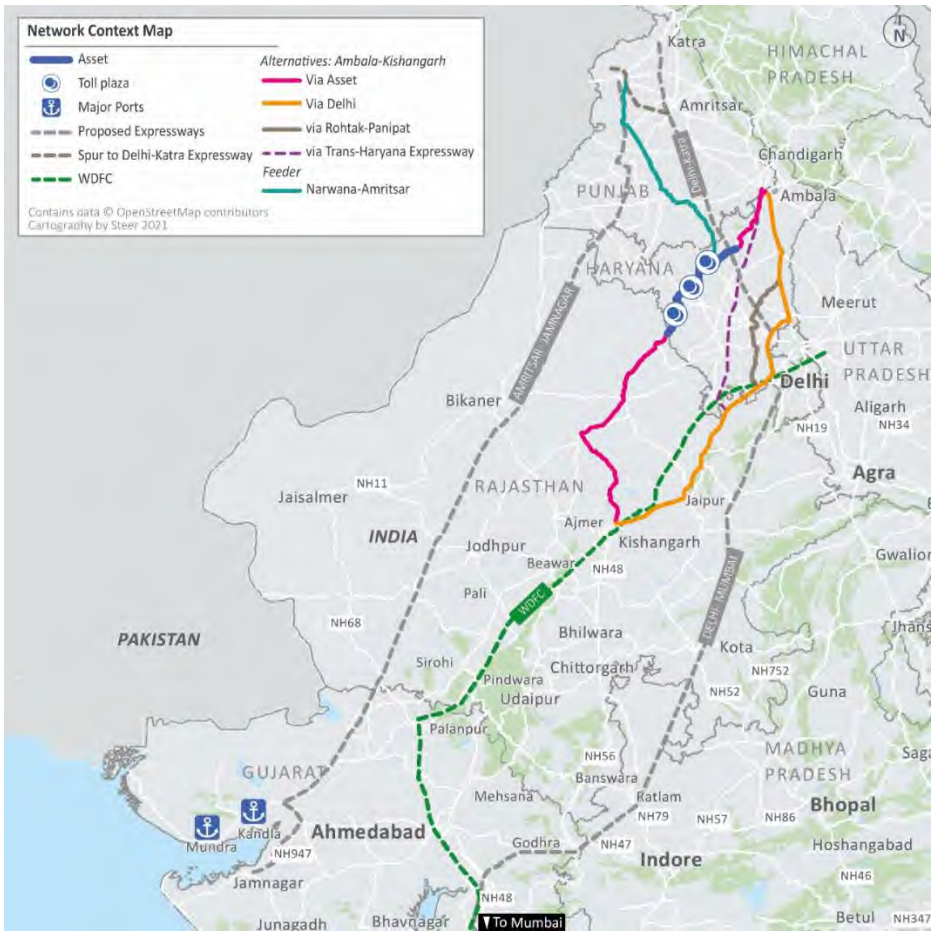
2.1 This chapter provides a description of the Assets, based on primary data (from site visits), our understanding of the region and network surrounding the Asset. We cover the strategic network context, followed by key economic activities and network developments around the Asset.

Asset and regional context

2.2 The Asset is 166 km long four lane section connecting Kaithal and Haryana-Rajasthan border in the state of Haryana. The Asset started operations in September 2017 after achieving Partial Commercial Operation Date (PCOD) followed by Full COD in July 2018.

2.3 The Asset is part of NH-52 corridor connecting northern states including Haryana, Punjab, and Himachal Pradesh with Rajasthan and Gujarat in the west as shown in Figure 2.1 below.

Figure 2.1: Asset location in the regional network context



Source: Steer cartography using OpenStreetMap data

2.4 The Ambala-Kaithal section including Ambala bypass in north of Asset was recently upgraded to four lanes. Ambala city was previously a bottleneck for long distance traffic connecting to NH44 towards Punjab and north. The Ambala Bypass enabled traffic in avoiding congested city roads thereby reducing travel times and improved connectivity. It improved overall attractiveness of asset for traffic moving Between Ambala/North and Kishangarh/South.

2.5 The areas surrounding the Assets is predominantly agricultural along with Dairy related activities. Hisar city has large number of livestock farms and key contributor to milk and other dairy needs of the region. The asset primarily caters to dairy needs of Haryana and Rajasthan in vicinity. Therefore, the asset benefits from captive nature of local traffic movement between Haryana and Rajasthan.

2.6 The asset also benefits from Industrial activity in Hisar which is also known as city of Steel. It is one of major contributors of galvanized iron in country. Textile and automobile parts manufacturing are other key industries. Barwala also has number of metal fabrication units.

2.7 There are currently 3 key routes available between Ambala and Kishangarh in addition to the upcoming greenfield Trans-Haryana and Delhi-Katra Expressways. These are:

- Via Asset NH52 and NH152: Ambala-Hisar-Churu-Fatehpur-Salasar-Didwana-Kuchaman city-Kishangarh;
- Via NH44/NH749/NH352/NH48: Ambala-Panipat-Rohtak-Jhajjar-Rewari-Kotputli-Jaipur-Kishangarh;
- Via NH44/KMP/NH48: Ambala-Panipat-Kundli-Manesar-Kotputli-Jaipur-Kishangarh;

2.8 This Asset primarily caters to three different types of traffic movements:

- **Short-distance trips** undertaken largely by passenger vehicles for work/business and tourism trips wherein the movement is predominantly local between Kaithal, Narvana, Barwala, Hisar, Jind, Barwa, Siwani and Kalayat. Some of the local consumption demand generated by these towns is met by the short distance goods movement on the Assets.
- **Medium-distance trips** undertaken largely by the trips plying between the urban centres in vicinity of the Asset in states of Rajasthan, Haryana, and Punjab. These centres include Churu, Sirsa, Barnala, Ludhiana, Patiala, Ambala, Rohtak etc. A significant number of medium distance trips are catering to the Dairy and agricultural related demand from Rajasthan and are generated by local production centres in Haryana along the Asset.
- **Long-distance trips**, predominantly by 3A and MAVs, catering to the movement between urban and industrial centres of Jammu and Kashmir, Himachal Pradesh, Punjab towards Rajasthan, Gujarat and further down south.

2.9 The Asset consists of the following three plazas:

- TP1: Narwana
- TP2: Badopatti
- TP3: Chaudharyvas

2.10 **As discussed earlier, due to farmers protest across the state of Haryana and Punjab, disruptions to tolling started as early as 20th November 2020, however complete suspension of tolling on the Asset has been implemented starting 25th Dec 2020.**

Figure 2.2 Asset context

Source: Steer cartography using OpenStreetMap data

Concession and tolling details

Table 2.1: Summary of concession

	Particulars
State	Haryana
Highway and lane configuration	NH52, four-laned (divided)
Toll plazas	• TP1 Narvana at KM 36+776 • TP2 Badopatti at KM 87+000 • TP3 Chaudharyvas at KM 135+900
Length (km) as per concession agreement, applicable	• TP1 Narvana: 47.650 (tollable) • TP2 Badopatti: 32.350 km (tollable) • TP3 Chaudharyvas: 31.91 km (tollable)
Commencement of operations*	PCOD/FCOD: September 2017/July 2018 Tolling suspension: 25th Dec 2020 onwards
Operated by Client since	September 2017

	Particulars
Concession period	32 years
Last year of concession	FY48

Source: Client data

2.11 Figure 2.3 below shows a typical cross-section of the Asset and its toll plazas as captured during site visits on our previous commission for the Asset in 2018.

Figure 2.3: Typical cross-sections and toll plazas on the Asset

Source: Steer site visit in 2018

Toll plazas and toll rates

2.12 As discussed earlier in section 2.9, the Asset has 3 toll plazas. All toll plazas on the Assets have 5+5 lane configuration on each side for FASTag collection on all lanes for mandatory electronic tolling. The toll plazas also have Weigh in Motion (WIM) on all lanes and one Static Weigh Bridges (SWB) for each plaza to keep check on overloading on the Assets.

2.13 The road users having valid FASTag installed on their respective vehicles approach the ETC lanes where the installed RFID readers detect the tag and deduct toll charges equalling single trip or for Local/monthly pass/discounts wherever applicable. In case, the RFID reader is not able to detect the FASTag, handheld devices are used to read the vehicle's tag. Further, in cases where FASTag is blacklisted or not working, the user can only buy single cash ticket and are charged

twice the single trip fare. The users crossing toll plaza twice within 24 hours automatically get return discount.

2.14 Like the other National Highway plazas, the Assets have Single, Return, Local Commercial, Local Personal, Monthly and Local Monthly tickets. Single toll rates and categories on each of the toll plaza are presented in the table below.

Table 2.2: Single toll rates on the Asset (INR), applicable April 2021 to March 2022

Type of Vehicle	Narwana	Badopatti	Chaudharyvas
CJV	75	105	60
LCV	125	165	95
Bus/Truck	255	345	200
3A	280	30	220
MAV/ HCM/EME	405	545	315
OSV	490	660	385

Source: NHAI Revision of User fee Rate w.e.f 01.04.2021

2.15 Each of the tolls operate independently and there are no through tickets issued at the toll plazas, for users to cross multiple toll plazas and pay only once**. As discussed previously in section 1.5 of Chapter 1, the toll plaza is non-operational since January 2021 due to "Force Majeure" event (Farmer's protests), therefore no tolls are collected at any of toll plazas**.

Key economic activities

2.16 The Asset is situated in the state of Haryana. It is one of the northern most states in India and adjacent to New Delhi, the national capital of India. It is surrounded by Uttar Pradesh in the east, Punjab in the west, Himachal Pradesh in the north, and Rajasthan in the south. The state surrounds the national capital city, New Delhi, from three sides. Historically an agrarian state, Haryana today is a well-developed industrial state.

2.17 Hisar is a key generator of traffic along the corridor and induces both, industrial and agricultural-based traffic on the Asset. Home to several steel plants including India' largest stainless-steel producer, Jindal Stainless Steel, it is also known as 'City of Steel'. Hisar is also India' largest manufacturer of galvanized iron. Apart from industries, it also has numerous livestock farms including the Central Livestock Farm, Asia's largest cattle farms. Textile and automobile parts manufacturing are other key industries in Hisar.

2.18 The areas surrounding the Assets are predominantly agrarian production centres along with Dairy related activities. Hisar city has large number of livestock farms and key contributor to milk and other dairy needs of the region. The asset primarily caters to dairy needs of Haryana and Rajasthan in vicinity. Therefore, the asset benefits from captive nature of local traffic movement between Haryana and Rajasthan.

2.19 The asset corridor also has number of agricultural grain markets, vegetable mandis, wheat and rice processing units supporting local economy and traffic demand in the vicinity of the Asset.

2.20 The asset also benefits from its connectivity with Southern Punjab including industrial city of Ludhiana. The traffic from Ludhiana and surrounding districts acts as traffic feeder on the Asset adding a considerable share of industrial traffic on the corridor through NH52, including textile related commodities being a leading textile hub of the country.

2.21 The asset connects the northern states with Rajasthan, it benefits from the culture richness of the state. Salasar Balaji temple in south-west of the asset Rajasthan is a place of religious importance for the devotees of Lord Hanuman. It is located on NH58 near Sujangarh in Churu district. The temple attracts devotees in large numbers throughout the year especially during March-April (Chaitra Purnima) and September – October (Ashwin Purnima) when key festivals are celebrated during those periods. The Asset caters to devotees coming from Northern Haryana, southern Punjab and Himachal Pradesh.

2.22 The Assets have got good mix of industrial and agricultural activities along with tourism demand driving the local economy and growth. This captive nature of the traffic movement is expected to result in a positive long term growth profile for the corridor. This is further discussed in Chapter 3 and Chapter 6 of this report.

3 Traffic description

Introduction

3.1 This chapter outlines the current traffic and revenues on the Asset based on data provided by the client. As discussed previously in section 1.5 of Chapter 1, primary data collection activities were not undertaken on this asset due to ongoing farmer protests.

3.2 Traffic demand data is generally collected and analysed to understand the volume and vehicle composition of demand currently using the Asset, while OD data is used to obtain a better understanding of travel patterns, trip lengths, trip purposes and areas of influence in the vicinity of the Asset, as well as the commodities being moved by goods vehicles. In the absence of primary data collection, we have relied on client data and our understanding of Asset from our previous commission in 2018. to identify the key drivers of demand on the Asset.

3.3 Actual toll plaza data is used as the basis from which the current/base year annual average daily traffic (AADT) is established. This data is typically provided by the Client and independently analysed and validated by us using traffic volume count (TVC) information. As discussed in section 3.1, no surveys were undertaken on asset. However, we had undertaken 7 days (24 hours) traffic volume counts (TVC) survey during our previous commission for same Asset in 2018,. The TMS system was observed to be close match to our independent TVC counts at that time. Therefore, we have relied on our previous understanding for TMS reporting. This was discussed and agreed with client.

Historical trends

3.4 The Asset achieved PCOD in September 2017 and started tolling. As discussed in section 1.5 of Chapter 1, toll operations were suspended on 25th December 2020 owing to farmer protests. As a result, traffic on toll roads increased as no toll fee was charged which distorted the traffic patterns for Q4FY21, leading to overall increased volumes in FY21. Therefore, FY21 CAGR is not included in following tables in this section.

3.5 The asset observed positive growth on FY19 post construction completion followed by 7% PCU growth in FY20. The following table shows the historical variation in traffic volume at Narwana toll plaza in terms of vehicle shares, total AADT and PCUs.

Table 3.1: Historical evolution in AADT by vehicle class: KR - Narwana

Vehicle Class	FY18	FY19	FY20	FY21*	CAGR FY18-19	CAGR FY19-20	CAGR FY18-20
CJV	2,847	3,360	3,711	3,243	18.1%	10.4%	14.2%
LCV	724	770	651	772	6.3%	(15.4%)	(5.2%)
Bus	287	312	318	199	9.0%	1.7%	5.3%
2A	180	215	328	420	19.4%	52.6%	35.0%
3A	550	338	310	392	(38.7%)	(8.1%)	(24.9%)
MAV	639	695	772	1,009	8.8%	11.0%	9.9%

Vehicle Class	FY18	FY19	FY20	FY21*	CAGR FY18-19	CAGR FY19-20	CAGR FY18-20
Total	**5,227**	**5,696**	**6,094**	**6,040**	**9.0%**	**7.0%**	**8.0%**
PCU	**9,862**	**10,265**	**11,050**	**11,997**	**4.1%**	**7.6%**	**5.9%**

Source: Steer analysis of the Client data (*FY21 tolling suspended on 25th December 2021)

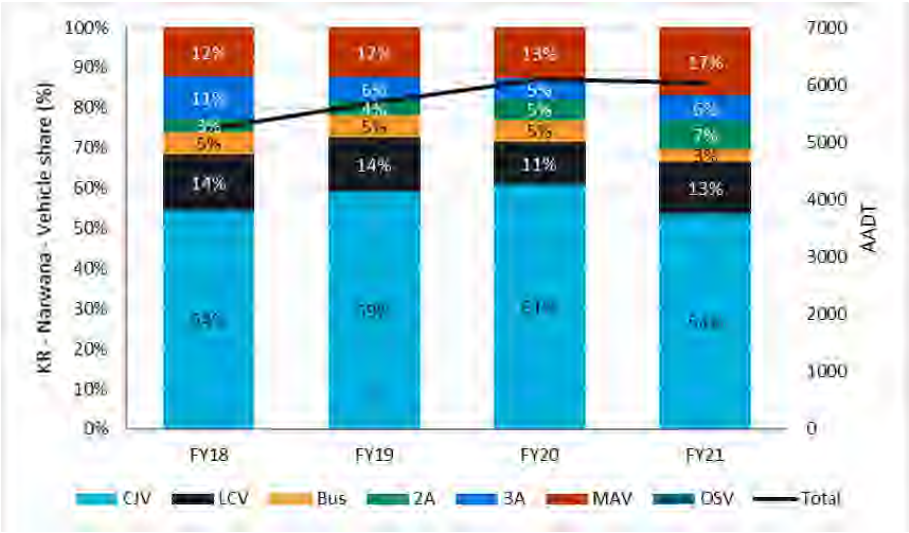
3.6 There was steady ramp up in traffic from FY18 to FY20, which can be attribute to the improved level of service resulting in an increase of local traffic on the Asset. Particularly, Ambala bypass completion in December 2019 resulted in significant traffic growth by Q4 of FY20. This growth can be attributed to several but not limited to reasons:

- Ambala Kaithal section including Ambala bypass was still under construction up until December 2019 (FY20). Post completion, the asset became attractive alternate for traffic moving between Ambala/north and Kishangarh/west/south.
- Farmer's protest significantly impacted the traffic movement in the state. The Rai-Kundli section of Panipat Delhi stretch and Kundli Manesar Palwal (KMP) expressway were closed by protesting farmers. Further, there is no tolling on asset and its northern sections including up to Ambala and toll plazas in Punjab while KMP is currently tolling. This may have contributed to some shift of traffic on the Asset from KMP and Rohtak Panipat sections adding to growth on the asset in FY21.
- Further, Covid19 related restrictions already started impacting traffic in as early March FY20 resulting in decline in AADT growth between FY20 and FY21. However, the 2A, 3A and MAVs have shown 25-30% growth for same period resulting in over positive PCU growth. Only cars and buses were impacted during this period.

3.7 Due to Covid19 the bus networks have still not come back to pre-Covid19 levels, once the impact of Covid19 related restrictions reduces it is expected that the Bus volumes will return to the levels seen in FY19 and more.

3.8 The following figure shows the historical variation in traffic volume at Narwana toll plaza, in terms of vehicle shares and total AADT. The share of CJV's reduced in FY21 compared to FY20 primarily attributed to restrictions on personal travel during Covid19 lockdowns. LCV shares remained constant at 11%, whereas 2A trucks have increased their shares to 7% in FY21.

Figure 3.1 Category wise vehicle shares (%) and AADT at KR Narwana



Source: Steer analysis of the Client data

3.9 Badopatti toll plaza has the highest AADT amongst the plazas of the Asset as it is located in close vicinity of urban centre of Hisar. The following table indicate the historical variation in traffic volume at Badopatti toll plaza in terms of vehicle shares, total AADT and PCUs.

Table 3.2: Historical evolution in AADT by vehicle class: KR - Badopatti

Vehicle Class	FY18	FY19	FY20	FY21*	CAGR FY18-19	CAGR FY19-20	CAGR FY18-20
CJV	4,271	5,000	5,109	4,002	17.1%	2.2%	9.4%
LCV	756	802	664	700	6.2%	(17.2%)	(6.2%)
Bus	420	448	446	257	6.6%	(0.4%)	3.0%
2A	204	236	337	421	15.5%	42.9%	28.5%
3A	416	397	387	502	(4.5%)	(2.5%)	(3.5%)
MAV	772	843	935	1,081	9.3%	10.8%	10.1%
OSV	1	2	4	6	181.9%	54.8%	108.9%
Total	**6,839**	**7,728**	**7,882**	**6,969**	**13.0%**	**2.0%**	**7.4%**
PCU	**12,001**	**13,251**	**13,839**	**13,482**	**10.4%**	**4.4%**	**7.4%**

Source: Steer analysis of the Client data (*FY21 tolling suspended on 25th December 2021)

3.10 The Badopatti toll plaza saw decline in 3A and LCV traffic while MAV traffic observed strong positive growth between FY19 and FY20. The change in 3A traffic between FY18 and FY20 can be attributed to completion of construction on the asset and Ambala Kaithal section as vehicles associated to construction activity disappeared after completion.

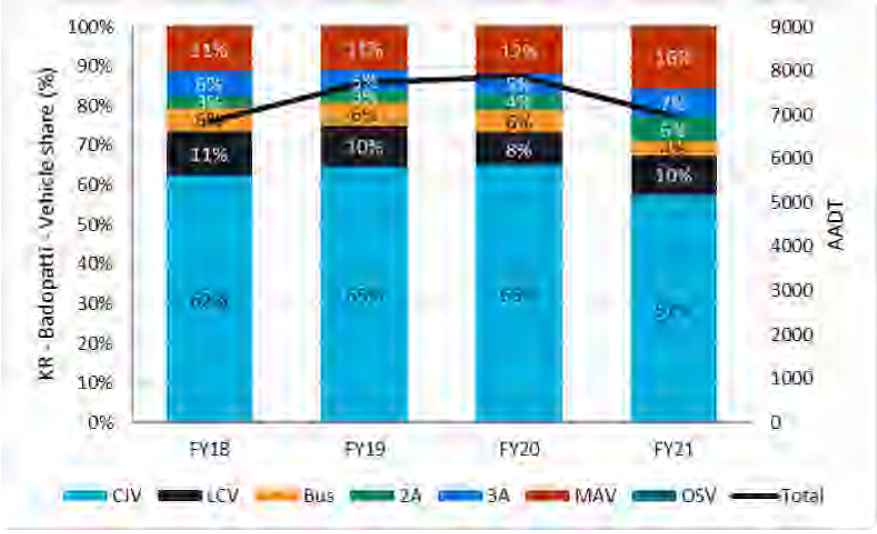
3.11 The decline in CJV and bus traffic in FY21 can be attributed to severe impact of Covid19 related lockdowns in the vicinity of the asset. Hisar observed highest Covid 19 related mortality rate in Haryana. The Hisar district along with Panipat, Gurugram and Karnal were under strict lockdowns starting March until October 2020 followed by second wave related restrictions starting mid-April 2021 until June 2021.

3.12 The LCV- 2A category has historically been affected by classification issues because of similar size and look of the vehicle. Further, preference of 2A trucks over LCVs is also increasing. This has resulted in more growth in 2A's than LCV. Hence, the 2A category has grown significantly over last three years while LCVs have seen 17% decline in traffic in FY20.

3.13 Buses grew slightly from FY18-19 with a negative CAGR of 24.3% in FY20-21. As discussed previously in section3.12, Hisar was under strict lockdown with government busses nonoperation during those periods. Therefore, there has been decline in bus traffic but it is expected to get back to FY19 levels once the impact of Covid19 related restrictions reduce.

3.14 As shown in figure below, the contribution of CJV decreased to 57% in FY21 from 65% in FY20 while share of 2A, 3A and MAVs increased at overall AADT level on Badopatti toll plaza.

Figure 3.2 Category wise vehicle shares (%) and AADT at KR - Badopatti



Source: Steer analysis of the Client data

Table 3.3: Historical evolution in AADT by vehicle class: KR – Chaudharyvas

Vehicle Class	FY18	FY19	FY20	FY21*	CAGR FY18-19	CAGR FY19-20	CAGR FY18-20
CJV	2,893	3,009	2,998	2,491	4.0%	(0.4%)	1.8%
LCV	689	620	570	729	(10.0%)	(8.1%)	(9.1%)
Bus	151	160	165	116	6.0%	2.9%	4.4%
2A	245	291	377	420	18.8%	29.5%	24.0%
3A	502	485	460	582	(3.5%)	(5.2%)	(4.4%)
MAV	1,094	1,256	1,401	1,619	14.8%	11.5%	13.2%
OSV	1	7	6	5	476.8%	(16.7%)	119.2%
Total	**5,576**	**5,828**	**5,975**	**5,961**	**4.5%**	**2.5%**	**3.5%**
PCU	**11,551**	**12,430**	**13,186**	**14,245**	**7.6%**	**6.1%**	**6.8%**

Source: Steer analysis of the Client data (*FY21 tolling suspended on 25th December 2021)

3.15 The Chaudharyvas toll plaza is influenced strongly by activities and local demand generated by Hisar and caters primarily to local traffic including from Sirsa, Hisar along with trips between state and Salasar Balaji temple as mentioned previously in Chapter 2.

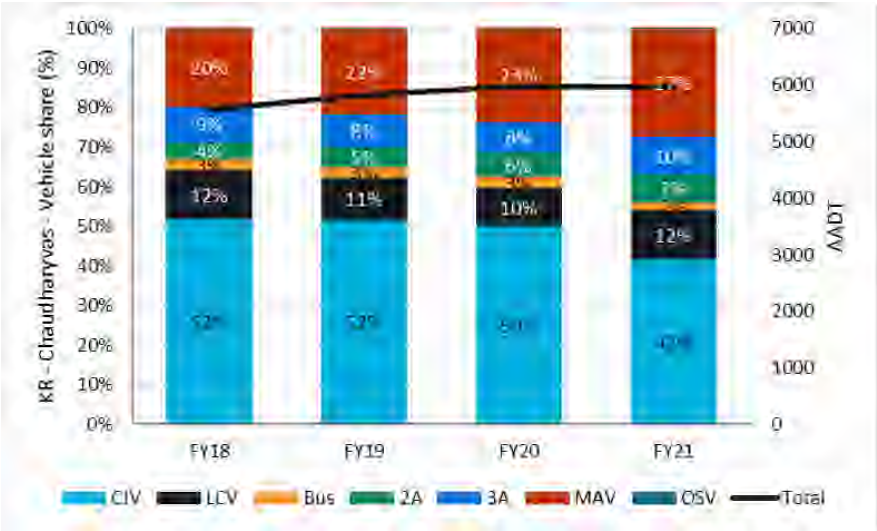
3.16 Likewise, Narwana and Baddopatti toll plazas, CJVs and Buses were impacted by Covid19 restrictions in districts in vicinity of the asset. Further, temple attracts large number of tourists and devotees, especially in the month of March. Since, Covid19-related restrictions started in the later part of FY20, the CJV and bus traffic saw decrease in number. The same, coupled with onset of economic slowdown, became a reason behind negative CAGR of 0.4% in FY19-20 and negative CAGR of 8% in FY19-20 for LCVs.

3.17 MAVs, the second highest contributor of traffic and highest contributor of revenue, grew positively from FY18. The category saw a positive CAGR of 13.6% in FY19-21 even when FY21's traffic trends were affected by state-regulated lockdowns and Covid19 regulations. The same is true for 2As as well as 3As the categories observed 20.2% and 9.5% CAGR respectively in FY19-21. Although a positive growth trend, the CAGR is with respect to a smaller base and

hence, doesn't showcase the true characteristic of 2As. Nevertheless, the positive CAGRs for 2A, 3A, and MAVs represents the captive nature of the corridor as well as its healthy growth parameters in the future.

3.18 As shown in figure below, the contribution of CJV decreased to 42% in FY21 from 50% in FY20 while share of 2A, 3A and MAVs increased at overall AADT level on Badopatti toll plaza.

Figure 3.3 Category wise vehicle shares (%) and AADT at KR – Chaudharyvas



Source: Steer analysis of the Client data

3.19 The table below show the category-wise reported revenue for the Asset between FY18 and FY21. As discussed in Chapter 1 and 2, toll was suspended on the asset after 25th December 2021. Also, asset started operations in September 2017. Therefore, CAGR is presented only for FY 19 and FY20 period in table below. The key revenue contributors are MAVs accounting for 46% of asset's revenue followed by 11% each from 2A and 3A trucks. The CJVs attribute to almost 40-50% of traffic on all three plazas but only contribute 21% revenues on the Asset.

Table 3.4: Historical evolution in revenue by vehicle class (INR crores): Kaithal - Rajasthan section

Vehicle Class	FY18	FY19	FY20	FY21*	CAGR FY19-20
CJV	7.5	13.9	20.0	14.9	43.4%
LCV	3.3	6.1	6.5	4.7	7.3%
Bus	2.6	4.6	6.3	2.3	37.7%
2A	2.5	5.1	8.9	7.6	74.0%
3A	5.6	9.5	11.1	8.0	17.6%
MAV	15.4	31.1	42.2	32.4	35.4%
Total	**36.8**	**70.5**	**95.2**	**70.0**	35.0%

Source: Steer analysis of the Client data (*FY21 tolling suspended on 25th December 2021)

3.20 Revenue realised on the Asset observed significant growth between FY18 and FY20. The first two quarters of FY21 being significantly impacted by Covid19 related disruptions, still the Asset has been able to regain the losses in Q1 and Q2FY21 in Q3 to end the year at levels seen in FY19. Further, as discussed in Chapter 1 and 2, the farmers protests caused plaza to cease toll collection operations in December 2020.

Impact of Covid19 on traffic and subsequent recovery of traffic volumes

3.21 On 24th March 2020, the Central government announced a nationwide 25-days lockdown which was extended for another three weeks until May 3. As discussed before, all toll operations were suspended from 26th March till 19th April 2020. Further consecutive extensions until May 31 featured relaxations in 'green' and 'orange' zones. Starting 8 June 2020, 'Unlock' phases began. States also imposed local guidelines alongside mandatory ones imposed by Central government.

3.22 The Q3 traffic levels have been higher as compared to FY20 as shown in table below. This is similar to pattern that has been witnessed on other Assets across the country. Also, CJV's have seen larger impacts as compared to 3A+MAV traffic. Traffic profile for Asset is discussed below:

Table 3.5: Evolution of traffic (MADT): KR - Narvana

Vehicle type	FY20	Q1FY21	Q2FY21	Q3FY21	Q4FY21*	FY21*
CJV	3,711	3,065	3,517	3,630	2,911	3,243
LCV	651	613	602	798	1,316	772
Bus	318	51	194	295	320	199
2A	328	373	427	432	486	420
3A	310	259	349	440	626	392
MAV	772	731	911	1,197	1,403	1,009
Total	**6,088**	**5,092**	**6,000**	**6,792**	**7,063**	**6,034**
PCU	**11,025**	**9,321**	**11,431**	**13,712**	**15,496**	**11,971**

Source: Steer Analysis of client TMS data (*FY21 tolling suspended on 25th December 2021)

3.23 As we can see from the table above, by Q2FY21 the Asset reached the FY20 PCU levels, with the full FY21 being impacted by Covid19 related restrictions in Q1FY21. MAV traffic observed strong growth in volumes in Q2-Q3FY21, which as discussed previously in section 3.6 was combination of multiple factors including farmer protest, and sustained recovery witnessed in the economic activity, especially in the agriculture, steel, fabrication and other industries in vicinity of the Asset. The Q4FY21 numbers are not reliable as tolling was suspended following farmer's protests and abnormal growth in LCVs can be attributed to same reason.

3.24 Traffic profile for Badopatti toll plaza is discussed below:

Table 3.6: Evolution of traffic (MADT): KR - Badopatti

Vehicle type	FY20	Q1FY21	Q2FY21	Q3FY21	Q4FY21*	FY21*
CJV	5,109	4,291	4,885	4,235	2,241	4,002
LCV	664	552	604	744	1,070	700
Bus	446	77	263	383	376	257
2A	337	331	426	478	495	421
3A	387	321	447	560	833	502
MAV	935	880	1,084	1,253	1,219	1,081
Total	**7,879**	**6,452**	**7,709**	**7,653**	**6,234**	**6,963**
PCU	**13,823**	**11,267**	**14,075**	**15,253**	**14,446**	**13,456**

Source: Steer Analysis of client TMS data (*FY21 tolling suspended on 25th December 2021)

3.25 Similar to the Narvana toll plaza, the passenger vehicles (CJV and Buses) posted recovery in volumes in Q2FY21. LCVs and trucks observed strong recovery as well starting Q2FY21 primarily after lockdown restrictions were eased after June 2020. As discussed before, impact was higher on the passenger vehicles (CJV and Buses) during first wave as compared to the 2nd wave which observed relatively smaller impact on goods vehicles.

3.26 Traffic profile for Chaudharyvas toll plaza is discussed below:

Table 3.7: Evolution of traffic (MADT): KR - Chaudharyvas

Vehicle type	FY20	Q1FY21	Q2FY21	Q3FY21	Q4FY21*	FY21
CJV	2,998	2,239	2,757	2,970	2,056	2,491
LCV	570	480	520	824	1,348	729
Bus	165	34	111	166	191	116
2A	377	374	455	439	427	420
3A	460	392	512	658	922	582
MAV	1,401	1,269	1,575	1,853	2,008	1,619
Total	**5,969**	**4,788**	**5,930**	**6,909**	**6,953**	**5,957**
PCU	**13,160**	**11,069**	**13,859**	**16,331**	**17,736**	**14,224**

Source: Steer Analysis of client TMS data (*FY21 tolling suspended on 25th December 2021)

3.27 Likewise, the other two plazas, Chaudharyvas toll plaza also followed same trends posting similar volumes to FY20 in Q2FY21 and sustained the growth trajectory in Q3FY21 as well. As discussed previously, the farmer protest impacted the operations at toll plaza starting November 2020 which followed Force Majeure event January 2021 on the Asset. On the asset, the local traffic was impacted in Q4FY21 and unusual traffic patterns were observed.

Toll Frequencies

3.28 Toll frequency or segmentation is typically the share of each ticket category recorded for a particular vehicle type. Each vehicle category has different segmentation. As a part of historical analysis, we calculate the toll frequency for each vehicle category from the monthly data shared by the client. The most common ticket categories observed on a typical National Highway concession are: Single, Return, Monthly, Local and Exempt. Given the local nature of traffic, some assets offer custom made local passes to attract the local commuters to opt for these category passes instead of evading toll.

3.29 Understanding the toll frequency gives insights into the nature of traffic. CJVs generally have higher shares of return passes or monthly passes, while heavy trucks mostly have single tickets since they travel long distance. However, this varies from asset to asset or even toll plaza to toll plaza. The asset catering to short distance local traffic generally observes high share of return or other local monthly passes while the asset catering to strategic long-distance traffic generally observes high share of single ticket traffic.

3.30 The following are the types of tickets being sold at the plazas of the Asset.

Table 3.8: Typical ticket types sold at NHAI plazas

Category	Description
Single	Allows the vehicle to cross the toll plaza once
Return	Daily pass for crossing the toll plaza twice within 24 hours. Charged 1.5 times the single toll
Monthly	Monthly pass
Local Personal	Discounted monthly pass for private cars of residents within 20km of toll plaza
Local Commercial	50% discount on single trips for commercial vehicles registered in the district
Exemptions	Officially exempted vehicles like ambulance, police, key political personnel etc.

FASTag implementation

3.31 Government of India has introduced (and more recently, mandated) Electronic Toll Collection (ETC) across National Highways in India, collected via "FASTag". The timeline of ETC implementation is presented in the following table.

Table 3.9: Timeline of national ETC implementation

Date	ETC Development
2014	FASTag system set up as a pilot on the Ahmedabad to Mumbai stretch followed by installation on Delhi to Mumbai stretch of the Golden Quadrilateral in November 2014.
December 2019	FASTag is made mandatory on all National Highways with only one lane on either side keep as a Cash lane, cash users entering ETC lanes were charged double the toll.
February 2021	FASTag was made mandatory for across all vehicle categories crossing any National Highway toll plazas in the country starting 15th Feb 2021

Source: NHAI.gov.in and Wikipedia

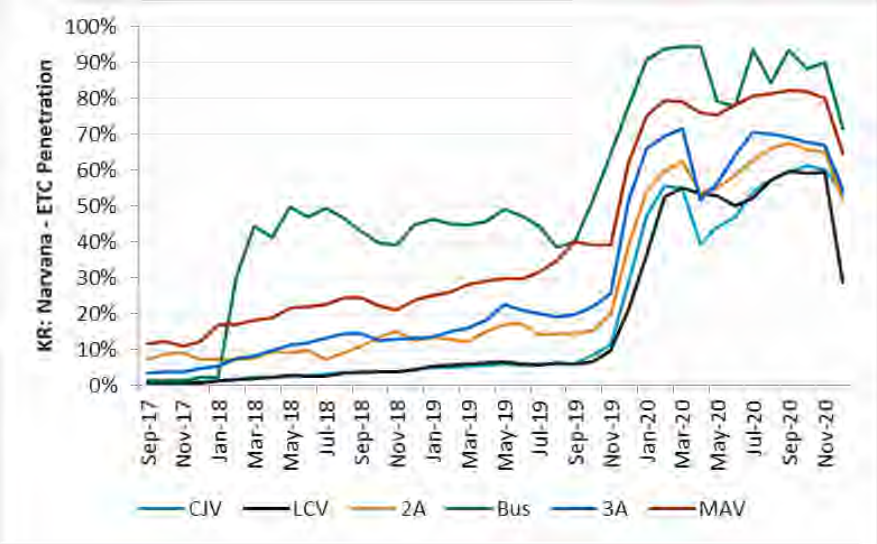
3.32 Generally, over the period the shares of single/return/monthly tickets tend to stabilise within 2-3 years of asset operations. The trip patterns are expected to change significantly in case of any major external events. During the last one year, two key events impacted the traffic patterns throughout the country: Covid19 and FASTag implementation.

3.33 With the FASTag implementation in December 2020, it was ensured that only FASTag users benefited from discounted tickets such as return/monthly and cash users were only allowed to buy single tickets, thus leading to a drastic increase in single ticket users. However, with the increase in FASTag, it was observed that traffic patterns have begun to return to their previous segmentation levels.

Impact of FASTag implementation

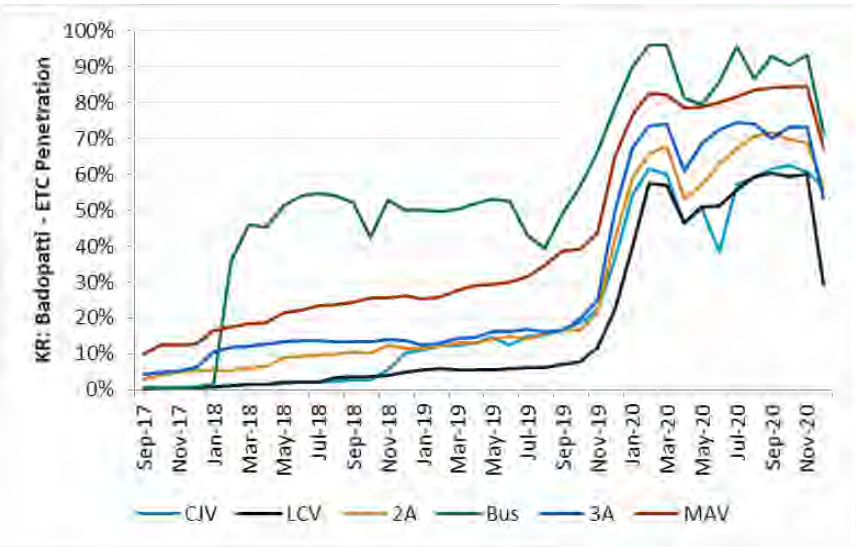
3.34 As discussed in Chapter 1 and Chapter 2, the toll plazas have been non-operational since January 2021 due to farmers protests in the state. Also, the toll fee was only collected till 25th December 2020. Therefore, the data for ETC collection using FASTag is only available till November 2020. The figures below illustrate the Transactions via ETC at all the plazas.

Figure 3.4 %age of Transactions via ETC/FASTag at KR - Narvana



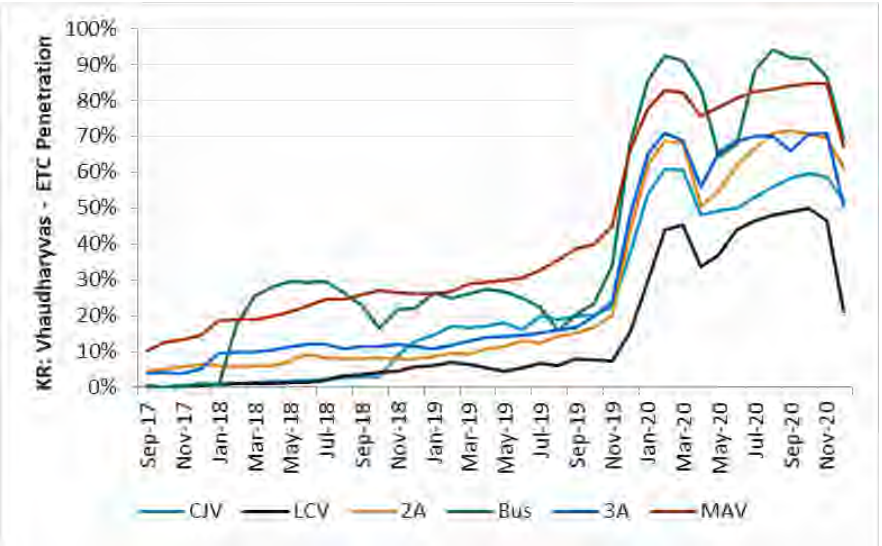
Source: Steer analysis of the Client data

Figure 3.5 %age of Transactions via ETC/FASTag at KR - Badopatti



Source: Steer analysis of the Client data

Figure 3.6 %age of Transactions via ETC/FASTag at KR - Chaudharyvas



Source: Steer analysis of the Client data

3.35 All vehicle categories observed a dip in FASTag shares of transaction in March -June 2020 across all the plazas. As discussed in Chapter 2, this is due to the fact that Hisar and other districts along the asset were severely impacted by Covid19 and strict lockdowns were imposed. Local traffic including CJVs, LCVs and buses were impacted for the most during March-June 2020 period. While long distance traffic including 2A, 3A and MAVs observed decline in March 2020 only recovering to previous levels over next few months as there were fewer restrictions on goods movement across country. Generally, the local movement results in multiple CJV/LCV trips though the plaza. In order to save on tolls, these CJV/LCVs do not have FASTag installed as they cross the plaza as exemptions.

3.36 It is expected that as regional lockdowns are lifted and the travel curbs are relaxed, the long-distance movement traffic will once again appear at the Assets leading to better shares of FASTag transaction levels and lowered exemptions

Toll plaza wise evolution of Segmentation

3.37 Following figures indicate the classification of the total toll tickets by ticket type i.e. single, return, local personal, local commercial, monthly and exempt for CJV and MAV vehicles. The toll plazas were operational only until November 2021 after which toll collection was suspended following farmers protest as discussed in previous chapters of this report. Therefore, the March is shown as exempt across all the charts included in this section.

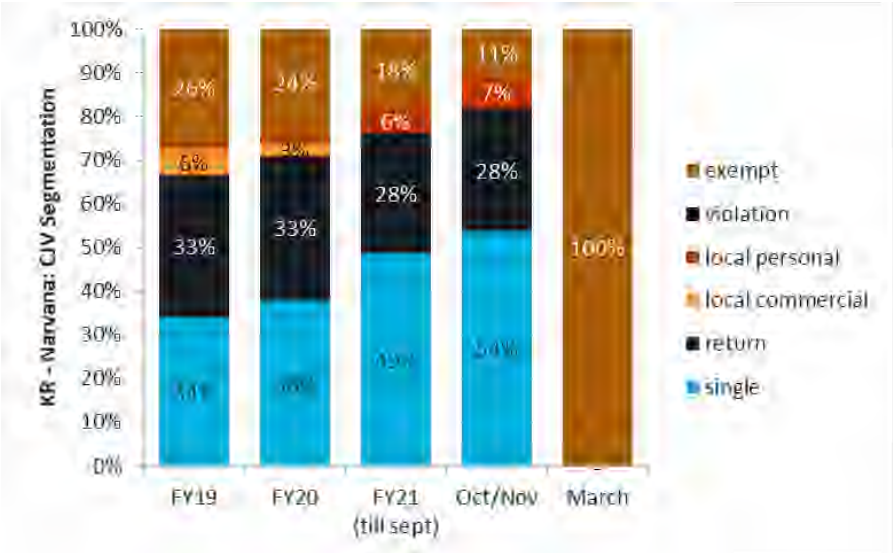
3.38 The FASTag was made mandatory on 15 February 2021 but historical data for ETC collection is available only until December 2020 after which tolling was suspended. The trip patters were still evolving with lower FASTag penetration levels in local vehicles (CJVs and LCVs) moving short distance on the asset.

3.39 After the initial implementation of FASTag in December 2019, Local Commercial discounts were only given FASTag users. Hence, the share of local commercial tickets witnessed a significant decrease from around 31% in FY19 to 14% in FY20 on Badopatti and from 6% on Narwana to a miniscule 3% share in FY20, as these users now had to pay the actual fare for the type of trip they were making.

3.40 For MAVs, both the toll plazas witnessed decline in single tickets and corresponding increase in return tickets. The increase in Return tickets from FY20 to FY21 is similar to what has been observed across toll plazas on National Highways in the country. The truck users moving short to medium distance on national high networks used to buy single tickets before ETC regime owing to uncertainty over their return in 24 Hours thereby contributing to higher share of single trips. However, after FASTag implementation, they were able to avail return-journey discounts which resulted in increased share of return trips.

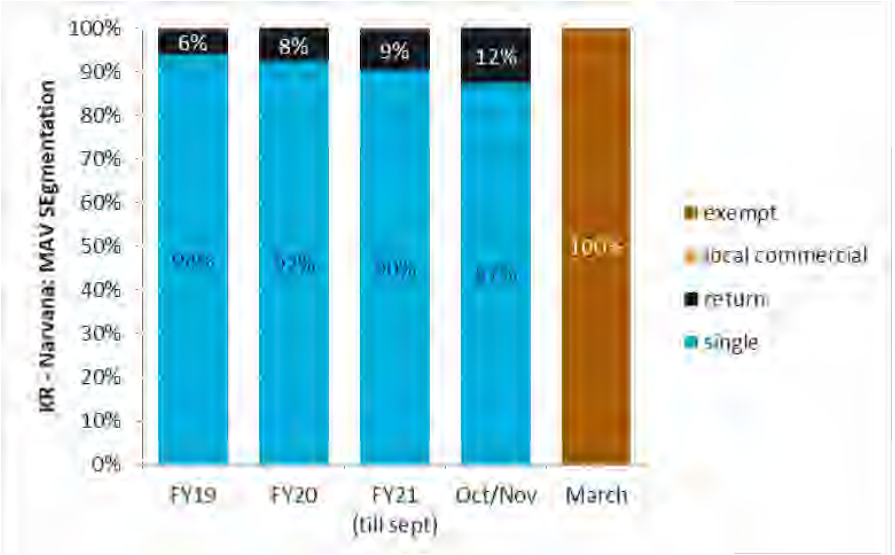
3.41 CJV and MAV segmentation for Narwana toll plaza is presented below:

Figure 3.7 CJV toll segmentation for KR – Narvana



Source: Steer analysis of the Client data

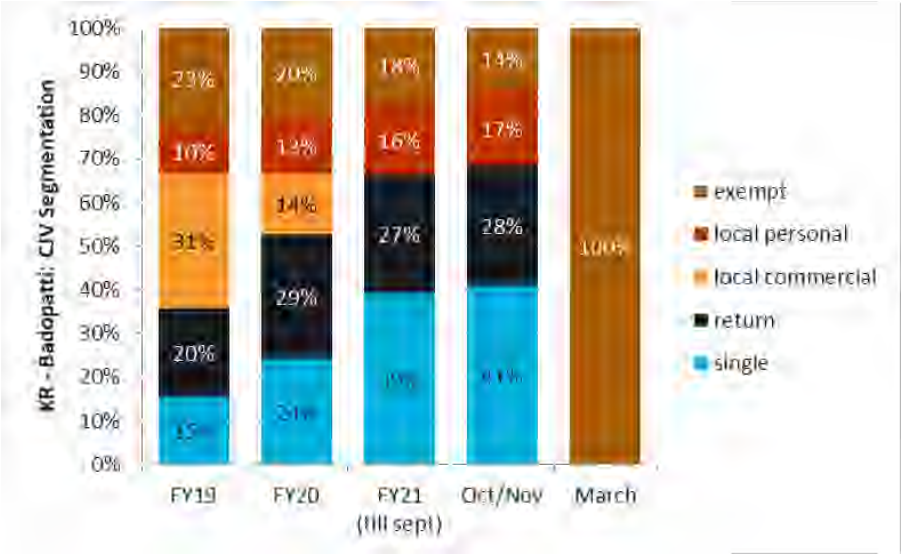
Figure 3.8 MAV toll segmentation for KR – Narvana



Source: Steer analysis of the Client data

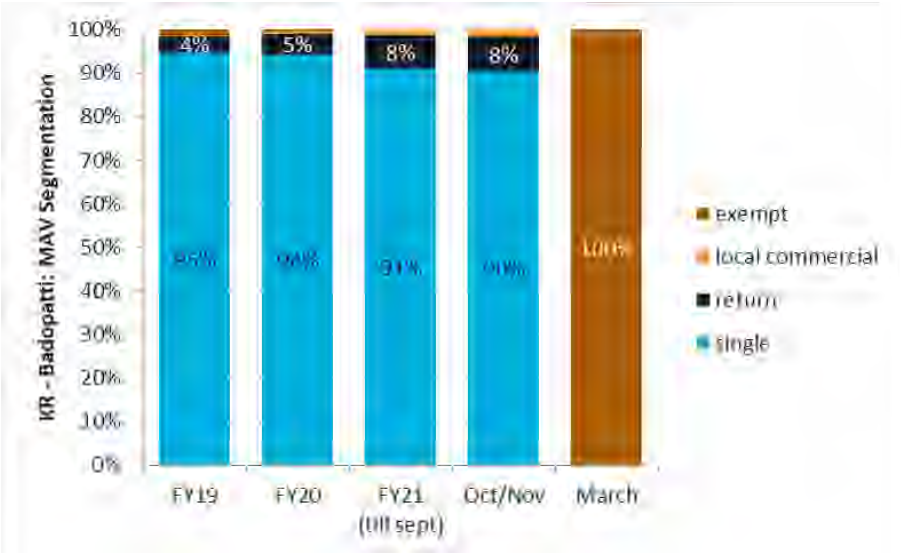
3.42 CJV and MAV segmentation for Badopatti toll plaza is presented below:

Figure 3.9 CJV toll segmentation at KR - Badopatti



Source: Steer analysis of the Client data

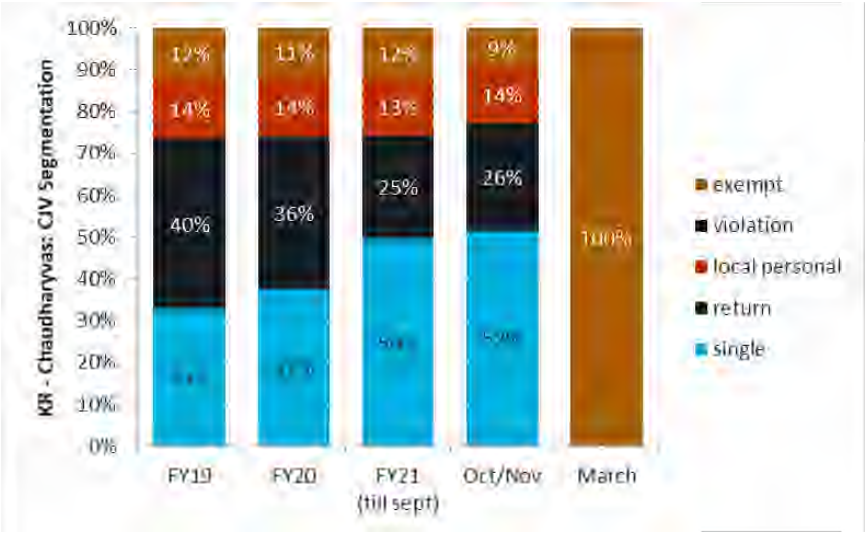
Figure 3.10 MAV toll segmentation at KR - Badopatti



Source: Steer analysis of the Client data

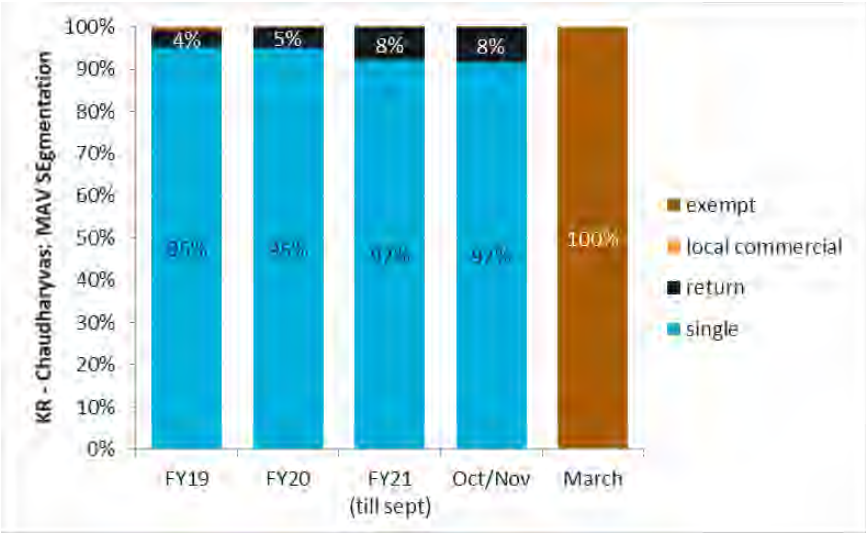
3.43 CJV and MAV segmentation for Chaudharyvas toll plaza is presented below:

Figure 3.11 CJV toll segmentation at KR - Chaudharyvas



Source: Steer analysis of the Client data

Figure 3.12 MAV toll segmentation: KR - Chaudharyvas



Source: Steer analysis of the Client data

Data Collection exercise

3.44 As discussed in section 1.5 of Chapter 1 and in subsequent sections of Chapter 2, the toll plazas on the Asset have been non-operational under "Force Majeure" event following nation-wide farmer protests against farm laws since January 2021. Since, the current traffic trends wouldn't have given the true characteristic of the Asset, TVC and OD surveys weren't conducted on the Asset. We have relied on historical data and previous traffic reports shared by client along with our understanding of Asset from previous commission. This was discussed and agreed with client.

Conclusions

3.45 In summary, the asset is relatively new with operations starting in FY18. The completion of the corridor has resulted in positive traffic growth on the asset. Even with Covid19 impacting traffic patterns, good traffic, which contributes the most in revenue, have seen significant growth between FY19 and FY20.

3.46 Toll collection on the asset was suspend in December 2020 due to “Force Majeure” event following the farmer protests. There is no traffic data available from January 2021 while ETC collection data is available only until December 2020. The FASTag was made mandatory only in February 2021 following which traffic segmentation was observed to stabilise across toll plazas in country. This cannot be concluded for the asset based on data available. However, the traffic is expected to normalise slowly once toll collection restores on the asset.

3.47 Agriculture and dairy are key drivers of growth along the asset corridor. These sectors observed growth even during Covid19 lockdowns and therefore contributed to underlying growth on the asset despite slowdown of industrial activities during the period.

3.48 Overall, the Asset has shown robust historical performance, despite extended Covid19 related lockdowns affecting passenger vehicles, the presence of a wide variety of local industries coupled with shift of long-distance traffic towards the majority of the corridor validates the growth prospects of the corridor as a whole. These are discussed in detail in the later chapters.

4 Socio Economic Context

Introduction

4.1 The growth of traffic on existing (brownfield) roads depends on, firstly, how fast the background travel demand grows (background growth); and secondly, how successful the Asset is in attracting that traffic (traffic capture). Background travel demand is driven by the socio-economic conditions of the region where the Asset is located and conditions on a national scale. These include:

- Changes in factors such as population, economic growth (regional and national) and industrial production; and
- Other local factors such as strategic port growth, and growth in local industries near the Assets.

4.2 In turn, the change in the competitive position of the Asset (and thus of the traffic capture it will achieve) derives from how the service offered and the prices charged on the Asset change in comparison to competing roads; and whether any new competing road facilities are available.

4.3 In this chapter, we assess the socio-economic indicators relevant to traffic growth on the Assets.

Population growth

National Level

4.4 The total population in India has grown at a Compound Annual Growth Rate (CAGR) of 1.5% since 2000, decreasing over the years, as shown in the table below. The World Bank forecasts this growth to decrease to 0.6% CAGR by the 2030-45 period.

Table 4.1: CAGR of population in India

Years	CAGR		
	Total Population (m)	Rural Population (m)	Urban Population (m)
1970 - 1985	2.3%	1.9%	3.8%
1985 - 2000	2.0%	1.7%	2.9%
2000 - 2015	1.5%	1.0%	2.6%
2015 – 2030*	1.0%	0.3%	2.3%
2030 – 2045*	0.6%	-0.3%	1.9%

Source: World Bank Data on Health Nutrition and Population Statistics, *forecast population growth

4.5 Haryana represents 2% of the country's population, with the total state population of 25 million (2011 Census). The rate of growth of the urban population in Haryana has been consistently higher than that of the total population, indicating a trend towards urban agglomeration.

4.6 The table below shows population evolution in Haryana compared to that of the country.

Table 4.2: Population Growth in India (2001 – 2011)

State	2001 Population (m)			2011 Population (m)			CAGR (2001 – 2011)		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Haryana	21.1	15	6.1	25.4	16.5	8.8	1.9%	1.0%	3.7%
India	1,028.7	742.6	286.1	1,210.9	833.7	377.1	1.6%	1.2%	2.8%

Source: Census 2011 Data

Table 4.3: Local Population Growth (2001 – 2011)

Region	2001 Population (m)	2011 Population (m)	CAGR (2001 – 2011)
Kaithal	0.95	1.07	1.3%
Hisar	1.54	1.74	1.3%

Source: Census 2011 Data

4.7 The growth of the local population, i.e., of Kaithal and Hisar, are of more direct relevance to the Asset. Both these cities have observed healthy growth in population in the last decade indicating that the Asset is expected to continue serving the local consumption demand. However, due to the complexities of the patterns in which urbanisation takes place, and the very dynamic nature of local population migration (which are very difficult to forecast with accuracy), we do not use population growth as a proxy for understanding future travel demand growth on the Asset. It has been included in this section simply to provide a general context of the region in which the Asset are located.

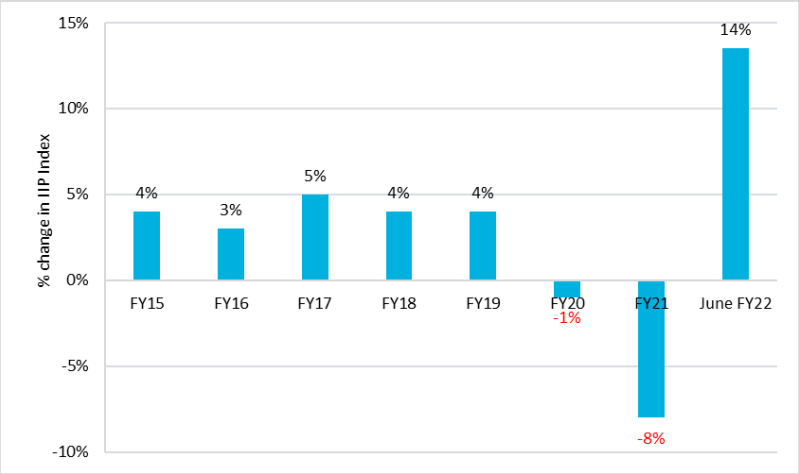
Economic Indicators

Industrial Production

4.8 The Index of Industrial Production (IIP) is a composite indicator that measures the short-term changes in the volume of production for a basket of industrial products. The IIP data tracks the manufacturing activity in different sectors of an economy, with mining, manufacturing, and electricity being the three broad sectors in which IIP constituents fall.

4.9 At an annual level, the IIP was growing on an average of 4% between FY15-19, before being hit by liquidity crisis and overall economic slowdown in FY20. Post that, the IIP shrank by over 8% in FY21, due to a decline in economic activities in the wake of global lockdowns introduced to curb coronavirus pandemic. However, with the gradual opening of economy and rebound observed in demand, the IIP on a month-on-month grew by +28.6% in May 2021 and 13.5% in June 2021, as per the latest available data, indicting a revival in economic growth.

Figure 4.1: Annual growth - Index of Industrial Production



Source: Central Statistical Organisation (CSO)

4.10 Since the IIP data in India is released only at a national level and not at the state level, we do not use IIP growth as a proxy for understanding future travel demand growth on the Assets. Also, availability of long-term forecast is the key for using an indicator as a growth driver, while long-term forecast for IIP is not available we refrain from using it to forecast traffic.

Vehicle ownership

4.11 Car ownership in India has traditionally been very low, however this is slowly changing with the increasing per capita income levels. Between 2007-17, number of cars per 1,000 people has more than doubled and increased at a CAGR of about 11%. The corresponding ownership rates for urban cities like Delhi, Mumbai, Bengaluru, and Chennai are over 100 cars per 1,000 people. The region where the Asset lie is semi-urban, therefore the car ownership in the region is lower than the India average.

4.12 India overall also stands at a very nascent stage in the vehicle saturation curve, offering a huge potential, as the income per capita of India and the region itself grow further, we expect the car ownership levels to increase. As per the India Energy Outlook, the car ownership is projected to grow steeply to 175 cars per 1,000 population by 2040 in India[1].

[1] https://www.gita.org.in/Attachments/Reports/IndiaEnergyOutlook_WEO2015.pdf

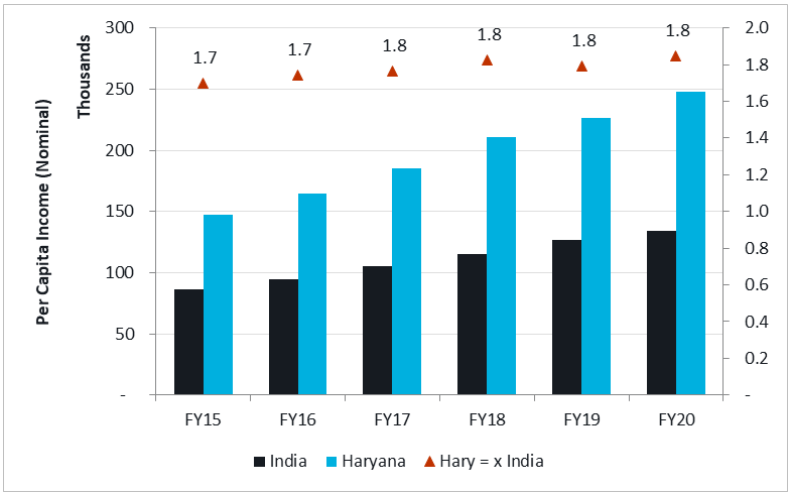
Figure 4.2: Car ownership in India per 1,000 population

Source: Central Statistical Organisation (CSO)

Per Capita Income (PCI)

4.13 The per capita income of the state where the Asset lie i.e., Haryana is almost double as compared to the national average. However, in dollar terms, PCI of just $3,000 per head indicates that the state is at a very early stage of consumption curve. Going forward, we therefore expect local consumption to be strong with increasing per capita income which would drive the growth in both passenger and commercial traffic on the Asset.

Figure 4.3: Per capita income



Source: Central Statistical Organisation (CSO)

4.14 However, given the difficulty in obtaining granular district level PCI data, it is not advisable to use this as a growth driver. Also, the long-term forecast for PCI is not available, we therefore refrain from using it to forecast traffic.

GDP and GSDP Growth

4.15 The Indian economy has grown at a CAGR of 6.6% during FY12-20, aided by a strong growth in the services/tertiary sector. The economic growth of Haryana (GSDP)[2] has been faster than the country overall. Haryana approximately contributes 4% to the India's GDP. In terms of per capita income, Haryana has higher per capita income than the country.

4.16 The state of Haryana lies in North India and surrounds the national capital, Delhi, from three sides. Historically an agrarian state, Haryana today is a well-developed industrial state. In terms of sectoral contribution, the tertiary sector has the highest contribution to the state GSDP (50%) followed by the secondary (32%) and primary (18%) sectors. Some of the key districts that contribute towards the state's growth are Gurgaon, Faridabad, Karnal, Ambala, Panipat and Kurukshetra.

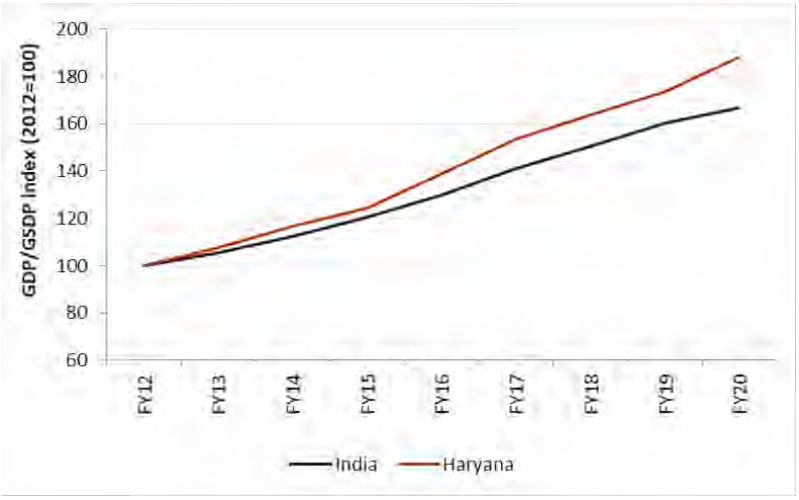
4.17 Haryana is one of the leading states in terms of industrial production, especially automobiles and auto components. The Gurgaon-Manesar-Faridabad belt houses large automotive players such as Maruti Suzuki, Hero Motor and Yamaha. Under the 'Make in India' project, the Manesar-Bawal Investment Region has been identified by the Government to be one of the key manufacturing hubs in the state.

4.18 The state has also emerged as a base for the knowledge industry including IT and biotechnology. Many large Indian and multinational companies have set up their offices in the state (Gurugram) due to its high-quality infrastructure and proximity to the national capital, Delhi.

4.19 Haryana is also one of the largest contributors of food grains in India and key exporter of Rice. Wheat, sugarcane, rice, cotton, rapeseed, and mustard are key agricultural products of the state. The state also houses large number of agriculture and allied industries manufacturing plants in the state such as Nestle, PepsiCo, and GlaxoSmithKline Consumer Healthcare.

4.20 Haryana's GSDP CAGR was 8.2% between FY12-20 and its relative share to the national GDP was around 4% in FY20.

Table 4.4: GDP/GSDP index (2012=100)



Source: Central Statistical Organisation (CSO)

[2] GSDP is the Gross State Domestic Product i.e., the GDP equivalent for a particular state, it is the final value of goods and services produced by a particular state

4.21 The official historical GDP and GSDP data for India are released by the Central Statistical Organisation (CSO). The GDP forecasts for India are available from various reliable sources such as Oxford and Consensus, but the GSDP forecasts for the same are not published. However, using the past trends for the relationship between GDP and GSDP, we can develop reasonable GSDP forecasts.

4.22 Therefore, in our view, GDP is the best source to be used as a growth driver for long term forecasts of traffic.

Summary

4.23 For any indicator to be used as a growth driver to forecast traffic, a reliable source of historical and forecast available for that indicator is the key requirement. Of the key socioeconomic indicators discussed above GDP seems to be the only growth driver for which reliable data is available both in terms of historical and forecast data, therefore, to forecast traffic we would be using GDP/GSDP as our key growth drivers.

Indicator	Remarks
GDP/GSDP	Available annually ***National level reliable historical and forecast available***
Population/Urbanisation	Revised every 10 years, last available 2011. Population estimates are not available annually, making it difficult to run regressions. Also, the very dynamic nature of local population migration (which are very difficult to forecast with accuracy), we do not use population growth as a proxy for understanding future travel demand growth on the Asset. *Forecast available but historical data is a constraint*
Per Capita income	National and state level per capita historical data is available, but future estimates for the same are not to base traffic growth on. *Historical data available but forecast data is a constraint*
IIP Index (Industrial production)	Unlike GDP, reliable IIP forecast are not available, also the IIP data is only available at national levels and not for each state individually.
Vehicle ownership	Vehicle ownership at India level is available latest for 2017. At state level, not all states release their vehicle ownership data annually making it difficult for consistency. A lot of research organisations have published forecast at national level, but a reliable estimate is not available.

Source: Steer analysis

5 Background growth relationships and forecasting assumptions

Introduction

5.1 In this chapter, we present our approach, assumptions around estimation of elasticities and forecast assumptions of Macro parameters for each vehicle category on the Asset.

5.2 Traffic growth is commonly related to a variety of macro-economic and industry- or commodity-specific factors (hereafter referred to as 'traffic growth drivers'). These growth drivers are typically identified from the results of the OD data analysis and the site visits that help us appreciate the nature of traffic movement – 'what' travels 'where' and 'why'.

5.3 On Assets where long time series historical data is available, to understand the historical traffic trends in relation to these growth drivers, we typically carry out regression analysis, to determine the historical relationship between traffic belonging to each major vehicle category and its macroeconomic growth driver at the toll plaza. The dynamics of traffic demand is the dependent variable while the dynamics of one or more identified growth drivers are the independent or explanatory variables. This is the primary approach to determine the elasticity relationships. However, for Asset under consideration where only limited historical data is available, we have adopted an approach which is explained in detail in the sections below.

5.4 While working on several Assets across the country where historical data is available, it has been observed that typically, growth of passenger and light commercial vehicles like cars, buses and LCVs which have relatively shorter trip lengths (<200-250 km) is more closely linked to the local economic growth drivers where the toll road is located. These categories are generally driven by the demand driven by local production/consumption centres and are in most cases captive to the toll plazas. Local factors coupled with tourism driven demand is often seen as the key driver for consumption of goods and services in the areas. Therefore, we typically link the growth rate of these vehicle categories with GSDP growth rates of the state where the asset is located as that is closest proxy of the local economic activity in the region.

5.5 Whereas Heavy vehicle traffic like 3-axle trucks (sometimes 2A trucks as well) and MAVs tend to have a much longer average trip lengths (>350-500 km) and serve multiple economic activity centres located along an Asset as well beyond the Asset across multiple states of the country. For these vehicle categories we therefore assume these vehicle categories to grow in line with the national GDP. This is because most light goods vehicles tend to travel shorter distances within the state, whereas a significant proportion of heavy vehicles carry commodities for long - distances across the country and have much longer trip lengths. These commodities also tend to be part of industry ecosystems whose demand-supply relationships are scattered across the country and therefore relate more with GDP growth. Therefore, using the OD data trip lengths of various vehicle types and the commodity carried by these goods vehicles form the basis for estimating the elasticity relationships

Estimation of background elasticities

Overview

5.6 For brownfield Assets, where sufficient historical traffic evolution is available, it is common practice to use regression model analysis to determine the relationship, expressed as elasticity, between traffic growth and key socioeconomic drivers. This relationship is then applied to assumptions of future socio-economic evolution to estimate future traffic growth.

5.7 As for the Asset under consideration, the tolling started recently in September 2017 and tolling was suspended on 25th Dec 2020 due to the ongoing farmers protest, hence a consistent historical trend was not available. Therefore, we undertook a benchmarking analysis in order to estimate our forecast elasticities. Sources used include our understanding of the Asset, outputs of the OD data analysis, that was available in old vendor reports, and our understanding of the regional Assets having similar traffic profiles, which give us reasonable confidence to the relationships proposed.

5.8 In terms of selection of growth drivers for vehicle types, in general we have assumed state GSDP as the key driving factor for the passenger traffic given this traffic is generally driven by the local economies of the cities and state containing the Asset. As discussed earlier in Chapter 2 and Chapter 3, through the site visit observations and further corroborated by the OD data from previous traffic report shared by the client, it was confirmed that the heavy commercial vehicles (2A, 3A, MAV) on this Asset ply long-distance catering to multiple economic centres along and beyond the Asset corridor especially on the Chaudharyvas toll plaza. Therefore, their underlying growth can be reasonably considered to be governed by the general economies of several states or nation as whole.

5.9 The forecast elasticities are assumed to remain constant over the concession period as the logistics sector in still in early stages of development in India (95% of trucks still owned by operators owning less than 5 trucks). Car ownership levels are still around 22+ per 1000 people, and it is likely to take a few years before the market reaches maturity. These trends are based on a long-term understanding of historical relationships and an overall outlook on the growth of the region and the country.

5.10 The table below presents the growth drivers identified to model the forecast background traffic growth rates.

Table 5.1: Identified growth drivers to model traffic growth

Vehicle type	Growth driver
Car	100% GSDP Haryana
LCV	100% GSDP Haryana
Bus	100% GSDP Haryana
2A	100% GDP India
3A	100% GDP India
MAV	100% GDP India

Source: Steer analysis of Client data

5.11 The sections below detail out the reasoning for selection of respective growth driver(s) for each vehicle category.

Table 5.2: Elasticity recommendations for the Asset (Kaithal - Rajasthan)

Vehicle Category	Proposed*	Growth Driver	Comments
CJV	TP1: 1.0 TP2: 1.0 TP3: 1.0	GSDP Haryana	Car traffic is largely driven by the local demand from Hisar, Narwana, Barwala etc. CJVs are expected to grow with 1 elasticity on the asset as the car ownership levels continue to increase in the region in future years.
Buses	TP1: 0.3 TP2: 0.3 TP3: 0.3	GSDP Haryana	Buses are primarily a mix of public and private inter-city buses. Currently these buses serve the local movement. Growth for buses is largely dependent on government policies and private operators. An elasticity of 0.3 is assumed to be reasonable for this asset. As these cities grow, buses are expected to respond to the increasing demand however only at a muted rate.
LCV	TP1: 0.4 TP2: 0.4 TP3: 0.4	GSDP Haryana	LCV have been observed to carry a mix of commodities, mostly catering to local demand. As the region grows, we expect the consumption of these to also increase, combined with an increase in demand in agriculture and dairy sector.
2A	TP1: 0.5 TP2: 0.5 TP3: 0.5	GDP	2A are very low in volume on the corridor and mostly local. With the allowance of more tonnage under the axle load revisions, this category has witnessed growth over the last couple of years. Therefore, an elasticity of 0.5 is considered reasonable for this category.
3A	TP1: 0.6 TP2: 0.6 TP3: 0.6	GDP	3A and MAV's on this asset serve the demand and supply between Punjab, Rajasthan, Gujarat and further south. As the industrial development is expected to pick up pace and continue in the future years, an MAV elasticity of 0.8 is assumed for the asset.
MAV	TP1: 0.8 TP2: 0.8 TP3: 0.8	GDP	

Source: Steer analysis, *KK TP1 Narvana, TP2 Badopatti, TP3 Chaudharyvas

Forecasts for growth drivers

5.12 Following the discussion in Chapter 4 on the nature of economic activity in the state of Haryana, in this section, we describe the assumptions in relation to forecasts of the key macro-economic drivers of traffic growth. Particularly, we have based our forecast on GDP and GSDP projections provided by the Client.

National GDP

5.13 India's GDP and the relevant state GSDPs are the primary macroeconomic variables that have been modelled to drive our traffic growth forecasts.

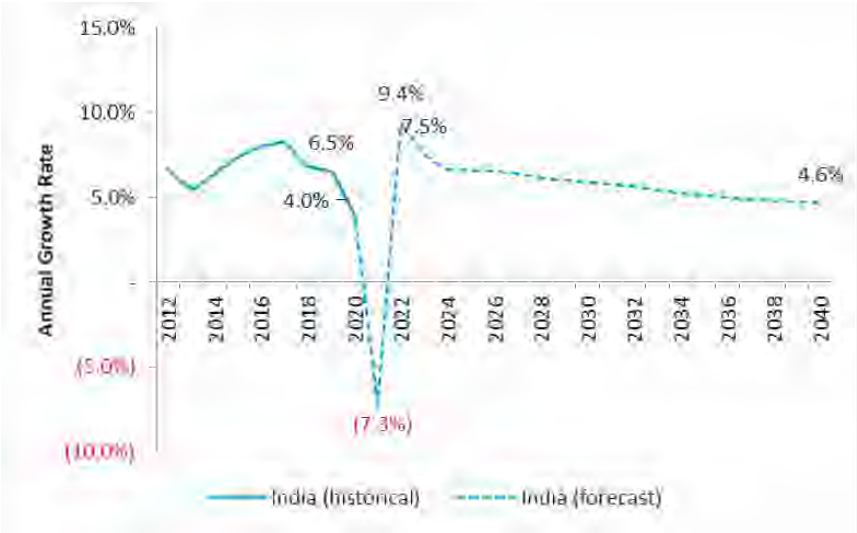
5.14 After the last period of economic slowdown in FY11-12, the country has been experiencing an economic downturn since late FY19 with the FY20 reporting 4% GDP growth. India's GDP growth declined as domestic investment and consumption demand were already under stress because of the liquidity crunch before Covid-19. Related events to the economic slowdown include reduced growth rates in automobile sales and production, liquidity crunch, rising number of non-performing assets, lower manufacturing outputs and lower rural consumption. Furthermore, the last months of FY20 and FY21 have been affected by Covid19, with impacts on industry (economic activity) and society (social activity). This bias has been addressed in

terms of base traffic estimation by normalising the traffic projections for FY21 (as described in Chapter 6) and we based our forecast on the GDP projections as shown in figure below.

5.15 There was a substantial impact of the covid-19 outbreak on the Indian economy during the first two quarters of FY21. The growth momentum eventually picked up in Q3 FY21. A sharp rebound is expected in FY22 with economy projected to grow by 9.4%. In the long term, Indian GDP would reduce gradually after 2030, to reach 5% by 2030 and 4.5% by FY40.

5.16 Our national GDP forecasts are a blend of published forecasts by independent sources such as Consensus, World Bank, IMF, OECD, and RBI.

Figure 5.1: FY21-40 GDP forecast



Source: Steer analysis of GDP forecast by various organisations.
Average of long-term forecast of Consensus, OECD, Oxford and short-term forecast of IMF and World Bank

Normalisation of FY22 GDP and FY23 GDP

5.17 To arrive at the FY22 normalized position, we have assumed that the Q4FY22 would be a normal period, with no further impact of Covid-19. However, we cannot directly use FY22-Q4 estimates because of inherent seasonality attached to it. In India, it is typically observed that during the first half of the financial year (April-September) the GDP growth and contribution to overall GDP is generally lower than the annual average. Widespread monsoon-related disruptions result in subdued economic activity in this period. The second half of the financial year (October-March) typically shows a gradual pick-up in economic activity as the monsoon recedes and construction, mining and agricultural activities start ramping. The agricultural harvest season coupled with the festive season around Diwali boosts the consumer spend in the second half of the financial year.

5.18 We have analysed how Q4 grew with respect to annual GDP for the last five years and have taken an average of FY16 and FY18 and excluding FY17, FY19 and FY20 as they were impacted years due to demonisation and slowdown in Indian Economy.

5.19 The Q4 grew on an average of 1.22 times the annual GDP, applying this factor to the FY22-Q4 estimates, we have arrived at FY22 normalised GDP position of 5.4%.

Quarter	FY16	FY17*	FY18	FY19*	FY20	FY22
Q1	7.6%	8.7%	6.1%	7.6%	5.4%	18.5%
Q2	8.0%	9.7%	5.3%	6.5%	4.6%	7.9%
Q3	7.2%	8.6%	6.7%	6.3%	3.3%	7.2%
Q4	9.1%	6.3%	8.9%	5.8%	3.0%	6.6%
FY	8.0%	8.3%	6.8%	6.5%	4.0%	9.5%
Q4 factor wrt to FY	**1.14**	**0.76**	**1.31**	**0.89**	**0.74**	
Adopted Q4 factor wrt to FY	**1.22**					
Normalised FY22	**5.4%**					
Normalised FY23	**5.9%**					

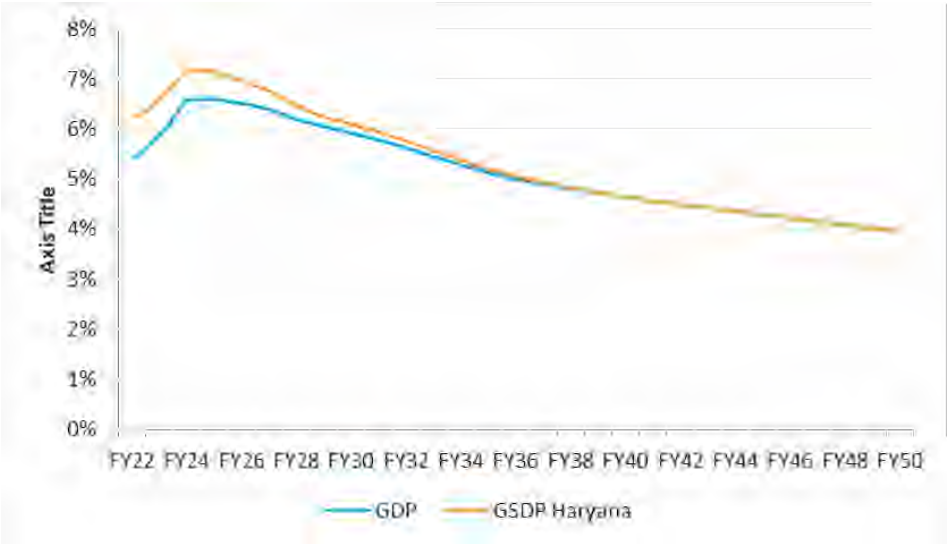
Source: RBI for FY22 estimates, and historical QoQ GDP have been sourced from MOSPI (Ministry of Statistics and Programme Implementation, Central Statistical Organisation), *FY17 and FY19 have been ignored due to exogenous impacts such as Demonetisation and slowdown the economy in FY19

State GSDP

5.20 By comparing historic trends of state level GSDP growth with the national GDP growth we have established GSDP projections for each state. We assumed that as the Indian economy grows, the states which have historically grown at a faster pace will, over 10 years, see a slowdown in GSDP growth, tending to the national average, whereas the states that have grown slower than the national GDP will begin to pick-up and grow faster. The GDP-GSDP gap would partially converge by 2040, and fully converge by 2049.

5.21 The Haryana GSDP is expected to grow faster than the national GDP for next 10 years and is expected to start converging towards national average by 2040. The chart below shows the forecast growth lines for GDP and Haryana GSDP.

Figure 5.2: Forecasts for India GDP, Haryana GSDP



Source: Steer analysis of historical State GSDP data and India GDP projections

6 Forecasts: Base AADT, and Traffic and Revenue forecasts

Introduction

6.1 Following the discussion on our forecast of background growth elasticity relationships in the previous chapter, this chapter first covers the forecasting assumptions around estimation of base year AADT and potential network impacts on traffic growth on the Asset. Thereafter, we present our assumptions around toll segmentations, trip factors and evolution of toll rates for the forecast period which are used to forecast revenues as derived from forecast traffic. In the final section, this chapter summarises traffic growth rates for the forecast years.

6.2 The following table lists key intermediate and final outputs that have presented in previous Chapters and in this chapter.

Table 6.1: Key intermediate and final outputs in the forecast

Forecast	Final outputs	Intermediate outputs	Inputs	Chapter
Traffic	Base year AADT	ADT, SCF estimate for base year	Historical SCF and year-to-date AADT	Chapter 3, 6
	Background traffic growth	Background forecast elasticity	Background historical elasticities with respect to growth drivers	Chapter 5, Appendix C
		Forecasts for growth drivers	Historical performance of growth drivers along with Macro assumptions (GDP and GSDP)	Chapter 4, 5, Appendix C
	Impact growth rates and staging	Impacts	Network analysis	Chapters 6
Revenue	Annual/daily revenue forecasts	Forecast toll segmentation: Trip frequencies and trip factors	Historical trip frequencies	Chapter 3, 6
			Historical trip factors	Chapter 6
		Future toll rates	Toll evolution	Chapter 6

Source: Steer

Seasonal Correction Factors

6.3 Traffic on any Asset varies on a month-on-month level. Such variations maybe due to monsoons (typically Jul to Sept) or due to festivals in the region. For e.g. It is observed that typically the truck traffic during the first half of the financial year (April-September) is generally lower than the annual average, mainly because of peak summer season followed by monsoons affecting

the freight movement patterns in large parts of the country in the July-September period. In addition to these there may be other seasonal variations specific to the Asset.

6.4 In order to normalise for these variations across the year to provide an AADT estimate, Seasonality Correction Factors (SCF) are used. SCFs are estimated to convert the monthly traffic numbers to an AADT level while accounting for seasonal variation due to local/national festivals, weather changes and/or temporary external impacts. These are typically estimated using historical data for each plaza and vehicle category over multiple years. An SCF >1 means that the traffic for the month is lower than the annual average and vice-versa.

6.5 Historical traffic data was available for all toll vehicle categories starting September 2017 up-to December 2021. Therefore, in absence of longer-term historical data to arrive at the SCF, we have benchmarked our SCF from various sources:

- Assets in the vicinity, south or north of the Asset carrying very similar traffic profiles
- SCF from toll plaza data
- Site observations and information provided by the toll plaza to validate SCF assumptions (such as traffic volume drop during monsoon months).

6.6 The below table presents the assumptions in SCF used to estimate the AADT:

Table 6.2: Adopted SCF: TP1 Narvana

Vehicle Category	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
CJV	1.08	1.12	0.97	1.07	1.00	0.98	1.13	0.93	0.96	0.97	0.90	0.99
LCV	0.98	1.00	0.95	0.97	1.02	1.00	0.96	0.92	0.99	1.11	1.06	1.16
Bus	1.04	1.02	0.98	0.99	0.93	0.86	1.13	0.94	1.00	1.05	1.02	1.15
2A	1.10	1.14	1.18	1.22	1.07	0.98	0.94	0.88	0.91	0.96	0.89	0.92
3A	0.93	1.05	1.10	1.30	1.16	1.04	0.88	0.78	0.91	1.02	0.98	1.07
MAV	1.04	1.09	1.12	1.29	1.16	1.10	0.97	0.84	0.88	0.94	0.87	0.90

Source: Steer analysis of various sources

Table 6.3: Adopted SCF: TP2 Badopatti

Vehicle Category	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
CJV	0.99	1.03	0.97	1.03	1.03	1.05	1.06	0.96	0.99	1.00	0.94	1.01
LCV	0.90	0.92	0.96	0.98	1.02	1.03	0.96	0.91	1.01	1.18	1.13	1.20
Bus	0.99	0.96	0.97	0.96	0.95	0.93	1.09	0.98	1.03	1.07	1.01	1.14
2A	1.12	1.11	1.16	1.19	1.01	0.98	0.96	0.99	0.91	0.93	0.86	0.91
3A	0.95	1.04	1.06	1.20	1.02	0.95	0.98	1.05	1.00	0.97	0.90	0.94
MAV	0.99	1.03	1.07	1.25	1.10	1.04	1.01	1.02	0.93	0.93	0.86	0.88

Source: Steer analysis of various sources

Table 6.4: Adopted SCF: TP3 Chaudharyvas

Vehicle Category	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
CJV	0.92	1.00	0.94	1.04	1.01	1.05	1.06	0.97	1.02	1.04	0.96	1.02
LCV	0.82	0.79	0.92	1.06	1.08	1.09	1.01	0.94	1.08	1.19	1.13	1.15
Bus	1.00	1.00	0.99	1.04	0.89	0.90	1.02	1.01	1.02	1.07	1.00	1.16
2A	1.08	1.07	1.20	1.22	1.03	0.97	0.98	1.02	0.93	0.94	0.84	0.87
3A	0.93	1.02	1.07	1.22	1.02	0.99	0.98	1.01	0.97	1.00	0.89	0.99
MAV	0.98	1.01	1.05	1.23	1.11	1.03	1.01	1.04	0.94	0.94	0.86	0.88

Source: Steer analysis of various sources

Base year (FY21 and FY22) traffic

6.7 As discussed earlier, farmers protest led toll suspension and the impact of Covid19 caused steep fluctuations on traffic numbers throughout the year and have therefore made it extremely difficult to estimate an actual base traffic level for FY21. Therefore, an approach to estimate a base AADT number for FY21 must be used, which not only accounts for the impact of Covid19 related national lockdowns, but also the localised restrictions, and traffic profile on each asset.

6.8 The methodology and assumptions taken to estimate FY21 and FY22 is discussed in the following sections.

Estimation of FY21 Normalised and FY22* (no Covid19, hypothetical)

6.9 After the initial drop in traffic volumes across categories in Q1FY21, gradual recovery to pre-Covid19 levels was seen on asset starting Q2FY21 (refer chapter 3). Some of this recovery was related to the pent-up demand that was witnessed across Assets. However, the increased traffic volume levels sustained in Q3FY21 as well (refer chapter 3). As Q4FY21 traffic was impacted by tolling suspension therefore a normalised FY21N base traffic has been estimated based on the September-October-November of FY21 after adjusting for seasonality. **These are of course the best estimates provided with the minimal data available for estimation.**

6.10 **FY22 if no 2nd wave (FY22*)**: FY22* AADT (no Covid19, Hypothetical) has been estimated to arrive at an FY22 AADT position assuming a normal FY22 (no further Covid19 waves of infection in FY22). FY22* was estimated based on a normalised FY22 GDP (as discussed in chapter 4) to elasticity relationship.

Estimation of Q4 FY22

6.11 Q4FY22 is likely to follow the pattern from FY21 and is estimated to stabilize at the FY22* estimated numbers. This Sept-Oct-Nov 2020 traffic level is used as a proxy to get a FY22 normalized or FY22N position. Note here the F22N and FY22* will be the same as it is assumed that Q4 of FY22* will become the basis of estimating FY22N. As these AADT levels are expected to be free of COVID related fluctuations, they serve as a stable base position for traffic for the Asset.

6.12 To summarise, as reliable toll plaza data was not available starting Dec-2020, FY22N estimation has been done based on Sept-Nov 2020 traffic data. With the limited information available these are the best estimates for the Asset.

FY23 Estimation and base AADT for forecast

6.13 These FY22N AADT are then used to estimate a FY23 AADT position, with an underlying assumption of no further COVID waves. FY23 then becomes the basis of all future forecasts which again start to follow the GDP and elasticity-based growth pattern for traffic.

Base year AADT

6.14 Based on the methodology discussed above, the tables below present the FY22N for each of the toll plaza.

Table 6.5: FY22N Base AADT estimates compared to FY21 Actuals and FY22 Estimated (KR - Narvana)

	FY20	FY21	FY21N	FY22	FY22*	FY22N
	Actual	**Actual**	**Q4 N**	**Estimated**	**No covid**	**Q4 N**
CJV	3,711	3,243	3,713	2,793	3,969	3,969
LCV	651	772	599	408	616	616
Bus	318	199	280	194	285	285
2A	328	420	415	301	429	429
3A	310	392	342	238	355	355
MAV	772	1,009	925	673	970	970
Total	**6,088**	**6,034**	**6,274**	**4,607**	**6,625**	**6,625**
PCU	**11,025**	**11,971**	**11,887**	**8,632**	**12,467**	**12,467**

Source: Steer Analysis, FY22* if 2nd Covid wave had happened.

Table 6.6: FY22N Base AADT estimates compared to FY21 Actuals and FY22 Estimated (KR-Badopatti)

	FY20	FY21	FY21N	FY22	FY22*	FY22N
	Actual	**Actual**	**Q4 N**	**Estimated**	**No covid**	**Q4 N**
CJV	5,109	4,002	5,138	3,782	5,494	5,494
LCV	664	700	639	425	656	656
Bus	446	257	366	250	372	372
2A	337	421	434	316	449	449
3A	387	502	475	338	494	494
MAV	935	1,081	1,156	833	1,212	1,212
Total	**7,879**	**6,963**	**8,208**	**5,944**	**8,677**	**8,677**
PCU	**13,823**	**13,456**	**15,123**	**10,882**	**15,876**	**15,876**

Source: Steer Analysis, FY22* if 2nd Covid wave had happened.

Table 6.7: FY22N Base AADT estimates compared to FY21 Actuals and FY22 Estimated (KR-Chaudharyvas)

	FY20	FY21	FY21N	FY22	FY22*	FY22N
	Actual	**Actual**	**Q4 N**	**Estimated**	**No covid**	**Q4 N**
CJV	2,998	2,491	3,038	2,207	3,248	3,248
LCV	570	729	664	427	682	682
Bus	165	116	153	105	155	155
2A	377	420	468	340	483	483

	FY20	FY21	FY21N	FY22	FY22*	FY22N
3A	460	582	545	384	567	567
MAV	1,401	1,619	1,674	1,202	1,755	1,755
Total	**5,969**	**5,957**	**6,541**	**4,665**	**6,890**	**6,890**
PCU	**13,160**	**14,224**	**15,061**	**10,743**	**15,784**	**15,784**

Source: Steer Analysis, FY22* if 2nd Covid wave had happened.

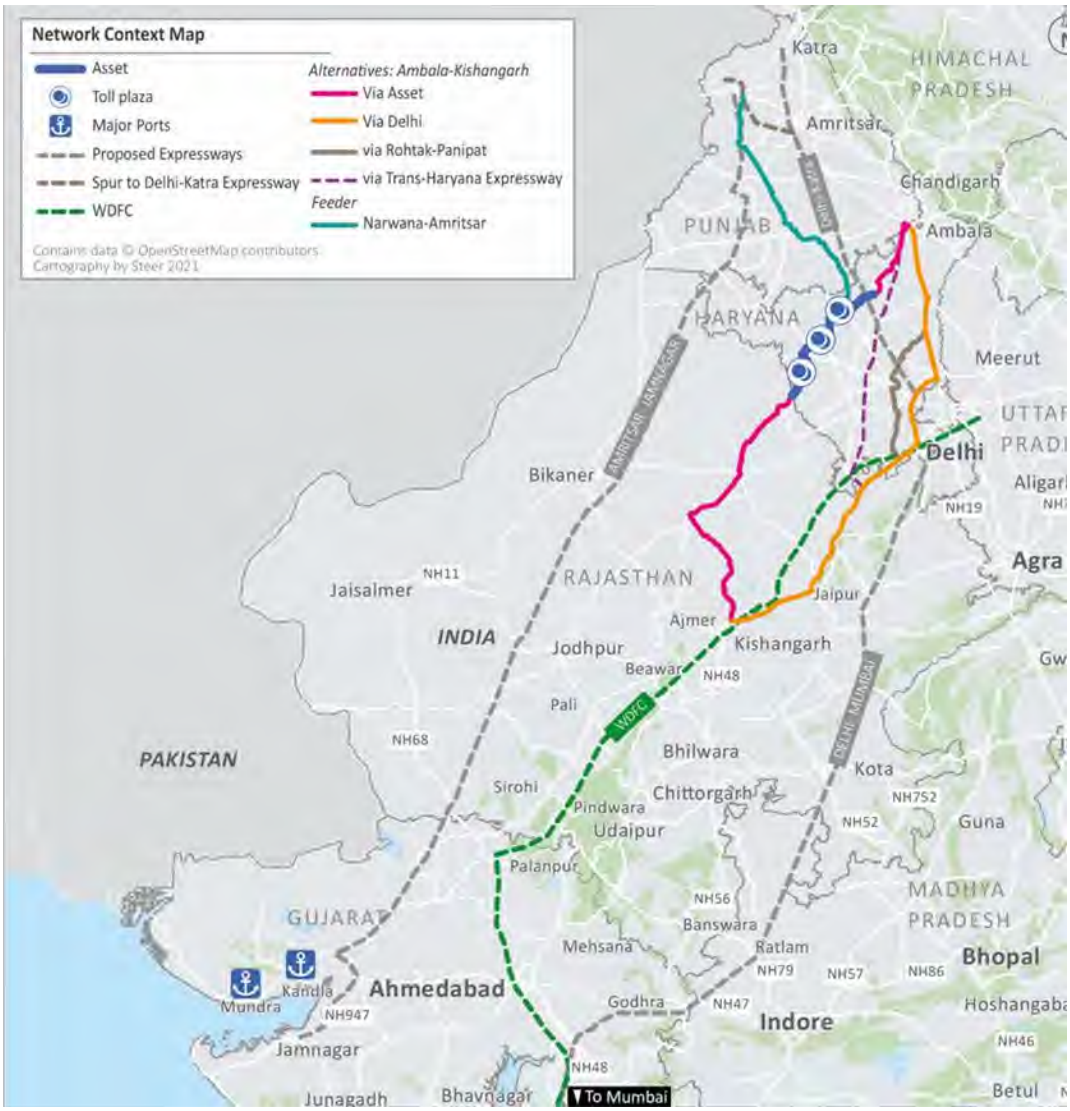
Analysis of potential impacts

Summary of alternate routes and planned changes

6.15 The section below details the impacts which we believe would affect traffic on the Asset during the concession period. As discussed in earlier Chapters, in order to assess the impacts on the Asset, whether positive or negative, we have studied developments (alternate roads, feeder roads and regulatory) in the surrounding road network.

6.16 The map below shows the road network surrounding the Asset.

Figure 6.1: Asset route shown against the regional network context



Source: Steer analysis and cartography

Summary of impact assessments

6.17 The following table lists the impacts considered on the Asset.

Table 6.8: Summary of impact

Impact	Year of impact	Probability/ scale of impact	Impact (+/-)
Trans Haryana Expressway	FY23 onwards	High/Medium	-ve
Delhi – Amritsar-Katra Expressway (long distance traffic shift)	FY25 onwards	Medium/Low	-ve
Delhi – Katra Expressway (Feeder)	FY25 onwards	High/Medium	+ve

Source: Steer analysis of OD data, Client TMS data and publicly available information

6.18 The subsections below include a narrative of each of the improvements, and impacts associated from each of these on our traffic forecasts. Please note that all traffic volumes for impacts were estimated as impact rates applied on FY22 AADT.

Trans Haryana Expressway[3]

6.19 The 227 km Trans-Haryana Expressway (NH-152D) or Gangheri-Narnaul Highway by NHAI is an under construction 4 lane access-controlled road with a route alignment connecting Ismailabad, Gangheri near Ambala with Narnaul in south of Haryana. This north-south greenfield expressway is being developed under Bharatmala Pariyojana as part of the 301 km Ambala-Kotputli Economic Corridor. It is expected to be completed by end of FY22[4].

6.20 As discussed in Chapter 2, this is one of potential alternate routes for traffic moving using asset having origin and destinations beyond Ambala in north and Kishangarh in the south. It will reduce the distance and travel time between Ambala and Jaipur bypassing Delhi. The impact is included starting FY23.

Table 6.9: Impact of Trans Haryana Expressway

	2A	3A	MAV
Impact % (Narvana)	(1.6%)	(3.5%)	(5.2%)
Impact % (Badopatti)	(1.5%)	(2.5%)	(4.2%)
Impact % (Chaudharyvas)	(1.4%)	(2.2%)	(2.9%)

Source: Steer analysis of OD data, and publicly available information

Delhi – Katra Expressway (long distance traffic shift)

6.21 The 650 km Delhi-Amritsar-Katra expressway is an approved 4-lane access-controlled road with a route alignment connecting Jasaur Kheri, Jhajjar District near Delhi with Katra north of Jammu city. This brownfield & greenfield project was first announced in 2016 and its Detailed Project Report (DPR) was finalized in 2019. Phase 1 of thi s project involves the construction of a 397.7 km greenfield expressway between Delhi – Ludhiana – Gurdaspur and a 99 km spur

[3] https://timesofindia.indiatimes.com/city/delhi/delhi-to-chandigarh-in-2-hrs-by-2023/articleshow/76988633.cms

[4] https://themetrorailguy.com/nhai-trans-haryana-expressway-information-route-map-status/

connecting Nakodar to Amritsar. It has been divided into 15 sections, tenders for which has been awarded for construction and is expected to get completed by FY24[5] starting FY21.

6.22 It will reduce the distance and travel time between Amritsar and Jammu & Kashmir towards Kishangarh and further West, south. It will be more attractive for the long-distance traffic currently moving on asset having their origin and destination beyond Narwana in north and Kishangarh in south of the asset. The impact is included starting FY25.

Table 6.10: Impact of Delhi – Katra Expressway (long distance traffic shift)

	2A	3A	MAV
Impact % (Narvana)	(0.8%)	(2.1%)	(2.9%)
Impact % (Badopatti)	(0.8%)	(1.5%)	(2.4%)
Impact % (Chaudharyvas)	(0.8%)	(1.3%)	(1.6%)

Delhi – Katra Expressway (Feeder)

6.23 The Delhi Katra expressway described in previous section is proposed to have connection with the asset at Narwana. The Narwana to Amritsar and Katra section of this expressway will act as feed route of traffic that is originating or destined in these areas and is coming from Kishangarh and south. That traffic currently takes the Hisar-Barnala-Moga-Tarn Taran-Amritsar route to continue further north. The expressway will provide faster unhindered connectivity to the northbound asset traffic. The impact is included starting FY25 as well.

Table 6.11: Impact of Delhi – Katra Expressway (LoS improvement)

	2A	3A	MAV
Impact % (Narvana)	0.0%	2.0%	3.6%
Impact % (Badopatti)	0.1%	3.1%	4.0%
Impact % (Chaudharywas	0.0%	2.0%	2.8%

Source: Steer analysis of OD data, and publicly available information

Impact summary

6.24 The impacts discussed above are summarised in below.

Table 6.12: Summary of impacts on the Assets

Impact	Narvana	Baddopatti	Chaudharyvas
Trans Haryana Expressway	2A: (1.6%) 3A: (3.5%) MAV: (5.2%)	2A: (1.5%) 3A: (2.5%) MAV: (4.2%)	2A: (1.4%) 3A: (2.2%) MAV: (2.9%)
Delhi – Amritsar-Katra Expressway (long distance traffic shift)	2A: (0.8%) 3A: (2.1%) MAV: (2.9%)	2A: (0.8%) 3A: (1.5%) MAV: (2.4%)	2A: (0.8%) 3A: (1.3%) MAV: (1.6%)
Delhi – Katra Expressway (Feeder)	3A: 2.0% MAV: 3.6%	2A: 0.1% 3A: 3.1% MAV:4.0%	3A: 2.0% MAV: 2.8%

[5] https://www.hindustantimes.com/india-news/delhikatra-expressway-to-be-launched-in-2-years-says-nitin-gadkari-101631770269886.html

Source: Steer analysis of OD data, and publicly available information

Revenue Forecasting Assumptions

6.25 To forecast the revenues for a particular financial year, the traffic forecast for each vehicle type is converted into tickets sold, which is then multiplied with the corresponding toll rate, which grows over the years as defined in the Concession Agreement. While "trip factors" provide the conversion factor to the former, i.e. traffic (trips) to tickets sold, "toll segmentation" provides the latter i.e. the breakup of trips paying each ticket type. This section discusses assumptions related to trip factors, toll segmentation and toll rates for the forecast period.

Trip factors

6.26 As discussed in chapter 3, a user can by different type of tickets to pay toll depending on the vehicle type. Apart from the Single trips, trips such as Return, Monthly, Local Commercial, Local Personal, Local Monthly are discounted tickets that are offered to the users. The revenue realised from these discounted trips is lower than a single trip fare. Therefore, in order to calculate the revenue for the trips made on discounted tickets (or passes) a trip factor is applied to calculate revenue realised from that particular pass sold.

6.27 The trip factors assumed are based on the FY21 data available and is listed in the table below:

Table 6.13: Trip factors for the forecast years – KR Narvana

Ticket category	CJV	LCV	Bus	2A	3A	MAV	OSV
Single	1	1	1	1	1	1	1
Return	2	2	2	2	2	2	2
Monthly	1	45	45	45	45	45	45
Local Commercial	1	1	1	1	1	1	1
Local Personal	22	1	1	1	1	1	1
Local Monthly	1	45	45	45	45	45	45

Source: Steer analysis of Client TMS data

Table 6.14: Trip factors for the forecast years – KR Badopatti

Ticket category	CJV	LCV	Bus	2A	3A	MAV	OSV
Single	1	1	1	1	1	1	1
Return	2	2	2	2	2	2	2
Monthly	1	45	45	45	45	45	45
Local Commercial	1	1	1	1	1	1	1
Local Personal	14	1	1	1	1	1	1
Local Monthly	1	45	45	45	45	45	45

Source: Steer analysis of Client TMS data

Table 6.15: Trip factors for the forecast years – KR Chaudharyvas

Ticket category	CJV	LCV	Bus	2A	3A	MAV	OSV
Single	1	1	1	1	1	1	1
Return	2	2	2	2	2	2	2

Ticket category	CJV	LCV	Bus	2A	3A	MAV	OSV
Monthly	1	45	45	45	45	45	45
Local Commercial	1	1	1	1	1	1	1
Local Personal	21	1	1	1	1	1	1
Local Monthly	1	45	45	45	45	45	45

Source: Steer analysis of Client TMS data

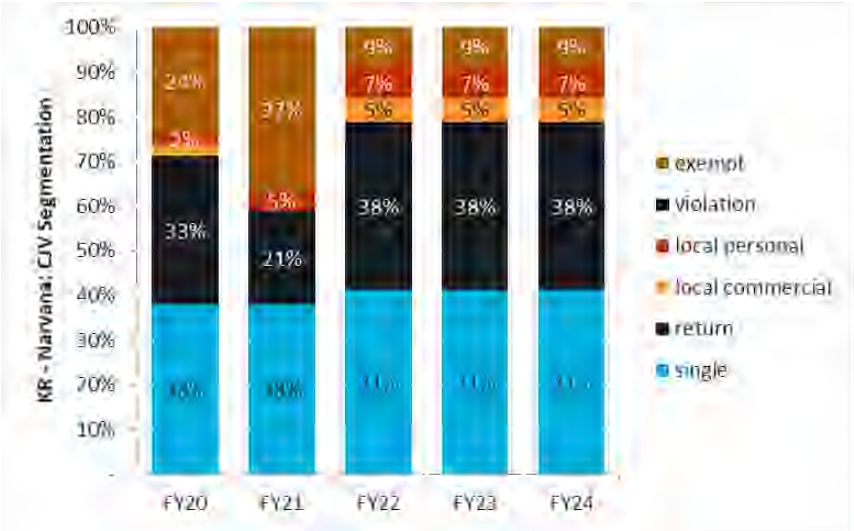
Toll segmentation

6.28 Toll segmentation on the Asset has been discussed in detail in chapter 3. Segmentation trends have largely been evolving over the last few months post the implementation of fast tag in December 2019 onwards. As discussed in Chapter 2 and Chapter 3, the farmers protests led to suspension of toll on the asset plazas starting January 2021. Further, ETC data is only available till November 2020. The toll segmentation for FY21 until December 2020 followed similar trends to FY18 prior to ETC implementation. Therefore FY21 segmentation has been taken as a starting point to estimate the future segmentation.

6.29 These exemptions are expected to go down following mandatory implementation of ETC based payments. We have gradually reduced the exemptions on the asset by FY24 and assumed FY24 segmentation to continue for the rest of the concession. However, we do believe that the violators will get passes under the local personal/local commercial/monthly discounted category, thereby improving the overall compliance, with not a significant impact on the revenue realisation from such trips.

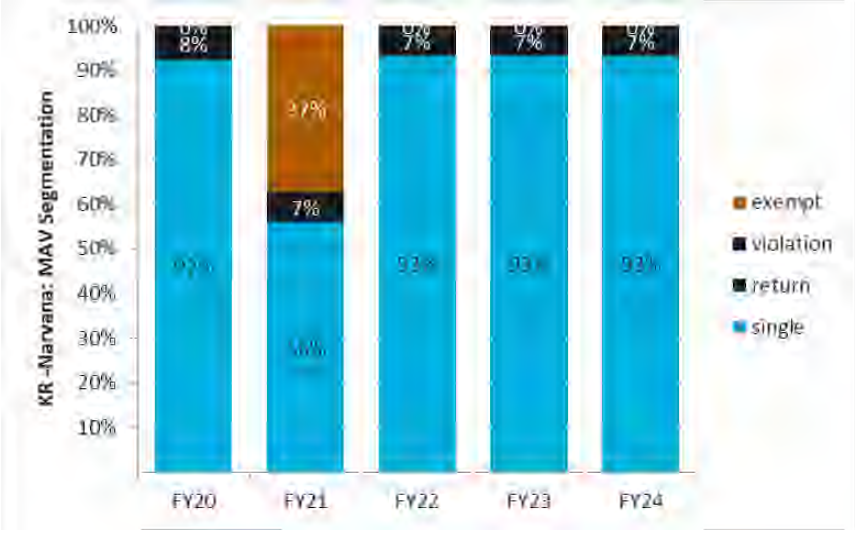
6.30 The toll segmentation adopted in the future years for calculating revenue is presented below for all the vehicle types and toll plazas.

Figure 6.2: CJV toll segmentation evolution – TP1 Narvana



Source: Steer analysis

Figure 6.3: MAV toll segmentation evolution – TP1 Narvana



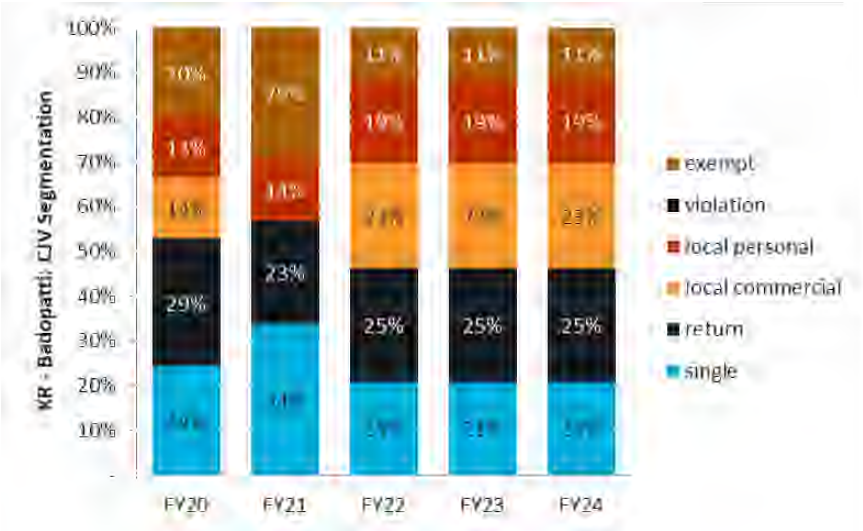
Source: Steer analysis

Table 6.16: Toll segmentation for FY22 onwards – TP1 Narvana

Ticket type	CJV	Bus	LCV	2A	3A	MAV
Single	41.2%	7.8%	41.9%	82.9%	88.6%	93.2%
Return	37.8%	61.0%	45.8%	15.2%	10.9%	6.7%
Monthly	-	-	0.0%	-	0.0%	-
Local commercial	5.1%	29.8%	10.8%	1.7%	0.4%	0.0%
Local personal	7.1%	1.2%	-	-	-	-
Local monthly	-	-	-	-	-	-
Exemptions	8.8%	0.1%	1.4%	0.2%	0.1%	0.1%
Violations	-	-	-	-	-	-

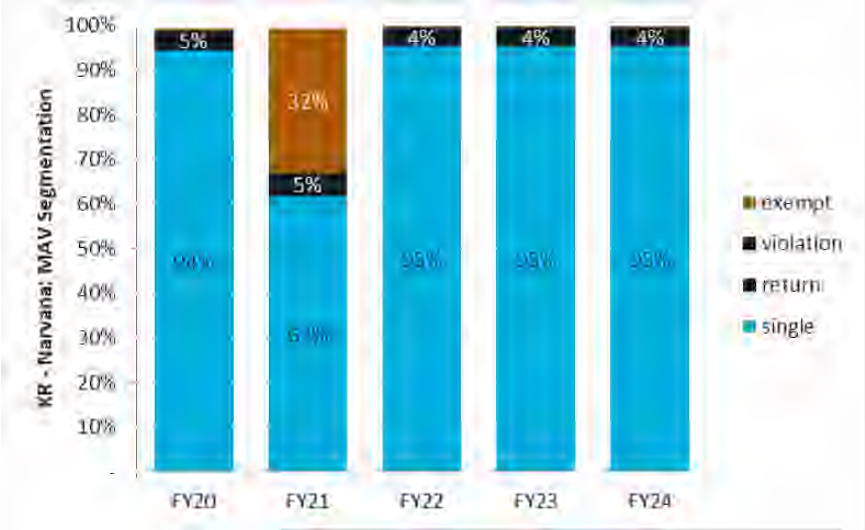
Source: Steer analysis of Client TMS data

Figure 6.4: CJV toll segmentation evolution – TP2 Badopatti



Source: Steer analysis

Figure 6.5: MAV toll segmentation evolution – TP2 Badopatti



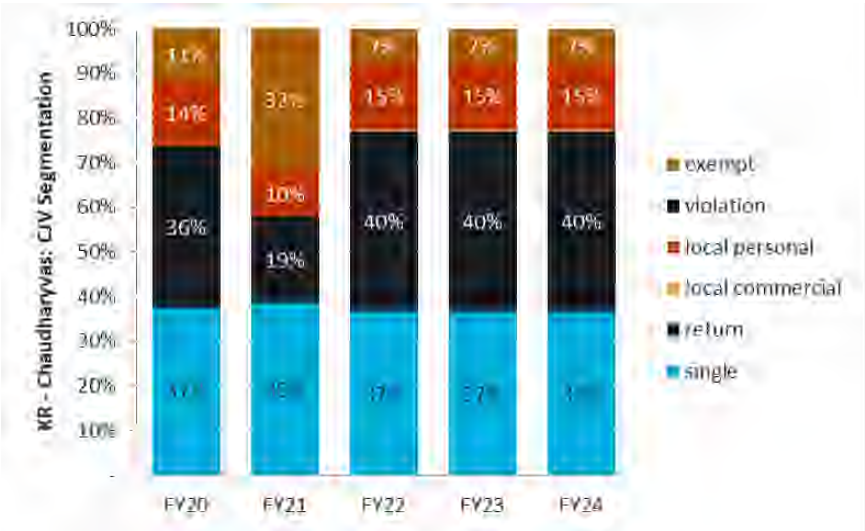
Source: Steer analysis

Table 6.17: Toll segmentation for FY22 onwards – TP2 Badopatti

Ticket type	CJV	Bus	LCV	2A	3A	MAV
Single	20.8%	5.3%	30.8%	88.8%	90.0%	95.3%
Return	25.5%	59.8%	23.2%	7.7%	5.4%	4.2%
Monthly	0.0%	0.9%	0.1%	-	-	-
Local commercial	23.3%	32.8%	42.6%	3.0%	4.2%	0.4%
Local personal	18.9%	0.8%	-	-	-	-
Local monthly	-	-	-	-	-	-
Exemptions	11.5%	0.4%	3.3%	0.5%	0.4%	0.1%
Violations	-	-	-	-	-	-

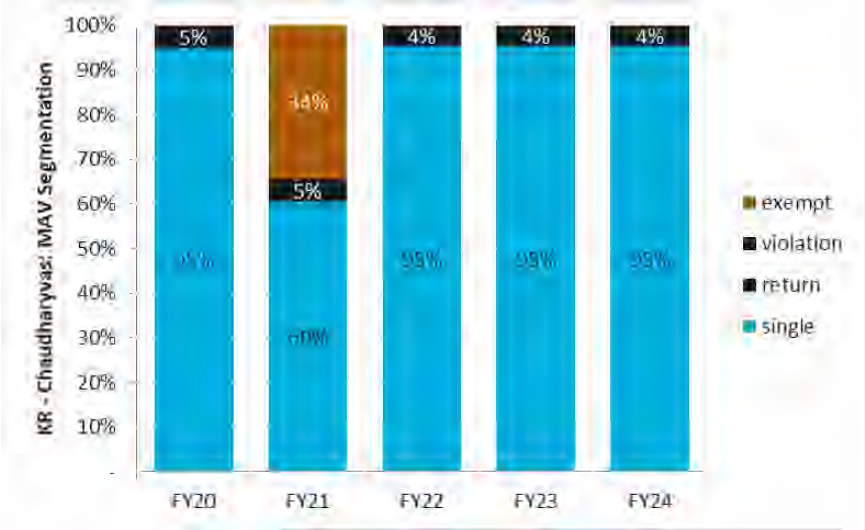
Source: Steer analysis of Client TMS data

Figure 6.6: CJV toll segmentation evolution – TP3 Chaudharyvas



Source: Steer analysis

Figure 6.7: MAV toll segmentation evolution – TP3 Chaudharyvas



Source: Steer analysis

Table 6.18: Toll segmentation for FY24 onwards – TP3 Chaudharyvas

Ticket type	CJV	Bus	LCV	2A	3A	MAV
Single	38.2%	5.7%	36.1%	39.1%	42.5%	48.5%
Return	24.1%	34.6%	21.2%	19.1%	21.8%	39.3%
Monthly	-	-	-	-	-	-
Local commercial	0.8%	26.2%	0.7%	6.8%	0.7%	0.2%
Local personal	-	-	-	-	-	-
Local monthly	30.0%	33.1%	35.0%	30.0%	30.0%	10.0%
Exemptions	-	-	-	-	-	-
Violations	7.0%	0.4%	7.0%	5.0%	5.0%	2.0%

Source: Steer analysis of Client TMS data

6.31 Based on our analysis of recent trends in FASTag penetration rates by vehicle class, we believe that this will largely peak by FY23 for light vehicles and 2A after which it will remain stable. Heavy vehicles, already showing 90-95% of penetration already. Whilst FASTag has become mandatory for all vehicles at all toll plazas as of February 2021, in reality we still anticipate a small percentage of vehicles to continue to pay via cash and other mode of payment. A full shift to FASTtag will be extremely difficult and unlikely, explaining FASTag targets being set to below 100%.

Overloading

6.32 As per our discussion with the Client, on the Asset there is a requirement under the CA to install WIM and static weighbridge to charge overloading. In our experience, overloading is a common practice and is expected to continue at low levels. It is further known that except few specific Assets, concessionaires are only able to charge out up to 2x the toll rate as overloading penalty[6],

[6] Latest overloading policy mandates 2x,4x,6x, 8x and 10x penalty charges if the user is 20%, 40%,60%,80% or 100% overloaded respectively.

irrespective of the level of overloading. Therefore, we assume that the overloaded vehicles on the Assets will be charged twice the toll fee as penalty plus the single ticket they would otherwise pay for their ticket type at the toll plaza.

6.33 The table shows the assumptions for share of overloaded vehicles.

Table 6.19: Overloading assumptions from FY22 onwards

Vehicle Category	Narvana	Badopatti	Chaudharyvyas
LCV	0.4%	2.3%	1.4%
2A	2.9%	2.8%	1.4%
3A	2.8%	3.4%	1.7%
MAV	1.4%	1.3%	1.0%

Source: Steer analysis

Toll evolution

6.34 Based on the concession agreement and the toll notification, we see that base toll rates increase every year based on WPI-linked inflation to provide us unrounded toll rates. These are rounded as per the CA and toll notifications to estimate the rounded toll rates charged to the road user. We have used actual toll rates from FY20 and FY21 toll notifications to validate the modelling of the toll evolution. Since construction is ongoing on the Asset the tolling lengths are currently difference than the final tolling lengths which will be applicable post June 2022. These existing toll lengths and revised toll lengths are presented in the table below:

Table 6.20: PCOD and FCOD tolling lengths for toll evolution assumed to be applicable post June 2022

	Existing toll lengths (FCOD)		
Length (km)	Narvana	Badopatti	Chaudharyvas
Road length excluding bypass	47.650	32.350	33.909
Structure on road			
Converted length of structures			
Net Tollable length	47.650	32.350	33.909

Source: Steer analysis of toll notifications and concession agreement (CA)

6.35 Increase in WPI was calculated based on the WPI numbers are based on the latest year number provided by RBI and forecast are based on the numbers estimated in annual report published by Consensus, as shown in the table below. The upward trend in inflation is expected to continue in the medium term, before gradually tapering to 4.0% in the long term.

Table 6.21: WPI growth forecast assumptions

Financial year	WPI growth (%)
FY22	2.0%
FY23	9.2%
FY24	4.8%
FY25	5.1%
FY26	4.6%

Financial year	WPI growth (%)
FY27	4.6%
FY28	4.6%
FY29	4.6%
FY30	4.6%
FY31	4.6%
FY32	4.5%
FY33	4.5%
FY34	4.5%
FY35	4.4%
FY36	4.4%
FY37	4.4%
FY38	4.3%
FY39	4.3%
FY40	4.3%
FY41	4.2%
FY42	4.2%
FY43	4.1%
FY44	4.1%
FY45	4.1%
FY46	4.0%
FY47	4.0%

Source: RBI, Annual report by Consensus

Revenue reconciliation

6.36 As part of validating the traffic data provided by the Client, as well as our assumptions around toll segmentation and trip factors, we have reconciled the actual reported revenue for FY21 for the Asset. To reconcile we have used the reported segmentation, and FY21 AADT (actual) and compared it with the reported revenue. Due to the mandatory implementation of FASTag, all cash trips had to pay penalty fare. In our segmentation we do not assume any penalty in the future years as the revenue from penalty fares is currently being claimed by NHAI. In addition, several special local passes (local monthly) are being issued on a toll plaza level to deal with local users not willing to pay toll. The usage for these local passes changes on a month to month basis hence larger differences in reconciliation is observed.

6.37 Therefore, the delta is more between the reported revenue and the modelled revenue for FY2021. However, we believe our segmentation assumptions are robust since the differences in are within 0.5% on the Asset level. The comparison, as shown in the table below, shows the modelled revenue and the reported revenue.

6.38 The comparison, as shown in the table below, shows almost similar modelled vs actual revenues and therefore the model shows a good fit with the forecast assumptions.

Table 6.22: Revenue reconciliation summary

Steer modelled revenue (INR Cr)	Reported revenue (INR Cr)	Difference (%)
70.21	70.18	0.03%

Source: Steer comparison between modelled and reported revenue

Traffic and Revenue forecasts

PCU factor assumption for forecasts

6.39 The PCU factors considered are given in the table below. These are derived from IRC: 16-1990 code.

Table 6.23: PCU factors

Vehicle Category	PCU Factor
CJV	1.0
LCV	1.5
Bus	3.0
2A	3.0
3A	3.0
MAV	4.5
OSV	4.5

Source: Steer analysis, IRC Codes

6.40 Based on the traffic and revenue-related forecast assumptions discussed above, we have modelled the traffic and revenue forecasts for the forecast period for the Assets. The table below presents the MADT/PCU and revenue forecast growth rates and CAGRs on this Assets. Further, Appendix B presents the AADT and revenues for the forecast period.

6.41 Please note that below tables present the normalised traffic for FY21 and FY22 (FY21N and FY22N) as detailed above. FY22 also includes the exogenous impacts assumed in FY22.

TP1 Narvana

Table 6.24: Final (background plus impacts) AADT forecast – TP1 Narvana

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY42	FY45	FY48
CJV	3,713	3,572	4,992	6,712	8,658	10,866	12,346	13,945
Mini LCV	0	397	455	513	569	624	657	690
Bus	280	285	311	335	357	379	391	403
LCV	599	616	706	797	883	969	1,020	1,072
2A	415	429	490	566	643	721	769	818
3A	342	355	416	495	576	661	714	768
MAV	925	970	1,200	1,512	1,851	2,221	2,461	2,714
OSV	1	1	1	2	2	2	3	3
AADT	**6,275**	**6,626**	**8,570**	**10,932**	**13,540**	**16,443**	**18,361**	**20,414**
PCU's	**11,891**	**12,472**	**15,560**	**19,421**	**23,618**	**28,231**	**31,242**	**34,439**

Source: Steer analysis

Table 6.25: Final (background plus impacts) AADT CAGR (%) – TP1 Narvana

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY42-FY45	FY22-FY48
CJV	6.9%	6.1%	5.2%	4.6%	4.3%	5.4%
Mini LCV	2.8%	2.4%	2.1%	1.9%	1.7%	2.2%
Bus	1.7%	1.5%	1.3%	1.2%	1.1%	1.3%
LCV	2.8%	2.4%	2.1%	1.9%	1.7%	2.2%
2A	2.7%	3.0%	2.6%	2.3%	2.2%	2.5%
3A	3.2%	3.5%	3.1%	2.8%	2.6%	3.0%
MAV	4.3%	4.7%	4.1%	3.7%	3.5%	4.0%
OSV	5.1%	4.7%	4.1%	3.7%	3.5%	4.2%
AADT	**5.3%**	**5.0%**	**4.4%**	**4.0%**	**3.7%**	**4.4%**
PCU's	**4.5%**	**4.5%**	**4.0%**	**3.6%**	**3.4%**	**4.0%**

Source: Steer analysis

Table 6.26: Final (background plus impacts) revenue (INR crores) forecast – TP1 Narvana

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY42	FY45	FY48
CJV	5.2	7.3	13.4	22.4	36.2	57.9	74.8	97.5
Mini LCV	0.0	1.4	2.1	3.0	4.1	5.7	6.9	8.4
Bus	1.0	1.9	2.6	3.6	4.9	6.5	7.7	9.1
LCV	1.2	2.3	3.4	4.8	6.8	9.3	11.3	13.6
2A	2.5	4.0	6.0	8.7	12.6	17.7	21.7	26.4
3A	1.9	3.7	5.6	8.5	12.4	18.0	22.3	27.6
MAV	7.8	14.5	23.0	36.8	56.9	85.8	109.1	138.2
OSV	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2
Total Revenue	**19.7**	**35.0**	**56.2**	**87.9**	**133.9**	**201.0**	**253.9**	**320.9**

Source: Steer analysis

Table 6.27: Final (background plus impacts) revenue CAGR (%) – TP1 Narvana

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY42-FY45	FY22-FY48
CJV	13.0%	10.9%	10.1%	9.9%	8.9%	10.5%
Mini LCV	8.5%	7.1%	6.8%	6.8%	6.4%	7.1%
Bus	7.1%	6.5%	6.1%	5.9%	5.9%	6.3%
LCV	8.2%	7.2%	7.0%	6.7%	6.4%	7.1%
2A	8.4%	7.8%	7.6%	7.0%	7.0%	7.5%
3A	8.8%	8.5%	7.9%	7.6%	7.5%	8.0%
MAV	9.7%	9.9%	9.1%	8.6%	8.3%	9.1%
OSV	10.7%	9.9%	9.0%	8.6%	8.2%	9.2%

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY42-FY45	FY22-FY48
Total Revenue	**9.9%**	**9.4%**	**8.8%**	**8.5%**	**8.1%**	**8.9%**

Source: Steer analysis

TP2 Badopatti

Table 6.28: Final (background plus impacts) AADT forecast – TP2 Badopatti

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY42	FY45	FY48
CJV	5,138	4,944	6,909	9,289	11,983	15,039	17,087	19,301
Mini LCV	0	549	630	710	788	864	910	956
Bus	366	372	406	437	467	495	511	527
LCV	639	656	753	849	942	1,032	1,087	1,142
2A	434	449	513	593	674	755	806	857
3A	475	494	594	707	824	945	1,021	1,099
MAV	1,156	1,212	1,531	1,929	2,360	2,832	3,138	3,461
OSV	1	1	1	2	2	2	3	3
AADT	**8,209**	**8,678**	**11,335**	**14,517**	**18,038**	**21,964**	**24,562**	**27,345**
PCU's	**15,127**	**15,880**	**20,098**	**25,173**	**30,703**	**36,791**	**40,772**	**45,003**

Source: Steer analysis

Table 6.29: Final (background plus impacts) AADT CAGR (%) – TP2 Badopatti

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY42-FY45	FY22-FY48
CJV	6.9%	6.1%	5.2%	4.6%	4.3%	5.4%
Mini LCV	2.8%	2.4%	2.1%	1.9%	1.7%	2.2%
Bus	1.7%	1.5%	1.3%	1.2%	1.1%	1.3%
LCV	2.8%	2.4%	2.1%	1.9%	1.7%	2.2%
2A	2.7%	3.0%	2.6%	2.3%	2.2%	2.5%
3A	3.7%	3.5%	3.1%	2.8%	2.6%	3.1%
MAV	4.8%	4.7%	4.1%	3.7%	3.5%	4.1%
OSV	5.1%	4.7%	4.1%	3.7%	3.5%	4.2%
AADT	**5.5%**	**5.1%**	**4.4%**	**4.0%**	**3.8%**	**4.5%**
PCU's	**4.8%**	**4.6%**	**4.1%**	**3.7%**	**3.5%**	**4.1%**

Source: Steer analysis

Table 6.30: Final (background plus impacts) revenue (INR crores) forecast – TP2 Badopatti

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY42	FY45	FY48
CJV	9.6	10.5	18.9	32.5	52.5	83.1	107.8	139.3
Mini LCV	0.0	2.5	3.8	5.4	7.5	10.4	12.6	15.1
Bus	1.8	3.2	4.5	6.2	8.3	11.1	13.2	15.6
LCV	1.8	2.8	4.2	6.0	8.4	11.6	14.0	16.8

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY42	FY45	FY48
2A	3.4	5.7	8.5	12.5	17.9	25.2	30.9	37.7
3A	3.4	7.0	10.9	16.4	24.1	34.9	43.3	53.3
MAV	14.2	24.4	39.8	63.9	98.4	148.5	188.8	238.9
OSV	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2
Total Revenue	**34.2**	**56.2**	**90.6**	**143.0**	**217.3**	**325.0**	**410.7**	**516.9**

Source: Steer analysis

Table 6.31: Final (background plus impacts) revenue CAGR (%) – TP2 Badopatti

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY42-FY45	FY22-FY48
CJV	12.5%	11.4%	10.0%	9.6%	9.1%	10.5%
Mini LCV	8.2%	7.6%	6.8%	6.7%	6.4%	7.1%
Bus	7.1%	6.5%	6.1%	6.0%	5.8%	6.3%
LCV	7.9%	7.5%	7.0%	6.7%	6.5%	7.1%
2A	8.3%	8.0%	7.4%	7.1%	7.0%	7.5%
3A	9.2%	8.6%	8.0%	7.7%	7.4%	8.1%
MAV	10.3%	9.9%	9.0%	8.6%	8.3%	9.2%
OSV	10.7%	9.9%	9.0%	8.6%	8.3%	9.2%
Total Revenue	**10.0%**	**9.6%**	**8.7%**	**8.4%**	**8.1%**	**8.9%**

Source: Steer analysis

TP3 Chaudharyvas

Table 6.32: Final (background plus impacts) AADT forecast – TP3 Chaudharyvas

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY42	FY45	FY48
CJV	3,038	2,923	4,085	5,492	7,085	8,891	10,102	11,411
Mini LCV	0	325	372	420	466	511	538	565
Bus	153	155	169	182	195	206	213	220
LCV	664	682	782	882	978	1,073	1,130	1,187
2A	468	483	553	640	727	815	869	924
3A	545	567	681	811	944	1,083	1,170	1,259
MAV	1,674	1,755	2,257	2,844	3,480	4,177	4,628	5,104
OSV	1	1	1	2	2	2	3	3
AADT	**6,542**	**6,891**	**8,901**	**11,273**	**13,876**	**16,758**	**18,653**	**20,673**
PCU's	**15,066**	**15,789**	**20,004**	**24,942**	**30,284**	**36,131**	**39,930**	**43,948**

Source: Steer analysis

Table 6.33: Final (background plus impacts) AADT CAGR (%) – TP3 Chaudharyvas

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY42-FY45	FY22-FY48
CJV	6.9%	6.1%	5.2%	4.6%	4.3%	5.4%

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY42-FY45	FY22-FY48
Mini LCV	2.8%	2.4%	2.1%	1.9%	1.7%	2.2%
Bus	1.7%	1.5%	1.3%	1.2%	1.1%	1.3%
LCV	2.8%	2.4%	2.1%	1.9%	1.7%	2.2%
2A	2.7%	3.0%	2.6%	2.3%	2.2%	2.5%
3A	3.7%	3.5%	3.1%	2.8%	2.6%	3.1%
MAV	5.2%	4.7%	4.1%	3.7%	3.5%	4.2%
OSV	5.1%	4.7%	4.1%	3.7%	3.5%	4.2%
AADT	**5.3%**	**4.8%**	**4.2%**	**3.8%**	**3.6%**	**4.3%**
PCU's	**4.8%**	**4.5%**	**4.0%**	**3.6%**	**3.4%**	**4.0%**

Source: Steer analysis

Table 6.34: Final (background plus impacts) revenue (INR crores) forecast – TP3 Chaudharyvas

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY42	FY45	FY48
CJV	3.4	4.5	8.0	14.1	22.8	35.9	46.8	60.6
Mini LCV	0.0	1.2	1.8	2.5	3.6	4.9	5.9	7.1
Bus	0.4	0.9	1.2	1.7	2.2	3.0	3.6	4.2
LCV	1.0	2.0	3.0	4.3	6.0	8.3	10.0	12.1
2A	2.3	3.5	5.3	7.8	11.0	15.7	19.1	23.4
3A	2.3	4.6	7.2	10.8	15.9	23.0	28.3	35.0
MAV	11.6	20.3	34.0	54.5	83.8	126.7	160.8	203.2
OSV	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1
Total Revenue	**21.1**	**37.1**	**60.5**	**95.8**	**145.4**	**217.6**	**274.5**	**345.8**

Source: Steer analysis

Table 6.35: Final (background plus impacts) revenue CAGR (%) – TP3 Chaudharyvas

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY42-FY45	FY22-FY48
CJV	12.1%	11.8%	10.2%	9.5%	9.2%	10.5%
Mini LCV	8.0%	7.7%	6.9%	6.7%	6.4%	7.1%
Bus	7.2%	6.5%	6.1%	6.0%	5.7%	6.3%
LCV	8.2%	7.7%	6.8%	6.5%	6.4%	7.1%
2A	8.3%	8.0%	7.3%	7.2%	6.8%	7.5%
3A	9.2%	8.6%	8.0%	7.7%	7.2%	8.1%
MAV	10.9%	9.9%	9.0%	8.6%	8.3%	9.3%
OSV	10.8%	9.7%	9.0%	8.7%	8.2%	9.2%
Total Revenue	**10.3%**	**9.6%**	**8.7%**	**8.4%**	**8.1%**	**9.0%**

Source: Steer analysis

Upside and Downside Cases

Upside and Downside scenario assumptions

6.42 We have developed our base case scenario considering a balanced view on the risks associated with input assumptions around GDP growth and traffic growth elasticities. There is always a risk that the outturn values of these inputs will vary as compared to the assumptions taken due to exogenous impacts, e.g. GDP growth could be influenced both positively and negatively by the impact of monsoons, export-import balances, political changes etc.

6.43 Similarly, traffic growth elasticities could be influenced by increased efficiencies achieved by technology, large shifts in commodity prices globally, changes in local manufacturing practices. However, at this stage we consider that the base case represents a central case scenario given the risks of variation of input assumptions.

6.44 To account for the possible variations in the growth drivers, we are also presenting the forecasts for an Upside (optimistic) and a Downside (pessimistic) scenario. These scenarios are defined by the following variations from the base assumptions:

Table 6.36: Summary of Macro Assumptions for upside and downside cases

Asset	Input	Upside	Downside
Macro Assumptions			
KR	GDP/GSDP	+1% every year	-1% every year
KR	WPI	+1% every year	-1% every year
KR	Elasticities	+ 10%	- 10%

Source: Steer analysis

6.45 Further, network developments are highly dependent on governmental directions, policies, legal and financial measure which might result in early or delayed completion of developments discussed in section 6.24 of this Chapter. Therefore, we have included an Upside (optimistic) and a Downside (pessimistic) case for impacts below. However, at this stage, we consider that the base case represents a central case scenario given the risks of variation of input assumptions.

Impacts-Upside Case

6.46 The upside case impacts included in forecasts are summarised in below.

Table 6.37: Summary of impacts on the Assets

Impact	Year	Narvana	Baddopatti	Chaudharyvas
Trans Haryana Expressway	FY24 onwards	2A: (1.2%) 3A: (2.7%) MAV: (3.9%)	2A: (1.2%) 3A: (1.9%) MAV: (3.1%)	2A: (1.1%) 3A: (1.7%) MAV: (2.2%)
Delhi – Amritsar-Katra Expressway (long distance traffic shift)	FY26 onwards	2A: (0.6%) 3A: (1.5%) MAV: (2.2%)	2A: (0.6%) 3A: (1.1%) MAV: (1.8%)	2A: (0.6%) 3A: (1.0%) MAV: (1.2%)
Delhi – Katra Expressway (Feeder)	FY24 onwards	3A: 2.5% MAV: 4.5%	2A: 0.1% 3A: 3.9% MAV:5.0%	3A: 2.5% MAV: 3.5%

Impact	Year	Narvana	Baddopatti	Chaudharyvas
Reopening of textile industries	FY23 onwards	3A: 0.6% MAV: 1.3%	3A: 0.6% MAV: 1.3%	3A: 0.6% MAV: 1.3%

Source: Steer analysis of OD data, and publicly available information

Impacts-Downside Case

6.47 The downside case impacts included in forecasts are summarised in below.

Table 6.38: Summary of impacts on the Assets

Impact	Year	Narvana	Baddopatti	Chaudharyvas
Trans Haryana Expressway	FY23 onwards	2A: (2.0%) 3A: (4.4%) MAV: (6.5%)	2A: (1.9%) 3A: (3.2%) MAV: (5.2%)	2A: (1.8%) 3A: (2.8%) MAV: (3.6%)
Delhi – Amritsar-Katra Expressway (long distance traffic shift)	FY24 onwards	2A: (1.1%) 3A: (2.6%) MAV: (3.7%)	2A: (1.0%) 3A: (1.9%) MAV: (2.9%)	2A: (0.9%) 3A: (1.6%) MAV: (2.0%)
Delhi – Katra Expressway (Feeder)	FY26 onwards	3A: 1.5% MAV: 2.7%	3A: 2.3% MAV:3.0%	3A: 1.5% MAV: 2.1%
Reopening of textile industries	FY23 onwards	3A: 0.4% MAV: 0.75%	3A: 0.4% MAV: 0.75%	3A: 0.4% MAV: 0.75%

Source: Steer analysis of OD data, and publicly available information

6.48 The traffic forecast and growth, and revenue incorporating the upside and downside assumptions are presented in the following sections.

Traffic and Revenue Forecasts - upside scenario

TP1 Narvana

Table 6.39: Final (background plus impacts) AADT forecast for upside scenario – TP1 Narvana

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY42	FY45	FY48
CJV	3,243	3,572	5,424	7,900	11,001	14,871	19,721	20,822
Mini LCV	0	397	471	549	629	711	798	815
Bus	199	285	317	350	381	411	442	448
LCV	772	616	736	858	982	1,110	1,245	1,273
2A	420	429	514	619	731	852	983	1,011
3A	392	355	446	557	680	817	969	1,002
MAV	1,009	970	1,324	1,779	2,315	2,950	3,703	3,868
OSV	1	1	1	2	2	3	4	4
AADT	**6,035**	**6,626**	**9,234**	**12,615**	**16,722**	**21,725**	**27,864**	**29,243**
PCU's	**11,976**	**12,472**	**16,795**	**22,330**	**28,909**	**36,777**	**46,248**	**48,352**

Source: Steer analysis

Table 6.40: Final (background plus impacts) AADT CAGR (%) for upside scenario – TP1 Narvana

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY42-FY45	FY22-FY48
CJV	8.7%	7.8%	6.8%	6.2%	5.8%	7.0%
Mini LCV	3.5%	3.1%	2.7%	2.5%	2.3%	2.8%
Bus	2.2%	2.0%	1.7%	1.6%	1.5%	1.8%
LCV	3.6%	3.1%	2.7%	2.5%	2.3%	2.8%
2A	3.7%	3.8%	3.4%	3.1%	2.9%	3.4%
3A	4.6%	4.6%	4.1%	3.7%	3.5%	4.1%
MAV	6.4%	6.1%	5.4%	5.0%	4.6%	5.5%
OSV	6.5%	6.1%	5.4%	5.0%	4.6%	5.5%
AADT	**6.9%**	**6.4%**	**5.8%**	**5.4%**	**5.1%**	**5.9%**
PCU's	**6.1%**	**5.9%**	**5.3%**	**4.9%**	**4.7%**	**5.3%**

Source: Steer analysis

Table 6.41: Final (background plus impacts) revenue (INR crores) forecast for upside scenario – TP1 Narvana

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY42	FY45	FY48
CJV	4.6	7.3	14.6	28.5	51.4	91.8	158.7	178.5
Mini LCV	0.0	1.4	2.2	3.4	5.1	7.6	11.1	12.1
Bus	0.7	1.9	2.8	4.0	5.7	8.1	11.5	12.3
LCV	1.6	2.3	3.6	5.5	8.3	12.4	18.2	19.8
2A	2.5	4.0	6.5	10.2	15.8	24.1	36.7	39.8
3A	2.1	3.7	6.2	10.2	16.3	25.8	40.1	43.9
MAV	8.4	14.5	26.3	46.3	78.8	132.5	218.0	241.2
OSV	0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.3
Total Revenue	**19.9**	**35.0**	**62.2**	**108.3**	**181.6**	**302.5**	**494.6**	**548.0**

Source: Steer analysis

Table 6.42: Final (background plus impacts) revenue CAGR (%) for upside scenario – TP1 Narvana

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY42-FY45	FY22-FY48
CJV	14.9%	14.4%	12.5%	12.3%	11.6%	13.1%
Mini LCV	9.4%	9.3%	8.2%	8.4%	7.9%	8.6%
Bus	8.2%	7.7%	7.3%	7.3%	7.1%	7.5%
LCV	9.6%	8.8%	8.5%	8.3%	8.1%	8.6%
2A	10.1%	9.5%	9.1%	8.9%	8.7%	9.2%
3A	10.9%	10.4%	9.9%	9.6%	9.2%	10.0%
MAV	12.7%	12.0%	11.2%	10.9%	10.5%	11.4%
OSV	12.9%	12.1%	11.3%	10.9%	10.5%	11.5%
Total Revenue	**12.2%**	**11.7%**	**10.9%**	**10.7%**	**10.3%**	**11.2%**

Source: Steer analysis

TP2 Badopatti

Table 6.43: Final (background plus impacts) AADT forecast for upside scenario – TP2 Badopatti

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY42	FY45	FY48
CJV	4,002	4,944	7,507	10,934	15,226	20,582	27,294	28,819
Mini LCV	0	549	652	760	870	984	1,104	1,128
Bus	257	372	415	457	497	537	577	585
LCV	700	656	786	917	1,049	1,186	1,330	1,360
2A	421	449	538	648	766	892	1,029	1,058
3A	502	494	637	796	971	1,166	1,383	1,430
MAV	1,081	1,212	1,682	2,260	2,942	3,749	4,704	4,914
OSV	1	1	1	2	2	3	4	4
AADT	**6,964**	**8,678**	**12,218**	**16,774**	**22,323**	**29,098**	**37,426**	**39,299**
PCU's	**13,461**	**15,880**	**21,683**	**28,952**	**37,620**	**48,012**	**60,550**	**63,339**

Source: Steer analysis

Table 6.44: Final (background plus impacts) AADT CAGR (%) for upside scenario – TP2 Badopatti

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY42-FY45	FY22-FY48
CJV	8.7%	7.8%	6.8%	6.2%	5.8%	7.0%
Mini LCV	3.5%	3.1%	2.7%	2.5%	2.3%	2.8%
Bus	2.2%	2.0%	1.7%	1.6%	1.5%	1.8%
LCV	3.7%	3.1%	2.7%	2.5%	2.3%	2.8%
2A	3.7%	3.8%	3.4%	3.1%	2.9%	3.4%
3A	5.2%	4.6%	4.1%	3.7%	3.5%	4.2%
MAV	6.8%	6.1%	5.4%	5.0%	4.6%	5.5%
OSV	6.5%	6.1%	5.4%	5.0%	4.6%	5.5%
AADT	**7.1%**	**6.5%**	**5.9%**	**5.4%**	**5.2%**	**6.0%**
PCU's	**6.4%**	**6.0%**	**5.4%**	**5.0%**	**4.7%**	**5.5%**

Source: Steer analysis

Table 6.45: Final (background plus impacts) revenue (INR crores) forecast for upside scenario – TP2 Badopatti

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY42	FY45	FY48
CJV	7.5	10.5	21.1	40.6	74.1	131.2	228.3	255.5
Mini LCV	0.0	2.5	4.0	6.2	9.3	13.7	20.2	21.9
Bus	1.3	3.2	4.8	6.9	9.9	14.0	19.7	21.1
LCV	2.0	2.8	4.5	6.9	10.3	15.4	22.7	24.5
2A	3.2	5.7	9.2	14.6	22.6	34.6	52.4	57.0
3A	3.5	7.0	12.0	19.8	31.5	49.8	77.7	84.9
MAV	13.1	24.4	45.3	79.9	136.3	227.6	375.1	414.7
OSV	0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.4
Total Revenue	**30.5**	**56.2**	**101.0**	**175.0**	**294.1**	**486.5**	**796.6**	**879.9**

Source: Steer analysis

Table 6.46: Final (background plus impacts) revenue CAGR (%) for upside scenario – TP2 Badopatti

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY42-FY45	FY22-FY48
CJV	15.0%	14.0%	12.8%	12.1%	11.7%	13.1%
Mini LCV	9.5%	9.0%	8.4%	8.2%	8.0%	8.6%
Bus	8.2%	7.7%	7.4%	7.2%	7.2%	7.5%
LCV	9.6%	9.0%	8.4%	8.3%	8.1%	8.6%
2A	10.1%	9.7%	9.1%	8.9%	8.7%	9.2%
3A	11.4%	10.5%	9.8%	9.6%	9.3%	10.1%
MAV	13.2%	12.0%	11.3%	10.8%	10.5%	11.5%
OSV	12.8%	12.0%	11.3%	10.9%	10.5%	11.5%
Total Revenue	**12.4%**	**11.6%**	**10.9%**	**10.6%**	**10.4%**	**11.2%**

Source: Steer analysis

TP3 Chaudharyvas

Table 6.47: Final (background plus impacts) AADT forecast for upside scenario – TP3 Chaudharyvas

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY42	FY45	FY48
CJV	2,491	2,923	4,439	6,465	9,002	12,169	16,137	17,038
Mini LCV	0	325	385	450	515	582	653	667
Bus	116	155	173	190	207	224	241	244
LCV	729	682	814	949	1,086	1,228	1,378	1,409
2A	420	483	580	699	826	962	1,110	1,141
3A	582	567	723	904	1,103	1,324	1,571	1,624
MAV	1,619	1,755	2,437	3,274	4,260	5,429	6,813	7,117
OSV	1	1	1	2	2	3	4	4
AADT	**5,958**	**6,891**	**9,552**	**12,932**	**17,002**	**21,921**	**27,906**	**29,245**
PCU's	**14,228**	**15,789**	**21,444**	**28,458**	**36,736**	**46,567**	**58,298**	**60,892**

Source: Steer analysis

Table 6.48: Final (background plus impacts) AADT CAGR (%) for upside scenario – TP3 Chaudharyvas

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY42-FY45	FY22-FY48
CJV	8.7%	7.8%	6.8%	6.2%	5.8%	7.0%
Mini LCV	3.5%	3.1%	2.7%	2.5%	2.3%	2.8%
Bus	2.2%	2.0%	1.7%	1.6%	1.5%	1.8%
LCV	3.6%	3.1%	2.7%	2.5%	2.3%	2.8%
2A	3.7%	3.8%	3.4%	3.1%	2.9%	3.4%
3A	5.0%	4.6%	4.1%	3.7%	3.5%	4.1%
MAV	6.8%	6.1%	5.4%	5.0%	4.6%	5.5%
OSV	6.5%	6.1%	5.4%	5.0%	4.6%	5.5%

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY42-FY45	FY22-FY48
AADT	**6.7%**	**6.2%**	**5.6%**	**5.2%**	**4.9%**	**5.7%**
PCU's	**6.3%**	**5.8%**	**5.2%**	**4.9%**	**4.6%**	**5.3%**

Source: Steer analysis

Table 6.49: Final (background plus impacts) revenue (INR crores) forecast for upside scenario – TP3 Chaudharyvas

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY42	FY45	FY48
CJV	2.8	4.5	9.2	17.5	31.7	56.8	98.7	110.8
Mini LCV	0.0	1.2	1.9	2.9	4.3	6.5	9.5	10.3
Bus	0.3	0.9	1.3	1.9	2.7	3.8	5.3	5.7
LCV	1.1	2.0	3.2	5.0	7.4	11.0	16.2	17.5
2A	2.1	3.5	5.7	9.0	14.1	21.5	32.5	35.4
3A	2.4	4.6	7.9	12.9	20.6	32.5	50.5	55.3
MAV	11.1	20.3	37.6	67.0	113.6	190.6	314.4	346.4
OSV	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2
Total Revenue	**19.8**	**37.1**	**66.9**	**116.2**	**194.4**	**322.8**	**527.3**	**581.7**

Source: Steer analysis

Table 6.50: Final (background plus impacts) revenue CAGR (%) for upside scenario – TP3 Chaudharyvas

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY42-FY45	FY22-FY48
CJV	15.2%	13.7%	12.6%	12.4%	11.7%	13.1%
Mini LCV	9.6%	8.8%	8.4%	8.4%	8.0%	8.6%
Bus	8.5%	7.6%	7.4%	7.3%	7.1%	7.6%
LCV	9.9%	8.9%	8.3%	8.3%	8.0%	8.7%
2A	10.1%	9.4%	9.4%	8.9%	8.6%	9.3%
3A	11.3%	10.3%	9.8%	9.6%	9.2%	10.0%
MAV	13.1%	12.2%	11.1%	10.9%	10.5%	11.5%
OSV	12.9%	12.0%	11.2%	10.8%	10.5%	11.5%
Total Revenue	**12.5%**	**11.7%**	**10.8%**	**10.7%**	**10.3%**	**11.2%**

Source: Steer analysis

Traffic and Revenue Forecasts – downside scenario

TP1 Narvana

Table 6.51: Final (background plus impacts) AADT forecast for downside scenario – TP1 Narvana

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY42	FY45	FY48
CJV	3,243	3,572	4,631	5,796	6,985	8,209	9,495	9,758
Mini LCV	0	397	441	483	521	556	590	596
Bus	199	285	305	322	338	352	365	368
LCV	772	616	687	752	811	866	918	929

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY42	FY45	FY48
2A	420	429	469	523	573	622	669	679
3A	392	355	389	443	495	546	596	606
MAV	1,009	970	1,094	1,302	1,509	1,717	1,930	1,972
OSV	1	1	1	1	2	2	2	2
AADT	**6,035**	**6,626**	**8,017**	**9,624**	**11,234**	**12,871**	**14,565**	**14,910**
PCU's	**11,976**	**12,472**	**14,519**	**17,140**	**19,739**	**22,361**	**25,048**	**25,590**

Source: Steer analysis

Table 6.52: Final (background plus impacts) AADT CAGR (%) for downside scenario – TP1 Narvana

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY42-FY45	FY22-FY48
CJV	5.3%	4.6%	3.8%	3.3%	3.0%	3.9%
Mini LCV	2.1%	1.8%	1.5%	1.3%	1.2%	1.6%
Bus	1.3%	1.1%	1.0%	0.8%	0.7%	1.0%
LCV	2.2%	1.8%	1.5%	1.3%	1.2%	1.6%
2A	1.8%	2.2%	1.9%	1.6%	1.5%	1.8%
3A	1.8%	2.7%	2.2%	2.0%	1.8%	2.1%
MAV	2.4%	3.5%	3.0%	2.6%	2.4%	2.8%
OSV	3.9%	3.5%	3.0%	2.6%	2.4%	3.0%
AADT	**3.9%**	**3.7%**	**3.1%**	**2.8%**	**2.5%**	**3.2%**
PCU's	**3.1%**	**3.4%**	**2.9%**	**2.5%**	**2.3%**	**2.8%**

Source: Steer analysis

Table 6.53: Final (background plus impacts) revenue (INR crores) forecast for downside scenario – TP1 Narvana

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY42	FY45	FY48
CJV	4.6	7.3	12.4	19.4	29.2	43.8	63.3	68.2
Mini LCV	0.0	1.4	2.0	2.8	3.8	5.1	6.8	7.2
Bus	0.7	1.9	2.6	3.5	4.6	6.0	7.8	8.3
LCV	1.6	2.3	3.3	4.5	6.2	8.4	11.1	11.8
2A	2.5	4.0	5.7	8.1	11.2	15.2	20.5	21.9
3A	2.1	3.7	5.3	7.6	10.7	14.8	20.3	21.7
MAV	8.4	14.5	20.9	31.7	46.4	66.4	93.7	100.4
OSV	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1
Total Revenue	**19.9**	**35.0**	**52.4**	**77.6**	**112.1**	**159.8**	**223.8**	**239.7**

Source: Steer analysis

Table 6.54: Final (background plus impacts) revenue CAGR (%) for downside scenario – TP1 Narvana

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY42-FY45	FY22-FY48
CJV	11.3%	9.3%	8.6%	8.4%	7.7%	9.0%
Mini LCV	7.8%	6.5%	6.2%	6.2%	5.8%	6.5%

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY42-FY45	FY22-FY48
Bus	6.7%	6.1%	5.7%	5.6%	5.4%	5.9%
LCV	7.6%	6.5%	6.4%	6.1%	5.8%	6.5%
2A	7.5%	7.0%	6.8%	6.3%	6.2%	6.8%
3A	7.4%	7.6%	7.0%	6.8%	6.5%	7.0%
MAV	7.7%	8.6%	7.9%	7.4%	7.2%	7.7%
OSV	9.4%	8.6%	7.8%	7.5%	7.1%	8.1%
Total Revenue	**8.4%**	**8.2%**	**7.6%**	**7.3%**	**7.0%**	**7.7%**

Source: Steer analysis

TP2 Badopatti

Table 6.55: Final (background plus impacts) AADT forecast for downside scenario – TP2 Badopatti

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY42	FY45	FY48
CJV	4,002	4,944	6,409	8,022	9,667	11,362	13,141	13,505
Mini LCV	0	549	610	669	721	770	816	825
Bus	257	372	398	421	441	460	477	480
LCV	700	656	733	803	866	924	980	991
2A	421	449	491	548	601	652	701	711
3A	502	494	557	635	710	782	854	868
MAV	1,081	1,212	1,401	1,667	1,931	2,198	2,470	2,525
OSV	1	1	1	1	2	2	2	2
AADT	**6,964**	**8,678**	**10,601**	**12,766**	**14,939**	**17,150**	**19,442**	**19,908**
PCU's	**13,461**	**15,880**	**18,767**	**22,214**	**25,640**	**29,099**	**32,650**	**33,367**

Source: Steer analysis

Table 6.56: Final (background plus impacts) AADT CAGR (%) for downside scenario – TP2 Badopatti

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY42-FY45	FY22-FY48
CJV	5.3%	4.6%	3.8%	3.3%	3.0%	3.9%
Mini LCV	2.1%	1.8%	1.5%	1.3%	1.2%	1.6%
Bus	1.3%	1.1%	1.0%	0.8%	0.7%	1.0%
LCV	2.2%	1.8%	1.5%	1.3%	1.2%	1.6%
2A	1.8%	2.2%	1.9%	1.6%	1.5%	1.8%
3A	2.4%	2.7%	2.2%	2.0%	1.8%	2.2%
MAV	2.9%	3.5%	3.0%	2.6%	2.4%	2.9%
OSV	3.9%	3.5%	3.0%	2.6%	2.4%	3.0%
AADT	**4.1%**	**3.8%**	**3.2%**	**2.8%**	**2.5%**	**3.2%**
PCU's	**3.4%**	**3.4%**	**2.9%**	**2.6%**	**2.3%**	**2.9%**

Source: Steer analysis

Table 6.57: Final (background plus impacts) revenue (INR crores) forecast for downside scenario – TP2 Badopatti

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY42	FY45	FY48
CJV	7.5	10.5	17.6	28.1	42.4	62.8	91.0	97.5
Mini LCV	0.0	2.5	3.7	5.1	6.9	9.3	12.4	13.0
Bus	1.3	3.2	4.4	6.0	7.9	10.3	13.4	14.2
LCV	2.0	2.8	4.0	5.7	7.7	10.4	13.7	14.6
2A	3.2	5.7	8.2	11.5	16.0	21.8	29.4	31.3
3A	3.5	7.0	10.2	14.8	20.8	28.9	39.5	42.1
MAV	13.1	24.4	36.5	55.2	80.5	115.2	162.7	174.3
OSV	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2
Total Revenue	**30.5**	**56.2**	**84.5**	**126.4**	**182.2**	**258.8**	**362.3**	**387.2**

Source: Steer analysis

Table 6.58: Final (background plus impacts) revenue CAGR (%) for downside scenario – TP2 Badopatti

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY42-FY45	FY22-FY48
CJV	10.9%	9.9%	8.6%	8.2%	7.7%	9.0%
Mini LCV	7.5%	6.9%	6.2%	6.1%	5.9%	6.5%
Bus	6.7%	6.1%	5.7%	5.6%	5.4%	5.9%
LCV	7.4%	6.9%	6.4%	6.1%	5.8%	6.5%
2A	7.4%	7.2%	6.7%	6.4%	6.2%	6.8%
3A	7.8%	7.7%	7.1%	6.8%	6.5%	7.1%
MAV	8.4%	8.7%	7.8%	7.4%	7.2%	7.9%
OSV	9.4%	8.6%	7.8%	7.5%	7.1%	8.0%
Total Revenue	**8.5%**	**8.4%**	**7.6%**	**7.3%**	**7.0%**	**7.7%**

Source: Steer analysis

TP3 Chaudharyvas

Table 6.59: Final (background plus impacts) AADT forecast for downside scenario – TP3 Chaudharyvas

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY42	FY45	FY48
CJV	2,491	2,923	3,789	4,743	5,716	6,718	7,769	7,984
Mini LCV	0	325	361	395	426	455	483	488
Bus	116	155	166	176	184	192	199	200
LCV	729	682	760	833	898	959	1,017	1,028
2A	420	483	530	591	648	703	757	767
3A	582	567	641	730	816	899	982	998
MAV	1,619	1,755	2,079	2,474	2,866	3,262	3,666	3,747
OSV	1	1	1	1	2	2	2	2
AADT	**5,958**	**6,891**	**8,327**	**9,943**	**11,556**	**13,190**	**14,874**	**15,215**
PCU's	**14,228**	**15,789**	**18,661**	**22,016**	**25,338**	**28,682**	**32,096**	**32,783**

Source: Steer analysis

Table 6.60: Final (background plus impacts) AADT CAGR (%) for downside scenario – TP3 Chaudharyvas

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY42-FY45	FY22-FY48
CJV	5.3%	4.6%	3.8%	3.3%	3.0%	3.9%
Mini LCV	2.1%	1.8%	1.5%	1.3%	1.2%	1.6%
Bus	1.3%	1.1%	1.0%	0.8%	0.7%	1.0%
LCV	2.2%	1.8%	1.5%	1.3%	1.2%	1.6%
2A	1.9%	2.2%	1.9%	1.6%	1.5%	1.8%
3A	2.5%	2.7%	2.2%	2.0%	1.8%	2.2%
MAV	3.4%	3.5%	3.0%	2.6%	2.4%	3.0%
OSV	3.9%	3.5%	3.0%	2.6%	2.4%	3.0%
AADT	**3.9%**	**3.6%**	**3.1%**	**2.7%**	**2.4%**	**3.1%**
PCU's	**3.4%**	**3.4%**	**2.8%**	**2.5%**	**2.3%**	**2.8%**

Source: Steer analysis

Table 6.61: Final (background plus impacts) revenue (INR crores) forecast for downside scenario – TP3 Chaudharyvas

Vehicle Type	FY21	FY22	FY27	FY32	FY37	FY42	FY45	FY48
CJV	2.8	4.5	7.5	12.2	18.4	27.1	39.2	42.4
Mini LCV	0.0	1.2	1.7	2.4	3.3	4.4	5.8	6.1
Bus	0.3	0.9	1.2	1.6	2.1	2.8	3.6	3.8
LCV	1.1	2.0	2.9	4.1	5.5	7.4	9.9	10.5
2A	2.1	3.5	5.0	7.2	9.9	13.5	18.3	19.4
3A	2.4	4.6	6.7	9.7	13.7	19.1	26.1	27.7
MAV	11.1	20.3	31.3	47.4	69.0	98.9	139.5	149.2
OSV	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
Total Revenue	**19.8**	**37.1**	**56.4**	**84.6**	**122.0**	**173.3**	**242.4**	**259.4**

Source: Steer analysis

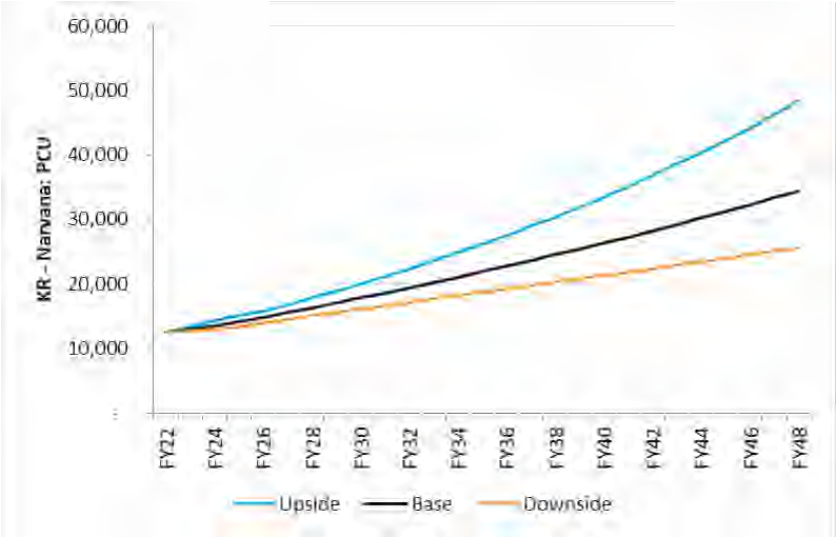
Table 6.62: Final (background plus impacts) revenue CAGR (%) for downside scenario – TP3 Chaudharyvas

Vehicle Type	FY22-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY42-FY45	FY22-FY48
CJV	10.4%	10.3%	8.7%	8.1%	7.6%	9.0%
Mini LCV	7.3%	7.1%	6.3%	6.1%	5.8%	6.5%
Bus	6.8%	6.1%	5.7%	5.7%	5.4%	5.9%
LCV	7.6%	7.0%	6.2%	5.9%	5.9%	6.5%
2A	7.3%	7.3%	6.6%	6.5%	6.2%	6.8%
3A	7.9%	7.6%	7.1%	6.8%	6.5%	7.1%
MAV	9.0%	8.6%	7.8%	7.5%	7.1%	8.0%
OSV	9.5%	8.5%	7.8%	7.5%	7.1%	8.0%
Total Revenue	**8.7%**	**8.4%**	**7.6%**	**7.3%**	**6.9%**	**7.8%**

Source: Steer analysis

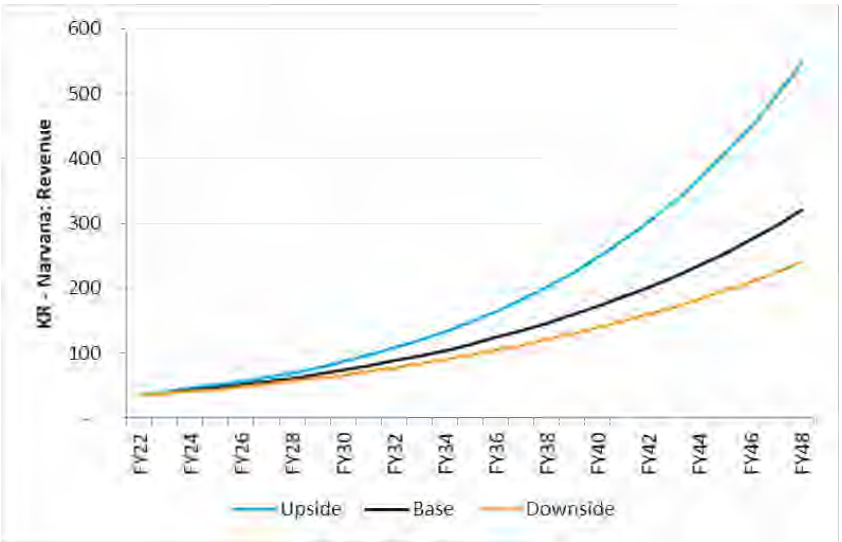
6.49 The following charts shows comparison of traffic and revenue forecasts with the Upside and downside scenarios presented in sections above.

Figure 6.8: Final AADT forecast including Upside and Downside scenarios – KR Narvana



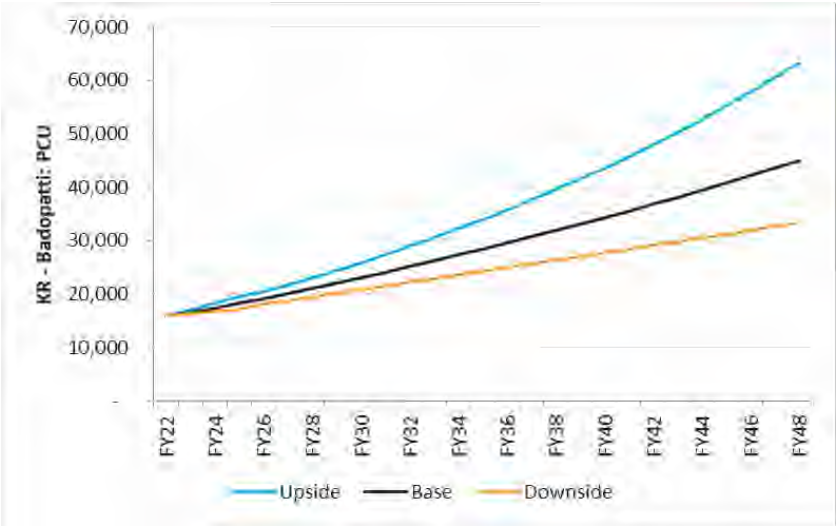
Source: Steer analysis

Figure 6.9: Final Revenue forecast including Upside and Downside scenarios – KR Narvana



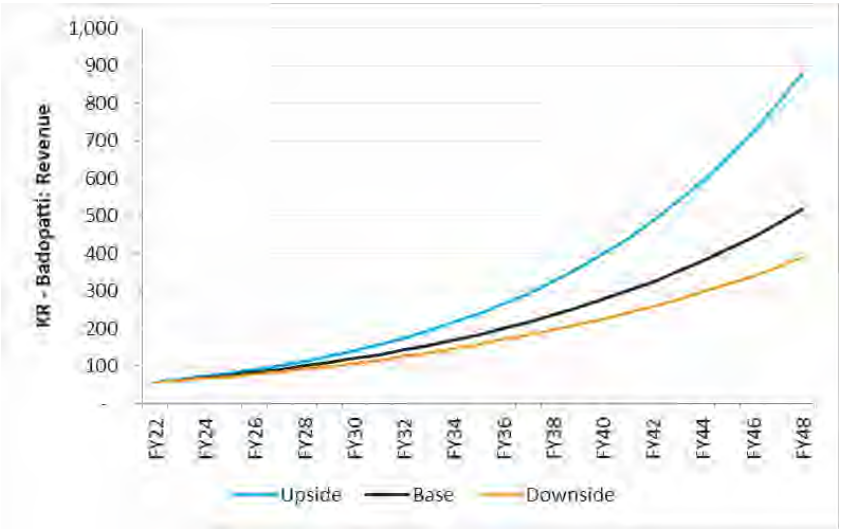
Source: Steer analysis

Figure 6.10: Final AADT forecast including Upside and Downside scenarios – KR Badopatti



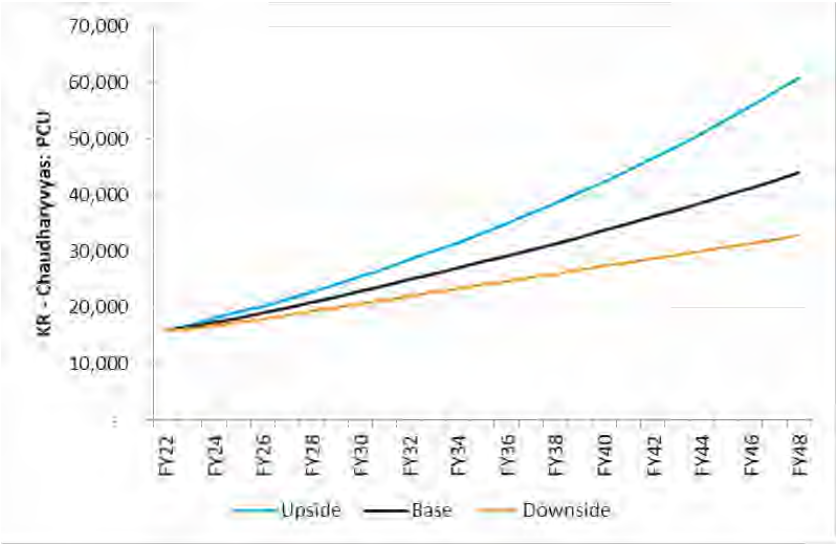
Source: Steer analysis

Figure 6.11: Final Revenue forecast including Upside and Downside scenarios – KR Badopatti



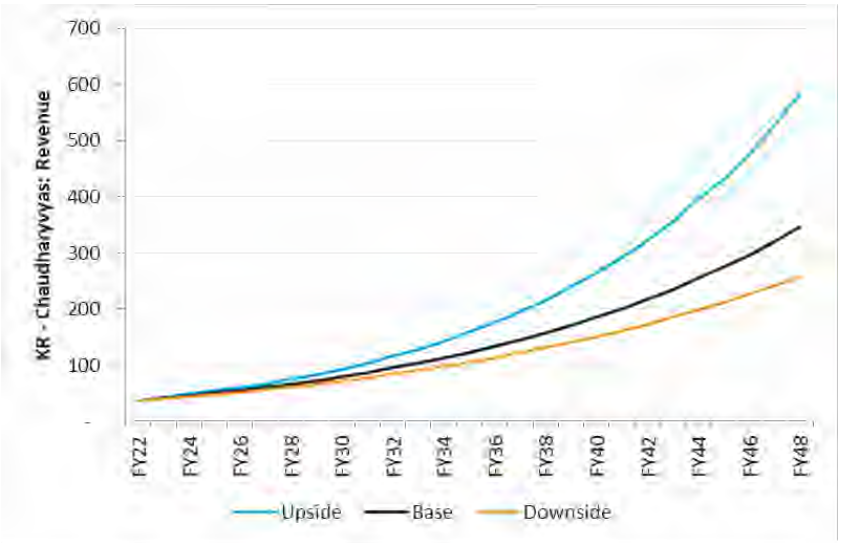
Source: Steer analysis

Figure 6.12: Final AADT forecast including Upside and Downside scenarios – KR Chaudharyvyas



Source: Steer analysis

Figure 6.13: Final Revenue forecast including Upside and Downside scenarios – KR Chaudharyvyas



Source: Steer analysis

Target traffic and modification of concession period

6.50 As per the concession agreement, the target traffic should be 21,919 PCUs for KR for the target date of 1st April 2022. The traffic sampling will be undertaken for a continuous period of 7 days during anytime within 15 days prior to the date on the specified year, previous year and following year. The average thereof will be deemed as 'actual traffic.' If the target traffic for any section falls short or exceeds by 2.5%, the concession period shall be deemed to be modified using the laid-out conditions in the concession agreement. The table below presents the summary of the analysis.

Asset	Target month	Estimated traffic (PCUs)			Average traffic	Target traffic	Variation (%)
		FY21	FY22	FY23	(PCUs)	(PCUs)	

Asset	Target month	Estimated traffic (PCUs)			Average traffic	Target traffic	Variation (%)
KR	Apr-22	15,362	16,040	16,787	16,063	21,919	(26.7%)

Table 6.63: Target Traffic

6.51 We have used the average AADT forecast for target year, previous year and following year as a proxy for 'actual traffic.' We have forecast seasonality of March month to adjust for seasonal trends and arrive at March traffic from AADT traffic.

6.52 According to the CA, based on the variation in traffic, the concession period is expected to be increased by six years (till FY54).

Summary outlook

6.53 Passenger movement on the asset is the largest share of traffic on this asset with major influence from tourism around Salasar in Rajasthan, Hisar and Ambala. This drive both passenger traffic and the consumption demand generated by these centres leading to a natural growth path for CJVs, Mini LCV and LCVs.

6.54 Hisar is a key generator of traffic along the corridor and induces both, industrial and agricultural-based traffic on the Asset. Apart from industries, it also has numerous livestock farms including the Central Livestock Farm, Asia's largest cattle farms. Textile and automobile parts manufacturing are other key industries in Hisar. The growth in industry in future is expected to bolster the traffic growth on the asset.

6.55 The areas surrounding the Assets are predominantly agrarian production centres along with Dairy related activities. Hisar city has large number of livestock farms and key contributor to milk and other dairy needs of the region. The asset primarily caters to dairy needs of Haryana and Rajasthan in vicinity. Therefore, the asset benefits from captive nature of local traffic movement between Haryana and Rajasthan. We expect this to continue further in future.

6.56 It has been observed that even though traffic across the country saw significant impact of Covid 19 impact and dropped up to 70% of pre-Covid19 levels during Q2FY21, only to recover during the second half of the year, this asset saw a growth and subsequent stabilisation of traffic volumes. The impact is much more on passenger vehicles as unnecessary movement of people were completely stopped in the Area. Similar decline is traffic was seen due to 2nd wave which impacted CJV and Bus traffic the most, however the good vehicle performance remained positive. It is expected that by Q2FY22 the traffic across all vehicle types should return to normal trends as was after the first wave of Covid19.

6.57 With regards to the short-term background growth, we see the following risk:

- The nascent recovery from the pandemic could be subdued due stronger lockdowns being implemented and traffic growth not sustaining the coming months. However, as it was observed in FY21 that a very a strong recovery of traffic took place once the nationwide lockdown was relaxed. This included pent up demand from the lockdown period giving a major boost to traffic in FY21. It can be expected that a similar pattern, albeit to a much smaller extent, could repeat itself in FY22 with the first quarter being more subdued and the follow three quarters seeing stronger recovery.

6.58 The underlying strengthening and sustainability of the wider economic growth, particularly for sectors like tourism, hospitality, leisure could see a major comeback in the second part of FY22

resulting in increased activity in the corridor. We expect that the implementation of FASTag rules, will also help in improving the operational efficiency and overall compliance levels on the Asset and overall corridor, thereby resulting in an improved level of service for all users.

6.59 The Assets have got good mix of industrial and agricultural activities along with tourism demand driving the local economy and growth. This captive nature of the traffic movement is expected to result in a positive long term growth profile for the corridor.

6.60 Farmer's strike has disrupted tolling not only on the Asset but across all toll roads in the states of Punjab and Haryana. This has led to disruption in travel patterns and route choices available in those regions. There is still no clarity on when these protests will get over and there is high uncertainty around the same. However, once tolling is restarted, overall, we see a positive outlook for the region in the Asset given that it serves and connects major urban centres of Jammy & Kashmir, Punjab, Haryana, Rajasthan, Himachal Pradesh, and Gujarat. The underlying growth drivers of the corridor are strong and are expected to deliver long term sustained growth.

Appendices

A Detailed forecasts

A.1 Further to the summary of forecasts presented in Chapter 6, this appendix presents detailed forecasts.

Traffic forecasts

A.2 This section presents the detailed traffic forecasts for the forecast period until FY48, year of expected close of the concession. The following two tables show the traffic growth rates and AADT, respectively.

TP1 Narvana

Table A.1: Forecasts for final (background + impacts) AADT – TP1 Narvana

Vehicle Category	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
CJV	3,243	3,572	3,807	4,081	4,372	4,676	4,992	5,314	5,646	5,990
Mini LCV	-	397	407	419	431	443	455	467	478	490
Bus	199	285	290	295	300	305	311	316	320	325
LCV	772	616	632	650	669	688	706	724	742	761
2A	420	429	439	451	460	474	490	505	520	535
3A	392	355	364	376	385	400	416	431	447	462
MAV	1,009	970	1,005	1,046	1,085	1,142	1,200	1,260	1,321	1,383
OSV	1	1	1	1	1	1	1	1	1	1
Total	**6,035**	**6,626**	**6,944**	**7,320**	**7,703**	**8,130**	**8,570**	**9,017**	**9,476**	**9,949**
PCU	**11,976**	**12,472**	**12,966**	**13,556**	**14,130**	**14,835**	**15,560**	**16,296**	**17,048**	**17,822**

Source: Steer analysis

Table A.2: Forecasts for final (background + impacts) AADT – TP1 Narvana

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
CJV	6,346	6,712	7,085	7,466	7,854	8,251	8,658	9,076	9,504	9,946
Mini LCV	502	513	525	536	547	558	569	580	591	602
Bus	330	335	340	344	349	353	357	362	366	370
LCV	779	797	814	832	849	866	883	900	918	935
2A	551	566	582	597	612	628	643	659	674	690
3A	478	495	511	527	543	559	576	593	609	626
MAV	1,447	1,512	1,578	1,645	1,712	1,781	1,851	1,922	1,994	2,069
OSV	2	2	2	2	2	2	2	2	2	2
Total	**10,435**	**10,932**	**11,437**	**11,949**	**12,468**	**12,998**	**13,540**	**14,093**	**14,659**	**15,240**
PCU	**18,614**	**19,421**	**20,239**	**21,065**	**21,901**	**22,752**	**23,618**	**24,502**	**25,405**	**26,327**

Source: Steer analysis

Table A.3: Forecasts for final (background + impacts) AADT – TP1 Narvana

Vehicle Category	FY41	FY42	FY43	FY44	FY45	FY46	FY47	FY48
CJV	10,399	10,866	11,346	11,839	12,346	12,866	13,399	13,945
Mini LCV	613	624	635	646	657	668	679	690
Bus	374	379	383	387	391	395	399	403
LCV	952	969	986	1,003	1,020	1,037	1,054	1,072
2A	706	721	737	753	769	786	802	818
3A	643	661	678	696	714	732	750	768
MAV	2,144	2,221	2,299	2,379	2,461	2,544	2,628	2,714
OSV	2	2	2	3	3	3	3	3
Total	**15,834**	**16,443**	**17,067**	**17,706**	**18,361**	**19,031**	**19,715**	**20,414**
PCU	**27,269**	**28,231**	**29,213**	**30,217**	**31,242**	**32,288**	**33,353**	**34,439**

Source: Steer analysis

TP2 Badopatti

Table A.4: Forecasts for final (background + impacts) AADT – TP2 Badopatti

Vehicle Category	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
CJV	4,002	4,944	5,268	5,648	6,051	6,472	6,909	7,355	7,814	8,290
Mini LCV	-	549	564	580	597	613	630	646	662	678
Bus	257	372	378	385	392	399	406	412	419	425
LCV	700	656	674	693	713	733	753	772	791	811
2A	421	449	459	472	481	497	513	529	545	561
3A	502	494	509	526	551	572	594	616	639	661
MAV	1,081	1,212	1,260	1,315	1,384	1,456	1,531	1,606	1,684	1,764
OSV	1	1	1	1	1	1	1	1	1	1
Total	**6,964**	**8,678**	**9,113**	**9,621**	**10,169**	**10,743**	**11,335**	**11,937**	**12,554**	**13,191**
PCU	**13,461**	**15,880**	**16,556**	**17,342**	**18,222**	**19,147**	**20,098**	**21,064**	**22,052**	**23,069**

Source: Steer analysis

Table A.5: Forecasts for final (background + impacts) AADT – TP2 Badopatti

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
CJV	8,783	9,289	9,806	10,333	10,870	11,419	11,983	12,561	13,154	13,765
Mini LCV	694	710	726	742	757	773	788	803	818	833
Bus	431	437	444	449	455	461	467	472	478	484
LCV	830	849	868	887	905	923	942	960	978	996
2A	577	593	609	625	641	657	674	690	706	722
3A	684	707	730	754	777	800	824	847	871	896
MAV	1,846	1,929	2,013	2,098	2,184	2,271	2,360	2,451	2,543	2,638

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
OSV	2	2	2	2	2	2	2	2	2	2
Total	**13,847**	**14,517**	**15,198**	**15,889**	**16,591**	**17,307**	**18,038**	**18,786**	**19,551**	**20,336**
PCU	**24,111**	**25,173**	**26,249**	**27,337**	**28,439**	**29,560**	**30,703**	**31,869**	**33,059**	**34,277**

Source: Steer analysis

Table A.6: Forecasts for final (background + impacts) AADT – TP2 Badopatti

Vehicle Category	FY41	FY42	FY43	FY44	FY45	FY46	FY47	FY48
CJV	14,393	15,039	15,703	16,386	17,087	17,807	18,545	19,301
Mini LCV	849	864	879	894	910	925	940	956
Bus	489	495	500	505	511	516	522	527
LCV	1,014	1,032	1,051	1,069	1,087	1,105	1,124	1,142
2A	739	755	772	789	806	823	840	857
3A	920	945	970	995	1,021	1,047	1,073	1,099
MAV	2,734	2,832	2,932	3,034	3,138	3,244	3,351	3,461
OSV	2	2	2	3	3	3	3	3
Total	**21,140**	**21,964**	**22,809**	**23,675**	**24,562**	**25,469**	**26,397**	**27,345**
PCU	**35,520**	**36,791**	**38,090**	**39,417**	**40,772**	**42,156**	**43,566**	**45,003**

Source: Steer analysis

TP3 Chaudharyvas

Table A.7: Forecasts for final (background + impacts) AADT – TP3 Chaudharyvas

Vehicle Category	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
CJV	2,491	2,923	3,115	3,339	3,577	3,826	4,085	4,348	4,620	4,901
Mini LCV	-	325	333	343	353	363	372	382	391	401
Bus	116	155	158	161	163	166	169	172	175	177
LCV	729	682	700	720	741	762	782	802	822	842
2A	420	483	494	509	519	536	553	570	587	605
3A	582	567	588	608	631	656	681	706	732	758
MAV	1,619	1,755	1,853	1,939	2,041	2,148	2,257	2,369	2,484	2,601
OSV	1	1	1	1	1	1	1	1	1	1
Total	**5,958**	**6,891**	**7,242**	**7,620**	**8,027**	**8,458**	**8,901**	**9,351**	**9,812**	**10,288**
PCU	**14,228**	**15,789**	**16,559**	**17,326**	**18,174**	**19,076**	**20,004**	**20,946**	**21,909**	**22,899**

Source: Steer analysis

Table A.8: Forecasts for final (background + impacts) AADT – TP3 Chaudharyvas

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
CJV	5,193	5,492	5,798	6,109	6,426	6,751	7,085	7,426	7,777	8,138
Mini LCV	411	420	429	439	448	457	466	475	484	493

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
Bus	180	182	185	187	190	192	195	197	199	202
LCV	862	882	902	921	941	960	978	997	1,016	1,035
2A	622	640	657	675	692	709	727	744	762	779
3A	784	811	837	864	890	917	944	971	999	1,026
MAV	2,722	2,844	2,968	3,094	3,220	3,349	3,480	3,614	3,751	3,890
OSV	2	2	2	2	2	2	2	2	2	2
Total	10,776	11,273	11,779	12,290	12,809	13,337	13,876	14,427	14,990	15,566
PCU	23,912	24,942	25,984	27,037	28,101	29,183	30,284	31,407	32,553	33,722

Source: Steer analysis

Table A.9: Forecasts for final (background + impacts) AADT – TP3 Chaudharyvas

Vehicle Category	FY41	FY42	FY43	FY44	FY45	FY46	FY47	FY48
CJV	8,510	8,891	9,284	9,688	10,102	10,528	10,964	11,411
Mini LCV	502	511	520	529	538	547	556	565
Bus	204	206	208	211	213	215	217	220
LCV	1,054	1,073	1,092	1,111	1,130	1,149	1,168	1,187
2A	797	815	833	851	869	888	906	924
3A	1,055	1,083	1,112	1,141	1,170	1,200	1,229	1,259
MAV	4,032	4,177	4,324	4,475	4,628	4,784	4,943	5,104
OSV	2	2	2	3	3	3	3	3
Total	**16,155**	**16,758**	**17,376**	**18,007**	**18,653**	**19,313**	**19,986**	**20,673**
PCU	**34,914**	**36,131**	**37,372**	**38,639**	**39,930**	**41,246**	**42,585**	**43,948**

Source: Steer analysis

Revenue forecasts

A.3 The following table presents the year-wise annual revenue forecasts for the forecast period until FY48.

A1.2 TP1 Narvana

Table A.10: Revenue forecasts for final (background + impacts) AADT – TP1 Narvana

Vehicle Category	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
CJV	4.6	7.3	8.2	9.4	10.6	11.8	13.4	14.9	16.5	18.3
Mini LCV	-	1.4	1.5	1.7	1.8	1.9	2.1	2.3	2.4	2.6
Bus	0.7	1.9	2.0	2.2	2.3	2.5	2.6	2.8	3.0	3.2
LCV	1.6	2.3	2.5	2.7	2.9	3.1	3.4	3.6	3.9	4.2
2A	2.5	4.0	4.4	4.8	5.1	5.5	6.0	6.5	6.9	7.5
3A	2.1	3.7	4.1	4.4	4.7	5.1	5.6	6.1	6.7	7.2
MAV	8.4	14.5	15.9	17.6	19.0	21.0	23.0	25.6	27.9	30.6

Vehicle Category	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
OSV	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	**19.9**	**35.0**	**38.6**	**42.8**	**46.4**	**51.1**	**56.2**	**61.8**	**67.3**	**73.7**

Source: Steer analysis

Table A.11: Revenue forecasts (background + impacts) AADT – TP1 Narvana

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
CJV	20.4	22.4	24.7	27.2	30.4	33.3	36.2	40.0	44.4	48.2
Mini LCV	2.8	3.0	3.2	3.4	3.7	3.9	4.1	4.4	4.8	5.1
Bus	3.4	3.6	3.8	4.1	4.3	4.6	4.9	5.1	5.4	5.8
LCV	4.5	4.8	5.2	5.5	5.9	6.4	6.8	7.2	7.7	8.2
2A	8.1	8.7	9.4	10.1	10.9	11.7	12.6	13.5	14.4	15.4
3A	7.8	8.5	9.1	9.9	10.7	11.6	12.4	13.5	14.5	15.7
MAV	33.6	36.8	40.4	43.9	47.9	52.6	56.9	61.9	67.2	73.3
OSV	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Total	**80.6**	**87.9**	**95.8**	**104.2**	**113.8**	**124.1**	**133.9**	**145.7**	**158.5**	**171.7**

Source: Steer analysis

Table A.12: Revenue forecasts for final (background + impacts) AADT – TP1 Narvana

Vehicle Category	FY41	FY42	FY43	FY44	FY45	FY46	FY47	FY48
CJV	53.0	57.9	62.7	68.7	74.8	82.4	89.4	97.5
Mini LCV	5.4	5.7	6.1	6.5	6.9	7.4	7.8	8.4
Bus	6.1	6.5	6.9	7.2	7.7	8.1	8.6	9.1
LCV	8.8	9.3	9.9	10.6	11.3	12.0	12.7	13.6
2A	16.5	17.7	18.9	20.3	21.7	23.1	24.6	26.4
3A	16.8	18.0	19.3	20.8	22.3	23.9	25.6	27.6
MAV	79.3	85.8	93.1	101.0	109.1	118.0	127.7	138.2
OSV	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2
Total	**186.0**	**201.0**	**216.9**	**235.3**	**253.9**	**274.9**	**296.5**	**320.9**

Source: Steer analysis

A1.3 TP2 Badopatti

Table A.13: Revenue forecasts for final (background + impacts) AADT – TP2 Badopatti

Vehicle Category	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
CJV	7.5	10.5	11.9	13.6	14.9	16.9	18.9	21.2	23.6	26.1
Mini LCV	-	2.5	2.8	3.0	3.2	3.5	3.8	4.1	4.4	4.7
Bus	1.3	3.2	3.5	3.7	4.0	4.2	4.5	4.8	5.2	5.5
LCV	2.0	2.8	3.1	3.4	3.6	3.9	4.2	4.6	4.9	5.2
2A	3.2	5.7	6.3	6.8	7.3	7.9	8.5	9.2	9.9	10.8
3A	3.5	7.0	7.7	8.4	9.3	10.0	10.9	11.9	12.9	14.0

Vehicle Category	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
MAV	13.1	24.4	27.2	29.7	32.9	36.3	39.8	44.0	48.2	53.1
OSV	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	**30.5**	**56.2**	**62.5**	**68.6**	**75.3**	**82.8**	**90.6**	**99.8**	**109.0**	**119.3**

Source: Steer analysis

Table A.14: Revenue forecasts for final (background + impacts) AADT – TP2 Badopatti

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
CJV	28.9	32.5	35.6	39.0	43.2	47.9	52.5	57.7	63.1	69.1
Mini LCV	5.0	5.4	5.8	6.1	6.6	7.1	7.5	8.1	8.6	9.2
Bus	5.8	6.2	6.6	7.0	7.4	7.9	8.3	8.8	9.4	9.9
LCV	5.6	6.0	6.5	6.9	7.3	7.9	8.4	9.0	9.6	10.2
2A	11.6	12.5	13.5	14.4	15.5	16.8	17.9	19.2	20.6	22.2
3A	15.2	16.4	17.7	19.3	20.7	22.5	24.1	26.1	28.0	30.3
MAV	58.2	63.9	69.5	75.9	83.0	90.8	98.4	107.2	116.4	126.9
OSV	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Total	**130.4**	**143.0**	**155.2**	**168.6**	**183.9**	**200.8**	**217.3**	**236.1**	**255.7**	**277.9**

Source: Steer analysis

Table A.15: Revenue forecasts for final (background + impacts) AADT – TP2 Badopatti

Vehicle Category	FY41	FY42	FY43	FY44	FY45	FY46	FY47	FY48
CJV	76.0	83.1	90.4	99.1	107.8	117.2	128.4	139.3
Mini LCV	9.8	10.4	11.1	11.8	12.6	13.4	14.2	15.1
Bus	10.5	11.1	11.8	12.5	13.2	13.9	14.7	15.6
LCV	10.9	11.6	12.3	13.1	14.0	14.9	15.8	16.8
2A	23.6	25.2	27.1	29.0	30.9	32.9	35.2	37.7
3A	32.5	34.9	37.5	40.4	43.3	46.3	49.7	53.3
MAV	137.2	148.5	161.2	175.2	188.8	204.1	220.8	238.9
OSV	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2
Total	**300.5**	**325.0**	**351.6**	**381.3**	**410.7**	**443.0**	**478.9**	**516.9**

Source: Steer analysis

A1.4 TP3 Chaudharyvas

Table A.16: Revenue forecasts for final (background + impacts) AADT – TP3 Chaudharyvas

Vehicle Category	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
CJV	2.8	4.5	5.2	5.7	6.5	7.4	8.0	9.1	10.1	11.4
Mini LCV	-	1.2	1.3	1.4	1.5	1.7	1.8	1.9	2.0	2.2
Bus	0.3	0.9	0.9	1.0	1.1	1.2	1.2	1.3	1.4	1.5
LCV	1.1	2.0	2.3	2.4	2.6	2.8	3.0	3.2	3.5	3.8
2A	2.1	3.5	3.9	4.2	4.6	4.9	5.3	5.8	6.1	6.6

Vehicle Category	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
3A	2.4	4.6	5.1	5.5	6.1	6.5	7.2	7.8	8.5	9.2
MAV	11.1	20.3	23.2	25.4	28.1	30.8	34.0	37.6	41.1	45.0
OSV	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	**19.8**	**37.1**	**41.9**	**45.7**	**50.5**	**55.3**	**60.5**	**66.7**	**72.7**	**79.7**

Source: Steer analysis

Table A.17: Revenue forecasts for final (background + impacts) AADT – TP3 Chaudharyvas

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
CJV	12.7	14.1	15.3	16.8	18.6	20.8	22.8	25.0	27.4	29.7
Mini LCV	2.4	2.5	2.7	2.9	3.1	3.3	3.6	3.8	4.1	4.3
Bus	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.4	2.5	2.7
LCV	4.0	4.3	4.6	5.0	5.2	5.6	6.0	6.5	6.9	7.4
2A	7.2	7.8	8.3	9.0	9.6	10.4	11.0	11.9	12.8	13.7
3A	10.0	10.8	11.7	12.6	13.6	14.8	15.9	17.0	18.4	19.9
MAV	49.5	54.5	59.5	64.8	70.5	77.2	83.8	91.0	99.3	107.6
OSV	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1
Total	**87.4**	**95.8**	**103.9**	**113.0**	**122.7**	**134.3**	**145.4**	**157.7**	**171.5**	**185.4**

Source: Steer analysis

Table A.18: Revenue forecasts for final (background + impacts) AADT – TP3 Chaudharyvas

Vehicle Category	FY41	FY42	FY43	FY44	FY45	FY46	FY47	FY48
CJV	32.8	35.9	38.9	42.9	46.8	50.8	55.3	60.6
Mini LCV	4.6	4.9	5.2	5.6	5.9	6.3	6.7	7.1
Bus	2.8	3.0	3.2	3.4	3.6	3.8	4.0	4.2
LCV	7.8	8.3	8.8	9.4	10.0	10.6	11.3	12.1
2A	14.6	15.7	16.8	18.0	19.1	20.5	21.9	23.4
3A	21.4	23.0	24.6	26.6	28.3	30.3	32.7	35.0
MAV	116.4	126.7	136.8	149.3	160.8	174.1	188.1	203.2
OSV	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Total	**200.5**	**217.6**	**234.4**	**255.2**	**274.5**	**296.5**	**320.0**	**345.8**

Source: Steer analysis

B Vehicle Classification Chart

Vehicle Type	Description
2-Wheeler	
Auto-Rickshaw	
Car/Jeep/Van	
Taxi- shared/private	
Buses (govt/Pvt)	
Mini Bus	
Mini LCV	

Vehicle Type	Description
LCV 4 Tyre	
LCV 6 Tyre	
2 Axle Truck	
3 Axle Truck	
4 Axle Truck (MAV)	
5 Axle Truck (MAV)	
6 Axle Truck (MAV)	

Vehicle Type	Description
Oversized Vehicle/ Earth moving equipment (OSV)	

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Solapur-Yedeshi and Yedeshi-Aurangabad Traffic and Revenue Due Diligence

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Report
September 2021

Solapur-Yedeshi and Yedeshi-Aurangabad Traffic and Revenue Due Diligence

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Table of Contents

Disclaimer i

Glossary Items i

1 Introduction 1

The assignment 1

Our approach 2

Evolution of Covid19 pandemic in India in FY21 and FY22 3

Contents of this Report 5

2 The Assets 6

Introduction 6

Asset Context 6

Strategic network 7

Concession and tolling details 8

Key economic and tourism influence on the Assets 11

3 Traffic description 13

Introduction 13

Historical trends 13

Key findings of the TVC data analysis 34

Key findings of origin-destination (OD) analysis 36

Conclusions 51

4 Socio Economic Context 53

Introduction 53

Population growth 53

Economic Indicators 54

Industrial Production 54

Vehicle ownership 55

GDP and GSDP Growth 56

Summary 58

5 Traffic growth analysis 59

Introduction 59

Estimation of background elasticities 60
Overview 60
Forecasts for background elasticities 62

6 Forecasts: Base year AADT and Impacts 65

Introduction 65
Seasonal Correction Factors 65
Base year (FY21 and FY22) traffic 67
Estimation of FY21 Normalised and FY22* (no Covid19, hypothetical) 67
Assumptions on 3rd Wave of Covid19 infections 68
Month on Month comparison of FY22* and FY22 estimated 68
Estimation of Q4 FY22 68
FY23 Estimation and base AADT for forecast 71
Base year AADT 71
Analysis of potential impacts 73
Revenue forecasting assumptions 78
Traffic and Revenue forecasts 88
Upside and Downside Cases 97
Traffic and Revenue Forecasts - upside scenario 99
Traffic and Revenue Forecasts - downside scenario 106
Target traffic and modification of concession period 118
Summary outlook 119

Figures

Figure 1: Daily Reported Covid 19 cases in India 4
Figure 2.1 Assets context 6
Figure 2.2: Assets location in the regional network context 7
Figure 2.3: Typical cross-sections and toll plazas on the Assets 9
Figure 3.1 Category wise vehicle shares (%) and AADT at SY- Tamalwadi 15
Figure 3.2 Category wise vehicle shares (%) and AADT at SY-Yedeshi 16
Figure 3.3 Category wise vehicle shares (%) and AADT at YA- Pargaon 17
Figure 3.4 Category wise vehicle shares (%) and AADT at YA Padalsingi 18
Figure 3.5 Category wise vehicle shares (%) and AADT at YA - Maliwadi 19

Figure 3.6: Evolution of CJV segmentation 24
Figure 3.7 FASTag penetration - Tamalwadi 25
Figure 3.8 FASTag penetration - Yedeshi 25
Figure 3.9 FASTag penetration - Pargaon 26
Figure 3.10 FASTag penetration - Padalsingi 26
Figure 3.11 FASTag penetration - Maliwadi 27
Figure 3.12 CJV toll segmentation - Tamalwadi 28
Figure 3.13 MAV toll segmentation - Tamalwadi 28
Figure 3.14 CJV toll segmentation -Yedeshi 29
Figure 3.15 MAV toll segmentation - Yedeshi 29
Figure 3.16 CJV toll segmentation - Pargaon 30
Figure 3.17 MAV toll segmentation - Pargaon 31
Figure 3.18 CJV toll segmentation - Padalsingi 31
Figure 3.19 MAV toll segmentation - Padalsingi 32
Figure 3.20 CJV toll segmentation - Maliwadi 32
Figure 3.21 MAV toll segmentation - Maliwadi 33
Figure 3.22: TVC camera installed at the Assets 34
Figure 3.23 Vehicle share comparison: Solapur – Yedeshi section 35
Figure 3.24 Vehicle share comparison: Yedeshi - Aurangabad section 35
Figure 3.25 Zonal distribution - Tamalwadi 39
Figure 3.26 Zonal distribution - Yedeshi 39
Figure 3.27 Zonal distribution - Padalsingi 40
Figure 3.28 Zonal distribution - Maliwadi 40
Figure 3.29 Zonal influence - Tamalwadi 41
Figure 3.30 Zonal influence - Yedeshi 42
Figure 3.31 Zonal influence - Padalsingi 42
Figure 3.32 Zonal influence - Maliwadi 43
Figure 3.33 Commodity distribution - Tamalwadi 44
Figure 3.34 Commodity distribution - Yedeshi 45
Figure 3.35 Commodity distribution - Padalsingi 46
Figure 3.36 Commodity distribution - Maliwadi 47
Figure 3.37 Trip length distribution - Tamalwadi 49

Figure 3.38 Trip length distribution - Yedeshi 50
Figure 3.39 Trip length distribution - Padalsingi 50
Figure 3.40 Trip length distribution - Maliwadi 51
Figure 4.1: Annual growth - Index of Industrial Production 54
Figure 4.2: Car ownership in India per 1,000 population 55
Figure 4.3: Per capita income 56
Figure 5.1: FY21-40 GDP forecast 63
Figure 5.2: Forecasts for India GDP and Maharashtra GSDP 64
Figure 6.1: FY22* (no Covid19, Hypothetical) vs FY22 Estimated: SY - Tamalwadi 69
Figure 6.2: FY22* (no Covid19, Hypothetical) vs FY22 Estimated: SY - Yedeshi 69
Figure 6.3: FY22* (no Covid19, Hypothetical) vs FY22 Estimated: YA - Pargaon 70
Figure 6.4: FY22* (no Covid19, Hypothetical) vs FY22 Estimated: YA - Padalsingi 70
Figure 6.5: FY22* (no Covid19, Hypothetical) vs FY22 Estimated: YA - Maliwadi 71
Figure 6.6: Assets route shown against the regional network context 73
Figure 6.7: CJV toll segmentation evolution – SY Tamalwadi 80
Figure 6.8: MAV toll segmentation evolution – SY Tamalwadi 81
Figure 6.9: CJV toll segmentation evolution – SY Yedeshi 82
Figure 6.10: MAV toll segmentation evolution – SY Yedeshi 82
Figure 6.11: CJV toll segmentation evolution – YA Maliwadi 83
Figure 6.12: MAV toll segmentation evolution – YA Maliwadi 83
Figure 6.13: CJV toll segmentation evolution – YA Padalsingi 84
Figure 6.14: MAV toll segmentation evolution – YA Padalsingi 84
Figure 6.15: CJV toll segmentation evolution – YA Pargaon 85
Figure 6.16: MAV toll segmentation evolution – YA Pargaon 85
Figure 6.17: Final AADT forecast including Upside and Downside scenarios – SY Tamalwadi. 114
Figure 6.18: Final Revenue forecast including Upside and Downside scenarios – SY Tamalwadi 114
Figure 6.19: Final AADT forecast including Upside and Downside scenarios – SY Yedshi 115
Figure 6.20: Final Revenue forecast including Upside and Downside scenarios – SY Yedshi... 115
Figure 6.21: Final AADT forecast including Upside and Downside scenarios – YA Maliwadi ... 116
Figure 6.22: Final Revenue forecast including Upside and Downside scenarios– YA Maliwadi116
Figure 6.23: Final AADT forecast including Upside and Downside scenarios – YA Padalsingi.. 117

Figure 6.24: Final Revenue forecast including Upside and Downside scenarios– YA Padalsingi 117

Figure 6.25: Final AADT forecast including Upside and Downside scenarios – YA Pargaon..... 118

Figure 6.26: Final Revenue forecast including Upside and Downside scenarios– YA Pargaon 118

Tables

Table 1.1: Scope of work and sources of data 1

Table 1.2 Data collection schedule 3

Table 2.1: Summary of concession 8

Table 2.2: Single toll rates on the Assets (INR), applicable April 2021 to March 2022 10

Table 3.1: Historical evolution in AADT by vehicle class: Tamalwadi 13

Table 3.2: Historical evolution in AADT by vehicle class: SY Yedeshi 15

Table 3.3: Historical evolution in revenue by vehicle class (INR crores): Solapur – Yedeshi section..... 16

Table 3.4: Historical evolution in AADT by vehicle class: YA Pargaon 17

Table 3.5: Historical evolution in AADT by vehicle class: Padalsingi 18

Table 3.6: Historical evolution in AADT by vehicle class: Maliwadi..... 19

Table 3.7: Historical evolution in revenue by vehicle class (INR crores): Yedeshi – Aurangabad section..... 20

Table 3.8: SY – Tamalwadi: Traffic evolution during FY20, FY21 20

Table 3.9: SY – Yedeshi: Traffic evolution during FY20, FY21 21

Table 3.10: YA – Pargaon, Traffic evolution during FY20, FY21..... 21

Table 3.11: YA – Padalsingi, Traffic evolution during FY20, FY21 22

Table 3.12: YA – Maliwadi, Traffic evolution during FY20, FY21 22

Table 3.13: Timeline of national ETC implementation 23

Table 3.14: The table below shows the current FASTag collection levels in March 2021 on the Assets. 25

Table 3.15: Data collection schedule 33

Table 3.16: WADT at Assets..... 34

Table 3.17: Sample rates for OD data..... 37

Table 3.18: Zone aggregations for zonal influence analysis 37

Table 3.19: Aggregate commodity categories 43

Table 3.20: Direction wise commodity distribution – SY Tamalwadi 44

Table 3.21: Direction wise commodity distribution – SY Yedeshi 46

Table 3.22: Direction wise commodity distribution – YA Padalsingi 47

Table 3.23: Direction wise commodity distribution – YA Maliwadi 48

Table 3.24: Average trip lengths 48

Table 4.1: CAGR of population in India 53

Table 4.2: Population Growth in India (2001 – 2011) 54

Table 4.3: Local Population Growth (2001 – 2011) 54

Table 4.4: GDP/GSDP index (2012=100) 57

Table 4.5: Socioeconomic indicators 58

Table 5.1: Identified growth drivers to model traffic growth 60

Table 5.2: Elasticity recommendations for the Assets (Solapur – Yedeshi) 61

Table 5.3: Elasticity recommendations for the Assets (Yedeshi-Aurangabad) 62

Table 6.1: Key intermediate and final outputs in the forecast 65

Table 6.2: Adopted SCF: SY TP1 Tamalwadi 66

Table 6.3: Adopted SCF: SY TP2 Yedeshi 66

Table 6.4: Adopted SCF: YA TP1 Maliwadi 66

Table 6.5: Adopted SCF: YA TP2 Padalsingi 67

Table 6.6: Adopted SCF: YA TP3 Pargaon 67

Table 6.7: FY22N Base AADT estimates compared to FY21 Actuals and FY22 Estimated (SY - Tamalwadi) 71

Table 6.8: FY22N Base AADT estimates compared to FY21 Actuals and FY22 Estimated (SY - Yedeshi) 72

Table 6.9: FY22N Base AADT estimates compared to FY21 Actuals and FY22 Estimated (YA - Maliwadi) 72

Table 6.10: FY22N Base AADT estimates compared to FY21 Actuals and FY22 Estimated (YA - Padalsingi) 72

Table 6.11: FY22N Base AADT estimates compared to FY21 Actuals and FY22 Estimated (YA - Pargaon) 73

Table 6.12: Summary of impact 74

Table 6.13: Impact of LoS improvement 74

Table 6.14: Impact of Solapur Vijayapura and Solapur Bypass Upgrade 75

Table 6.15: Ahmednagar Tembhurni construction Impact 75

Table 6.16: Autram Tunnel construction Impact 76

Table 6.17: Surat – Solapur – Kurnool Expressway (Surat – Solapur section) Impact 77

Table 6.18: Surat – Solapur – Kurnool Expressway (Surat – Solapur section) Impact 77

Table 6.19: Summary of impacts on the Assets 77
Table 6.20: Trip factors for the forecast years – SY Tamalwadi 78
Table 6.21: Trip factors for the forecast years – SY Yedeshi 79
Table 6.22: Trip factors for the forecast years – YA Maliwadi 79
Table 6.23: Trip factors for the forecast years – YA Padalsingi 79
Table 6.24: Trip factors for the forecast years – YA Pargaon 79
Table 6.25: Toll segmentation – SY Tamalwadi for FY21 81
Table 6.26: Toll segmentation for FY21 – SY Yedeshi for FY21 82
Table 6.27: Toll segmentation for FY21 – YA Maliwadi for FY21 83
Table 6.28: Toll segmentation for FY21 – YA Padalsingi for FY21 84
Table 6.29: Toll segmentation for FY21 – YA Pargaon for FY21 86
Table 6.30: Overloading assumptions from FY22 onwards 86
Table 6.31: Tolling lengths for toll evolution – SY & YA 87
Table 6.32: WPI growth forecast assumptions 87
Table 6.33: Revenue reconciliation summary 88
Table 6.34: PCU factors 88
Table 6.35: Final (background plus impacts) AADT forecast – TP1 Tamalwadi 89
Table 6.36: Final (background plus impacts) AADT CAGR (%) – TP1 Tamalwadi 89
Table 6.37: Revenue (INR crores) forecast – TP1 Tamalwadi 90
Table 6.38: Final (background plus impacts) revenue CAGR (%) – TP1 Tamalwadi 90
Table 6.39: Final (background plus impacts) AADT forecast – TP2 Yedeshi 90
Table 6.40: Final (background plus impacts) AADT CAGR (%) – TP2 Yedeshi 91
Table 6.41: Revenue (INR crores) forecast – TP2 Yedeshi 91
Table 6.42: Revenue CAGR (%) – TP2 Yedeshi 92
Table 6.43: Final (background plus impacts) AADT forecast – TP1 Maliwadi 92
Table 6.44: Final (background plus impacts) AADT CAGR (%) – TP1 Maliwadi 92
Table 6.45: Revenue (INR crores) forecast – TP1 Maliwadi 93
Table 6.46: Revenue CAGR (%) – TP1 Maliwadi 93
Table 6.47: Final (background plus impacts) AADT forecast – TP2 Padalsingi 94
Table 6.48: Final (background plus impacts) AADT CAGR (%) – TP2 Padalsingi 94
Table 6.49: Revenue (INR crores) forecast – TP2 Padalsingi 94
Table 6.50: Revenue CAGR (%) – TP2 Padalsingi 95

Table 6.51: Final (background plus impacts) AADT forecast – TP3 Pargaon 95

Table 6.52: Final (background plus impacts) AADT CAGR (%) – TP3 Pargaon 96

Table 6.53: Revenue (INR crores) forecast – TP3 Pargaon 96

Table 6.54: Revenue CAGR (%) – TP3 Pargaon 96

Table 6.55: Summary of Macro Assumptions for upside and downside cases 97

Table 6.56: Summary of impacts on the Assets..... 97

Table 6.57: Summary of impacts on the Assets..... 98

Table 6.58: Final (background plus impacts) AADT forecast for upside scenario – TP1 Tamalwadi..... 99

Table 6.59: Final (background plus impacts) AADT CAGR (%) for upside scenario – TP1 Tamalwadi..... 99

Table 6.60: Revenue (INR crores) forecast for upside scenario – TP1 Tamalwadi 99

Table 6.61: Final (background plus impacts) revenue CAGR (%) for upside scenario – TP1 Tamalwadi..... 100

Table 6.62: Final (background plus impacts) AADT forecast for upside scenario – TP2 Yedeshi 100

Table 6.63: Final (background plus impacts) AADT CAGR (%) for upside scenario – TP2 Yedeshi 101

Table 6.64: Revenue (INR crores) forecast for upside scenario – TP2 Yedeshi 101

Table 6.65: Final (background plus impacts) revenue CAGR (%) for upside scenario – TP2 Yedeshi..... 101

Table 6.66: Final (background plus impacts) AADT forecast for upside scenario – TP1 Maliwadi 102

Table 6.67: Final (background plus impacts) AADT CAGR (%) for upside scenario – TP1 Maliwadi 102

Table 6.68: Revenue (INR crores) forecast for upside scenario – TP1 Maliwadi..... 102

Table 6.69: Final (background plus impacts) revenue CAGR (%) for upside scenario – TP1 Maliwadi 103

Table 6.70: Final (background plus impacts) AADT forecast for upside scenario – TP2 Padalsingi 103

Table 6.71: Final (background plus impacts) AADT CAGR (%) for upside scenario – TP2 Padalsingi 104

Table 6.72: Revenue (INR crores) forecast for upside scenario – TP2 Padalsingi 104

Table 6.73: Final (background plus impacts) revenue CAGR (%) for upside scenario – TP2 Padalsingi 104

Table 6.74: Final (background plus impacts) AADT forecast for upside scenario – TP3 Pargaon 105

Table 6.75: Final (background plus impacts) AADT CAGR (%) for upside scenario – TP3 Pargaon 105

Table 6.76: Revenue (INR crores) forecast for upside scenario – TP3 Pargaon 105

Table 6.77: Final (background plus impacts) revenue CAGR (%) for upside scenario – TP3 Pargaon 106

Table 6.78: Final (background plus impacts) AADT forecast for downside scenario – TP1 Tamalwadi 106

Table 6.79: Final (background plus impacts) AADT CAGR (%) for downside scenario – TP1 Tamalwadi 107

Table 6.80: Revenue (INR crores) forecast for downside scenario – TP1 Tamalwadi 107

Table 6.81: Final (background plus impacts) revenue CAGR (%) for downside scenario – TP1 Tamalwadi 107

Table 6.82: Final (background plus impacts) AADT forecast for downside scenario – TP2 Yedeshi 108

Table 6.83: Final (background plus impacts) AADT CAGR (%) for downside scenario – TP2 Yedeshi 108

Table 6.84: Revenue (INR crores) forecast for downside scenario – TP2 Yedeshi 108

Table 6.85: Final (background plus impacts) revenue CAGR (%) for downside scenario – TP2 Yedeshi 109

Table 6.86: Final (background plus impacts) AADT forecast for downside scenario – TP1 Maliwadi 109

Table 6.87: Final (background plus impacts) AADT CAGR (%) for downside scenario – TP1 Maliwadi 110

Table 6.88: Revenue (INR crores) forecast for downside scenario – TP1 Maliwadi 110

Table 6.89: Final (background plus impacts) revenue CAGR (%) for downside scenario – TP1 Maliwadi 110

Table 6.90: Final (background plus impacts) AADT forecast for downside scenario – TP2 Padalsingi 111

Table 6.91: Final (background plus impacts) AADT CAGR (%) for downside scenario – TP2 Padalsingi 111

Table 6.92: Revenue (INR crores) forecast for downside scenario – TP2 Padalsingi 111

Table 6.93: Final (background plus impacts) revenue CAGR (%) for downside scenario – TP2 Padalsingi 112

Table 6.94: Final (background plus impacts) AADT forecast for downside scenario – TP3 Pargaon 112

Table 6.95: Final (background plus impacts) AADT CAGR (%) for downside scenario – TP3 Pargaon 113

Table 6.96: Revenue (INR crores) forecast for downside scenario – TP3 Pargaon 113

Table 6.97: Final (background plus impacts) revenue CAGR (%) for downside scenario – TP3 Pargaon 113

Table 6.98: Target Traffic 119

Appendices

A **Top 10 OD Pairs**

B **Detailed forecasts**

C **Data collection exercise**

D **Vehicle Classification Chart**

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While the estimates contained in the Report are not precise forecasts, they do represent, in our view a reasonable expectation of the future, based on information we have been provided with or sourced. However, the estimates necessarily rely on numerous assumptions and judgements, and circumstances may occur over the timeframe of the project that go counter to these assumptions and judgements and that affect the project's realized revenues. Actual events may differ from those assumed, and events are subject to change. Therefore, Steer makes or provides no warranty, whether implied or otherwise, as to the accuracy of forward-looking information presented. Further, it is important to note that forecasts presented represent long term growth profiles; the results for individual time periods may vary from forecasted values.

Traffic Consultant developed the relationships in the models used to produce the forecasts for the projects based on data available through May 2021. Since March 2020, the outbreak of the virus known as COVID- 19 has spread throughout the world and has been defined by the World Health Organization as a "pandemic". As of the date of distribution of the Reports, the COVID19 outbreak is having a material impact on global economic and political affairs including having a significant impact on all the transportation industries, including toll road traffic, where in particular vehicle volumes have fallen in response to quarantine and self-care measures that governments have been imposing as a response to the different waves of infection rates in different parts of the country. The situation remains dynamic and is subject to significant change. In this challenging context, Traffic Consultant has produced base forecasts (directly produced from models using a combination of pre-COVID19 and post-COVID19 views) with a view on a possible scenario for the traffic forecasts based on an assumption of recovery from the COVID19-related traffic decrease. However, it is important to note that this is only one view, and there continues to remain uncertainty as to the short-term, intermediate or prolonged effects of and responses to the COVID19 pandemic on the projects. All of these effects could impact the COVID19-related aspects of the Reports.

As a result, no assurance can be provided by Traffic Consultant that the scenarios and assumptions Traffic Consultant has identified will prove to be accurate. Given the uncertainty inherent in this unprecedented pandemic, Traffic Consultant advises that all readers of the Reports consider the Reports in the context of their own assessment of the COVID19 outbreak and its current and potential impacts before making final decisions related to the projects.

TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, THE LIABILITY OF THE TRAFFIC CONSULTANT FOR ANY LOSS, DAMAGE, COST OR EXPENSE SUFFERED OR INCURRED BY ALL PERSONS OR ENTITIES AND FOR ALL CLAIMS RESPECTING ITS WORK PERFORMED IN CONNECTION WITH THE ISSUE OR THE REPORTS IS HEREBY LIMITED IN THE AGGREGATE TO THE AMOUNT OF FEES ACTUALLY PAID BY THE CLIENT TO THE TRAFFIC CONSULTANT IN RESPECT OF THE REPORTS AND CONNECTED SERVICES."

Glossary Items

Acronym	Meaning
AADT	Annual Average Daily Traffic
ADT	Average Daily Traffic
CAGR	Compound Annual Growth Rate
CAGR	Compound Annual Growth Rate
CJV	Cars / Jeeps / Vans
COD	Commercial Operations Date
DPR	Detailed Project Report
EDFC	Eastern Dedicated Freight corridor
ETC	Electronic Toll Collection
FY	Financial Year
GDP	Gross Domestic Product
GJC	Generalised Journey Cost
GQ	Golden Quadrilateral
GSDP	Gross State Domestic Product
HCM	Heavy Commercial Vehicles
IAOI	Immediate Area of Influence
SY / YA	Solapur Yedeshi / Yedeshi Aurangabad
LCV	Light Commercial Vehicles
LoS	Level of Service
MAV	Multi Axle Vehicle
MLCV	Mini LCV
NE	National Expressway
NH	National Highway
NHAI	National Highways Authority of India
NHDP	National Highways Development Project
NSDP	Net State Domestic Product
OD	Origin Destination
PCI	Per Capita Income
PCOD	Partial Commercial Operations Date
PCU	Passenger Car Unit
RNP	Registered Number Plate
RoS	Rest of State
SCF	Seasonality Correction Factors
SH	State Highway
T&R	Traffic and Revenue
TMS	Traffic Management System
TP	Toll plaza
TVC	Traffic Volume Count

Acronym	Meaning
VOC	Vehicle Operating Costs
VOT	Value of Time
WADT	Weekly Average Daily Traffic
WDFC	Western Dedicated Freight corridor
YTD	Year to Date

1 Introduction

The assignment

1.1 IRB Infrastructure Developers Limited (the "Client") has commissioned Steer Davies Gleave India Private Limited ("Steer") for a traffic due diligence to be carried out on Solapur-Yedeshi and Yedeshi- Aurangabad Toll Road (the "Assets"). The Assets consists of two contiguous sections, namely Solapur-Yedeshi (SY) and Yedeshi-Aurangabad (YA), which form a part of NH52 north south Corridor. Yedeshi-Aurangabad (YA) is 189.023 km long while Solapur-Yedeshi (SY) is 98.717 km long section. Hence these two Assets are presented in this report together.

1.2 Our scope of work for the traffic and revenue forecasts process is described in table below.

Table 1.1: Scope of work and sources of data

Scope of work	Data source
• Review of historical Traffic Management System (TMS) data, Origin-Destination (OD) data, previous reports and documents	Provided by client
• Historical analysis and forecasts for baseline growth, including – Background growth, – Seasonality	Historical toll plaza data provided by Client and benchmarks from Assets in the vicinity wherever long time series historical data was not available
• Validation of TMS data using independent Traffic Volume Counts (TVC) counts • Validation of Revenue reported in FY21	• TMS data provided by Client • TVC counts independently undertaken by Steer • Revenue reconciliation using toll plaza traffic and ticket type data to calculate revenue and reconciling it with toll plaza reported revenue.
• OD analysis to understand growth drivers – Zonal influence and top OD pairs – Commodity distribution – Trip length distribution	Origin Destination surveys undertaken by Steer
• Analysis of upcoming network improvements and other developments, that may have future impacts on traffic	Secondary research and our in-house experience of working in the vicinity of the Assets. Impact analysis based on Generalised Journey Cost spreadsheet-based analysis
• Historical revenue analysis and forecasts for revenue estimation, including – Toll segmentation and trip factors, – Overloading shares,	Calculated from historical data provided by Client
• Final traffic growth forecasts including baseline growth rates and potential future impacts	Elasticity based base growth and potential impacts from secondary research and our in-house experience of working in the vicinity of the Assets.

Scope of work	Data source
• Toll revenue estimation for the entire concession including toll evolution	Toll evolution based on toll notification published by NHAI and WPI line based on forecast published by Consensus and RBI (FY23)
• Target traffic estimation	The target traffic calculation is based on the clause as per the concession agreement.

1.3 This report presents our draft T&R forecasts.

Our approach

1.4 The information related to the traffic, concession agreements, toll notifications, toll calculations, and all other relevant data required was provided by the client in the virtual data room. The key traffic data file used by us for the analysis from the data room is the monthly historical data for each Asset for each category of vehicles.

To understand the current traffic on the Assets, we have analysed traffic data from multiple independent sources:

- Assemble traffic/revenue data for up-to-date representation of the performance of the project roads using client provided TMS data.
  - SY: March 2018 up to May 2021
  - YA: March 2019 up to May 2021
- Concession agreement and toll notifications provided by client;
- To arrive at the base position, Asset-wise traffic data required for analysis was used from the monthly traffic and revenue files shared by the client. In order to gain confidence in the traffic data, and validate the TMS data, 7 days (24 hours) traffic volume counts (TVC) were undertaken by an independent agency at all the toll plaza locations. The TMS data for the same dates was requested from the client which was then compared to the TVC data collected; and
- Revenue Reconciliation: We undertook revenue reconciliation, by building up revenue from the traffic reported by each of the toll plaza and subsequently match it to the reported revenue using the prevalent toll rates and reported segmentation/toll-frequencies, this is a key part of our analysis to validate the segmentation/toll-frequency assumptions and the AADT reported for each of the toll plaza.

1.5 The estimation of future traffic demand on each Asset was undertaken through:

- Detailed assessment of the Assets performance from traffic and revenue perspective based on the site visit observation, discussions with the toll plaza managers and client team.
- Primary data collection was carried out covering 7day TVC on all toll plazas and 24 Hour OD surveys on 4 toll plazas including Tamalwadi, Yedeshi, Padalsingi and Maliwadi as per schedule presented in Table 1.2 below. OD surveys were not conducted on Pargaon toll plaza as both Pargaon and Padalsingi had similar travel characteristics. This was discussed and agreed with client.
- The OD survey data was cleaned and analysed to determine the key commodity drivers of the traffic on the Assets. This information was further utilised in developing the views on the forecasts of traffic on this corridor. Outputs from OD data such as zonal influence, trip lengths and commodity distribution are presented in Chapter 3 of this report.
- Developing a bespoke growth model for each Assets/plaza/toll class to forecast year-on-year traffic growth from FY21 to the end of each concession period.

- Investigating the elasticity of historic traffic growth compared to state (GSDP) and national (GDP) growth. Where historic data is limited, we have benchmarked the Assets against our Steer knowledge base (e.g. similar Asset types in the same state), to derive appropriate elasticities.
- Applying growth elasticities to independent macro-economic growth drivers like GDP/GSDP forecasts.
- Identifying and analysing the potential impacts of any relevant changes to the competitive position of each Asset – these include impacts of changes to road network including expressways and opening of competitive modes of travel.
- Identifying and analysing any other potential impacts to traffic and revenue on each Asset – these include axle load norms, FASTag implementation.
- Considering changes in trends of segmentation over time and making suggestions for changes in exemptions in the future.
- Preparing traffic and revenue forecast for the Assets for the complete length of concession. The analysis here includes the specific impacts of toll, network or other exogenous factors specific to the Assets. We have developed a set of forecasting assumptions for three scenarios: a base case and upside and downside scenarios.

Table 1.2 Data collection schedule

Toll Plaza	TMS data	7-day videography-based TVC			1-day OD survey	
		Start date	**End date**	**Time (hrs)**	**Start date**	**Start time**
Tamalwadi	March 2018 - May 2021	21st June 2021	27th June 2021	0000-2359	25th June 2021	26th June 2021
Yedeshi	March 2018 - May 2021	21st June 2021	27th June 2021	0000-2359	23rd June 2021	24th June 2021
Pargaon	March 2018 - May 2021	21st June 2021	27th June 2021	0000-2359		
Padalsingi	March 2018 - May 2021	21st June 2021	27th June 2021	0000-2359	23rd June 2021	24th June 2021
Maliwadi	March 2018 - May 2021	21st June 2021	27th June 2021	0000-2359	21st June 2021	22nd June 2021

Evolution of Covid19 pandemic in India in FY21 and FY22

1.6 On 24 March FY20, the Central government announced a nationwide 21-day lockdown which was extended for another three weeks until May 3rd. Further extensions until May 17th and again until May 31 featured relaxations in 'green' and 'orange' zones. Starting 8th June 2021, 'Unlock' phases began. States have also taken their own measures, with Central guidelines being the minimum expected restrictions from States. The tolling across all highways in India was stopped between 25th March and 20th April for national highways. These lockdowns resulted in significant disruptions to traffic, with a reduction of both commuting trips to work (as people were required to work from home or stay at home) and leisure trips (due to the closure of various entertainment venues, places of worship, tourist destinations, etc.). Goods movements, while still impacted, continued to a lesser extent due to a need to supply essential goods such as food, etc.

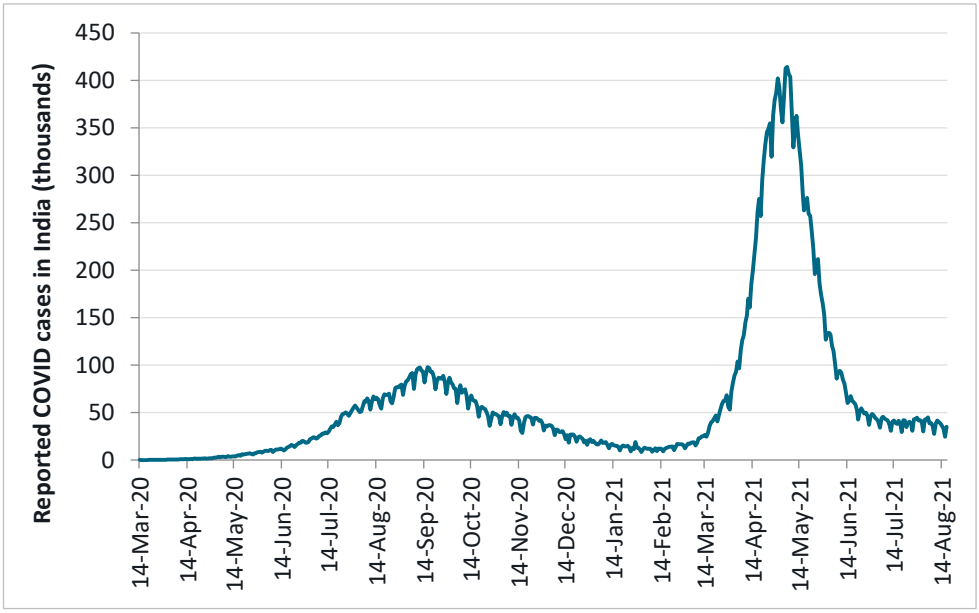
1.7 The traffic volumes since then gradually started recovering on most Assets in India, with varying extent. By Q3 of FY21 traffic levels were already at par FY20 AADT numbers and even higher in some cases. Q4 of FY21 was largely unimpacted by Covid19 and toll plazas reported stabilised traffic numbers for the quarter.

1.8 Data from various roads across the country indicates that the largest impact on traffic was experienced between the months of March 2020 and May 2020, with the rest of the months showing volumes surpassing FY20 levels for most months of FY21. It is important to note that FY20 itself was a subdued year due to the nosedive in Indian economic growth to lowest in a decade (4.0% in FY20 relative to a FY10-20 average of 6.5%). The recovery of traffic in Q3 FY21 was being driven by two factors - a release of pent-up demand in certain vehicle categories, as well as, underlying long-term growth trends in various sectors of the economy which are contributing to the growth of commercial traffic across the road network. We believe that the pent-up demand was most confined till the October-November FY21 period which coincides with the Diwali festival related increase in traffic levels.

1.9 The traffic trends observed on most of the India toll roads during Q4FY21, showed sustained traffic levels as were witnessed in Q3FY21, which reflected sustained demand revival in the Indian economy. These traffic levels reflected the longer-term trends of a strong economic recovery, in segments like auto manufacturing, road construction, energy consumption /production etc., are more stable and are driving the growth over and above FY20 levels and are expected to continue as more segments of the economy, like hospitality, tourism, etc., recover fully from the pandemic.

1.10 Last week of March 2021 onwards, another spike in Covid19 cases was observed which gradually kept increasing to reach a peak value of 415,000 daily cases by 6th May 2021. The figure below presents the daily reported Covid19 cases in India up-to 14th August 2021.

Figure 1: Daily Reported Covid 19 cases in India



Source: Steer analysis, https://data.COVID19india.org/

1.11 This second wave of Covid19 was accompanied by various local and state level night curfews and lockdowns starting from April until end of June. The second wave of Covid19, although had a higher infection rate, the movement of traffic and goods was not impacted by the same magnitude as the first wave when whole country went under strict lockdown for two quarters. This can be attributed to the fact that almost all the restrictions were localised or at state level. Moreover, there was no restriction on movement of goods vehicles and other services.

As the industries and agricultural activities continued to operate, the truck traffic did not fall as steeply as it did in Q1 FY21.

1.12 There is also a behavioral shift of passengers towards personal mobility due to perceptions of safety and reduction of public transport services which we have been observed across the road network. This shift is expected to sustain and continue in the short term as such perception shifts for longer periods of time could result in more permanent changes in passenger choices. For example, once a family starts using a personal CJV for inter-urban travel to avoid public transport during the pandemic period over 1-2 years, it is likely that they continue using their personal vehicles even as the pandemic recedes. In our analysis around the short/medium-term impact of this pandemic, we have included assumptions around the above, as well as longer-term impacts of the pandemic.

Contents of this Report

1.13 The report has been divided into 6 chapters, including Chapter 1 providing an introduction:

- Chapter 2 describes the key characteristics of the Assets and its surrounding road network, primarily based on site visits;
- Chapter 3 summarises the current and historical traffic on the Assets, including results from the TMS, TVC and OD analysis;
- Chapter 4 discusses the socio-economic context of the corridor and region/state containing the Assets;
- Chapter 5 summarises our approach and results on estimating background traffic demand growth; and
- Chapter 6 summarises our key forecasting assumptions, assessment of network impacts, and presents our traffic and revenue forecasts for the Assets.

2 The Assets

Introduction

2.1 This chapter provides a description of the Assets, based on primary data (from site visits), our understanding of the network surrounding the Assets. We cover the strategic network context, followed by key economic activities and network developments around the Assets.

Asset Context

2.2 The Assets consists of two contiguous sections, namely Solapur-Yedeshi (SY) and Yedeshi-Aurangabad (YA), which form a part of NH52 north south Corridor. Yedeshi-Aurangabad (YA) is 189.023 km long while Solapur-Yedeshi (SY) is 98.717 km long section. Both Assets have four-lane configuration with a total of five toll plazas as shown below in the figure.

- Solapur Yedeshi: Tamalwadi and Yedeshi toll plazas;
- Aurangabad Yedeshi: Pargaon, Padalsingi and Maliwadi toll plazas.

Figure 2.1 Assets context

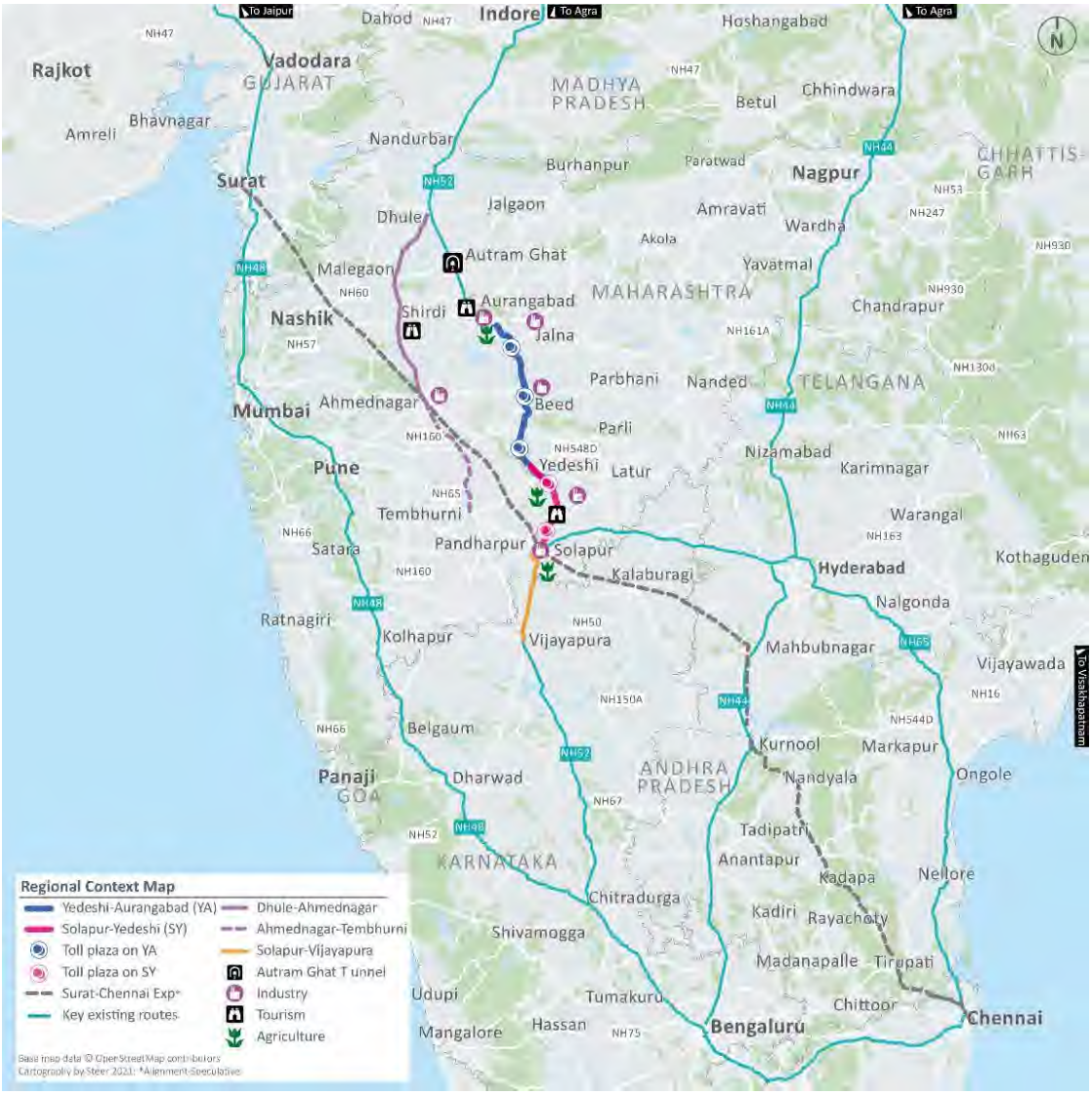
Source: Steer Cartography using OpenStreetMap data

2.3 The Assets had 2 lane configuration between Aurangabad and Solapur until 2015. The Assets, Solapur Yedeshi (January 2015) and Yedeshi Aurangabad (March 2016), were commissioned for upgradation to 4 lane configuration under the National Highways Development Program (NHDP) Phase – IVB with 910 days of construction period. SY achieved PCOD in March 2018 followed by YA in March 2019 and tolling started respectively. Both Assets have achieved COD as of March 2020 for SY and March 2021 for YA respectively

Strategic network

2.4 The Assets are part of the key Solapur-Aurangabad section, they form two contiguous toll roads and are a part of the NH52 north-south corridor connecting Delhi and northern parts of India with major cities such as Bengaluru, Chennai, Hyderabad in the south. The following figure shows the regional road network in which the Assets are located. They also cater to east-west movement between Gujarat and eastern states such as Telengana (Hyderabad), Andhra Pradesh (Vijawada) and parts of Tamil Nadu (Chennai).

Figure 2.2: Assets location in the regional network context



Source: Steer Cartography using OpenStreetMap data

2.5 This Assets primarily caters to three different types of strategic movements:

- **Short-distance trips** undertaken largely by passenger vehicles for work/business trips wherein the movement is predominantly local between Solapur, Osmanabad, Beed, Yedeshi, and Aurangabad areas. Goods vehicles catering to the local demand generated by these towns and cities also use the Assets.
- **Medium-distance trips** undertaken by LCV/2A/3A trucks originating in major towns on Assets including Aurangabad, Beed, Osmanabad, Yedeshi, Solapur destined in adjoining districts including Dhule, Jalna, Ahmednagar, Nashik, Latur, Pune and Beed.
- **Long-distance trips**, primarily by MAVs, catering north-south (NH52) movements between Delhi, north of Delhi, Madhya Pradesh and major cities such as Bengaluru, Chennai, Hyderabad in the south. Another key long-distance movement is the East – West movement between the states of Gujarat and Telangana, Andhra Pradesh, and Chennai.

2.6 The construction completion on the Assets resulted in significant improvement in level of service because of improved geometrics and speeds leading to reduced travel times. The traffic volumes on the completed corridor have witnessed significant ramp ups. This can be attributed two key factors.

- increase in local movements on Assets, witnessed on SY up until FY19 and YA in FY20 and FY21 period.
- shift of long-distance movements destined towards Hyderabad and other destination in Telangana, Andhra Pradesh, Tamil Nadu region. The original route for these east west movements was via the Dhule-Manmad-Ahmadnagar-Tembhurni route. As the route via the Asset is shorter and faster some of the 2A-3A-MAV traffic has shifted to the Asset. This shift of traffic currently appears on 4 toll plazas including Yedeshi on SY and all three toll plazas on YA Asset, and exits the Assets near town of Tuljapur thereby not appearing on Tamalwadi toll plaza (on SY), which is closer to Solapur.

2.7 There are number of upgrades planned on NH52 corridor including completion of Solapur and Aurangabad bypass, completion of Dhule-Chalisgaon section in addition to the construction of the Autram Ghat Tunnel, and 4 laning of Solapur-Vijayapura section. Once these upgrades are completed, the corridor will offer seamless travel between Delhi and Bengaluru bypassing major cities with reduced travel time and improved 4/6 lane road geometrics for long distance traffic which will further improve the attractiveness of corridor.

2.8 The improvement of level of service due to expansion to 4 lanes from a 2 lane corridor has provided much approved connectivity between two key large local industrial clusters of Aurangabad and Solapur. In addition, the east west traffic between Aurangabad and Hyderabad appears on 4 toll plazas on the corridor thereby adding significant 3A-MAV volumes on the toll plazas.

Concession and tolling details

Table 2.1: Summary of concession

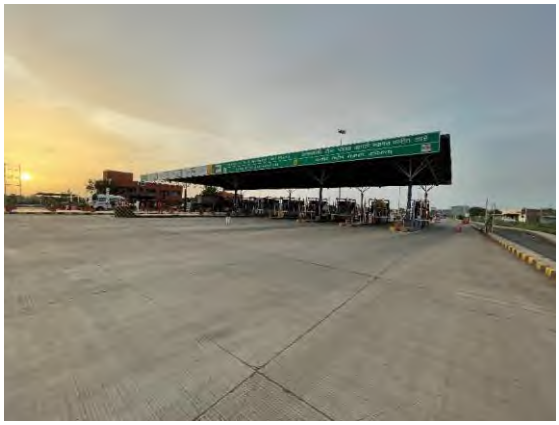
	Particulars
State	Maharashtra
Highway & lane configuration	NH52, four-laned (divided)
Toll plazas	Solapur – Yedeshi • Tamalwadi at KM 19+500 • Yedeshi at KM 78+390 Yedeshi – Aurangabad • Pargaon at KM 134+000

	Particulars
	• Padalsingi at KM 194+000 • Maliwadi at KM 254+500
Length (km) as per concession agreement	Solapur – Yedeshi • Tamalwadi: 49.00 km, 45.563 km (tollable), • Yedeshi: 49.71 km, 47.581 km (tollable), Yedeshi – Aurangabad • Pargaon: 47.200 km (tollable), • Padalsingi: 56.499 km (tollable), • Maliwadi: 56.914 km (tollable),
Commencement of operations	• Solapur – Yedeshi: PCOD/FCOD: 25th Nov'19/31st Mar'20 • Yedeshi – Aurangabad: PCOD/FCOD: 24th Sept'20/31st Mar'21
Operated by Client since	• Solapur – Yedeshi: March 2018 • Yedeshi – Aurangabad: March 2019
Concession period	• Solapur – Yedeshi: 30 years • Yedeshi – Aurangabad: 28 years
Last year of concession	• Solapur – Yedeshi: FY45 • Yedeshi – Aurangabad: FY44

Source: Client data

2.9 Steer had conducted a site visit on Assets between 21st June 2021 and 26th June 2021 to oversee traffic surveys being conducted on the Assets and to get better understanding of Assets and their surrounding network. The Figure 2.3 below shows a typical cross-section of the Assets and its toll plazas as captured during site visits.

Figure 2.3: Typical cross-sections and toll plazas on the Assets



Source: Steer site visit

Toll plazas and toll rates

2.10 As discussed earlier, the Assets have 5 toll plazas in total including 2 toll plazas on Solapur Yedeshi and 3 toll plazas on Yedeshi Aurangabad. All toll plazas on the Assets have 6+6 lane configuration on each side for FASTag collection on all lanes for mandatory electronic tolling. The toll plazas also have Weigh in Motion (WIM) on all lanes and one Static Weigh Bridges (SWB) for each plaza to keep check on overloading on the Assets.

2.11 The road users having valid FASTag installed on their respective vehicles approach the FASTag lanes where the installed RFID readers detect the tag and deduct toll charges equalling single trip or for Local/monthly pass/discounts wherever applicable. In case, the RFID reader is not able to detect the FASTag, handheld devices are used to read the vehicle's tag. Further, in cases where FASTag is blacklisted or not working, the user can only buy single cash ticket and are charged twice the single trip fare. The users crossing toll plaza twice within 24 hours automatically get return discount.

2.12 Like the other National Highway plazas, the Assets have Single, Return, Local Commercial, Local Personal, Monthly and Local Monthly tickets. Single toll rates and categories on each of the toll plaza are presented in the table below.

Table 2.2: Single toll rates on the Assets (INR), applicable April 2021 to March 2022

Type of Vehicle	Tamalwadi	Yedeshi	Pargaon	Padalsingi	Maliwadi
CJV	65	65	65	95	90
LCV	100	100	110	150	145
Bus/Truck	210	210	230	315	310
3A	230	230	250	345	335
MAV/ HCM/EME	335	335	355	495	485
OSV	405	405	435	600	585

Source: NHAI Revision of User fee Rate w.e.f. 01.04.2021

2.13 Each of the tolls operate independently and there are no through tickets issued at the toll plazas, for users to cross multiple toll plazas and pay only once.

Key economic and tourism influence on the Assets

Industrial influence

2.14 The Assets are surrounded by major industrial areas in north including Aurangabad, Jalna and Solapur in the south. These cities house medium to large scale industrial manufacturing units.

2.15 Aurangabad is the largest industrial centre in vicinity of the Assets. There is contiguous industrial development between Aurangabad and Jalna. Key economic activities in vicinity of Aurangabad include:

- **Agriculture:** Agriculture in the Aurangabad district is diversified and wide range of crops are grown in the district. Main crops cultivated in district include Jowar, pearl millet, wheat, gram oilseeds and Soybean. Aurangabad Jalna belt is one of leading Seed processing centre in county. Cotton is another major cash crops.
- **Industry:** Established industries Automobile, Auto components, Pharmaceuticals, Breweries, Food Products, Plastic, Rubber, Paper & Paper products. Skoda's Aurangabad plant manufactures over 6 premium and luxury models of ŠKODA, Volkswagen, and Audi. Mahyco (R&D + Production), Nath Seeds (R&D + Production), Seminis seeds (R&D + Production) and Monsanto (R&D currently) are some of the big names in the industry.

2.16 Solapur has several medium and small-scale industries and is one of the prime centres of the handloom, cotton tobacco and sugar production. There are around 6000 power loom industries operational in the district. Solapur also has tobacco (beedi) manufacturing industry.

2.17 The city is also well known for the bed sheets manufacturing. Additionally, the city is home to Precision Camshafts Limited one of the largest manufacturers in camshafts in the world.

2.18 Osmanabad is another important industrial centre along the Assets. The key industries include fabric manufacturing, seed processing, metal fabrication and fertilisers. Osmanabad is also known for dairy production and Unnati milk plant has distribution across Maharashtra and parts of Karnataka. It also exports dairy products to Middle East.

Tourism influence

2.19 Tulja Bhavani temple, situated in Tuljapur, is a Hindu temple dedicated to the goddess Bhavani and is also one of 51 Shakti Pithas, the pilgrimage shrines and destinations in Shaktism. The temple attracts significant traffic on the Assets from Maharashtra and Karnataka states owing to its religious importance. The CJV traffic is observed to be significantly higher during Navratri period when festival is held in temple. This is further discussed in Chapter 3.

2.20 Ellora cave, situated 29 kilometres north-west of Aurangabad, is a UNESCO World Heritage Site and a protected monument under the Archaeological Survey of India. It is one of the largest rock-cut Hindu temple cave complexes in the world, featuring Artwork dating from the 600–1000 CE period. Ellora is a major tourism-related traffic generator for the Assets. Other tourist destinations in Aurangabad include Daultabad and Bibi Ka Makbara.

2.21 The Assets have got good mix of industrial and agricultural activities along with tourism demand driving the local economy and growth. This captive nature of the traffic movement is expected to result in a positive long term growth profile for the corridor.

Local and strategic long-distance movements

2.22 As discussed, the Assets completed four laning in March 2020 with completion of both SY & YA sections. This resulted in significant shift of long-distance traffic moving between Dhule/north

to Hyderabad/Karnataka and the south. Earlier, traffic coming from north and west of Dhule preferred to take Dhule-Manmad-Shirdi-Ahmednagar road before joining Pune-Solapur NH65 at Tembhurni to continue further towards Hyderabad in east or Karnataka in the south. Post construction completion, this traffic started using the Assets up to Tuljapur and then merge with Pune Solapur NH65 at Naldurg before continuing further towards Hyderabad and down south. This traffic is observed to appear at all 3 toll plazas of YA and Yedeshi toll plaza of SY section. This is further discussed in Chapter 3 and Chapter 6 of this report.

3 Traffic description

Introduction

3.1 This chapter outlines the current traffic and revenues on the Assets, as well as our analysis of origin-destination (OD) data and traffic count data. This covers data which was collected as a part of this study and previous studies, as well as data provided by the Client.

3.2 Traffic demand data is generally collected and analysed to understand the volume and vehicle composition of demand currently using the Assets, while OD data is used to obtain a better understanding of travel patterns, trip lengths, trip purposes and areas of influence in the vicinity of the Assets, as well as the commodities being moved by goods vehicles. This analysis, combined with our understanding of the Assets (based on our site visits), enables us to identify the key drivers of demand on the Assets.

3.3 Actual toll plaza data is used as the basis from which the current/base year annual average daily traffic (AADT) is established. This data is typically provided by the Client and independently analysed and validated by us using traffic volume count (TVC) information.

Historical trends

Solapur - Yedeshi

3.4 The Asset started operating in March FY18 and FY19 was the first full year in terms of traffic operations, therefore relatively short traffic history is available. For most of this period in which SY was operational YA section in the north was still under construction and got completed only in March 2020.

3.5 The following tables and figures indicate the historical variation in traffic volume at SY: Tamalwadi in terms of vehicle shares and total AADT and PCU.

Table 3.1: Historical evolution in AADT by vehicle class: Tamalwadi

Vehicle Class	FY18	FY19	FY20	FY21	CAGR FY19-20	CAGR FY20-21	CAGR FY19-21
CJV	3,329	4,999	5,177	3,980	3.6%	(23.1%)	(10.8%)
LCV	1,031	1,127	1,076	893	(4.5%)	(17.0%)	(11.0%)
Bus	536	680	722	359	6.2%	(50.3%)	(27.4%)
2A	837	1,011	883	864	(12.7%)	(2.1%)	(7.6%)
3A	1,025	1,127	863	807	(23.4%)	(6.5%)	(15.4%)
MAV	880	1,071	931	1,081	(13.1%)	16.0%	0.4%
OSV	9	2	2	1	(6.2%)	(49.1%)	(30.9%)
Total	**7,647**	**10,017**	**9,653**	**7,984**	(3.6%)	**(17.3%)**	**(10.7%)**
PCU	**16,069**	**19,972**	**18,392**	**16,275**	(7.9%)	**(11.5%)**	**(9.7%)**

Source: Steer analysis of the Client data, FY18 is not included in CAGR as toll operated only for one month

3.6 There was steady ramp up in traffic from FY18 to FY19, which can be attribute to the improved level of service resulting in an increase of local traffic on the Asset. FY20 traffic volumes dropped as compared to FY19. This can be attributed to several but not limited to reasons:

- Since YA section was still under construction up until FY20 traffic between Auranagabd and Solapur did not pick up.
- FY20 itself was a subdued year due to the nosedive in Indian economic growth to lowest in a decade (4.0% in FY20 relative to a FY10-20 average of 6.5%) so traffic growth was muted in FY20.
- Further, Covid19 related restrictions already started impacting traffic in as early March FY20, hence overall growth without any external factors was lower on the toll plaza and the Asset.

3.7 The CJV volumes dropped again in FY21, this is not only because of Covid19 related national restrictions, but also due to Maharashtra as a state was badly affected by Covid19. The state continued to report high level of infections resulting in extended lockdowns in the region. Closure of temple towns such as Tuljapur also affected traffic movement further affecting the traffic growth on the Asset. The CJV's have suffered a negative CAGR of 10.8% over two years.

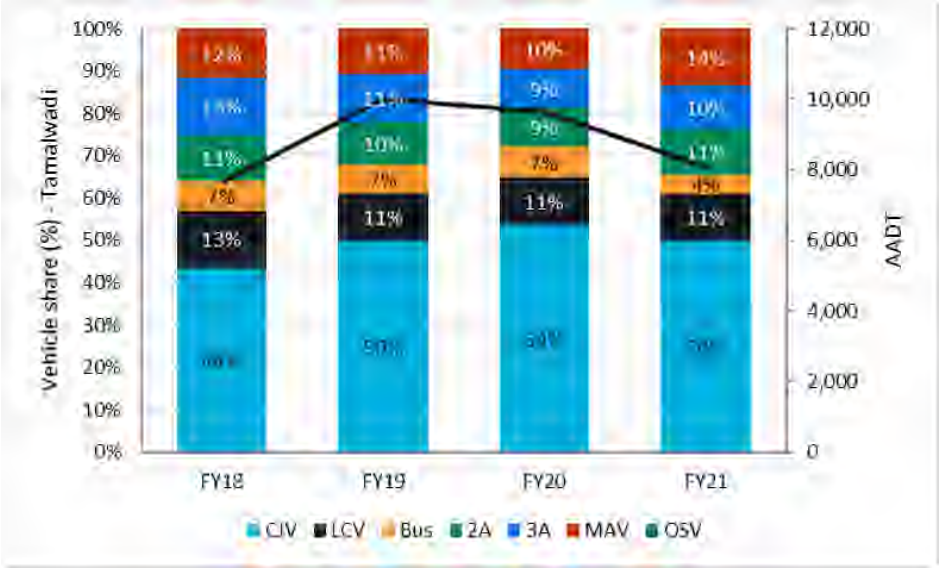
3.8 Due to Covid19 the bus networks have still not come back to pre-Covid19 levels, once the impact of Covid19 related restrictions reduces it is expected that the Bus volumes will return to the levels seen in FY19 and more.

3.9 The LCV- 2A category has historically been affected by classification issues because of similar size and look of the vehicle. In the recent years the preference of 2A trucks is increasing as well. This has resulted in the recent years for traffic numbers to show more 2A's than LCV. That is why the overall drop in 2A category is of the order of 7.6%, whereas LCV's have seen 11% drop.

3.10 MAV traffic saw stabilisation in traffic volumes in FY21 back to FY19 levels as construction on the YA section completed. It is important to note that this toll plaza lies closer to Solapur, therefore the east west long-distance movements that appear on other 4 toll plazas do not appear on this toll plaza.

3.11 The following figures indicate the historical variation in traffic volume at each of the toll plazas, in terms of vehicle shares and total AADT. As per trends in vehicle shares, the share of CJV's reduced in FY21 compared to FY20 primarily attributed to extended Covid19 lockdowns and closure of temple towns along the Asset. Truck shares increased due to the increase in traffic between Aurangabad and Solapur. LCV shares remained constant at 11%, whereas 2A trucks have increased their shares to 11% in FY21.

Figure 3.1 Category wise vehicle shares (%) and AADT at SY- Tamalwadi



Source: Steer analysis of the Client data

3.12 The following tables and figures indicate the historical variation in traffic volume at SY: Yedeshi in terms of vehicle shares and total AADT and PCU.

Table 3.2: Historical evolution in AADT by vehicle class: SY Yedeshi

Vehicle Class	FY18	FY19	FY20	FY21	CAGR FY19-20	CAGR FY20-21	CAGR FY19-21
CJV	1,795	2,519	2,926	2,662	16.2%	(9.0%)	2.8%
LCV	728	660	645	587	(2.2%)	(8.9%)	(5.7%)
Bus	202	240	250	129	4.4%	(48.4%)	(26.6%)
2A	624	817	690	728	(15.5%)	5.4%	(5.6%)
3A	984	1,100	814	833	(26.0%)	2.4%	(13.0%)
MAV	1,009	1,277	1,111	1,376	(13.0%)	23.9%	3.8%
OSV	0	1	0	1	(7.4%)	11.1%	1.5%
Total	**5,342**	**6,612**	**6,437**	**6,315**	(2.6%)	**(1.9%)**	**(2.3%)**
PCU	**12,857**	**15,725**	**14,159**	**14,808**	(10.0%)	**4.6%**	**(3.0%)**

Source: Steer analysis of the Client data, FY18 is not included in CAGR as toll operated only for one month

3.13 The toll plaza has performed in line with the Tamlawadi plaza up until FY20, reasons for which are discussed in section 3.6.

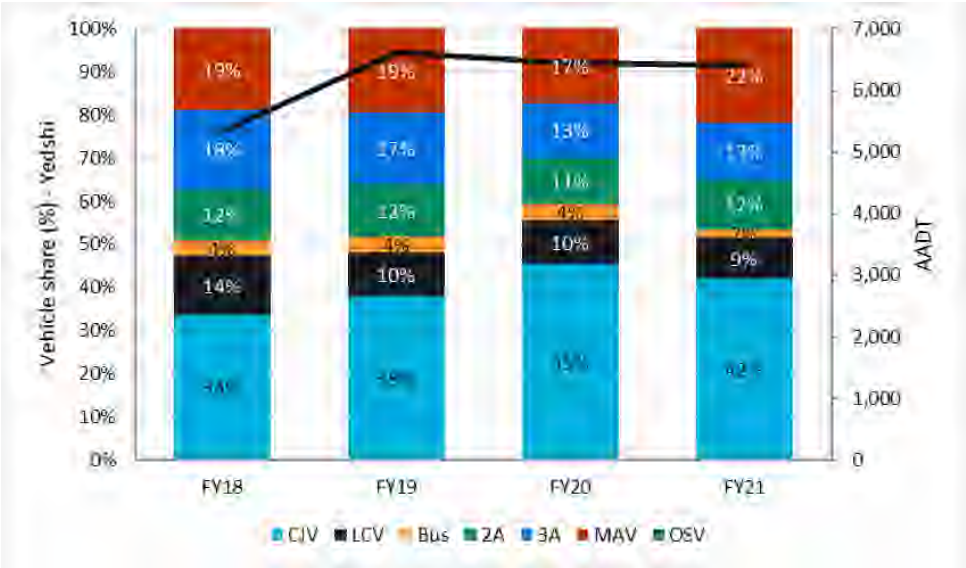
3.14 The CJV volumes in FY21 recorded a small positive as compared to FY19 however they dropped in volumes as compared to FY20, this is not only because of Covid19 related national restrictions, but also due to Maharashtra as a state was badly affected by Covid19. The state continued to report high level of infections resulting in extended lockdowns in the region. Closure of temple towns such as Tuljapur also affected traffic movement further affecting the traffic growth on the Asset. The CJV's have suffered a small positive CAGR of 2.8% over two years.

3.15 Due to Covid19 the bus networks have still not come back to pre-Covid19 levels, once the impact of Covid19 related restrictions reduces it is expected that the Bus volumes will return to the levels seen in FY19 and more.

3.16 The LCV- 2A category, low volumes appear on the plaza, has historically been affected by classification issues because of similar size and look of the vehicle. On this toll plaza these two vehicle types have recorded a negative 5.7% CAGR.

3.17 The completion of the YA section provided a fillip to the 3A-MAV category, as the east west traffic between Gujarat in west and Telangana in east started appearing on this toll plaza. This is further validated by similar gains recorded on the 3 toll plazas of YA section discussed in later sections.

Figure 3.2 Category wise vehicle shares (%) and AADT at SY-Yedeshi



Source: Steer analysis of the Client data

3.18 The table below presents the revenue collection as reported by the Asset. The key revenue contributors on Solapur Yedeshi are 3A+MAVs which combinedly account for 60% of the revenues from the SY Asset followed by 15% from 2A trucks. The CJVs attribute to almost 40-50% of traffic on both plazas but only contribute 17% revenues on the Asset.

Table 3.3: Historical evolution in revenue by vehicle class (INR crores): Solapur – Yedeshi section

Vehicle Class	FY19	FY20	FY21	CAGR FY19-20
CJV	10.83	12.77	11.51	17.9%
LCV	4.30	4.42	4.53	2.8%
Bus	4.76	5.22	2.70	9.7%
2A	10.95	10.04	10.65	(8.3%)
3A	14.88	11.99	12.44	(19.4%)
MAV	23.24	21.73	27.28	(6.5%)
OSV	0.03	0.03	0.02	0.4%
Total	**69.00**	**66.21**	**69.12**	(4.0%)

Source: Steer analysis of the Client data (*FY18 not shown as data for only one month was available)

3.19 Revenue realised on the Asset remained relative flat between FY19 and FY21. The first two quarters of FY21 being significantly impacted by Covid19 related disruptions, still the Asset has been able to regain the losses in Q1 and Q2FY21 in Q3 and Q4FY21 to end the year at levels seen in FY19.

Yedeshi - Aurangabad

3.20 The Asset started tolling in March FY19 and FY20 was first full year. With only 13 months of tolling history, the traffic patterns are still in very nascent stage. The construction completion on the Asset resulted in complete connection between Aurangabad and Solapur.

3.21 The following tables and figures indicate the historical variation in traffic volume at YA: Pargaon in terms of vehicle shares and total AADT and PCU

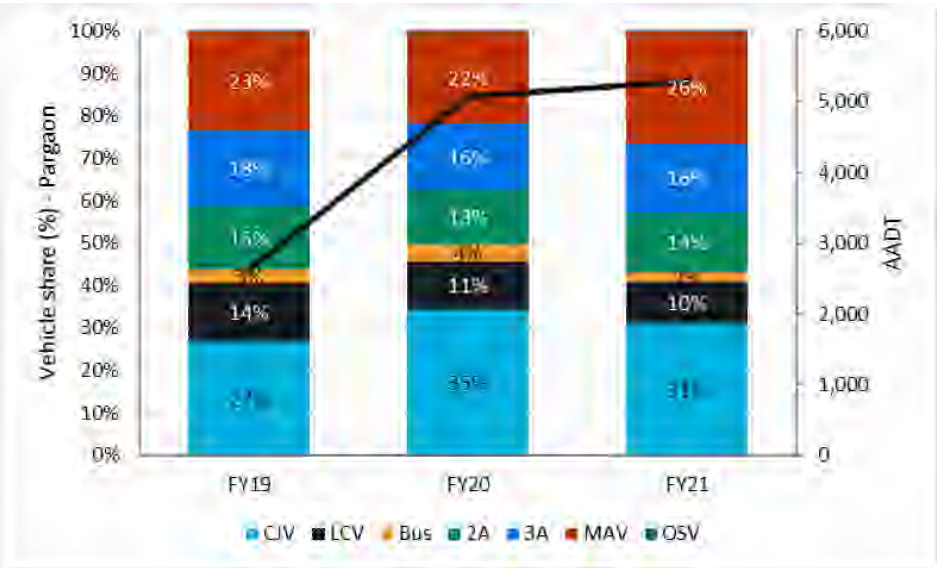
Table 3.4: Historical evolution in AADT by vehicle class: YA Pargaon

Vehicle Class	FY19	FY20	FY21	CAGR FY20-21
CJV	706	1,752	1,629	(7.0%)
LCV	361	563	506	(10.1%)
Bus	88	204	117	(42.9%)
2A	387	645	741	14.8%
3A	477	805	848	5.5%
MAV	614	1,097	1,378	25.7%
OSV	0	1	1	26.0%
Total	**2,632**	**5,067**	**5,220**	**3.0%**
PCU	**6,864**	**12,499**	**13,712**	**9.7%**

Source: Steer analysis of the Client data, FY19 is not included in CAGR as toll operated only for one month

3.22 2A-3A-MAV category grew between 5-25%, due to the construction completion on the Asset as well as the shift of the east-west traffic as discussed earlier. A similar ramp up in goods vehicle volumes have been witnessed on all three plazas and presented in later sections.

Figure 3.3 Category wise vehicle shares (%) and AADT at YA- Pargaon



Source: Steer analysis of the Client data

3.23 The MAVs observed strong growth of 26.8% while 2A trucks saw 10% growth between FY20 and FY21 post construction completion. Trucks are key contributors of traffic on the asset followed by CJVs doing local movements and are highly influenced by vicinity to Osmanabad, Yedeshi and Beed towns. The 3A+MAV traffic is mostly long-distance traffic moving between Delhi/Gujarat and Solapur/south.

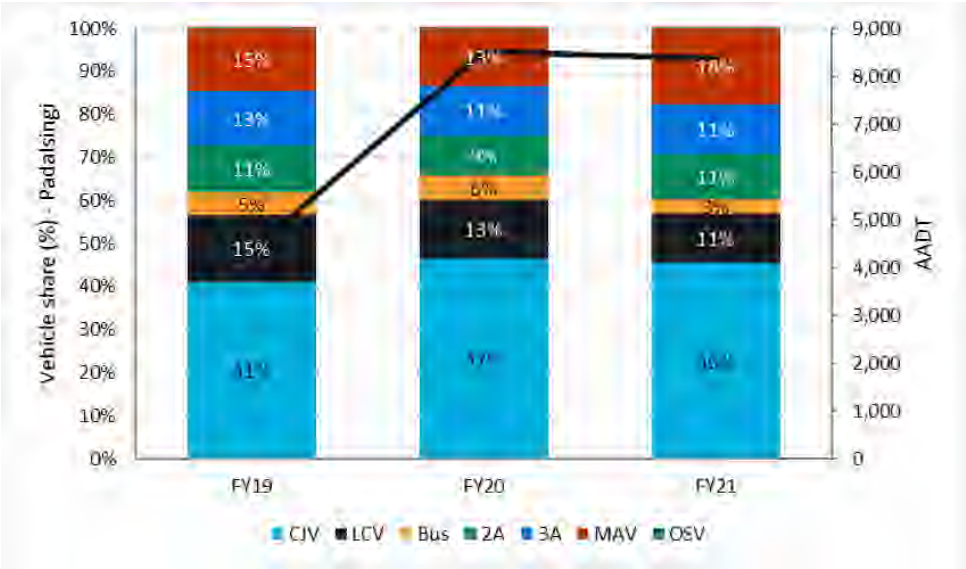
3.24 The following tables and figures indicate the historical variation in traffic volume at YA: Padalsingi in terms of vehicle shares and total AADT and PCU.

Table 3.5: Historical evolution in AADT by vehicle class: Padalsingi

Vehicle Class	FY19	FY20	FY21	CAGR FY20-21
CJV	1,799	3,970	3,758	(5.3%)
LCV	672	1,146	942	(17.8%)
Bus	236	493	268	(45.7%)
2A	475	800	880	10.0%
3A	553	958	948	(1.0%)
MAV	639	1,149	1,456	26.8%
OSV	0	1	1	22.5%
Total	**4,374**	**8,516**	**8,254**	**(3.1%)**
PCU	**9,474**	**17,613**	**18,018**	**2.3%**

Source: Steer analysis of the Client data

Figure 3.4 Category wise vehicle shares (%) and AADT at YA Padalsingi



Source: Steer analysis of the Client data

3.25 Like Pargaon, Padalsingi also observed steep ramp up 2A-3A-MAV traffic volumes in FY21. Bus category was the most impacted by Covid19, whereas CJV's remained relatively flat on the toll plaza between FY20 and FY21.

3.26 The LCV- 2A category has historically been affected by classification issues because of similar size and look of the vehicle. In the recent years the preference of 2A trucks is increasing as well. This has resulted in the recent years for traffic numbers to show more 2A's than LCV.

That is why the overall increase in 2A category is of the order of 10%, whereas a drop has been seen in LCV's to an order of 18%.

3.27 CJVs contribute 47% share in total traffic on Padalsingi and is influence by proximity to the Aurangabad and Beed. Like Pargaon toll plaza, 3A+MAVs are key contributors of traffic on Asset moving long distance between Delhi/Gujarat and Solapur/south. Further, LCVs and 2A trucks have 11% share each moving on the Assets serving local demand.

3.28 The following tables and figures indicate the historical variation in traffic volume at YA: Maliwadi in terms of vehicle shares and total AADT and PCU.

3.29 The plaza is closer to the city of Aurangabad. Traffic performance on the plaza is similar to the performance as seen on the other toll plazas on the YA Asset, where passenger vehicles have been impacted by the Covid19 related restrictions and resulted in a drop in volumes, and the goods vehicles have registered double digit growth due to construction completion and shifts of traffic from other corridors.

Table 3.6: Historical evolution in AADT by vehicle class: Maliwadi

Vehicle Class	FY19	FY20	FY21	CAGR FY20-21
CJV	1,325	2,958	2,874	(2.8%)
LCV	438	751	603	(19.8%)
Bus	164	362	182	(49.8%)
2A	325	557	646	16.0%
3A	465	694	687	(1.0%)
MAV	504	879	1,122	27.6%
OSV	0	1	1	0.4%
Total	**3,221**	**6,202**	**6,114**	**(1.4%)**
PCU	**7,112**	**12,882**	**13,373**	**3.8%**

Source: Steer analysis of the Client data

Figure 3.5 Category wise vehicle shares (%) and AADT at YA - Maliwadi

Source: Steer analysis of the Client data

3.30 The Maliwadi toll plaza has high shares (47%) of CJV traffic influence by Aurangabad which is major industrial and tourism hub. It is also district headquarter of Aurangabad district.

3.31 Like Padalsinghi and Pargaon toll plazas, 3A+MAVs are also key contributors of traffic on Asset moving long distance between Delhi/Gujarat and Solapur/south.

3.32 There is approximately 10% share each of 2A and LCV traffic which moves between Aurangabad and Solapur doing short to medium distance trips and serve the local demand.

Table 3.7: Historical evolution in revenue by vehicle class (INR crores): Yedeshi – Aurangabad section

Vehicle Class	FY20	FY21	CAGR FY20-21
CJV	15.9	19.6	23.0%
LCV	7.6	8.1	7.4%
Bus	7.0	4.5	(36.4%)
2A	15.7	20.1	27.6%
3A	21.0	23.7	12.8%
MAV	39.7	55.1	38.9%
OSV	0.0	0.0	32.5%
Total	**107.0**	**131.1**	**22.6%**

Source: Steer analysis of the Client data (*FY19 not shown as data for only one month was available)

3.33 As can be seen in the figure above, the Asset saw healthy revenue growth in FY21 from FY20. The Asset started tolling in March FY19 and FY20 was first full year. The toll rates were increased in FY20 post COD which in turn contributed to higher revenue realisation in FY21.

Impact of Covid19 on traffic

3.34 On 24th March 2020, the Central government announced a nationwide 25-days lockdown which was extended for another three weeks until May 3. As previously mentioned, all toll operations were suspended from 26th March – 19th April 2020. Further extensions until May 17 and again until May 31 featured relaxations in 'green' and 'orange' zones. Starting 8 June 2020, 'Unlock' phases began. States have also taken their own measures, with Central guidelines being the minimum expected restrictions from States.

3.35 In direct relation to these 'Lockdown' and 'Unlock' phases, traffic on roads across the country dropped significantly in the last week of March 2020 continuing into April and May 2020. While traffic for MAVs had a quick recovery in June back to FY20 AADT levels, the other vehicle classes have seen longer recovery trends. However, as we can see Q3 and Q4FY21 levels have been higher as compared to FY20, a pattern that has been witnessed on other Assets. The onset of the second wave of Covid19 infections has impacted traffic in April and May 2021 as compared to FY21N. Where CJV's have seen larger impacts as compared to 3A+ MAV traffic.

Solapur-Yedeshi

3.36 Traffic profile for SY Assets is discussed below:

Table 3.8: SY – Tamalwadi: Traffic evolution during FY20, FY21

	FY20	Q1FY21	Q2FY21	Q3FY21	Q4FY21	FY21	Apr-21	May-21
CJV	5,182	948	2,521	5,533	6,234	3,980	3,034	2,349
LCV	1,080	617	874	1,097	887	893	541	353

	FY20	Q1FY21	Q2FY21	Q3FY21	Q4FY21	FY21	Apr-21	May-21
Bus	722	69	176	517	621	359	222	110
2A	887	622	771	959	1,034	864	922	656
3A	868	546	766	909	917	807	802	649
MAV	938	783	963	1,188	1,305	1,081	1,156	981
Total	**9,678**	**3,584**	**6,070**	**10,204**	**10,998**	**7,984**	**6,677**	**5,098**
PCU	**18,455**	**9,104**	**13,301**	**19,679**	**21,153**	**16,275**	**14,885**	**11,537**

Source: Steer Analysis of client TMS data

3.37 As we can see from the table above, by Q3FY21 the Asset reached the FY20 PCU levels, with the full FY21 being impacted by Covid19 related restrictions in Q1FY21. MAV traffic also picked up in volumes in Q4FY21, which can be attributed to the completion of the Aurangabad-Solapur corridor, and sustained recovery witnessed in the economic activity, especially in the Automobile, Pharmaceutical and other industries near the Asset. The impact of 2nd wave of Covid19 is evident in April and May 2021, with a much larger impact on passenger vehicles (CJV, Buses) as compared to goods traffic..

3.38 Traffic profile for SY Asset: Tamalwadi toll plaza is discussed below:

Table 3.9: SY – Yedeshi: Traffic evolution during FY20, FY21

	FY20	Q1FY21	Q2FY21	Q3FY21	Q4FY21	FY21	Apr-21	May-21
CJV	2,925	1,127	1,972	3,895	3,717	2,662	2,067	1,763
LCV	646	436	632	719	501	587	328	289
Bus	250	35	62	180	221	129	65	30
2A	695	398	684	855	876	728	785	520
3A	819	493	794	987	954	833	851	635
MAV	1,119	892	1,236	1,592	1,650	1,376	1,570	1,302
Total	**6,453**	**3,381**	**5,380**	**8,228**	**7,920**	**6,315**	**5,666**	**4,539**
PCU	**14,220**	**8,572**	**13,101**	**18,203**	**18,050**	**14,808**	**14,727**	**11,611**

Source: Steer Analysis of client TMS data

3.39 Similar to the Yedeshi toll plaza, the passenger vehicles (CJV and Buses) posted recovery in volumes in Q3FY21. However, as discussed in detail in earlier sections, the completion of the Aurangabad-Solapur corridor resulting in a shift of East-West movement to the corridor resulting in goods traffic exceeding FY20 levels starting Q2FY21 levels, reaching high levels in Q4FY21. Similar trends are observed in the 3 toll plazas of the YA corridor (presented below). The impact of 2nd wave was significantly much higher in passenger vehicles whereas impact of 2nd wave was much smaller

Yedeshi – Aurangabad

3.40 Traffic profile for YA Assets is discussed below:

3.41 The three toll plazas present a consistent profile of traffic as they lie on the Solapur-Aurangabad corridor. Truck (2A-3A-MAV) volumes have witnessed similar gains starting Q2FY21, with Pargaon and Padalsingi toll plaza getting additional volumes from the regional towns of Beed and Osmanabad. The overall traffic profile remains consistent across all toll plazas.

Table 3.10: YA – Pargaon, Traffic evolution during FY20, FY21

	FY20	Q1FY21	Q2FY21	Q3FY21	Q4FY21	FY21	Apr-21	May-21
CJV	1,753	499	1,164	3,004	2,361	1,629	1,345	968

	FY20	Q1FY21	Q2FY21	Q3FY21	Q4FY21	FY21	Apr-21	May-21
LCV	565	409	508	638	438	506	272	198
Bus	205	33	61	166	195	117	50	23
2A	648	400	641	866	962	741	816	491
3A	808	499	781	995	1,016	848	898	657
MAV	1,102	898	1,211	1,600	1,672	1,378	1,589	1,311
Total	**5,081**	**2,737**	**4,365**	**7,268**	**6,645**	**5,220**	**4,969**	**3,648**
PCU	**12,542**	**7,948**	**11,823**	**17,239**	**17,063**	**13,712**	**14,193**	**10,677**

Source: Steer Analysis of client TMS data

Table 3.11: YA – Padalsingi, Traffic evolution during FY20, FY21

	FY20	Q1FY21	Q2FY21	Q3FY21	Q4FY21	FY21	Apr-21	May-21
CJV	3,972	1,595	2,874	4,871	5,086	3,758	3,406	2,962
LCV	1,147	809	981	1,160	748	942	443	377
Bus	493	44	95	414	485	268	125	46
2A	803	507	772	1,017	1,117	880	908	567
3A	961	573	885	1,080	1,128	948	1,331	1,018
MAV	1,153	956	1,265	1,687	1,778	1,456	1,665	1,378
Total	**8,531**	**4,484**	**6,871**	**10,230**	**10,342**	**8,254**	**7,879**	**6,348**
PCU	**17,656**	**10,480**	**15,292**	**21,737**	**22,400**	**18,018**	**18,657**	**14,622**

Source: Steer Analysis of client TMS data

Table 3.12: YA – Maliwadi, Traffic evolution during FY20, FY21

	FY20	Q1FY21	Q2FY21	Q3FY21	Q4FY21	FY21	Apr-21	May-21
CJV	2,961	1,014	2,120	4,164	3,968	2,874	2,456	2,431
LCV	752	493	637	753	476	603	252	208
Bus	362	26	68	278	331	182	88	31
2A	559	315	557	783	846	646	722	386
3A	697	418	628	809	817	687	753	517
MAV	882	723	973	1,296	1,392	1,122	1,275	1,043
Total	**6,213**	**2,989**	**4,983**	**8,084**	**7,830**	**6,114**	**5,546**	**4,616**
PCU	**12,912**	**7,283**	**11,213**	**16,738**	**16,927**	**13,373**	**13,260**	**10,240**

Source: Steer Analysis of client TMS data

Toll Frequencies

3.42 Toll frequency or segmentation is typically the share of each ticket category recorded for a particular vehicle type. Each vehicle category has different segmentation. As a part of historical analysis, we calculate the toll frequency for each vehicle category from the monthly data shared by the client. The most common ticket categories observed on a typical National Highway concession are: Single, Return, Monthly, Local and Exempt. Given the local nature of traffic, some Assets offer custom made local passes to attract the local commuters to opt for these category passes instead of evading toll. Brief description of different ticket-types is given in table below.

3.43 Understanding the toll frequency gives insights into the nature of traffic. CJVs generally have higher shares of return passes or monthly passes, while heavy trucks mostly have single tickets since they travel long distance. However, this varies from Asset to Asset or even toll plaza to toll plaza. The Assets catering to short distance local traffic generally observes high share of

return or other local monthly passes while the Assets catering to strategic long-distance traffic generally observes high share of single ticket traffic.

3.44 The following are the types of tickets being sold at the plazas of the Assets.

Category	Description
Single	Allows the vehicle to cross the toll plaza once
Return	Daily pass for crossing the toll plaza multiple times within 24 hours. Charged 1.5 times the single toll
Monthly	Monthly pass
Local Personal	Discounted monthly pass only for private cars of residents within 20km radius of toll plaza
Local Commercial	50% discount on single trips for commercial vehicles registered in the local district
Exemptions	Officially exempted vehicles like ambulance, police cars, key political personnel etc.

FASTag implementation

3.1 Government of India has introduced (and more recently, mandated) Electronic Toll Collection (ETC) across National Highways in India, collected via "FASTag". The timeline of ETC implementation is presented in the following table.

Table 3.13: Timeline of national ETC implementation

Date	ETC Development
2014	FASTag system set up as a pilot on the Ahmedabad to Mumbai stretch of the Golden Quadrilateral, in November 2014 it was also implemented on the Delhi to Mumbai stretch of the Quadrilateral.
December 2019	FASTag is made mandatory on all National Highways with only one lane on either side keep as a Cash lane, cash users entering ETC lanes were charged double the toll.
February 2021	FASTag is made mandatory for all vehicles at every toll plaza in the country starting 15th Feb 2021

Source: NHAI.gov.in and Wikipedia

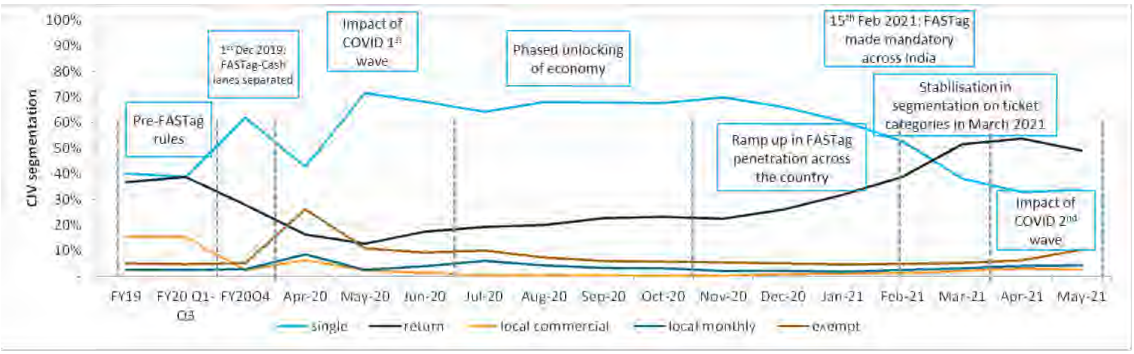
3.2 Generally, over the period the shares of single/return/monthly tickets tend to stabilise within 2-3 years of asset operations. Only in the cases where trip patterns are expected to change significantly due to urban expansion is where we expect these shares to change over the period or due to some external events impacting the trip patterns. During the last one year, two key events impacted the traffic patterns throughout the country: Covid19 and FASTag implementation.

Evolution of segmentation

3.3 During the last one year, two key events impacted the traffic patterns throughout the country: Covid19 and ETC implementation. With the FASTag implementation in December 2020, it was ensured that only FASTag users benefited from discounted tickets such as return/monthly and cash users were only allowed to buy single tickets, thus leading to a drastic increase in single ticket users. However, with the increase in FASTag, it was observed that traffic patterns have

begun to return to their initial segmentation. The figure below shows the evolution of ticket segmentation on the Tamalwadi Toll plaza in reverence to various events.

Figure 3.6: Evolution of CJV segmentation



Source: Steer analysis of the Client data

3.4 As per the figure above, single tickets shares increased considerable following the FASTag implementation in Dec 2019 when cash users were forced to use cash lanes on toll plaza. This was followed by onset of 1st Covid19 wave in March 2020 where we can clearly see the share of single tickets going down meanwhile exemptions are rising. This is due to Covid19 related lockdowns restricting personal mobility while increased levels of mobility among users assigned Covid19 related tasks including ambulances and government officials.

3.5 Feb 15, 2021 was when FASTag was made mandatory for all users. After this period, single trips are observed to have decreased with simultaneous increase in return trips. This is mainly due to stringent implementation of FASTag meant majority of uses had RFID tags installed on vehicles for toll payments. Therefore, the share of users who were previously paying by cash and buying single ticket for each trip were now able to benefit from return ticket discounts for return trips completed within 24 hours. This led to increase return shares.

3.6 Further, there was share of traffic particularly in trucks which always bought single ticket because of uncertainty of return timelines. They were paying for 2 single trips even for those completed within 24 hours. But, as previously discussed in chapter 2, the use of FASTag enabled users crossing toll plaza twice within 24 hours automatically get return discount. This portion of traffic also contributed to shift in single to return shares.

3.7 The traffic has started to stabilise in March 2021 and FASTag use has also ensured reduction in exemptions. Previously, users would not pay at plaza and at times would argue for getting discounts or not paying at all. But the new ETC systems ensured behavioural shift among user and ensured charging as per vehicle classification.

Impact of FASTag implementation

3.8 The table below shows the current FASTag collection levels in March 2021 on the Assets. It can be clearly seen that Buses and Trucks (2A-3A-MAV) have already started achieving >95% toll payments using FASTag. There has been slightly lower adaptation of FASTag for CJVs and LCVs which we believe is due to reluctance of local users shift to the new system and higher share of exemption across these vehicle categories in comparison to other categories. We expect this to improve in coming months once the economy opens up and further formalisation of the economy happens.

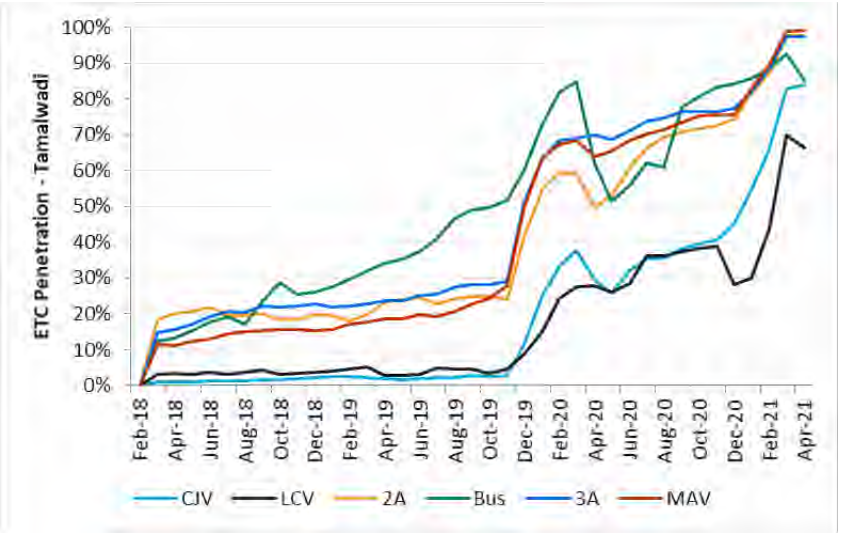
Table 3.14: The table below shows the current FASTag collection levels in March 2021 on the Assets.

Toll Plaza	CJV	LCV	2A	Bus	3A	MAV	OSV
Tamalwadi	82.8%	70.0%	97.8%	92.7%	97.2%	98.8%	91.2%
Yedeshi	77.3%	71.3%	96.8%	99.2%	98.7%	99.5%	96.2%
Pargaon	84.6%	81.5%	98.5%	98.9%	98.8%	99.6%	94.3%
Padalsingi	85.0%	73.1%	98.2%	99.1%	97.9%	99.4%	93.9%
Maliwadi	84.6%	67.2%	97.5%	98.8%	98.1%	99.6%	71.4%

Source: Steer analysis of the Client data.

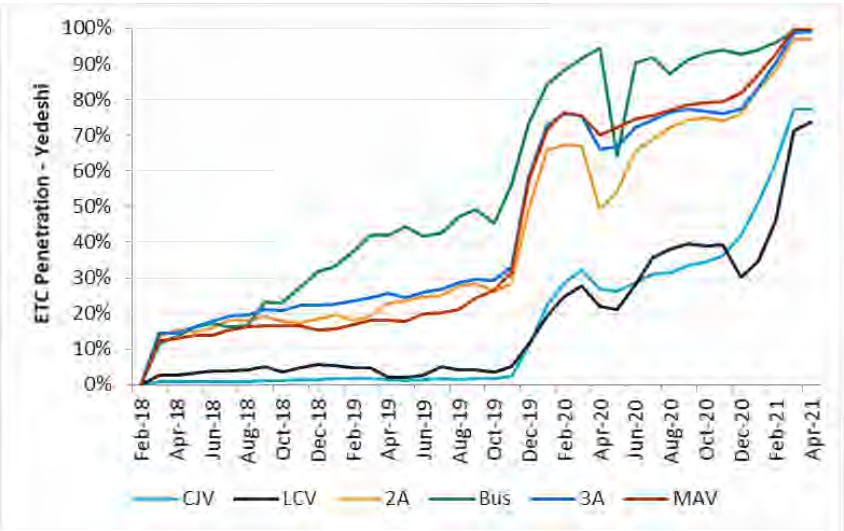
3.9 The figure below illustrates the evolution of the percentage of transactions via FASTag at all the plazas.

Figure 3.7 FASTag penetration - Tamalwadi



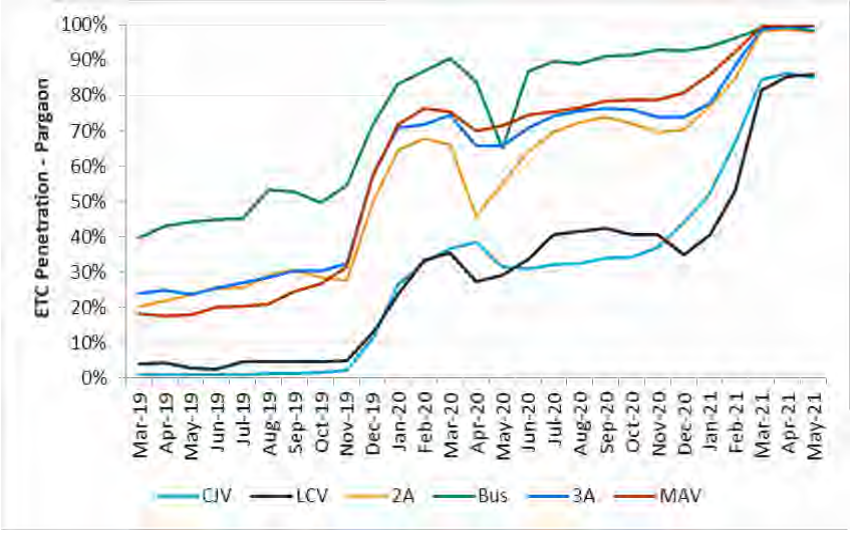
Source: Steer analysis of the Client data

Figure 3.8 FASTag penetration - Yedeshi



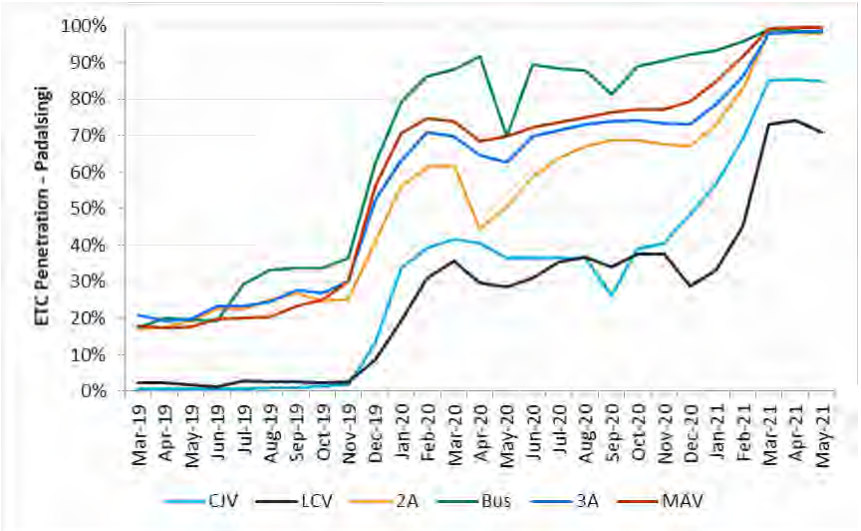
Source: Steer analysis of the Client data

Figure 3.9 FASTag penetration - Pargaon



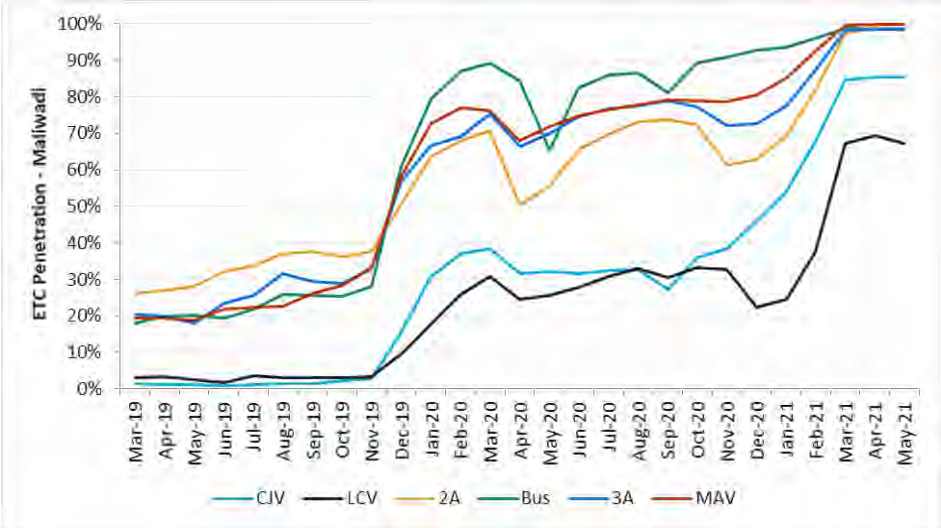
Source: Steer analysis of the Client data

Figure 3.10 FASTag penetration - Padalsingi



Source: Steer analysis of the Client data

Figure 3.11 FASTag penetration - Maliwadi



Source: Steer analysis of the Client data

3.10 CJVs and LCVs observed a dip in FASTag shares of transaction in May 2021 across all the plazas. As discussed above, this is due to the fact that the Assets saw a drop in long-distance CJV/LCV traffic because of Covid19 related lockdowns and hence, mostly local traffic was plying on the Assets. Generally, the local movement results in multiple CJV/LCV trips though the plaza. In order to save on tolls, these CJV/LCVs do not have FASTag installed as they cross the plaza as exemptions. The same is the reason for high exemption shares in May 2021 across these plazas as discussed in the above sections.

3.11 It is expected that as regional lockdowns are lifted and the travel curbs are relaxed, the long-distance movement traffic will once again appear at the Assets leading to better shares of FASTag transaction levels and lowered exemptions

Toll plaza wise evolution of Segmentation

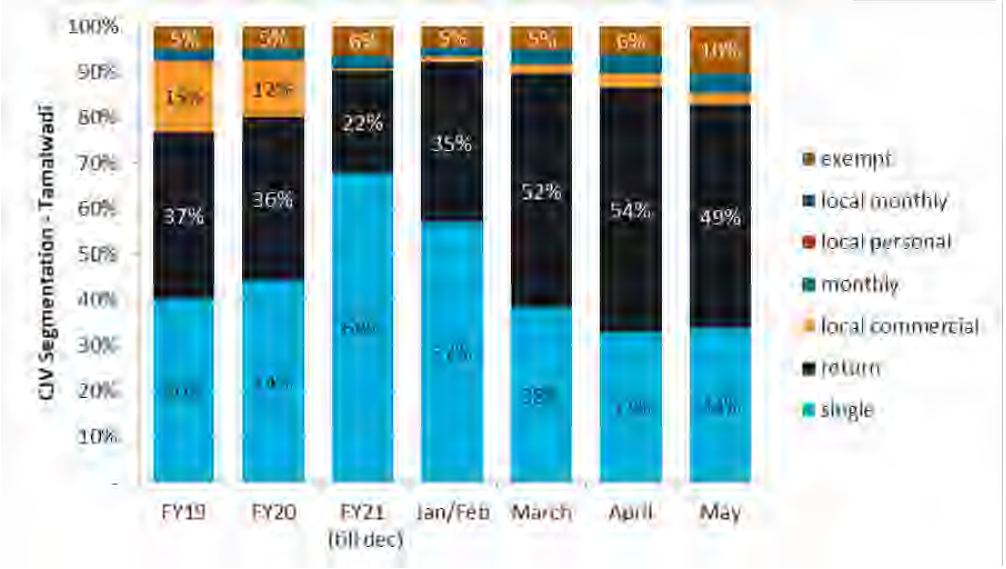
3.12 Following figures indicate the classification of the total toll tickets by ticket type i.e. single, return, local personal, local commercial, monthly and exempt for CJV and MAV vehicles.

3.13 For the SY, similar trend is observed for both toll plazas for CJVs where single ticket type reduced from about 40% for both toll plazas to about 34% and 27% respectively. This fall in single ticket type is balanced by increase in return tickets from 37% to 49% for Tamalwadi and 18% to about 47% for Yedeshi. This shift can be attributed to gradual implementation of FASTag norms from 2019.

3.14 After the initial implementation of FASTag in December 2019, Local Commercial discounts were only given FASTag users. Hence, the share of local commercial tickets witnessed a significant decrease from around 15% in FY19 on Tamalwadi and 29% on Yedeshi to a miniscule share in FY21, as these users now had to pay the actual fare ofr the type of trip they were making.

3.15 For MAVs, both the toll plazas witnessed decline in single tickets and corresponding increase in return tickets. The increase in Return tickets from FY20 to May 2022 is due to implementation of FASTag, allowing trucks to avail return-journey discounts.

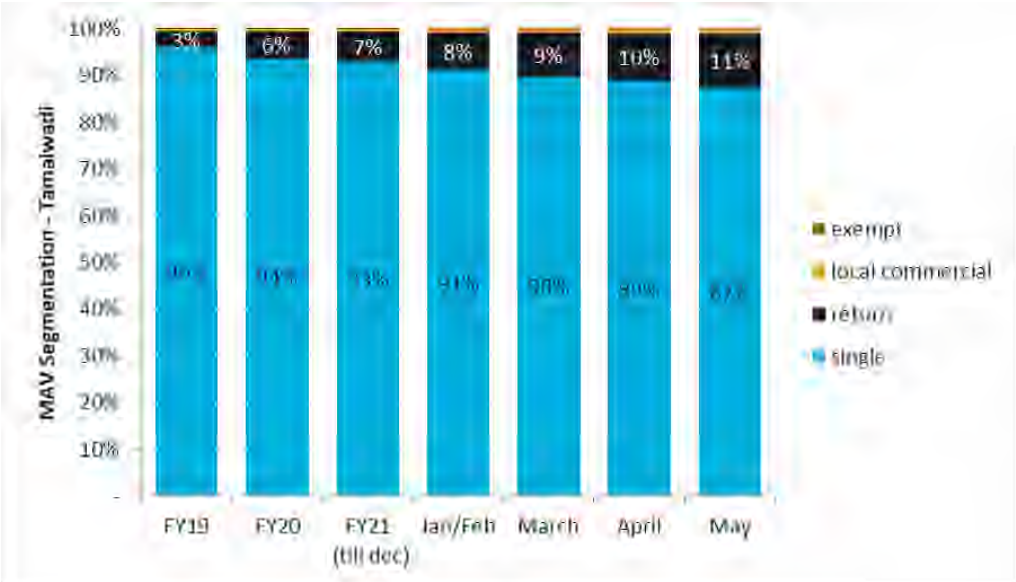
Figure 3.12 CJV toll segmentation - Tamalwadi



Source: Steer analysis of the Client data

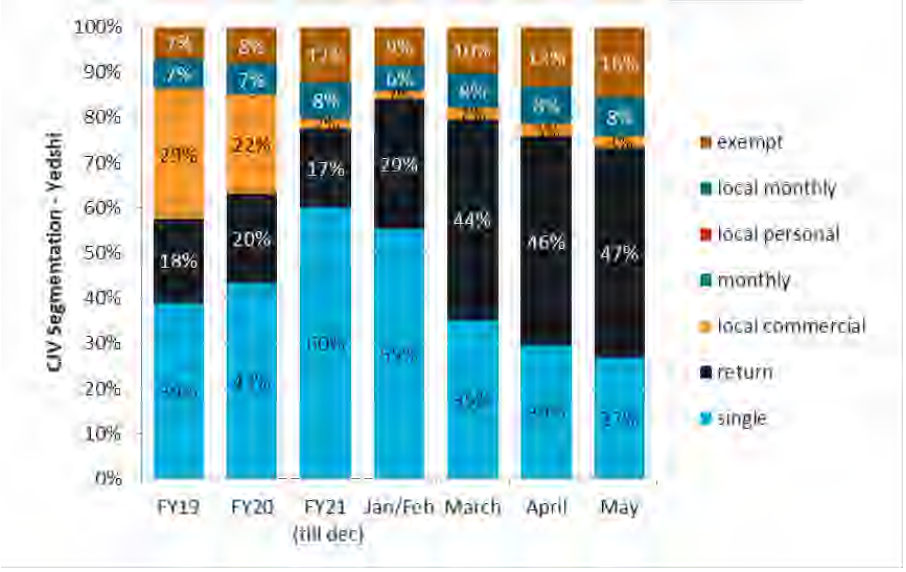
3.16 CJV exemptions grew from 6% to 10% from FY21 to May 2021 which can be attributed to the fact that the Assets saw a drop in long-distance traffic because of Covid19 related lockdowns as well as state border closure of Maharashtra and hence, mostly local traffic was plying on the Assets. Moreover, the increase in government-exempted vehicles due to Covid19 related movements also led to an increase in exemptions.

Figure 3.13 MAV toll segmentation - Tamalwadi



Source: Steer analysis of the Client data

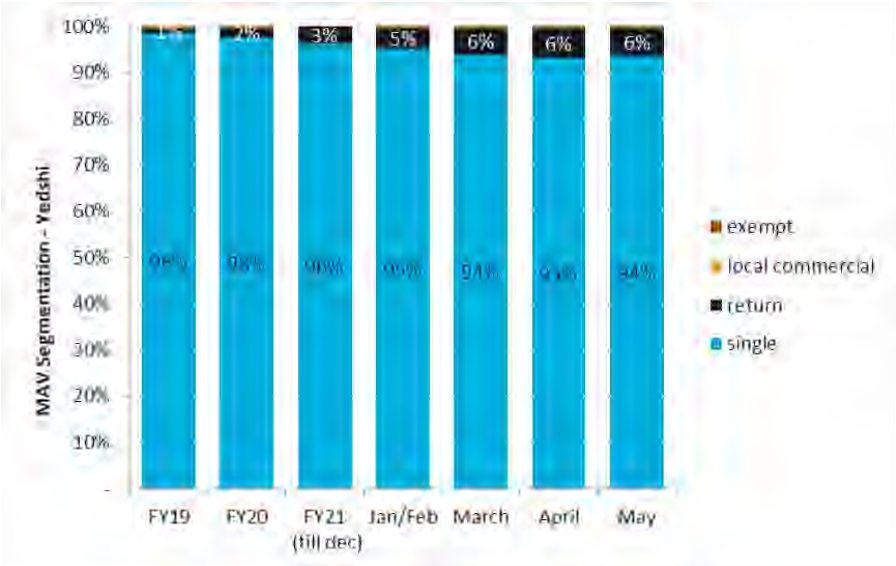
Figure 3.14 CJV toll segmentation -Yedeshi



Source: Steer analysis of the Client data

3.17 CJV exemptions grew from ~12% in FY21 to 16% in May 2021. The high exemption shares as compared to Tamalwadi is due to Yedeshi's higher dependence on Solapur for government, medical, and emergency needs being district headquarter. Moreover, Asset saw a drop in long-distance traffic because of Covid19 related lockdowns as well as state border closure of Maharashtra and hence, mostly local traffic was plying on the Asset.

Figure 3.15 MAV toll segmentation - Yedeshi



Source: Steer analysis of the Client data

3.18 Below charts, for toll plazas Pargaon, Padalsingi and Maliwadi, are for the YA Asset.

3.19 For CJVs, Pargaon and Maliwadi witness similar trend where share of single tickets is replaced with return tickets. In FY19, singles tickets were around 44% and 37% respectively and by May FY2022, it was decreased to 39% and 31%. On the other hand, share of return rose during the same period from 31% to 49% and from 46% to 52% respectively. This shift can be attributed

to gradual implementation of FASTag norms from 2019. March FY21 onwards single trips have decease with subsequent increase in return trips with increase FASTag compliance.

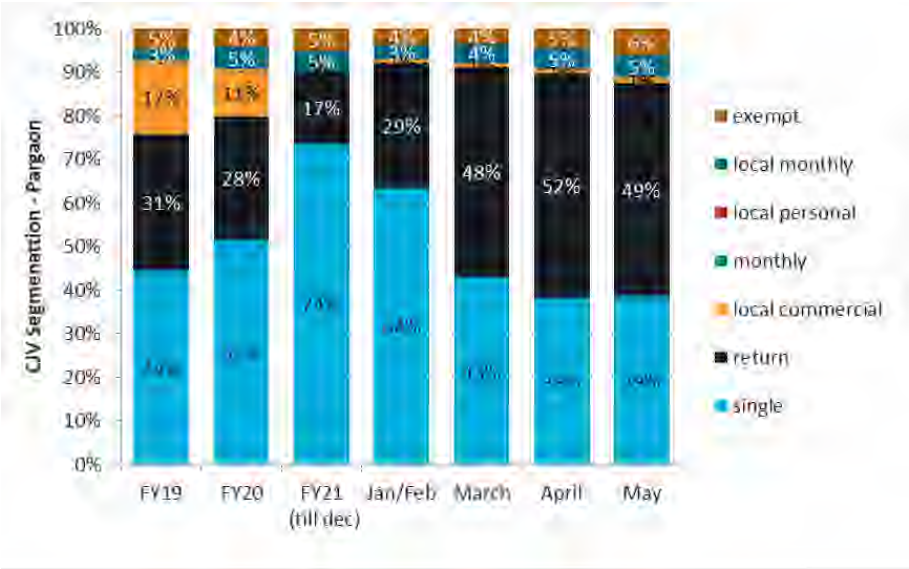
3.20 Padalsingi witnessed slight rise in the single tickets from 26% to 29% while a significant rise in return tickets from 25% to 49%. This difference in trend is possible as Padalsingi had highest share of local commercial trips, across all toll plazas, before COD was achieved. Post-COD share of local commercial reduced from 38% in FY19 to around 2% in May FY22.

3.21 CJV exemptions grew slightly FY21 to May 2021 on the section which can be attributed to the fact that the Asset saw a drop in long-distance traffic because of Covid19 related lockdowns as well as state border closure of Maharashtra and hence, mostly local traffic was plying on the Asset in addition to the increased government exempted vehicle movement.

3.22 Trends for MAVs was similar across these three toll plazas where share of single tickets slightly reduced between FY19 and May FY22, with subsequent rise in share of return tickets. The increase in Return tickets from FY20 to May 2022 is due to implementation of FASTag, allowing trucks to avail return-journey discounts.

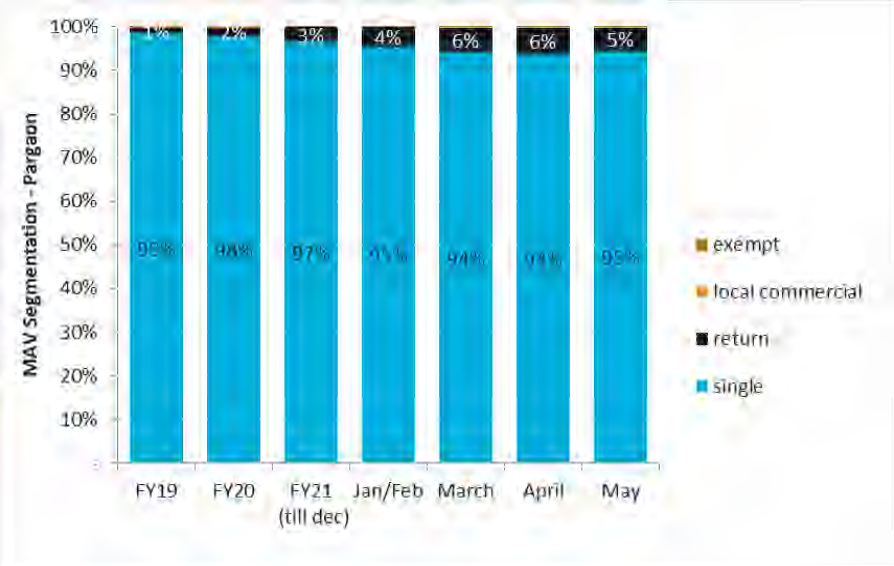
3.23 CJV and MAV segmentation for Pargaon plaza is presented below:

Figure 3.16 CJV toll segmentation - Pargaon



Source: Steer analysis of the Client data

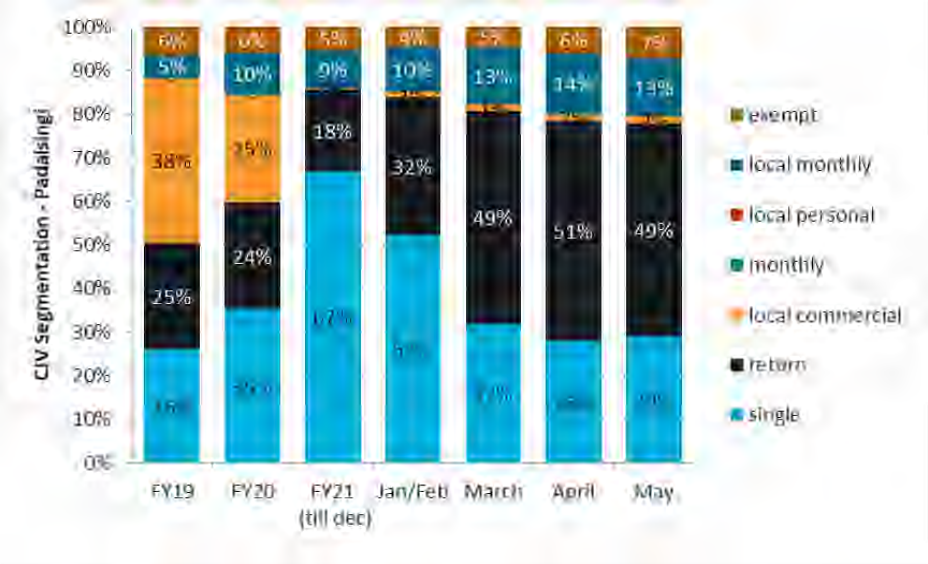
Figure 3.17 MAV toll segmentation - Pargaon



Source: Steer analysis of the Client data

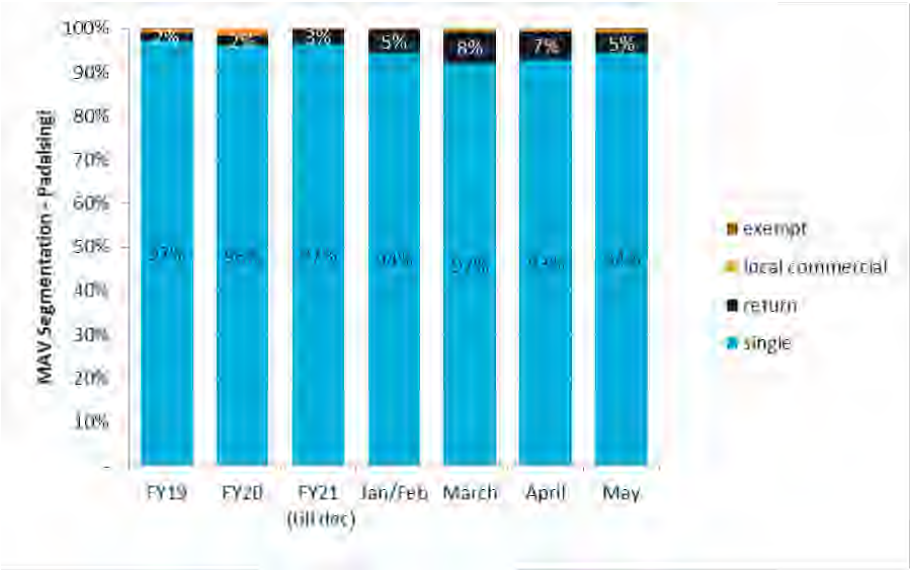
3.24 CJV and MAV segmentation for Padalsingi plaza is presented below

Figure 3.18 CJV toll segmentation - Padalsingi



Source: Steer analysis of the Client data

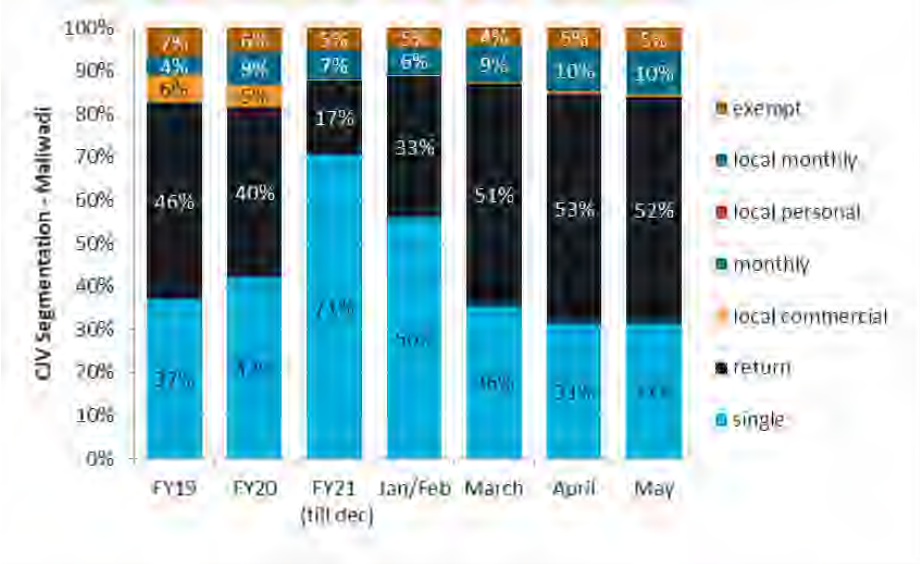
Figure 3.19 MAV toll segmentation - Padalsingi



Source: Steer analysis of the Client data

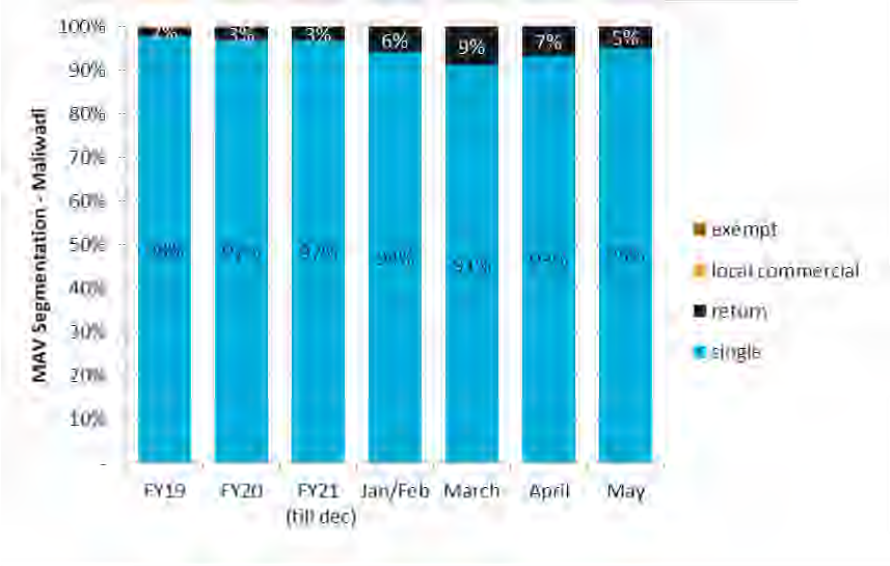
3.25 CJV and MAV segmentation for Maliwadi plaza is presented below

Figure 3.20 CJV toll segmentation - Maliwadi



Source: Steer analysis of the Client data

Figure 3.21 MAV toll segmentation - Maliwadi



Source: Steer analysis of the Client data

Data Collection exercise

3.26 As mentioned previously, in order to validate and inform various inputs used in our forecasting, we undertook primary data collection on the Assets, comprising the surveys listed in the table below. OD survey data was collected on behalf of the Client, TVC surveys were commissioned by Steer with a third party. OD data collection typically involves manual data entry by enumerators based on oral surveys with road users crossing toll plazas, which Steer also commissioned with a third party. TVC data collection involves video-graphic capture of traffic passing crossing the toll plazas, followed by manual counting.

Table 3.15: Data collection schedule

Toll Plaza	7-day videography-based TVC			1-day OD survey	
	Start date	**End date**	**Time (hrs)**	**Start date**	**Start time**
Tamalwadi	21 June 2021	27 June 2021	0000 -2359	25 June 2021	26 June 2021
Yedeshi	21 June 2021	27 June 2021	0000 -2359	23 June 2021	24 June 2021
Pargaon	21 June 2021	27 June 2021	0000 -2359		
Padalsingi	21 June 2021	27 June 2021	0000 -2359	23 June 2021	24 June 2021
Maliwadi	21 June 2021	27 June 2021	0000 -2359	21 June 2021	22 June 2021

Source: Steer

3.27 It should be noted that, in our experience, traffic on national highways shows variation across the week due to the economic activities surrounding each road. To derive a representative TVC count considering daily variation, three-day to seven-day traffic counts are generally recommended, and hence, to fully understand the impact of this weekly fluctuation on the Assets, we collected seven-day counts at each toll plaza.

Key findings of the TVC data analysis

WADT estimates

3.28 Taking a simple average of the seven-day TVC counts, we obtained the following weekly average daily traffic (WADT) for each toll plaza. This WADT excludes non-tollable vehicle such as tractors, two-wheelers, bullock-carts, etc., but includes officially exempt vehicles such as police cars, ambulances, emergency response vehicle, government vehicle and other vehicle types officially allowed as 'exempted' under the concession agreement.

3.29 The TVC data is directly used for base year AADT and splits between vehicle types, in cases where TMS is not available. In cases where TMS is the main source of historical data, just like our Assets, the TVC data is used to validate TMS data and estimate the unreported violations. Additionally, TVC counts are also used to identify traffic on alternates, feeders, and diversions as well as study the daily and hourly variation on the Assets.

3.30 During the site visits, our team ensures that the cameras are located appropriately to capture tollable traffic. Additionally, emphasis is laid on positioning camera at such a location that the traffic from local leakages or bypass is also captured, if any. In order to check the reliance of the TVC data, several checks are applied before using it in our analysis. Directional counts are verified by matching the sum of both the directions with the total counts.

Figure 3.22: TVC camera installed at the Assets

Source: Steer Site Visits

Table 3.16: WADT at Assets

Toll Plaza	CJV	Mini LCV	LCV	Bus	2 Axle	3 Axle	MAV	Total
Tamalwadi	4,451	784	566	469	605	766	1,101	8,741
Yedeshi	2,982	510	485	152	538	801	1,470	6,938
Pargaon	1,857	363	398	120	493	768	1,468	5,468
Padalsingi	4,657	861	609	388	574	857	1,553	9,498
Maliwadi	3,647	561	404	272	374	618	1,177	7,053

Source: Steer analysis of TVC data

TVC (Total Volume Count) v/s TMS (Traffic Management System) v/s Schedule-N

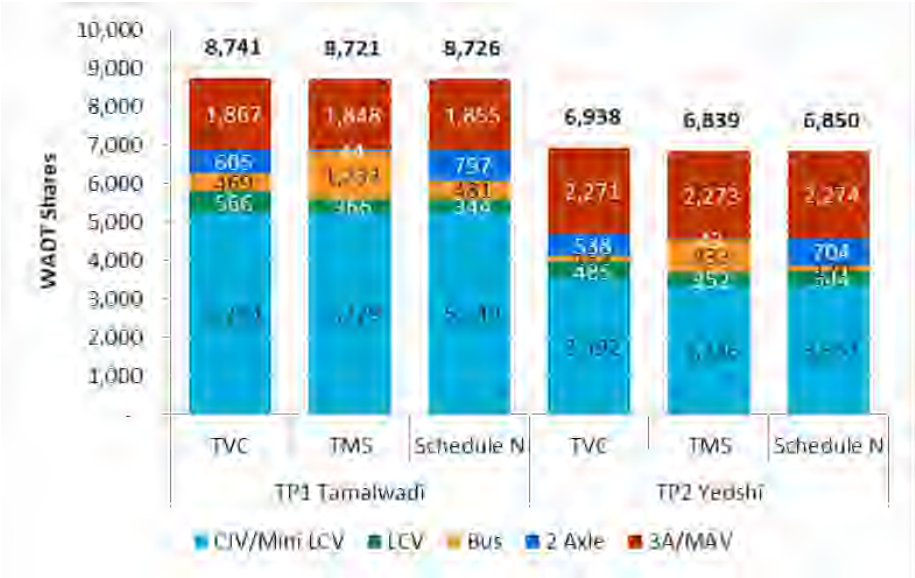
3.31 The below analysis compares the three sources of data:

- Independent 7-day video-based counts (TVC)
- Toll Plaza data (TMS)
- Schedule N (reported to NHAI by Client on a weekly basis)

3.32 This analysis is undertaken to verify independently the data being reported by toll plaza. It is a key step in our analysis to validate the traffic that the toll plaza is recording and its accuracy. Since the onset of FASTag there have been classification issues within the TMS due to nature of the tag issued to various vehicle types, hence Schedule-N data is also being used to validate the reporting of the data by the respective toll plaza.

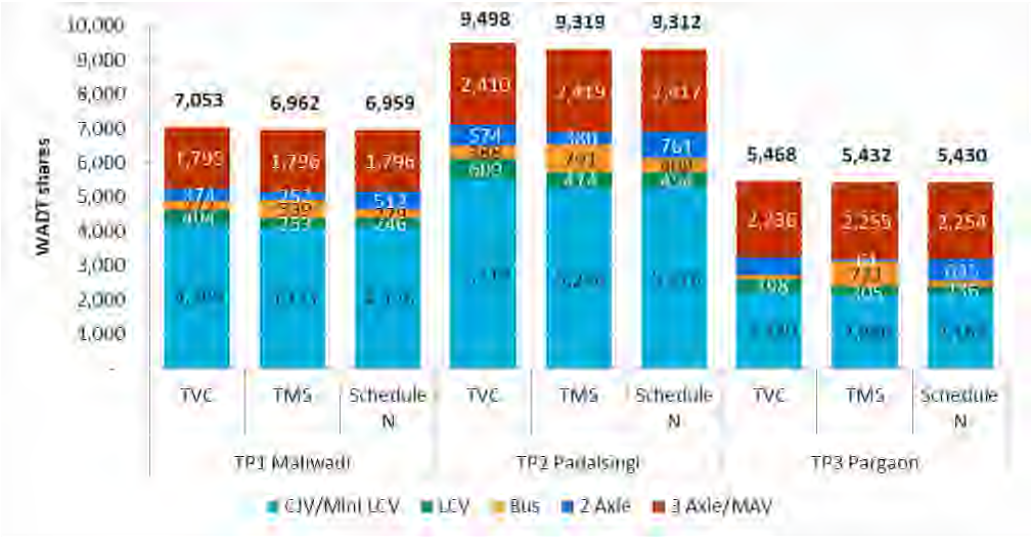
3.33 The figures below show the comparison between the daily traffic observed by TVC and TMS for the toll plazas.

Figure 3.23 Vehicle share comparison: Solapur – Yedeshi section



Source: Steer analysis of the Client data

Figure 3.24 Vehicle share comparison: Yedeshi - Aurangabad section



Source: Steer analysis of the Client data

3.34 WADT TVC is ~1% higher than TMS for all the toll plazas. The number of CJV and 3A+MAV counted across the three data sources are consistent. However, there are visible variations

observed between the 2A, Bus, and LCV category. As discussed, the 2A and Bus category is tolled together.

3.35 Further, the LCV and 2A category are visually very similar and thereby resulting in misclassification with one category being counted in another. For most LCV's and 2A trucks the only way to classify them correctly is by verifying the tonnage allowed for these vehicles to carry. With the implementation of FASTag and high level of FASTag penetration for this category the systems are now reporting the true vehicle types as they are registered. Therefore, since the total 2A+Bus+LCV volumes match between Schedule-N and TVC, Schedule-N splits are considered reasonable.

3.36 **Considering the smaller variation between the TVC and TMS data for the largest revenue generators-CJV and 3A+MAVs, and an overall good fit in the traffic volumes, TVC-TMS analysis gives us the confidence that the base year traffic calculated using the Client data forms a reliable base year traffic estimate**.

Key findings of origin-destination (OD) analysis

Overview

3.37 OD surveys were conducted using roadside interviews for 24 hours at each toll location, typically starting at 8 AM and finishing at same time on the following day. Each toll lane had an interviewer filling OD records and a supervisor monitoring to minimise errors in data collected.

3.38 A total of 8,639 and 7,964 samples were collected on the SY and YA respectively which involved segregation of data into vehicle types, origin area, origin zone, destination area, destination zones, commodity being carried, total load, and frequency of travel. The zones were further segmented into Internal, Rest of State, and External zones. The zones were also used to calculate the trip distances of the traffic plying on the Assets.

3.39 Before using the OD data for final analysis, it is first cleaned and checks are applied. These checks include verifying that the zones are physically apart as well as these zones are located within a reasonable distance and boundary. Reliability checks are also used which confirms that the sample rates are 30-50% for passenger and 50-70% for goods. Sanity checks includes verifying the meaningfulness of origins and destinations directions as well as establishing that the share of empty vehicles is in line with the site visit observations (not more than 50% in any case). The final check includes matching the OD numbers with the TVC counts of the particular day and substantiating that the OD numbers aren't greater than the TVC counts.

3.40 OD analysis enables the understanding of the nature of traffic movement on the Assets. We have analysed the regional drivers of demand based on the following analysis:

- Zonal influence
- Commodity distribution
- Top OD pairs
- Trip length distribution

3.41 While zonal analysis and the list of top OD pairs help to understand 'where' people and goods travel, commodity distribution sheds light on 'what' goods get transported on this Assets. Trip length distribution shows 'how far' vehicles and people travel, and goods get transported. This set of analysis is used to estimate key drivers of traffic and aid in making informed forecasting assumptions related to traffic demand elasticities, growth drivers and exogenous impacts.

Sample rates

3.42 Sample rates help understand the reliability of OD data. They are calculated by dividing OD samples by the TVC count observed on the same date for each vehicle category at the toll plaza. The table below presents the sample rates for key vehicle type aggregations at the toll plaza. We believe that the sample rates of the OD data are reasonable for the analysis required.

Table 3.17: Sample rates for OD data

Vehicle type	Tamalwadi	Yedeshi	Padalsingi	Maliwadi
CJV	47%	30%	26%	26%
MLCV	39%	45%	26%	49%
LCV	37%	53%	41%	51%
2A	81%	79%	98%	90%
3A	65%	94%	80%	83%
MAV	78%	87%	81%	89%

Source: Steer analysis of OD data

3.43 Sample rates achieved on goods vehicles (LCV and above) are very good and more than 65-70% in all categories. CJV users are traditionally difficult to interview primarily because their waiting times have reduced significantly due to FASTag implementation and the reluctance to stop and answer questions due to Covid19 related concerns.

Zone Categories

3.44 To facilitate better interpretation of key regional drivers of traffic as determined by their OD zones, and influenced by various towns, cities, states, and regions in the vicinity of the Assets, we have aggregated zonal data as described in the table below. The methodology behind this zone aggregation may vary as per the characteristics displayed by the Assets being studied.

Table 3.18: Zone aggregations for zonal influence analysis

Aggregate Zone	Description
Local	Local zones are those that fall on or very close to the Assets.
IAOI	IAOI zones are the locations which generate traffic and lie within approximately 75-150 km distance from the Assets.
Rest of State	Rest of the cities/Districts in the state that Assets lies in (other than Local/IAOI)
Madhya Pradesh	Madhya Pradesh
Karnataka	Karnataka
North India	Uttarakhand, Haryana, Punjab, Jammu and Kashmir, Delhi NCT
South India	Andhra Pradesh, Kerala, Tamil Nadu, Telangana
East India	Arunachal Pradesh, Assam, Bihar, Jharkhand, Manipur, Meghalaya, Mizoram, Nagaland, Odisha, Tripura, Sikkim, Chhattisgarh
West India	Gujarat, Rajasthan
Outside India	Nepal, Bangladesh, Bhutan

Source: Steer analysis

Zonal influence

3.45 The zonal influence is the contribution of the zone or the zonal aggregation to trips by a vehicle type. This section presents the zonal influence1 at the toll plaza for the Assets, based on zonal aggregation listed in the previous sub-section. it should be noted that zonal influence is analysed on trip ends and not trips.

3.46 Trend of zonal influence across the Assets is symmetrical where CJVs and Buses primarily ply along the Assets as the influence of local area is between 70%-80% for CJVs and Buses. This indicates that most of the movement of CJVs and LCVs is along the Assets. Second biggest zonal influence is Rest of State which is ranging between 15%-25%. Through this data, it can be concluded that most of CJV and Bus trips are either originating or destined withing the state.

3.47 Though LCVs also have similar trend but the concentration of trips to the local area is lesser. In this case, other zones that have an influence on the trips include Karnataka (~5%) and south India (5%-10%). The zonal influence of Rest of State is similar to the trend observed for CJVs and buses. Therefore, zonal influence of local has been reduced with other nearby zones.

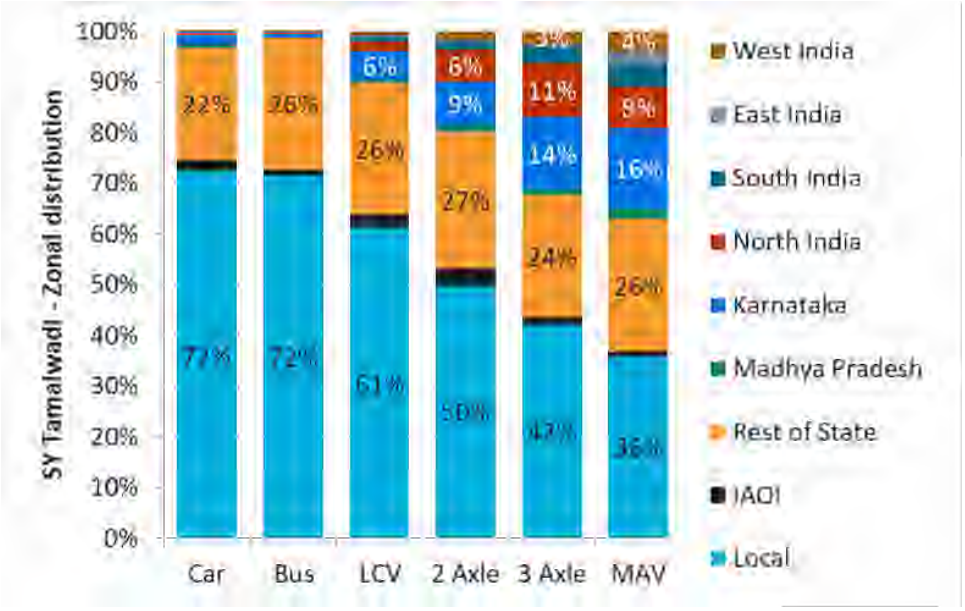
3.48 For trucks, the zonal influence for Tamalwadi was different from other three toll plazas. One of the reason for this difference in trend includes closeness of Tamalwadi to Solapur, which has presence of manufacturing units and tourist locations. Additionally, as discussed in Chapter 2, the long distance traffic moving between Dhule/north and Hyderabad/south exits at Tuljapur bypassing Tamalwadi plaza therefore decreased zonal influence of these movements.

3.49 For 2A, local area exhibits the largest segment of zonal influence, however the zonal influence of Local comes down to ~35% (except Tamalwadi where local influences about half of the total trips). Except Tamalwadi, for rest of the zones, 2A trucks have a mix of zonal influence with around 15%-20% of trips to/from south India, ~15% trips to/from West India and ~7% trips to north India. Among states, Karnataka was the biggest zonal influence with around 11% trips to/from the State. Tamalwadi had concentrated zonal influence with key focus area being rest of the state (~25%), Karnataka (~10%) and north India (~5%).

3.50 For 3A and MAV, local and south India witnessed similar zonal influence (~25%) while other key zones included West India (20%-25%), Karnataka (10%-15%), rest of the state (10%-15%) and north India (5%-10%). For Tamalwadi, local (~35%) and rest of the state (~25%) was a bigger share than other toll plazas. Other major zones were Karnataka (~15%), north India (~10%) and west India (~5%).

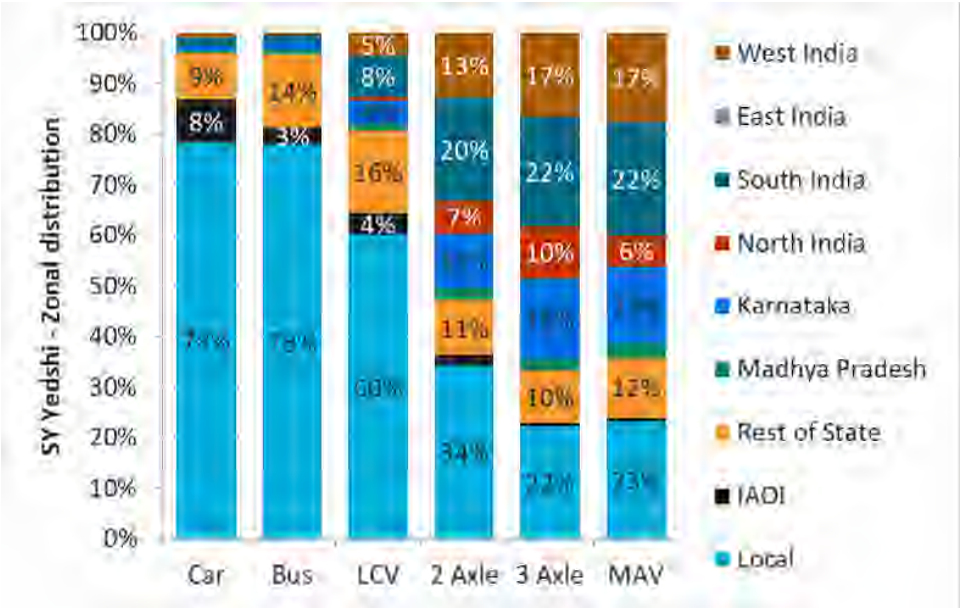
[1] For example, if out of 100 trips at a toll plaza on an Assets, 10 trips are between Hyderabad and Delhi and 90 trips are between Hyderabad and Chennai, then zonal influence of Hyderabad would be 50% since one end of all trips are at Hyderabad. Likewise, zonal influence of Delhi and Chennai would be 5% and 45%, respectively.

Figure 3.25 Zonal distribution - Tamalwadi



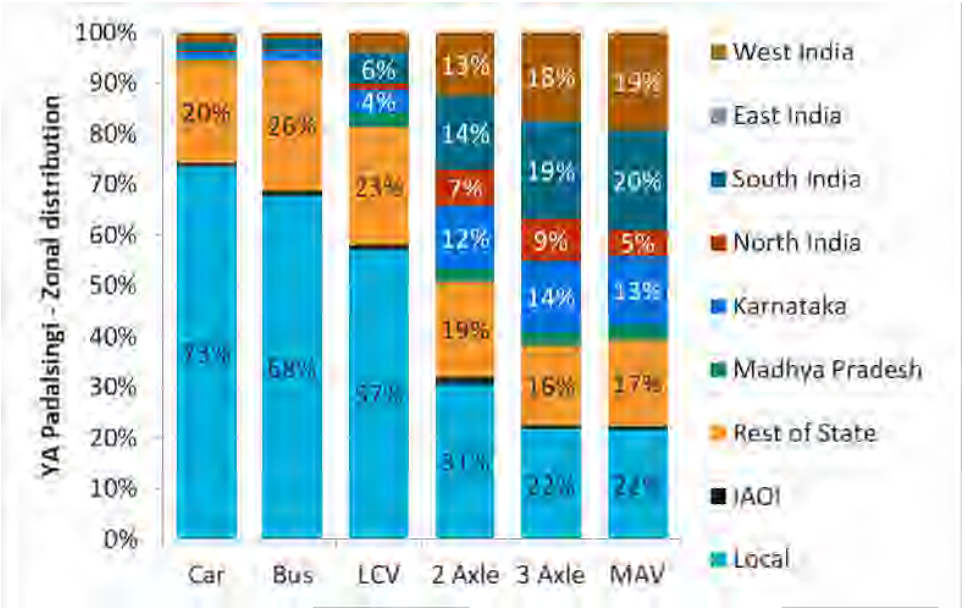
Source: Steer analysis of the Client data

Figure 3.26 Zonal distribution - Yedeshi



Source: Steer analysis of the Client data

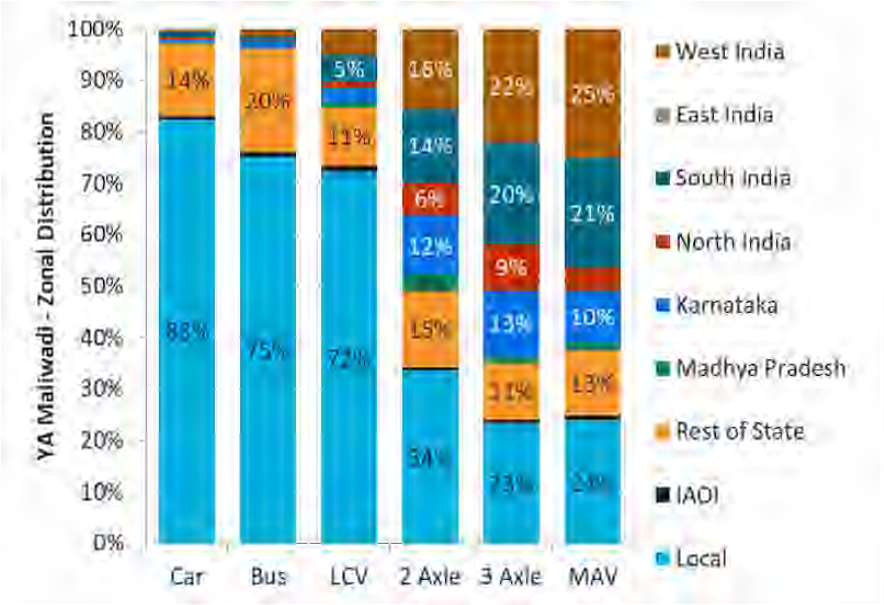
Figure 3.27 Zonal distribution - Padalsingi



Source: Steer analysis of the Client data

3.51 As discussed above, except Tamalwadi, the other four plazas cater to the long-distance movement between Surat/north and Hyderabad/south. Due to this movement, these plazas observe considerable zonal influence of zones in West India (Gujarat, Western Rajasthan), south India (Andhra Pradesh, Kerala, Tamil Nadu, Telangana), and Karnataka. These shares are consistent for 3A/MAVs across Yedeshi, Padalsingi, and Pargaon. For CJV/Bus/LCV/2As, share of local zones increases at Padalsingi as it is close to the commercial centre of Beed which induces a slightly higher local nature of traffic as compared to the other two mentioned plazas.

Figure 3.28 Zonal distribution - Maliwadi



Source: Steer analysis of the Client data

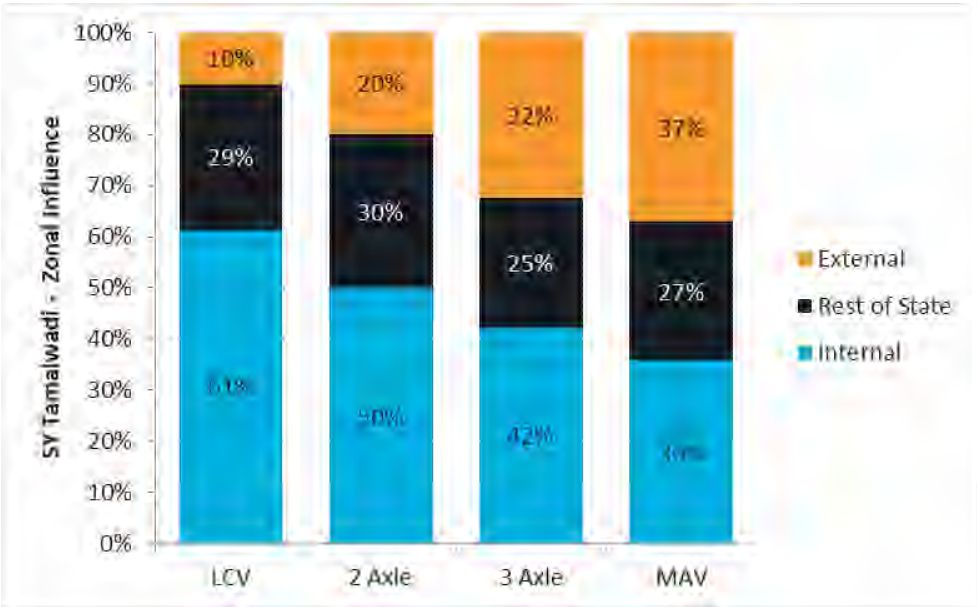
Internal External analysis

3.52 Internal-External analysis helps in identifying the trips which have both an origin and destination on or near the Assets i.e. local/IAOI zones (Internal-Internal or I-I), any one end on the Assets (Internal-External or I-E), or neither end on the Assets i.e. through trips (External-External or E-E). RoS here represents areas within the state which are neither local nor IAOI. 'Internal' zones are those that were analysed as 'local' and 'IAOI' in the zonal influence analysis, i.e. lying on the Assets, while 'External' zones are areas lying outside the state.

3.53 For LCVs, trend was similar across four toll plazas where majority of the trips were Internal (60%-70%), with second zonal influence being ROS (15%-25%). External trips accounted for 15%-20% of the trips. This shows that LCV movement is primarily originating and destined within the State.

3.54 Trend of 2A, 3A and MAV is different between Tamalwadi and other toll plazas where Tamalwadi has higher percentage of zonal influence of internal and Rest of State (35%-50% for internal and 15%-30% for Rest of State). For other toll plazas, 60%-65% of the trips are originating or destined from areas outside the State while internal trips are about 20%-25% of the trips.

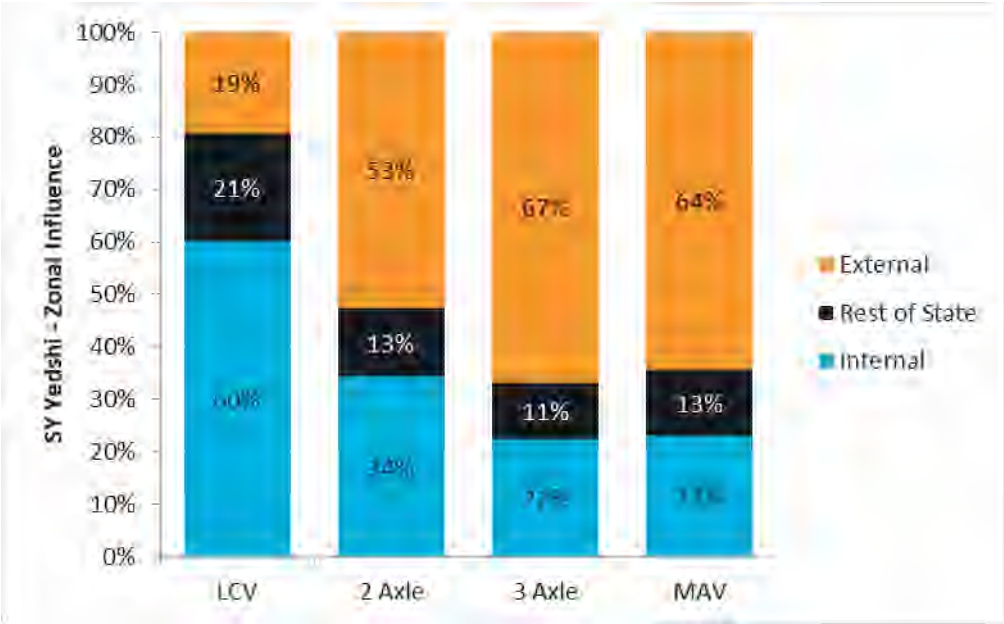
Figure 3.29 Zonal influence - Tamalwadi



Source: Steer analysis of the Client data

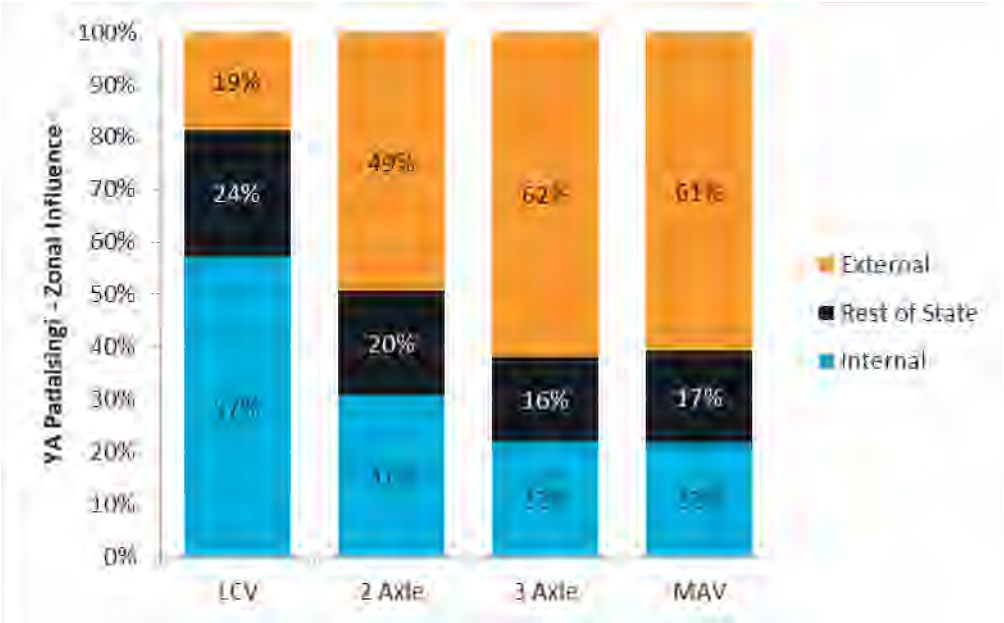
3.55 As discussed above, except Tamalwadi, the other four plazas cater to the long-distance movement between Surat/north and Hyderabad/south. Due to this movement, these plazas observe considerable zonal influence of zones in West India (Gujarat, Western Rajasthan), south India (Andhra Pradesh, Kerala, Tamil Nadu, Telangana), and Karnataka. These shares are consistent for 3A/MAVs across Yedeshi, Padalsingi, and Pargaon. These high zonal shares of other states are the reason behind high External shares at Yedeshi, Padalsingi, and Pargaon as compared to Tamalwadi.

Figure 3.30 Zonal influence - Yedeshi



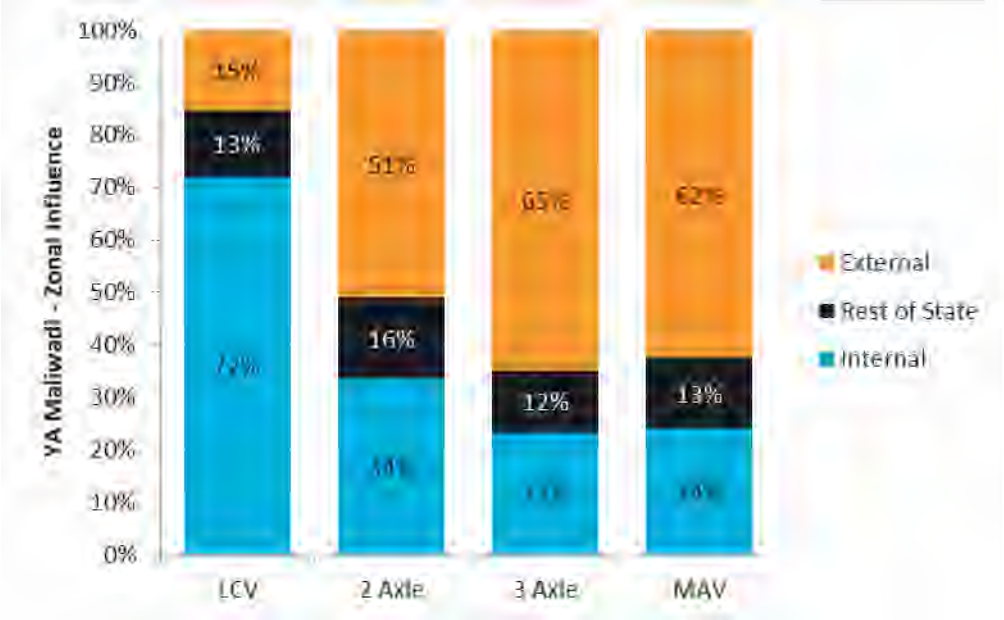
Source: Steer analysis of the Client data

Figure 3.31 Zonal influence - Padalsingi



Source: Steer analysis of the Client data

Figure 3.32 Zonal influence - Maliwadi



Source: Steer analysis of the Client data

Commodity distribution

3.56 We have grouped various commodities into aggregate categories for ease of interpretation, as shown in the table below. The charts in the following sub-section present information in terms of aggregate commodity categories.

Table 3.19: Aggregate commodity categories

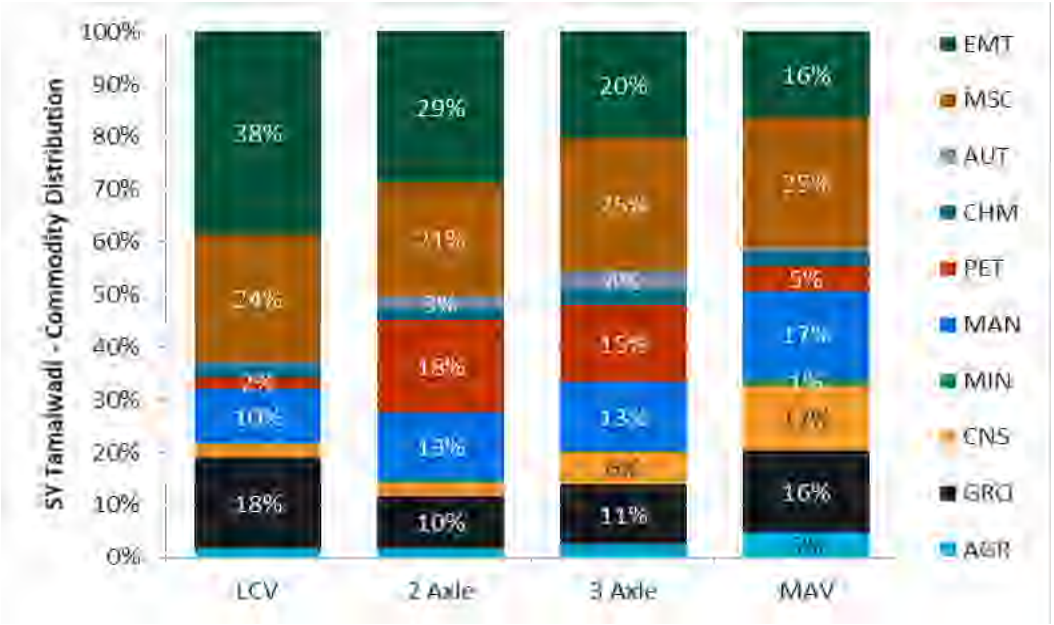
Commodity Description	Code	Combined codes used for charts
Agricultural Products / Cash crops (Wheat, Rice, Sugar cane, Maize etc.)	AGR	AGR
Perishable Items (Fruits, vegetables, milk, meat, fish etc.)	PER	
Cattle Food / Livestock (sheep, goat, cow, cattle food etc)	LIV	
Building Material / Construction (Cement, Lime, Brick etc)	CNS	CNS
Container	CTR	CTR
Empty	EMT	EMT
Groceries / Food items (Soap, Salt, Sugar, Pulses, Spices, Biscuits, bread, cool drinks, beer etc.)	GRO	GRO
Machinery / Spare parts	MAC	MAC
Steel / Metal (Iron, steel etc)	STL	MAN
Chemicals / Fertilizers (Acids, Fertilizers etc.)	CHM	
Manufacturing (Electronic items, Medicine, Leather, Wine, Rubber/ Tyre, Plastics, Cloth, Paper etc.)	MAN	
Automobiles (Finished products)	AUT	
Basic / Fabricated Metals (steel, iron)	MET	
Raw Wood, Cork & Wood Products, Fern	WUD	
Mining Minerals (Coal, Gypsum, Cobalt etc.)	MIN	MIN

Commodity Description	Code	Combined codes used for charts
Miscellaneous (Parcel, Courier, Household items etc.)	MSC	MSC
Passengers	PAS	
Petroleum Products (Oil, LPG, CNG, etc.)	PET	PET
Sand	SND	SND
Stone (Kota stone, marble, Granite, Aggregate stone etc.)	STN	STN
Cement	CMT	CMT

Source: Steer Analysis

3.57 The following figures present the commodity distribution for goods vehicles at the plaza level.

Figure 3.33 Commodity distribution - Tamalwadi



Source: Steer analysis of the Client data

3.58 At Tamalwadi, the goods vehicles majorly carry miscellaneous goods comprising of parcels and couriers. These goods are primarily being carried between Solapur/southern states and warehouses in Latur, Osmanabad, Jalna, Tuljapur or further north in Delhi NCR. The petroleum related commodities are influenced by the IOCL storage depot at Pakni in Solapur. The Assets being located in vicinity of numerous industrial areas, comprising of all, small, medium, and large-scale industries, the commodity distribution includes a considerable share of Manufacturing goods comprising of electronics, plastic goods, textile etc.

Table 3.20: Direction wise commodity distribution – SY Tamalwadi

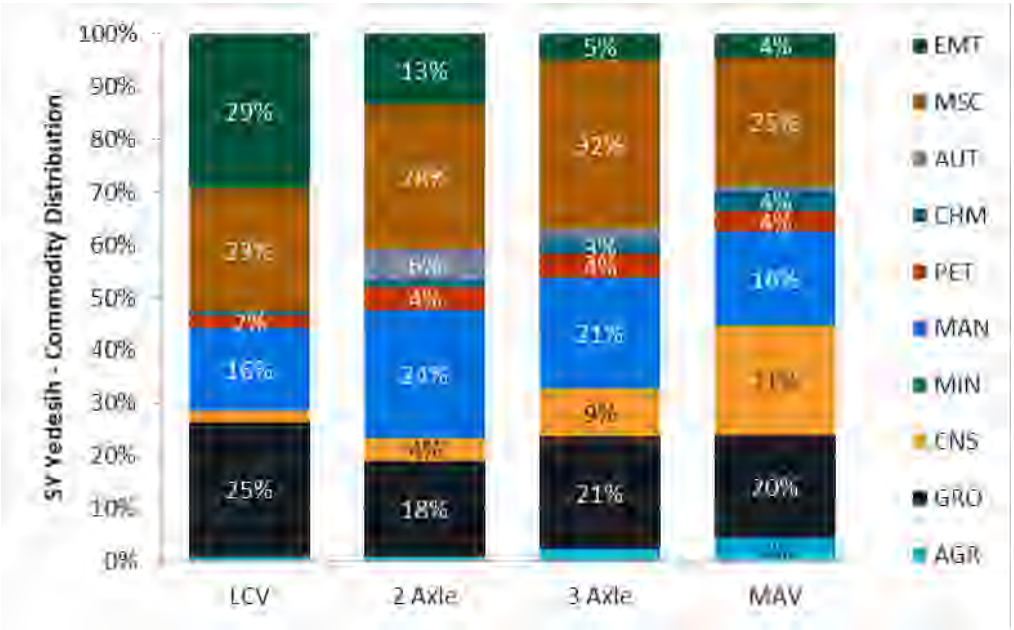
Solapur to Aurangabad				Commodity	Aurangabad to Solapur			
MAV	3 Axle	2 Axle	LCV		LCV	2 Axle	3 Axle	MAV
3.5%	2.8%	-	2.4%	Agriculture	0.8%	2.8%	2.1%	5.9%
14.5%	11.6%	10.6%	11.8%	Groceries	23.9%	9.8%	11.3%	16.8%

Solapur to Aurangabad				Commodity	Aurangabad to Solapur			
14.2%	8.3%	3.3%	2.1%	Construction	2.7%	1.7%	4.6%	10.8%
0.6%	-	1.7%	0.3%	Mineral	-	-	0.4%	2.2%
12.1%	8.8%	13.9%	10.8%	Manufacturing	9.8%	11.9%	16.7%	20.5%
6.5%	23.1%	27.8%	1.4%	Petroleum	3.0%	11.5%	7.1%	3.2%
3.5%	3.2%	1.7%	2.4%	Chemicals	1.9%	1.7%	2.5%	1.1%
1.2%	3.2%	5.0%	0.7%	Automobile	0.8%	1.4%	3.8%	1.1%
22.1%	19.0%	10.6%	21.3%	Miscellaneous	27.7%	28.3%	31.0%	27.0%
21.8%	19.9%	25.6%	46.7%	Empty	29.5%	30.8%	20.5%	11.4%

Source: Steer Analysis of OD data

3.59 The directional commodity analysis differs from the total commodity analysis as the share of petroleum related commodities increases in the direction towards Aurangabad as the trucks get loaded at IOCL depot at Solapur and move towards their destination states in the north. The share of miscellaneous goods increases towards Solapur as the trucks get loaded at warehouse in Latur, Osmanabad, Jalna, Tuljapur and move towards destination states in the south.

Figure 3.34 Commodity distribution - Yedeshi



Source: Steer analysis of the Client data

3.60 At Yedeshi, the goods vehicles majorly carry miscellaneous goods comprising of parcels and couriers. These goods are primarily being carried from warehouses in Hyderabad, Bangalore, Aurangabad, Ahmedabad, Rajasthan, Punjab, Delhi NCR. The Assets being located in vicinity of numerous industrial areas, comprising of all, small, medium, and large-scale industries, the commodity distribution includes a considerable share of Manufacturing goods comprising of electronics, plastic goods, textile etc. Moreover, this plaza becomes a key connector in transportation of manufacturing goods traversing the north – south movement. The

construction commodities include Cement carried from plants in Hyderabad and Solapur as well as construction powder being carried from parts of Karnataka, Gujarat, and Maharashtra.

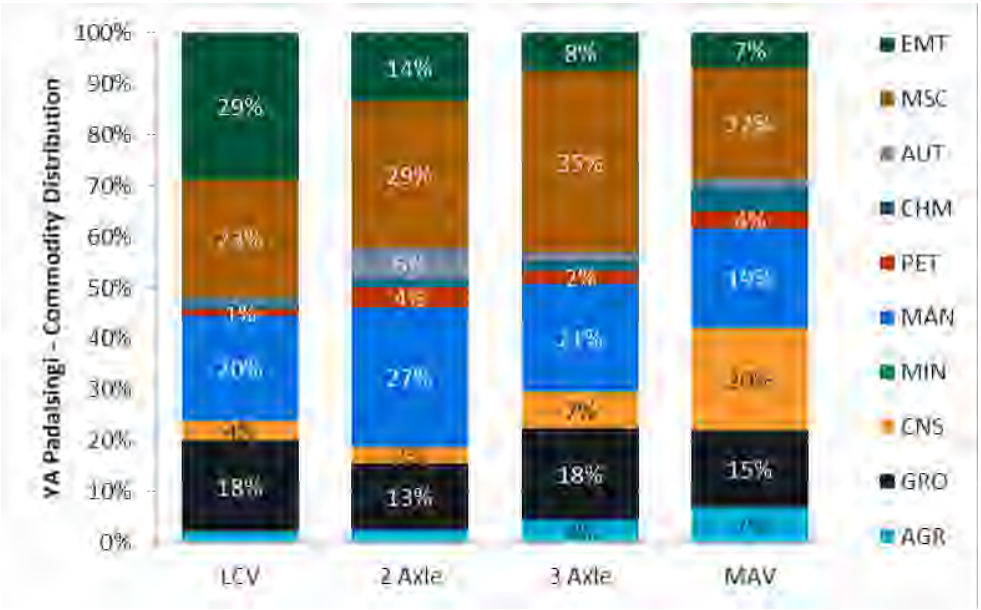
Table 3.21: Direction wise commodity distribution – SY Yedeshi

Solapur to Aurangabad				Commodity	Aurangabad to Solapur			
MAV	3 Axle	2 Axle	LCV		LCV	2 Axle	3 Axle	MAV
4.4%	1.4%	1.0%	0.7%	Agriculture	1.4%	1.1%	3.1%	4.4%
18.4%	19.3%	13.9%	23.0%	Groceries	28.5%	21.3%	23.2%	20.5%
25.5%	12.9%	6.7%	3.2%	Construction	0.9%	2.2%	5.6%	16.7%
0.5%	-	-	-	Mineral	-	-	0.2%	0.1%
14.5%	17.6%	21.6%	10.2%	Manufacturing	22.9%	26.5%	23.9%	20.1%
3.9%	4.7%	6.3%	2.5%	Petroleum	2.3%	3.0%	4.2%	3.8%
2.7%	2.8%	1.9%	0.7%	Chemicals	0.5%	0.7%	2.3%	4.7%
0.3%	2.5%	4.8%	-	Automobile	-	6.3%	1.9%	1.4%
26.4%	32.8%	28.8%	24.4%	Miscellaneous	22.0%	26.5%	31.5%	23.3%
3.4%	6.1%	14.9%	35.3%	Empty	21.5%	12.3%	4.0%	5.1%

Source: Steer Analysis of OD data

3.61 The directional commodity analysis differs from the total commodity analysis as the share of construction related commodities increases in the direction towards Aurangabad as the trucks get loaded at plants at Hyderabad and Solapur and move towards their destination states in the north. The share of miscellaneous goods increases towards Solapur as the trucks get loaded at warehouse in Latur, Osmanabad, Jalna, Tuljapur and move towards destination states in the south. Similarly, the share of manufacturing goods increases towards Solapur as the trucks get loaded at industrial centres of Gujarat, Delhi NCR, Aurangabad and move towards Solapur and southern zones.

Figure 3.35 Commodity distribution - Padalsingi



Source: Steer analysis of the Client data

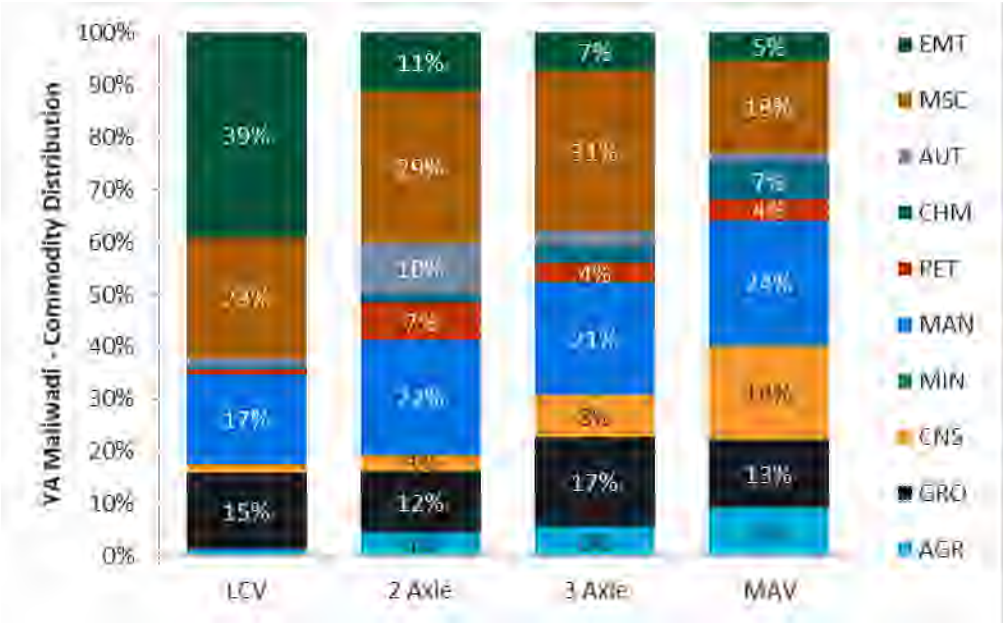
3.62 At Padalsingi and Maliwadi, the goods vehicles majorly carry miscellaneous goods comprising of parcels and couriers. These goods are primarily being carried from warehouses in Hyderabad, Bangalore, Aurangabad, Ahmedabad, Rajasthan, Punjab, Delhi NCR. The Assets being located in vicinity of numerous industrial areas, comprising of all, small, medium, and large-scale industries, the commodity distribution includes a considerable share of Manufacturing goods comprising of electronics, plastic goods, textile etc. Moreover, this plaza becomes a key connector in transportation of manufacturing goods traversing the north – south movement. The construction commodities include Cement being carried from plants in Hyderabad and Solapur as well as construction powder being carried from parts of Karnataka, Gujarat, and Maharashtra.

Table 3.22: Direction wise commodity distribution – YA Padalsingi

Solapur to Aurangabad				Commodity	Aurangabad to Solapur			
MAV	3 Axle	2 Axle	LCV		LCV	2 Axle	3 Axle	MAV
12.4%	8.1%	4.1%	3.3%	Agriculture	0.8%	1.2%	1.9%	3.4%
13.4%	19.8%	14.3%	24.3%	Groceries	11.8%	12.3%	17.0%	16.1%
26.9%	11.0%	4.1%	4.1%	Construction	3.7%	2.1%	4.5%	15.9%
0.2%	-	-	-	Mineral	-	0.3%	0.2%	0.1%
14.5%	13.9%	22.9%	14.4%	Manufacturing	26.4%	30.9%	25.8%	22.3%
4.7%	2.9%	5.3%	2.1%	Petroleum	0.8%	2.7%	2.2%	2.8%
4.3%	2.2%	0.4%	-	Chemicals	2.0%	2.4%	1.7%	4.6%
2.2%	1.1%	6.4%	1.6%	Automobile	0.8%	6.3%	2.2%	1.4%
13.8%	33.0%	26.3%	20.6%	Miscellaneous	25.6%	30.3%	37.1%	27.1%
7.5%	8.1%	16.2%	29.6%	Empty	28.0%	11.4%	7.4%	6.3%

Source: Steer Analysis of OD data

Figure 3.36 Commodity distribution - Maliwadi



Source: Steer analysis of the Client data

3.63 The directional commodity analysis differs from the total commodity analysis as the share of construction related commodities increases in the direction towards Aurangabad as the trucks get loaded at plants at Hyderabad and Solapur and move towards their destination states in the north. The share of miscellaneous goods increases towards Solapur as the trucks get loaded at warehouse in Latur, Osmanabad, Jalna, Tuljapur and move towards destination states in the south. Similarly, the share of manufacturing goods increases towards Solapur as the trucks get loaded at industrial centres of Gujarat, Delhi NCR, Aurangabad and move towards Solapur and southern zones.

Table 3.23: Direction wise commodity distribution – YA Maliwadi

Solapur to Aurangabad				Commodity	Aurangabad to Solapur			
MAV	3 Axle	2 Axle	LCV		LCV	2 Axle	3 Axle	MAV
13.1%	9.0%	5.3%	0.4%	Agriculture	2.1%	2.9%	2.0%	5.2%
15.3%	20.4%	14.4%	11.5%	Groceries	17.7%	7.9%	13.9%	10.6%
20.2%	7.1%	2.9%	0.8%	Construction	2.5%	3.6%	9.0%	15.7%
-	-	-	-	Mineral	-	-	-	0.6%
15.0%	18.4%	17.8%	7.8%	Manufacturing	27.0%	28.1%	24.5%	32.6%
3.2%	5.5%	6.7%	1.2%	Petroleum	0.8%	7.9%	2.0%	5.2%
5.2%	3.1%	2.4%	0.4%	Chemicals	0.4%	0.7%	3.3%	8.6%
2.6%	1.6%	5.3%	2.5%	Automobile	0.8%	16.5%	4.1%	1.0%
18.9%	25.9%	27.9%	18.9%	Miscellaneous	27.4%	30.2%	35.5%	16.5%
6.5%	9.0%	17.3%	56.6%	Empty	21.1%	2.2%	5.7%	4.0%

Source: Steer Analysis of OD data

Trip length analysis

3.64 Trip-length distribution provides the distance-based profile of various vehicle categories. This aids in validating assumptions around the share of macro-economic drivers, inputs from zonal influence and toll segmentation. For ease of interpretation, we have categorised distances into 5 groups – local (0-65km), short-distance (65-300 km), medium-distance (300-500 km), long-distance (500-1000 km) and very-long-distance (+1,000 km). The trip distances were derived as driving distances from Google Distance Matrix Tool based on zonal coordinates for OD pairs.[2]

3.65 The following table states the average trip lengths of traffic plying on the Assets across the three toll plazas.

Table 3.24: Average trip lengths

	CJV	LCV	2 Axle	3 Axle	MAV
SY – Tamalwadi	177	455	558	780	899
SY – Yedeshi	164	586	958	1,185	1,145
YA – Padalsingi	235	598	980	1,149	1,100

2 Google Distance API is a tool that is available on a chargeable basis from Google Maps Platform. Link: **https://developers.google.com/maps/documentation/distance-matrix/start**. Travel distance and time information for driving/transit under various congestion scenarios can be extracted through this tool by using macro-enabled Excel, R, etc.

	CJV	LCV	2 Axle	3 Axle	MAV
YA - Maliwadi	229	600	977	1,178	1,059

Source: Steer analysis of OD data

3.66 As described in detail, except Tamalwadi, the other four plazas also cater to the long-distance movement between Surat/north and Hyderabad/south. Due to these movements, these plazas observe considerable zonal influence of zones in West India (Gujarat, Western Rajasthan), south India (Andhra Pradesh, Kerala, Tamil Nadu, Telangana), and Karnataka. These shares are consistent for 3A/MAVs across Yedeshi, Padalsingi, and Pargaon. The trip length analysis also validates these long distance movements influencing the 4 toll plazas.

3.67 CJV, are mostly local and their trip lengths vary depending on the plaza. Trip lengths of CJV's also vary a lot due to low sample rates, as car users are generally difficult to interview. LCV trip lengths are inclined more towards short to medium distance trips with almost 70% of trips less than 500 km. However, as discussed in the commodity analysis, LCV also carry courier/parcel and other commodities which travel long distances, bringing the average overall trip lengths to closer to range of higher tonnage truck categories.

3.68 Trip length distribution for each of the plazas are presented below:

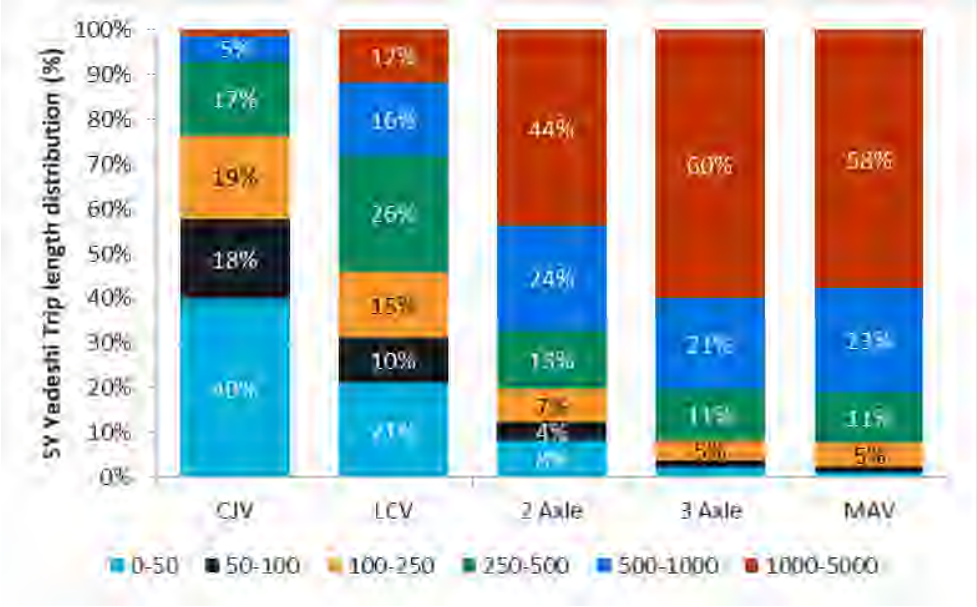
Figure 3.37 Trip length distribution - Tamalwadi

Source: Steer analysis of the Client data

3.69 On the assets, the trips less than 250-kilometre trips ply between Solapur/Aurangabad and the nearby Rest of State zones comprising of Beed, Osmanabad, Tuljapur, Latur etc.

3.70 The trips covering less than 500-kilometres are towards farther Rest of State zones of Maharashtra comprising of origins/destinations in Pune, Mumbai, Kolhapur, Jalgaon, Dhule etc. For most of these trips, one of the trip ends is in zones in the vicinity of the Assets whereas the other end is in the zones mentioned above.

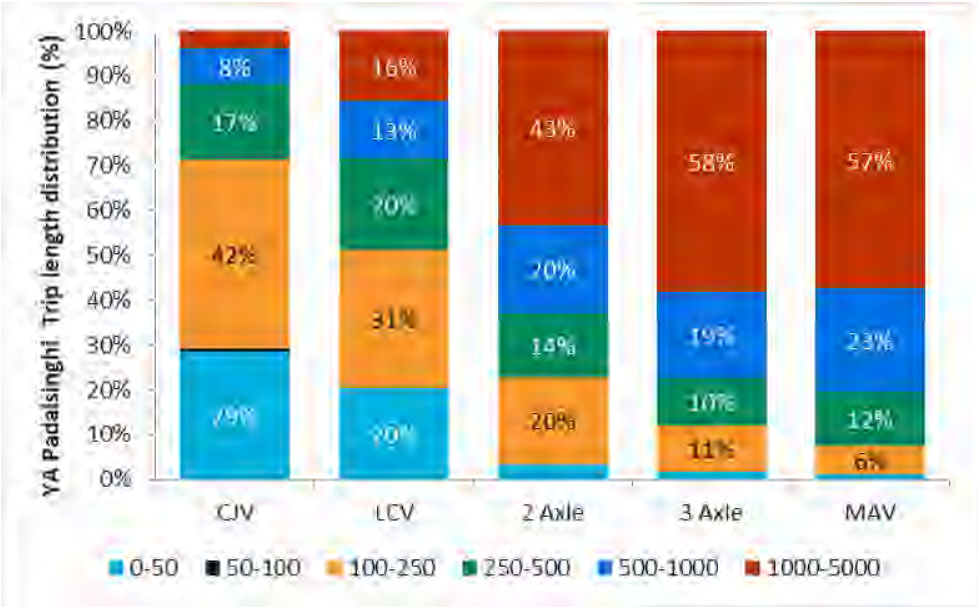
Figure 3.38 Trip length distribution - Yedeshi



Source: Steer analysis of the Client data

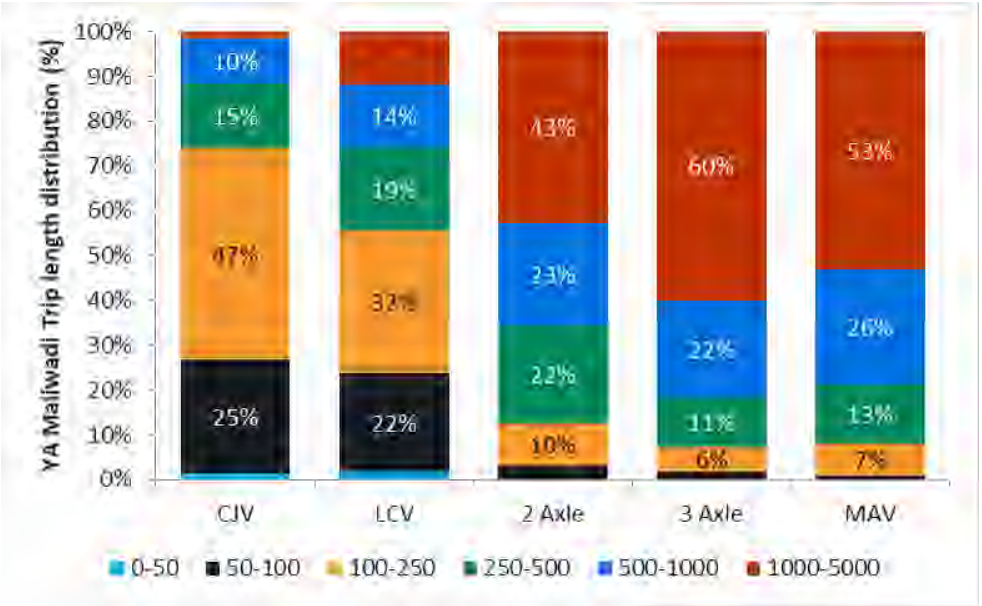
3.71 At Tamalwadi, the trips covering 500-1000 kilometres are generally between Solapur/ local zones – Karnataka/Gujarat or Aurangabad/local zones – Karnataka. This characteristic changes at other toll plazas of the Assets as the traffic between Hyderabad/south and Surat/north gets appears on these plazas. The trips covering 500-1000 kilometres are generally between Aurangabad-Solapur and Gujarat/Madhya Pradesh.

Figure 3.39 Trip length distribution - Padalsingi



Source: Steer analysis of the Client data

Figure 3.40 Trip length distribution - Maliwadi



Source: Steer analysis of the Client data

3.72 At Tamalwadi, the trips covering greater than 1000 kilometres are generally between Karnataka/Tamil Nadu – Delhi NCR/Uttar Pradesh/Haryana/Punjab or Goa – Nagpur/western Maharashtra. At the other toll plazas, the trips covering greater than 1000 kilometres are generally between Karnataka/Tamil Nadu/Telangana/Tamil Nadu – Delhi NCR/Uttar Pradesh/Haryana/Punjab/Rajasthan or between the trips originating along the Assets and moving further south/north and vice versa.

Conclusions

3.73 In summary, the assets are relatively new with operations starting for SY in FY18 and for YA in FY19. The completion of the corridor has given a fillip to the long-distance traffic movements on the Assets, thereby making the corridor as a national strategic long-distance corridor. This shift in the nature of the corridor is evident in the evolution of traffic volumes, the OD patterns supported by the toll plazas, the trip lengths undertaken by these movements, the commodities carried by goods vehicles, and the zonal influence of other states on the traffic. As a result, even with Covid19 impacting traffic patterns good traffic, which contributes the most in revenue, have seen significant growth as compared to FY20.

3.74 The presence of tourism centres at Tuljapur and Ellora and industrial centres at Solapur, Aurangabad, and Osmanabad in the vicinity of the Assets adds to the captive nature of the traffic for both CJV and goods vehicles which feed into the consumption demand generated by these centres.

3.75 Reassuringly, the TVC shows minimal variation on the TMS, especially at the total levels only showing differences of within 2%. These differences are well within the acceptable limits and reinsures the fact that the systems installed on the toll plaza are robust and are correctly capturing the traffic volumes currently appearing on the toll plaza.

3.76 The OD analysis found that in terms of zonal influence, CJVs, LCVs, and buses on all the plazas observe similar trends, where the Maharashtra influences more than 75% of the trips. For 2A, 3A, and MAVs, the zonal influence differs on Tamalwadi as compared to other plazas. Except

Tamalwadi, the other four plazas cater to the long-distance movement travelling between Surat/north and Hyderabad/south. Due to this movement, these plazas observe considerable zonal influence of zones in West India (Gujarat, Western Rajasthan), south India (Andhra Pradesh, Kerala, Tamil Nadu, Telangana), and Karnataka. Apart from Maharashtra, Tamalwadi observes zonal influence of Karnataka and north India.

3.77 Except Tamalwadi, all the plazas observe similar I-E analysis patterns where the share of External trips for 3A/MAVs dominates the distribution as these plazas cater to the long-distance north – south movement. These plazas cater to Telangana – Gujarat/north and Karnataka – north movements whereas Tamalwadi just caters to the Karnataka – north movements. Being in close vicinity of the urban centre of Solapur adds to the local nature of traffic at Tamalwadi.

3.78 The key commodities across these plazas are miscellaneous goods (parcels, couriers) from warehouses along the assets, petroleum, and related commodities from IOCL depot at Solapur, construction related goods from Karnataka, Rajasthan, Gujarat. The Assets being in vicinity of numerous industrial areas, comprising of all, small, medium, and large-scale industries, the commodity distribution includes a considerable share of Manufacturing goods as well. Moreover, this plaza becomes a key connector in transportation of manufacturing goods traversing the north – south movement.

3.79 The average trip length covered by goods vehicles is shorter at Tamalwadi as compared to other plazas as the traffic between Telangana – Gujarat/north bypasses Tamalwadi while entering NH52 and hence, the share of long-distance traffic decreases on the plaza leading to decrease in trip lengths.

3.80 Overall, the Assets have shown robust historical performance, despite extended Covid19 related lockdowns affecting passenger vehicles, the presence of a wide variety of local industries coupled with shift of long-distance traffic towards the majority of the corridor validates the growth prospects of the corridor as a whole. These are discussed in detail in the later chapters.

4 Socio Economic Context

Introduction

4.1 The growth of traffic on existing (brownfield) roads depends on, firstly, how fast the background travel demand grows (background growth); and secondly, how successful the Assets is in attracting that traffic (traffic capture). Background travel demand is driven by the socio-economic conditions of the region where the Assets is located and conditions on a national scale. These include:

- Changes in factors such as population, economic growth (regional and national) and industrial production; and
- Other local factors such as strategic port growth and local industries growth near the Assets.

4.2 In turn, the change in the competitive position of the Assets (and thus of the traffic capture it will achieve) derives from how the service offered and the prices charged on the Assets change in comparison to competing roads; and whether any new competing road facilities are available.

4.3 In this chapter, we assess the socio-economic indicators relevant to traffic growth on the Assets.

Population growth

4.4 The total population in India has grown at a Compound Annual Growth Rate (CAGR) of 1.5% since 2000, decreasing over the years, as shown in the table below. The World Bank forecasts this growth to decrease to 0.6% CAGR by the 2030-45 period.

Table 4.1: CAGR of population in India

Years	CAGR		
	Total Population (m)	Rural Population (m)	Urban Population (m)
1970 - 1985	2.3%	1.9%	3.8%
1985 - 2000	2.0%	1.7%	2.9%
2000 - 2015	1.5%	1.0%	2.6%
2015 – 2030*	1.0%	0.3%	2.3%
2030 – 2045*	0.6%	-0.3%	1.9%

Source: World Bank Data on Health Nutrition and Population Statistics, *forecast population growth

4.5 Maharashtra represents 9.3% of India's population, with the total state population of 112 million (2011 Census). The rate of growth of the urban population in Maharashtra has been consistently higher than that of the total population, indicating a trend towards urban agglomeration. The proportion of urban population in Maharashtra has increased from 42% to 45% between 2001 and 2011.

4.6 The table below shows the evolution of population in Maharashtra compared as to the country.

Table 4.2: Population Growth in India (2001 – 2011)

State	2001 Population (m)			2011 Population (m)			CAGR (2001 – 2011)		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Maharashtra	96.9	55.8	41.1	112.4	61.6	50.8	1.5%	1.0%	2.1%
India	1,028.7	742.6	286.1	1,210.9	833.7	377.1	1.6%	1.2%	2.8%

Source: Census 2011 Data

Table 4.3: Local Population Growth (2001 – 2011)

Region	2001 Population (m)	2011 Population (m)	CAGR (2001 – 2011)
Aurangabad	2.90	3.70	2.5%
Solapur	3.85	4.32	1.2%
Beed	2.16	2.59	1.8%

Source: Census 2011 Data

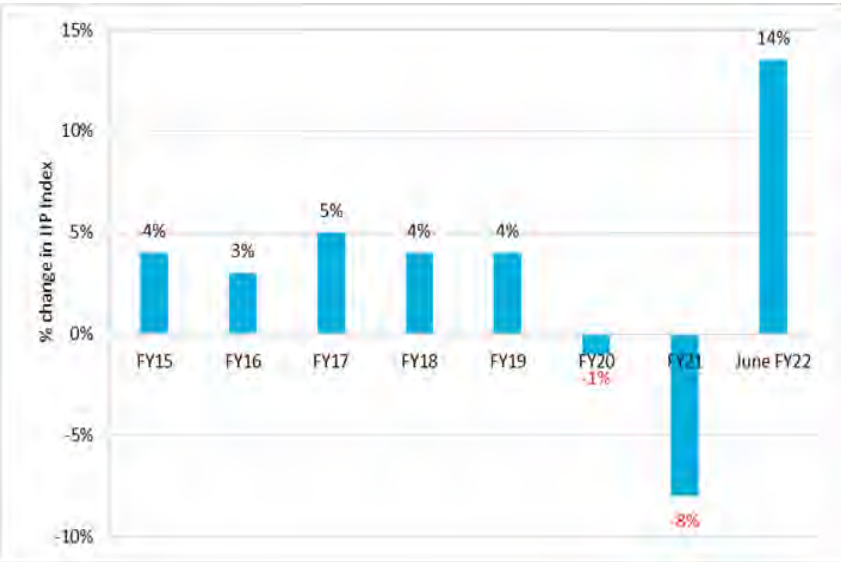
4.7 The growth of the local population, i.e., Solapur and Aurangabad, are of more direct relevance to the Assets. Both these regions have observed healthy population growth in the last decade indicating that the Assets are expected to continue serving the local needs. However, due to the complexities of the patterns in which urbanisation takes place and the very dynamic nature of local population migration (which are very difficult to forecast with accuracy), we do not use population growth as a proxy for understanding future travel demand growth on the Assets. It has been included in this section simply to provide a general context of the region in which the Assets are located.

Economic Indicators

Industrial Production

4.8 The Index of Industrial Production (IIP) is a composite indicator that measures the short-term changes in the volume of production for a basket of industrial products. The IIP data tracks the manufacturing activity in different sectors of an economy, with mining, manufacturing, and electricity being the three broad sectors in which IIP constituents fall.

Figure 4.1: Annual growth - Index of Industrial Production



Source: Central Statistical Organisation (CSO)

4.9 At an annual level, the IIP was growing on an average of 4% between FY15-19, before being hit by liquidity crisis and overall economic slowdown in FY20. Post that, the IIP shrank by over 8% in FY21, due to a decline in economic activities in the wake of global lockdowns introduced to curb coronavirus pandemic. However, with the gradual opening of economy and rebound observed in demand, the IIP on a month-on-month grew by +28.6% in May 2021 and 13.5% in June 2021, as per the latest available data.

4.10 Since the IIP data in India is released only at a national level and not at the state level, we do not use IIP growth as a proxy for understanding future travel demand growth on the Assets. Also, availability of long-term forecast is the key for using an indicator as a growth driver, while IIP long-term forecast are not available we refrain from using it to forecast traffic.

Vehicle ownership

4.11 Car ownership in India has traditionally been very low, however this is slowly changing with the increasing per capita income levels. Between 2007-17, number of cars per 1,000 people has more than doubled and increased at a CAGR of about 11%. The corresponding ownership rates for urban cities like Delhi, Mumbai, Bengaluru, and Chennai are over 100 cars per 1,000 people. As per the India Energy Outlook, the car ownership is projected to grow steeply to 175 cars per 1,000 population by 2040 in India[3].

Figure 4.2: Car ownership in India per 1,000 population

Source: Central Statistical Organisation (CSO)

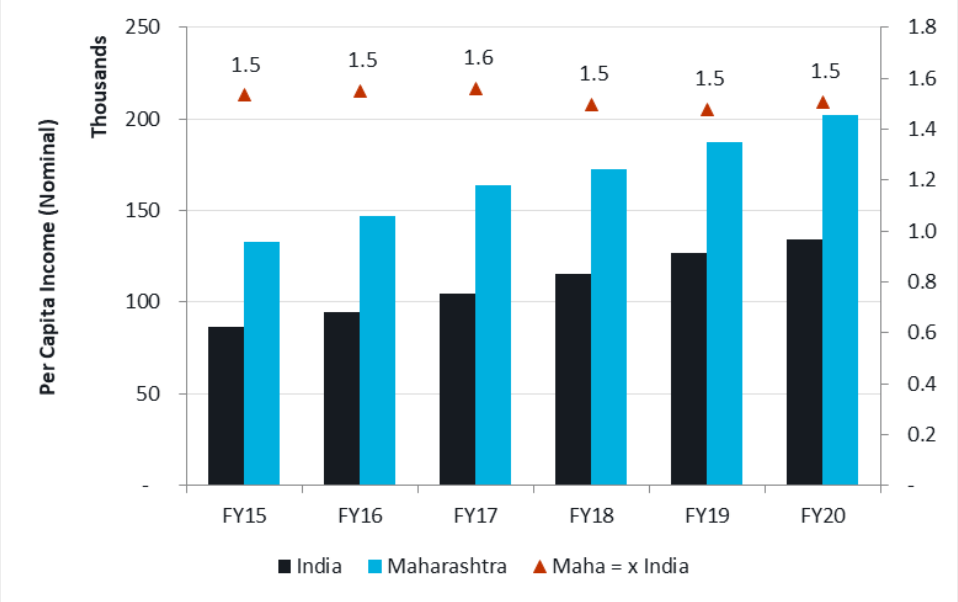
4.12 However, India overall still stands at a very nascent stage in the vehicle saturation curve. Moreover, the semi-urban region where the Assets lies are at the lower side of the Indian average of 22 cars per 1,000 people. As the income per capita of India and the region itself grows, we expect the car ownership levels to increase. Given the low car ownership base and relatively high affluence will lead to a long term sustained growth of the Cars on the corridor.

[3] https://www.gita.org.in/Attachments/Reports/IndiaEnergyOutlook_WEO2015.pdf

Per Capita Income (PCI)

4.13 The per capita income of the state where the Assets lies i.e., Maharashtra is higher as compared to the national average, however in dollar terms, PCI of just $2,500 per head indicates that the state is at a very early stage of consumption curve. Going forward, we therefore expect local consumption to be strong which would drive the growth in both passenger and commercial traffic.

Figure 4.3: Per capita income



Source: Central Statistical Organisation (CSO)

4.14 However, given the difficulty in obtaining granular district level PCI data it is not advisable to use this as a growth driver. Also, the long-term forecast for PCI is not available we therefore refrain from using it to forecast traffic.

GDP and GSDP Growth

4.15 The Indian economy has grown at a CAGR of 6.6% during FY12-20, aided by a strong growth in the services/tertiary sector. The economic growth of Maharashtra (state GSDP)[4] has been very similar to the country overall and contributes approximately 14% to the India's GDP, highest amongst all the states. In terms of per capita income, Maharashtra's per capita income is 1.5 times that of national average.

4.16 In the past decades, the state of Maharashtra followed the same upwards economic growth trend as observed at the national level. It is one of the most industrialised state in India, with financial capital of India, Mumbai being the state capital. Some of the other key cities which contribute towards the state's growth are Pune, Nasik, Aurangabad, Solapur, Kolhapur, and Nagpur. Of the 13 major ports in India, two major ports lie in the state, the largest container port of India, the Jawaharlal Nehru Port Trust (JNPT) and Mumbai Port along with 40+ minor ports. In terms of sectoral contribution, the services sector is the biggest contributor (61%),

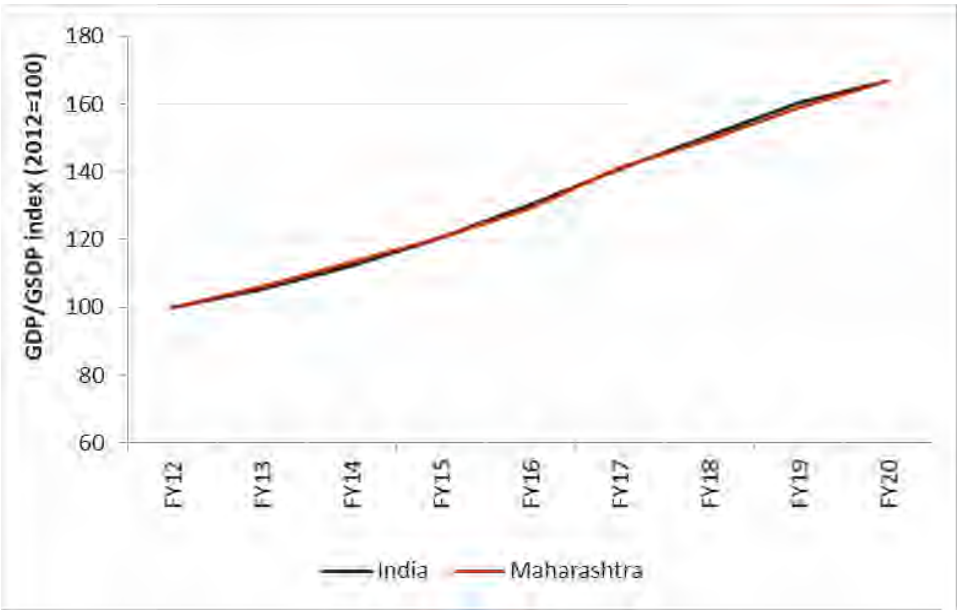
[4] GSDP is the Gross State Domestic Product i.e., the GDP equivalent for a particular state, it is the final value of goods and services produced by a particular state

followed by secondary (26%) and primary sector (13%). Maharashtra has a good presence of industrial clusters, especially IT sector, automobile, gems and jewellery, textiles, chemicals, and heavy engineering industries along with agro-based and fishing sector. Maharashtra is also the biggest onion, pomegranate and cotton producing state in the country.

4.17 Some of the key industrial clusters in the state are in Aurangabad (engineering and gems and jewellery), Mumbai (electronic and gems and jewellery), Nanded (chemicals and pharmaceuticals) and Pune (IT engineering and automobiles).

4.18 Maharashtra's GSDP CAGR was 6.6% between FY12-20 and its relative share to the national GDP was around 14% in FY20.

Table 4.4: GDP/GSDP index (2012=100)



Source: National Statistical Office (NSO)

4.19 The official historical GDP and GSDP data for India are released by the Central Statistical Organisation (CSO). The GDP forecasts for India are available from various reliable sources such as Oxford and Consensus, but the GSDP forecasts for the same are not published. However, using the past trends of the relationship between GDP and GSDP, we can develop reasonable GSDP forecasts.

4.20 Therefore, in our view, GDP is the best source of growth driver for long term traffic forecasts.

Summary

4.21 For any indicator to be used as a growth driver to forecast traffic, a reliable source of historical and forecast available for that indicator is the key requirement. Of the key socioeconomic indicators discussed above GDP seems to be the only growth driver for which reliable data is available both in terms of historical and forecast data, therefore, to forecast traffic we would be using GDP/GSDP as our key growth drivers.

Table 4.5: Socioeconomic indicators

Indicator	Remarks
GDP/GSDP	Available annually ***National level reliable historical and forecast available***
Population/Urbanisation	Revised every 10 years, last available 2011. Population estimates are not available annually, making it difficult to run regressions. Also, the very dynamic nature of local population migration (which are very difficult to forecast with accuracy), we do not use population growth as a proxy for understanding future travel demand growth on the Assets. *Forecast available but historical data is a constraint*
Per Capita income	National and state level per capita historical data is available, but future estimates for the same are not to base traffic growth on. *Historical data available but forecast data is a constraint*
IIP Index (Industrial production)	Unlike GDP, reliable IIP forecast are not available, also the IIP data is only available at national levels and not for each state individually.
Vehicle ownership	Vehicle ownership at India level is available latest for 2017. At state level, not all states release their vehicle ownership data annually making it difficult for consistency. A lot of research organisations have published forecast at national level, but a reliable estimate is not available.

5 Traffic growth analysis

Introduction

5.1 In this chapter, we present our approach, assumptions around estimation of elasticities and forecast assumptions of Macro parameters for each vehicle category on the Assets.

5.2 Traffic growth is commonly related to a variety of macro-economic and industry- or commodity-specific factors (hereafter referred to as 'traffic growth drivers'). These growth drivers are typically identified from the results of the OD data analysis and the site visits that help us appreciate the nature of traffic movement – 'what' travels 'where' and 'why'.

5.3 On Assets where long time series historical data is available, to understand the historical traffic trends in relation to these growth drivers, we typically carry out regression analysis, to determine the historical relationship between traffic belonging to each major vehicle category and its macroeconomic growth driver at the toll plaza. The dynamics of traffic demand is the dependent variable while the dynamics of one or more identified growth drivers are the independent or explanatory variables. This is the primary approach to determine the elasticity relationships. However, for Assets under consideration where only limited historical data is available, we have adopted an approach which is explained in detail in the sections below.

5.4 While working on several Assets across the country where historical data is available, it has been observed that typically, growth of passenger and light commercial vehicles like cars, buses and LCVs which have relatively shorter trip lengths (<250-300 km) is more closely linked to the local economic growth drivers where the toll road is located. These categories are generally driven by the demand driven by local production/consumption centres and are in most cases captive to the toll plazas. Local factors coupled with tourism driven demand is often seen as the key driver for consumption of goods and services in the areas. Therefore, we typically link the growth rate of these vehicle categories with GSDP growth rates of the state where the Assets are located as that is closest proxy of the local economic activity in the region.

5.5 Whereas Heavy vehicle traffic like 3-A trucks (sometimes 2A trucks as well) and MAVs tend to have a much longer average trip lengths (>500 km) and serve multiple economic activity centres located along an Assets as well beyond the Assets across multiple states of the country. For these vehicle categories we therefore assume these vehicle categories to grow in line with the national GDP. This is because most light goods vehicles tend to travel shorter distances within the state, whereas a significant proportion of heavy vehicles carry commodities for long - distances across the country and have much longer trip lengths. These commodities also tend to be part of industry ecosystems whose demand-supply relationships are scattered across the country and therefore relate more with GDP growth. Therefore, using the OD data trip lengths of various vehicle types and the commodity carried by these goods vehicles form the basis for estimating the elasticity relationships

Estimation of background elasticities

Overview

5.6 For brownfield Assets, where sufficient historical traffic evolution is available, it is common practice to use regression model analysis to determine the relationship, expressed as elasticity, between traffic growth and key socioeconomic drivers. This relationship is then applied to assumptions of future socio-economic evolution to estimate future traffic growth.

5.7 For the Assets under consideration, as the Assets started tolling recently in Mar-2019 for SY and Mar-2020 for YA, a consistent historical trend was not available. Therefore, we undertook a benchmarking analysis in order to estimate our forecast elasticities, sources used included our understanding of the Assets, outputs of the OD data analysis (OD pairs, trip lengths, zonal influence, and commodity mix). We also took account of the regional Assets having similar traffic profiles, which give us reasonable confidence the relationships proposed.

5.8 In terms of selection of growth drivers for vehicle types, in general we have assumed state GDP as the key driving factor for the passenger traffic given this traffic is generally driven by the local economies of the cities and state containing the Assets. The heavier commercial vehicles generally ply long-distance, and the underlying growth is governed by the general economies of several states or nation as whole.

5.9 The forecast elasticities are assumed to remain constant over the concession period as the logistics sector in still in early stages of development in India (95% of trucks still owned by operators owning less than 5 trucks). Car ownership levels are still around 30-35 per 1000 people, and it is likely to take a few years before the market reaches maturity. These trends are based on a long-term understanding of historical relationships and an overall outlook on the growth of the region and the country.

5.10 The below table presents the growth drivers identified to model the forecast background traffic growth rates.

Table 5.1: Identified growth drivers to model traffic growth

Vehicle type	GDP India	GSDP Maharashtra
CJV		50% each
LCV		50% each
Bus		50% each
2A	100%	
3A	100%	
MAV	100%	

Source: Steer analysis of Client data

5.11 The sections below detail out the reasoning for selection of respective growth driver(s) for each vehicle category.

Table 5.2: Elasticity recommendations for the Assets (Solapur – Yedeshi)

Vehicle Category	Proposed*	Growth Driver	Comments
CJV	TP1: 1.1 TP2: 1.0	GSDP Maharashtra	Car traffic is local in nature and feeding key cities of Solapur, Osmanabad, Beed and Aurangabad. Presence of tourist sites such as Tulja Bhawani temple near Solapur and Ajanta Ellora caves near Aurangabad is expected to boost the CJV growth on the Assets.
Buses	TP1: 0.3 TP2: 0.3	GSDP Maharashtra	Buses are primarily a mix of public and private inter-city buses. It seemed that buses currently are serving local intercity demand. As these cities grow, the buses are also expected to respond to the increasing demand however only at a muted rate.
LCV	TP1: 0.5 TP2: 0.5	GSDP Maharashtra	LCV have been observed to carry a mix of commodities, mostly catering to local demand. As these cities grow, we expect the consumption of these to also increase. LCVs have also been observed to travel 500-600Km on both toll plazas and are expected to have 0.5 elasticity to the growth driver.
2A	TP1: 0.6 TP2: 0.6	GDP	2A on the corridor are mostly catering to local demand related to agricultural and construction related commodities along with some share of medium distance trip. With the allowance of more tonnage under the axle load revisions, this category has witnessed growth over the last couple of years. Therefore, an elasticity of 0.6 is considered reasonable for this category.
3A	TP1: 0.6 TP2: 0.7	GDP	3A and MAV's are making long distance movements catering to the New Delhi and north India towards southern India including Telangana, Karnataka etc. Moreover, an average trip length of 900Km and 1150Km at Tamalwadi and Yedeshi respectively just aids the fact that this Asset has significant long-distance traffic and is expected to have a closer growth relationship with national GDP. Yedeshi is expected to have a slightly higher elasticity due to addition of long-distance traffic as also visible from trip lengths. Several network improvements (discussed in Chapter 6) are expected to take place south of Solapur including the completion of Solapur bypass. As a result traffic destined to Bangalore and south is expected to shift to the Asset, hence we believe as the character of TP1 changes to support more long distance traffic, the relationship to GDP is expected to gradually improve to 0.9.
MAV	TP1: 0.8 ramping upto 0.9 by 2026 TP2: 0.9	GDP	

Source: Steer analysis, *SY TP1 Tamalwadi, TP2 Yedeshi

Table 5.3: Elasticity recommendations for the Assets (Yedeshi-Aurangabad)

Vehicle Category	Proposed*	Growth Driver	Comments
CJV	TP1: 1.0 TP2: 1.0 TP3: 1.1	GSDP Maharashtra	Car traffic is local in nature and feeding key cities of Solapur, Osmanabad, Beed and Aurangabad. Presence of tourist sites such as Tulja Bhawani temple near Solapur and Ajanta Ellora caves near Aurangabad is expected to boost the CJV growth on the Assets.
Buses	TP1: 0.3 TP2: 0.3 TP3: 0.3	GSDP Maharashtra	Buses are primarily a mix of public and private inter-city buses. It seemed that buses currently are serving local intercity demand. As these cities grow, the buses are also expected to respond to the increasing demand however only at a muted rate.
LCV	TP1: 0.5 TP2: 0.5 TP3: 0.5	GSDP Maharashtra	LCV have been observed to carry a mix of commodities, mostly catering to local demand. As these cities grow, we expect the consumption of these to also increase. LCVs have also been observed to travel 500-600Km on both toll plazas and are expected to have 0.5 elasticity to the growth driver.
2A	TP1: 0.6 TP2: 0.7 TP3: 0.6	GDP	2A on the corridor are mostly local and medium distance in nature. With the allowance of more tonnage under the axle load revisions, this category has witnessed growth over the last couple of years. Therefore, an elasticity of 0.6 (TP1, TP3), 0.7 (TP2) is considered reasonable for this category.
3A	TP1: 0.7 TP2: 0.7 TP3: 0.7	GDP	3A and MAV's are making long distance movements catering to the New Delhi and north India towards southern India including Telangana, Karnataka etc. Moreover, an average trip length of 1050-1100Km at Padalsingi and Maliwadi toll plazas just aids the fact that this Assets has significant long distance traffic and is expected to have a closer growth relationship with national GDP. Therefore, an elasticity of 0.9 is assumed for traffic forecast on this Assets.
MAV	TP1: 0.9 TP2: 0.9 TP3: 0.9	GDP	

Source: Steer analysis, *YA TP1 Maliwadi, TP2 Padalsingi, TP3 Pargaon

Forecasts for background elasticities

5.12 Following the discussion in Chapter 4 on the nature of economic activity in the state of Karnataka, in this section, we describe the assumptions in relation to forecasts of the key macro-economic drivers of traffic growth. Particularly, we have based our forecast on GDP and GSDP projections provided by the Client.

National GDP

5.13 India's GDP and the relevant state GSDPs are the primary macroeconomic variables that have been modelled to drive our traffic growth forecasts.

5.14 After the last period of economic slowdown in FY11-12, the country has been experiencing an economic downturn since late FY19 with the FY20 reporting 4% GDP growth. India's GDP growth declined as domestic investment and consumption demand were already under stress because of the liquidity crunch before Covid-19. Related events to the economic slowdown include

reduced growth rates in automobile sales and production, liquidity crunch, rising number of non-performing Assets, lower manufacturing outputs and lower rural consumption. Furthermore, the last months of FY20 and FY21 have been affected by Covid19, with impacts on industry (economic activity) and society (social activity). This bias has been addressed in terms of base traffic estimation by normalising the traffic projections for FY21 (as described in Chapter 6) and we based our forecast on the GDP projections as shown in figure below.

5.15 There was a substantial impact of the covid-19 outbreak on the Indian economy during the first two quarters of FY21. The growth momentum eventually picked up in Q3-Q4 FY21. A sharp rebound is expected in FY22 with economy projected to grow by 9.4%. In the long term, Indian GDP would reduce gradually after 2030, to reach 5% by 2030 and 4.5% by FY40.

5.16 Our national GDP forecasts are a blend of published forecasts by independent sources such as Consensus, World Bank, IMF, OECD and RBI.

Figure 5.1: FY21-40 GDP forecast

Source: Steer analysis of GDP forecast by various organisations.
Average of long-term forecast of Consensus, OECD, Oxford and short-term forecast of IMF and World Bank

Normalisation of FY22 GDP and FY23 GDP

5.17 To arrive at the FY22 normalized position, we have assumed that the Q4FY22 would be a normal period, with no further impact of Covid-19. However, we cannot directly use FY22-Q4 estimates because of inherent seasonality attached to it. In India, it is typically observed that during the first half of the financial year (April-September) the GDP growth and contribution to overall GDP is generally lower than the annual average. Widespread monsoon-related disruptions result in subdued economic activity in this period. The second half of the financial year (October-March) typically shows a gradual pickup in economic activity as the monsoon recedes and construction, mining and agricultural activities start ramping. The agricultural harvest season coupled with the festivities around Diwali boosts the consumer spend in the second half of the financial year.

5.18 We have analysed how Q4 grew with respect to annual GDP for the last five years and have taken an average of FY16 and FY18 and excluding FY17, FY19 and FY20 as they were impacted years due to demonisation and slowdown in Indian Economy.

5.19 The Q4 grew on an average of 1.22 times the annual GDP, applying this factor to the FY22-Q4 estimates, we have arrived at FY22 normalised GDP position of 5.4%.

Quarter	FY16	FY17*	FY18	FY19*	FY20	FY22
Q1	7.6%	8.7%	6.1%	7.6%	5.4%	18.5%
Q2	8.0%	9.7%	5.3%	6.5%	4.6%	7.9%
Q3	7.2%	8.6%	6.7%	6.3%	3.3%	7.2%
Q4	9.1%	6.3%	8.9%	5.8%	3.0%	6.6%
FY	8.0%	8.3%	6.8%	6.5%	4.0%	9.5%
Q4 factor w.r.t. to FY	**1.14**	**0.76**	**1.31**	**0.89**	**0.74**	
Adopted Q4 factor w.r.t. to FY	**1.22**					
Normalised FY22	**5.4%**					
Normalised FY23	**5.9%**					

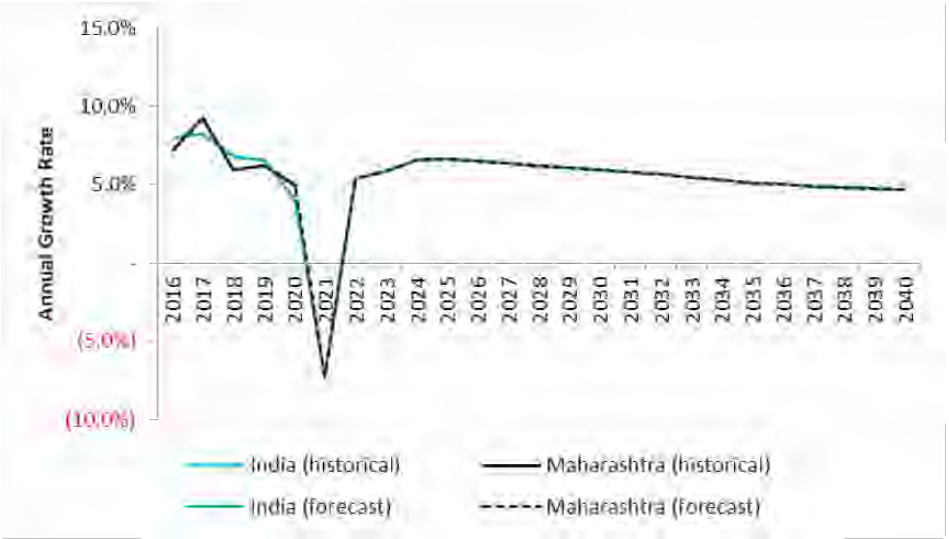
Source: RBI for FY22 estimates, and historical QoQ GDP have been sourced from MOSPI (Ministry of Statistics and Programme Implementation, Central Statistical Organisation), *FY17 and FY19 have been ignored due to exogenous impacts such as Demonetisation and slowdown the economy in FY19

State GSDP

5.20 By comparing historic trends of state level GSDP growth with the national GDP growth we have established GSDP projections for each state. We assumed that as the Indian economy grows, the states which have historically grown at a faster pace will, over 10 years, see a slowdown in GSDP growth, tending to the national average, whereas the states that have grown slower than the national GDP will begin to pick-up and grow faster. The GDP-GSDP gap would partially converge by 2040, and fully converge by 2049.

5.21 The Maharashtra GSDP is expected to grow in line with National GDP as observed historically.

Figure 5.2: Forecasts for India GDP and Maharashtra GSDP



Source: Steer analysis of historical State GSDP data and India GDP projections

6 Forecasts: Base year AADT and Impacts

Introduction

6.1 Following the discussion on our forecast of background growth rates in the previous chapter, this chapter first covers the forecasting assumptions around base year AADT and potential network impacts on traffic growth on the Assets. Thereafter, we present our assumptions around toll segmentations, trip factors and evolution of toll rates for the forecast period which are used to forecast revenues as derived from forecast traffic. In the final section, this chapter summarises traffic growth rates for the forecast years.

6.2 The following table lists key intermediate and final outputs that have presented in previous Chapters and in this chapter.

Table 6.1: Key intermediate and final outputs in the forecast

Forecast	Final outputs	Intermediate outputs	Inputs	Chapter
Traffic	Base year AADT	ADT, SCF estimate for base year	Historical SCF and year-to-date AADT	Chapter 3, 6
	Background traffic growth	Background forecast elasticity	Background historical elasticities with respect to growth drivers	Chapter 5, Appendix C
		Forecasts for growth drivers	Historical performance of growth drivers along with Client's GDP line	Chapter 4, 5, Appendix C
	Impact growth rates and staging	Impacts	Network analysis	Chapters 6
Revenue	Annual/daily revenue forecasts	Forecast toll segmentation: Trip frequencies and trip factors	Historical trip frequencies	Chapter 3, 6
			Historical trip factors	Chapter 6
		Future toll rates	Toll evolution	Chapter 6

Source: Steer

Seasonal Correction Factors

6.3 Traffic on any Assets varies on a month-on-month level. Such variations maybe due to monsoons (typically Jul to Sept) or due to festivals in the region. For e.g. It is observed that typically the truck traffic during the first half of the financial year (April-September) is generally lower than the annual average, mainly because of peak summer season followed by monsoons affecting the freight movement patterns in large parts of the country in the July-September period. In addition to these there may be other seasonal variations specific to the Assets.

6.4 In order to normalise for these variations across the year to provide an AADT estimate, Seasonality Correction Factors (SCF) are used. SCFs are estimated to convert the monthly traffic numbers to an AADT level while accounting for seasonal variation due to local/national festivals, weather changes and/or temporary external impacts. These are typically estimated using historical data for each plaza and vehicle category over multiple years. An SCF >1 means that the traffic for the month is lower than the annual average and vice-versa.

6.5 Historical traffic data was available for all toll vehicle categories starting February 2020 up-to May 2021. Therefore, in absence of longer-term historical data to arrive at the SCF, we have benchmarked our SCF from various sources:

- Assets in the vicinity, south or north of the Assets carrying very similar traffic profiles
- SCF from toll plaza data
- Site observations and information provided by the toll plaza to validate SCF assumptions (such as traffic volume drop during monsoon months).

6.6 The below table presents the assumptions in SCF used to estimate the AADT:

Table 6.2: Adopted SCF: SY TP1 Tamalwadi

Vehicle Category	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
CJV	0.96	0.87	0.99	1.13	1.19	1.28	1.01	0.88	0.89	1.00	0.92	1.11
LCV	0.98	0.94	1.07	1.11	1.15	1.15	1.03	0.99	0.91	0.93	0.90	0.98
Bus	0.98	0.90	0.98	1.05	1.12	1.12	0.95	0.95	0.99	1.01	0.97	1.06
2A	0.98	0.94	0.98	1.07	1.04	1.05	1.09	1.08	1.00	1.00	0.90	0.98
3A	0.97	0.98	1.01	1.07	1.03	1.04	1.17	1.03	0.95	0.97	0.92	0.97
MAV	0.99	1.00	1.01	1.07	1.03	1.04	1.20	1.02	0.94	0.94	0.91	0.96

Source: Steer analysis of various sources

Table 6.3: Adopted SCF: SY TP2 Yedeshi

Vehicle Category	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
CJV	0.95	0.89	1.00	1.13	1.14	1.23	0.97	0.92	0.92	1.00	0.92	1.09
LCV	0.91	0.91	1.00	1.07	1.07	1.09	0.98	1.03	0.97	1.04	0.97	1.02
Bus	0.96	0.91	1.00	1.12	1.12	1.12	0.92	0.98	0.95	0.99	0.96	1.06
2A	0.98	0.94	0.98	1.06	1.02	1.03	1.13	1.11	1.00	0.99	0.91	0.99
3A	0.98	0.98	1.00	1.06	1.00	1.02	1.18	1.03	0.94	0.97	0.93	1.00
MAV	1.00	1.00	1.01	1.07	1.01	1.05	1.21	1.02	0.93	0.95	0.90	0.96

Source: Steer analysis of various sources

Table 6.4: Adopted SCF: YA TP1 Maliwadi

Vehicle Category	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
CJV	0.99	0.92	1.02	1.12	1.12	1.17	0.98	0.94	0.93	0.98	0.89	1.01
LCV	0.95	0.92	1.03	1.10	1.12	1.05	0.97	0.99	0.94	1.02	0.95	1.01
Bus	0.98	0.89	0.95	1.10	1.09	1.10	0.98	0.96	0.97	0.99	0.96	1.11

Vehicle Category	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
2A	0.97	0.94	0.98	1.06	1.04	1.02	1.04	1.11	0.99	0.97	0.94	1.04
3A	0.92	0.91	1.01	1.05	1.09	1.04	1.12	1.06	0.97	0.98	0.95	1.05
MAV	0.98	0.98	1.03	1.06	1.05	1.06	1.12	1.03	0.93	0.94	0.91	0.98

Source: Steer analysis of various sources

Table 6.5: Adopted SCF: YA TP2 Padalsingi

Vehicle Category	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
CJV	1.00	0.93	1.01	1.08	1.11	1.18	0.97	0.94	0.94	0.99	0.90	1.04
LCV	0.95	0.92	1.02	1.06	1.11	1.11	0.98	0.98	0.96	1.00	0.94	1.04
Bus	0.99	0.88	0.95	1.04	1.10	1.12	0.99	0.97	0.99	1.00	0.96	1.09
2A	0.96	0.93	0.96	1.06	1.05	1.06	1.07	1.10	0.98	0.98	0.93	1.02
3A	0.95	0.95	1.02	1.05	1.04	1.07	1.13	1.06	0.96	0.94	0.91	1.00
MAV	0.99	0.98	1.02	1.06	1.05	1.08	1.14	1.02	0.92	0.93	0.90	0.97

Source: Steer analysis of various sources

Table 6.6: Adopted SCF: YA TP3 Pargaon

Vehicle Category	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
CJV	0.99	0.88	0.99	1.05	1.16	1.25	0.97	0.93	0.93	1.02	0.90	1.08
LCV	0.93	0.91	1.05	1.01	1.12	1.12	1.03	0.99	0.96	1.02	0.95	0.98
Bus	1.01	0.92	0.98	0.96	1.16	1.16	1.01	0.97	0.98	0.98	0.93	1.08
2A	0.96	0.94	0.96	1.05	1.05	1.05	1.07	1.09	1.00	0.99	0.94	1.01
3A	0.97	0.96	1.00	1.05	1.04	1.05	1.13	1.03	0.94	0.96	0.92	1.02
MAV	0.98	0.99	1.02	1.06	1.06	1.09	1.16	1.02	0.92	0.93	0.89	0.97

Source: Steer analysis of various sources

Base year (FY21 and FY22) traffic

6.7 As discussed earlier, the impact of Covid19 caused steep fluctuations on traffic numbers throughout the year and have therefore made it extremely difficult to estimate an actual base traffic level for FY21. Additionally, these fluctuations in traffic were widely different across different Assets depending their locations, commodities carried, and the overall nature of traffic being served by the Assets. Therefore, an approach to estimate a base AADT number for FY21 must be used, which not only accounts for the impact of Covid19 related national lockdowns, but also the localised restrictions, and traffic profile on each Assets.

6.8 The methodology and assumptions taken to estimate FY21 and FY22 is discussed in the following sections.

Estimation of FY21 Normalised and FY22* (no Covid19, hypothetical)

6.9 After the initial drop in traffic volumes across categories in Q1 and Q2 FY21, gradual recovery to pre-Covid19 levels was seen on several Assets starting Q3FY21 (refer chapter 3). Some of

this recovery was related to the pent-up demand that was witnessed across Assets. However, the increased traffic volume levels sustained in Q4FY21 as well (refer chapter 3). This reflected a sustained economic recovery and therefore a normalised FY21N base traffic has been estimated based on the Jan-Feb-March of FY21 after adjusting for seasonality.

6.10 FY22 if no 2nd wave (FY22*): FY22* AADT (no Covid19, Hypothetical) has been estimated to arrive at an FY22 AADT position assuming a normal FY22 (no further Covid19 waves of infection in FY22). FY22* was estimated based on a normalised FY22 GDP (as discussed in chapter 4) to elasticity relationship. This estimation was undertaken to compare the FY22 estimates to actual outturn for Q1FY22.

Assumptions on 3rd Wave of Covid19 infections

6.11 As we have already seen the third wave of Covid19 infections in other countries (UK, USA, Israel, Russia), it is prudent to assume that a 3rd wave of Covid19 infections is likely to occur in India too. Its impact will depend on individual states' preparedness and level of vaccination throughout the country. We have, after compiling information from various sources, taken an assumption for the timing of the 3rd wave and assumed that its magnitude will, in general be smaller than the 2nd wave of infections. ***Note here that this is one of several scenarios that may unfold as the Covid-19 pandemic is currently still unpredictable in terms of its spread due to various variants, the impact of the vaccination programme in different parts of a region, and most importantly the response from local/regional/state/national authorities due to increased rates of infections remains unpredictable. The scenario outlined below is considered to be a reasonable outcome based on information currently available, however the exact outturn remains unpredictable due to the factors outlined above.***

6.12 As per the latest evidence available from public sources, the 3rd wave of infections is expected to peak during the months of October and November 2021. However, the number of cases in third wave are expected to be lower, due to external interventions like vaccinations, and the lockdowns to be more regional. Further the length of the third wave is expected to be 6 weeks as compared to 10-12 weeks during the second wave. Therefore, the overall impact on traffic of 3rd wave is expected to be half of the impact that was seen on Assets in the second wave with a faster recovery back to FY22* levels by Dec'2021.

Month on Month comparison of FY22* and FY22 estimated

6.13 Actual toll plaza data was available up to May-21, and three weeks of June 2021 was also made available. A comparison between FY22* and outturn traffic was undertaken to evaluate the impact of 2nd wave of Covid19. Based on the methodology stated above This comparison is used as an indicator to estimate the magnitude of third wave of Covid19 also to affirm that Q4 of FY22 is likely to follow a pattern largely unimpacted by lockdowns, movement restrictions etc. The assumption for a normal Q4FY22 is considered to be reasonable as the number of cases go down and normal economic activity resumes.

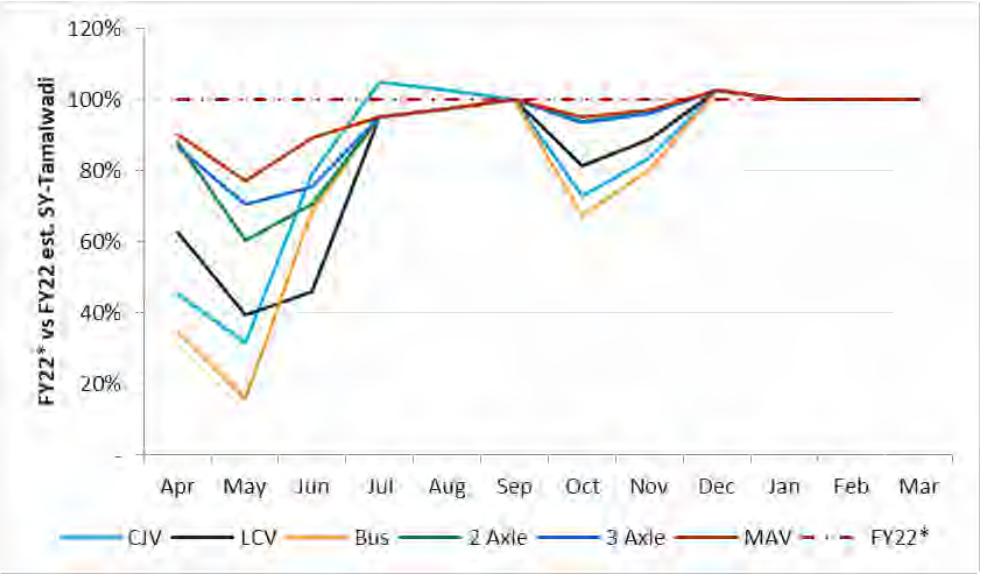
Estimation of Q4 FY22

6.14 Q4FY22 is likely to follow the pattern from FY21 and is estimated to stabilize at the FY22* estimated numbers. This Q4 traffic level for each Assets is used as a proxy to get a FY22 normalized or FY22N position. Note here the F22N and FY22* will be the same as it is assumed that Q4 of FY22* will become the basis of estimating FY22N. As these AADT levels are expected to be free of Covid19 related fluctuations, they serve as a stable base position for traffic for the Assets. However, with construction completed on Yedeshi Aurangabad section in

March 2020, we expect some Level of Service improvement for local traffic. This is further included in Chapter 6 under impact analysis.

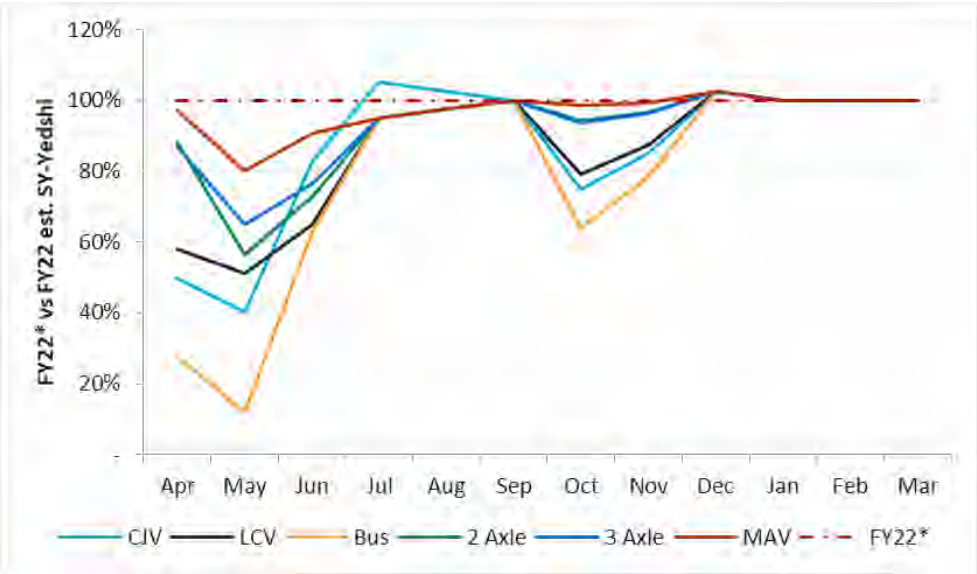
6.15 The output of above analysis is presented below charts:

Figure 6.1: FY22* (no Covid19, Hypothetical) vs FY22 Estimated: SY - Tamalwadi



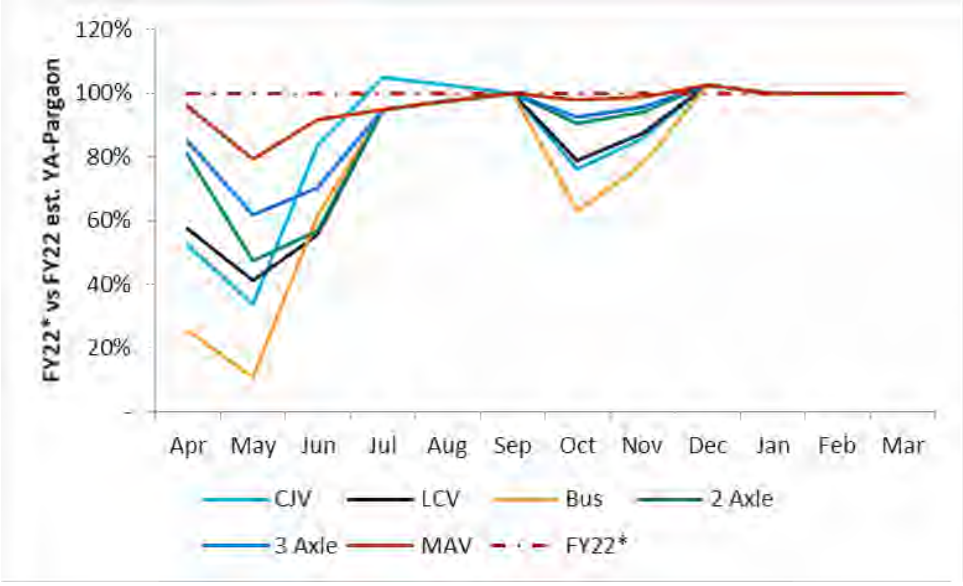
Source: Steer Analysis

Figure 6.2: FY22* (no Covid19, Hypothetical) vs FY22 Estimated: SY - Yedeshi



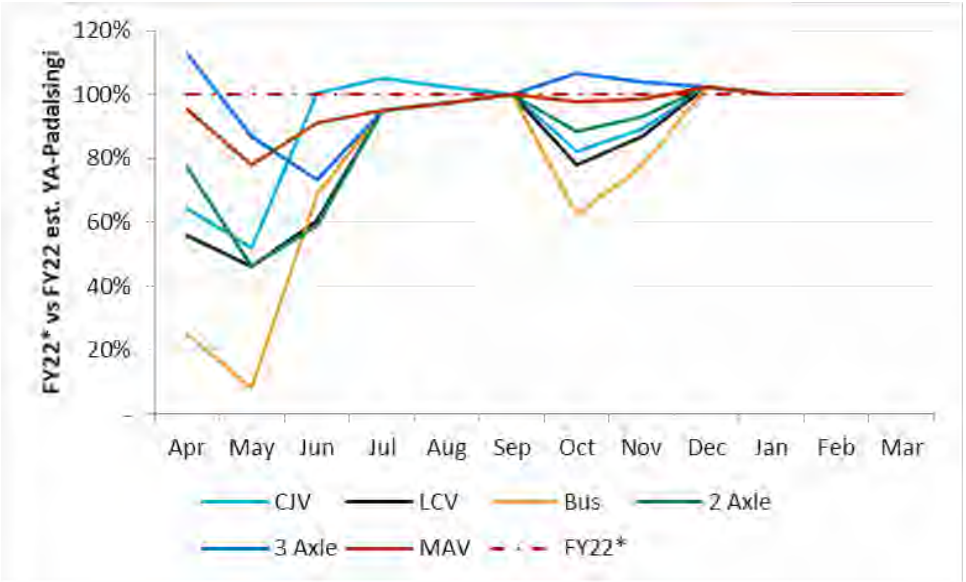
Source: Steer Analysis

Figure 6.3: FY22* (no Covid19, Hypothetical) vs FY22 Estimated: YA - Pargaon



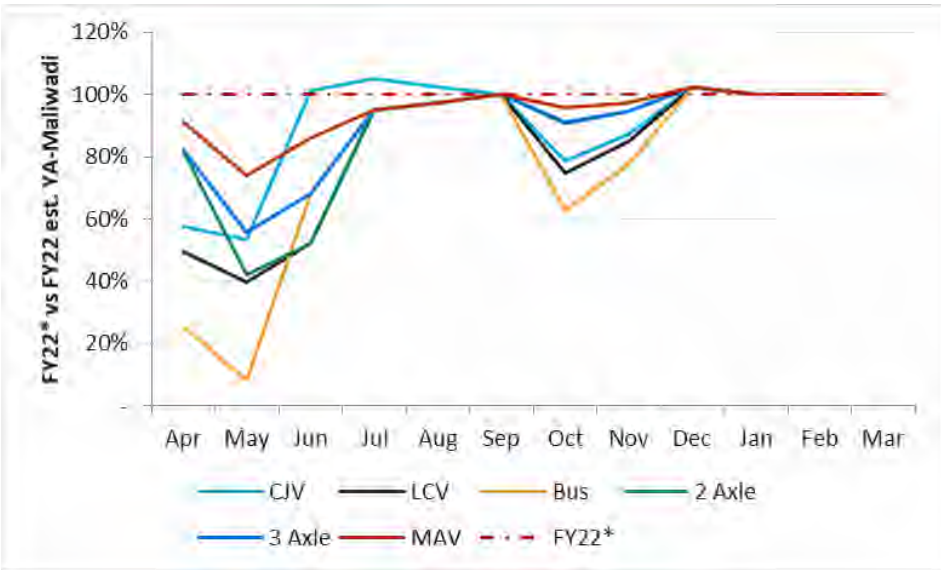
Source: Steer Analysis

Figure 6.4: FY22* (no Covid19, Hypothetical) vs FY22 Estimated: YA - Padalsingi



Source: Steer Analysis

Figure 6.5: FY22* (no Covid19, Hypothetical) vs FY22 Estimated: YA - Maliwadi



Source: Steer Analysis

6.16 As we can see from the charts above, the impact of 2nd wave of Covid19 is expected to subside by May with traffic recovery back to FY22* levels by end of Q2FY22 levels. The impact of third wave is expected to be lower than the impact of 2nd wave with recovery back to FY22* levels by Dec'2021. The rest of the months assuming no further waves of Covid19 are expected to return to FY22*/FY22N levels.

FY23 Estimation and base AADT for forecast

6.17 These FY22N are then used to estimate a FY23 AADT position, with an underlying assumption of no further Covid19 waves. FY23 then becomes the basis of all future forecasts which again start to follow the GDP and elasticity-based growth pattern for traffic.

Base year AADT

6.18 Based on the methodology discussed above, the tables below present the FY22N for each of the toll plaza.

Table 6.7: FY22N Base AADT estimates compared to FY21 Actuals and FY22 Estimated (SY - Tamalwadi)

	FY20	FY21	FY21N	FY22	FY22*	FY22N
	Actual	**Actual**	**Q4 N**	**Estimated**	**No covid**	**Q4 N**
CJV	5,182	3,991	6,119	5,371	6,448	6,448
LCV	1,080	895	827	709	845	845
Bus	722	362	627	500	636	636
2A	887	865	994	935	1,027	1,027
3A	868	807	874	836	903	903
MAV	938	1,083	1,226	1,207	1,273	1,273
Total	**9,678**	**8,003**	**10,668**	**9,558**	**11,130**	**11,130**
PCU	**18,455**	**16,309**	**20,365**	**18,679**	**21,136**	**21,136**

Source: Steer Analysis, FY22* if 2nd Covid wave had happened.

Table 6.8: FY22N Base AADT estimates compared to FY21 Actuals and FY22 Estimated (SY - Yedeshi)

	FY20	FY21	FY21N	FY22	FY22*	FY22N
	Actual	**Actual**	**Q4 N**	**Estimated**	**No covid**	**Q4 N**
CJV	2,925	2,790	3,699	3,347	3,918	3,918
LCV	646	588	506	441	517	517
Bus	250	130	221	172	224	224
2A	695	729	844	791	871	871
3A	819	834	924	884	959	959
MAV	1,119	1,379	1,552	1,558	1,619	1,619
Total	**6,453**	**6,450**	**7,744**	**7,193**	**8,106**	**8,106**
PCU	**14,220**	**14,958**	**17,405**	**16,561**	**18,137**	**18,137**

Source: Steer Analysis, FY22* if 2nd Covid wave had happened.

Table 6.9: FY22N Base AADT estimates compared to FY21 Actuals and FY22 Estimated (YA - Maliwadi)

	FY20	FY21	FY21N	FY22	FY22*	FY22N
	Actual	**Actual**	**Q4 N**	**Estimated**	**No covid**	**Q4 N**
CJV	2,961	2,944	3,991	3,787	4,205	4,205
LCV	752	604	472	397	482	482
Bus	362	184	335	259	339	339
2A	559	649	833	749	860	860
3A	697	689	813	753	843	843
MAV	882	1,124	1,319	1,303	1,376	1,376
Total	**6,213**	**6,193**	**7,762**	**7,249**	**8,106**	**8,106**
PCU	**12,912**	**13,471**	**16,576**	**15,531**	**17,249**	**17,249**

Source: Steer Analysis, FY22* if 2nd Covid wave had happened.

Table 6.10: FY22N Base AADT estimates compared to FY21 Actuals and FY22 Estimated (YA - Padalsingi)

	FY20	FY21	FY21N	FY22	FY22*	FY22N
	Actual	**Actual**	**Q4 N**	**Estimated**	**No covid**	**Q4 N**
CJV	3,972	3,759	5,034	4,821	5,305	5,305
LCV	1,147	944	739	637	754	754
Bus	493	272	490	380	497	497
2A	803	883	1,093	989	1,134	1,134
3A	961	949	1,075	1,091	1,116	1,116
MAV	1,153	1,459	1,664	1,669	1,736	1,736
Total	**8,531**	**8,266**	**10,095**	**9,586**	**10,542**	**10,542**
PCU	**17,656**	**18,051**	**21,605**	**20,664**	**22,489**	**22,489**

Source: Steer Analysis, FY22* if 2nd Covid wave had happened.

Table 6.11: FY22N Base AADT estimates compared to FY21 Actuals and FY22 Estimated (YA - Pargaon)

	FY20	FY21	FY21N	FY22	FY22*	FY22N
	Actual	**Actual**	**Q4 N**	**Estimated**	**No covid**	**Q4 N**
CJV	1,753	1,845	2,398	2,169	2,540	2,540
LCV	565	507	431	369	440	440
Bus	205	118	194	150	196	196
2A	648	742	943	854	974	974
3A	808	850	986	933	1,023	1,023
MAV	1,102	1,381	1,561	1,567	1,629	1,629
Total	**5,081**	**5,444**	**6,513**	**6,042**	**6,802**	**6,802**
PCU	**12,542**	**13,953**	**16,438**	**15,585**	**17,109**	**17,109**

Source: Steer Analysis, FY22* if 2nd Covid wave had happened.

Analysis of potential impacts

Summary of alternate routes and planned changes

6.19 The section below details the impacts which we believe would affect traffic on the Assets during the concession period. As discussed in earlier Chapters, in order to assess the impacts on the Assets, whether positive or negative, we have studied developments (alternate roads, feeder roads and regulatory) in the surrounding road network.

6.20 The map below shows the road network surrounding the Assets.

Figure 6.6: Assets route shown against the regional network context

Source: Steer analysis and cartography

Summary of impact assessments

6.21 The following table lists the impacts considered on the Assets.

Table 6.12: Summary of impact

Impact	Year of impact	Probability/ scale of impact	Impact (+/-)
YA LOS improvement	FY22*	High/Low	+ve
Solapur Vijayapura upgrade including Solapur Bypass	Solapur Bypass: FY23 Solapur Vijayapura: FY24	High/High	+ve
Ahmednagar Tembhurni construction	FY24 onwards	High/Low	+ve
Autram Ghat Tunnel completion	FY28 onwards	Medium/Medium	+ve
Surat-Solapur section of Surat-Kurnool-Chennai expressway	FY28 onwards	Medium/High	-ve
Solapur Chennai section of Surat-Kurnool-Chennai expressway	FY28 onwards	High/Medium	+ve

Source: Steer analysis of OD data, Client TMS data and publicly available information. *YA Asset completion in FY21 resulting in ongoing LOS improvement in FY22 as well

6.22 The subsections below include a narrative of each of the improvements, and impacts associated from each of these on our traffic forecasts. Please note that all traffic volumes for impacts were estimated as impact rates applied on FY22 AADT.

LOS improvement post Yedeshi Aurangabad construction completion

6.23 As discussed in Chapter 2 and 3, the Yedeshi Aurangabad section has recently completed construction in March 2020 following which the tolling operations started. There is steady ramp up observed in traffic toll plazas in FY21 and we expect this improved level of service with reduced travel times to continue in FY22.

6.24 The in-scope traffic includes all the trips with Origins & Destinations locate on Assets, Immediate Area of Influence and trips originating in Aurangabad, Osmanabad and Solapur districts. The impact is included in forecasts starting FY22.

Table 6.13: Impact of LoS improvement

Impact %	CJV	LCV	2A	3A	MAV
Impact % (SY-Tamalwadi)	2.5%	2.5%	2%	2%	2%
Impact % (SY-Yedeshi)	2.5%	2.5%	2%	2%	2%
Impact % (YA-Padalsingi)	2.5%	2.5%	2%	2%	2%
Impact % (YA-Maliwadi)	2.5%	2.5%	2%	2%	2%
Impact % (YA-Pargaon)	2.5%	2.5%	2%	2%	2%

Source: Steer analysis of OD data and comparison of improved Generalised journey costs

Solapur Vijayapura and Solapur Bypass Upgrade

6.25 Currently, traffic originating from north of Dhule and south of Solapur has a route choice between the Assets and Dhule Ahmednagar Tembhurni route.

6.26 Solapur Vijaypura[5] section including Solapur bypass in the south of Assets is currently getting upgraded to four lanes and expected to be completed by March 2022[6]. Once completed, it will improve the overall Level of Service (LoS) for the long-distance traffic on the Assets network.

6.27 Further, Solapur bypass would provide unrestricted access to traffic moving through Solapur. The in-scope traffic includes all the trips with Origins & Destinations in north of Dhule and south of Solapur. The impact is included starting FY23.

Table 6.14: Impact of Solapur Vijayapura and Solapur Bypass Upgrade

	2A	3A	MAV
Impact % (SY-Tamalwadi)	2.3%	5.1%	8.4%
Impact % (SY-Yedeshi)	2.7%	4.8%	6.6%
Impact % (YA-Padalsingi)	2.1%	4.1%	6.2%
Impact % (YA-Maliwadi)	2.7%	5.4%	7.8%
Impact % (YA-Pargaon)	2.4%	4.5%	6.5%

Source: Steer analysis of OD data and Generalised journey costs analysis

Ahmednagar Tembhurni Construction

6.28 The Ahmednagar-Mirajgaon-Karmala-Tembhurni section of NH-516A is a 10m wide two lane road with paved shoulder. Its upgradation to four laning has been recently awarded[7] and it is expected to be completed by March FY26 with construction starting FY24[8].

6.29 During construction, the traffic long distance traffic is expected to use the Assets between Dhule and Solapur. Further, this route has restrictions on traffic movement in Manmad, Kopargaon and Shirdi towns. Only a share of diverted traffic to our Assets during construction would shift back the Dhule-Ahmednagar-Tembhurni route after construction completion.

6.30 The in-scope traffic includes all the trips with Origins & Destinations in north of Dhule and south of Solapur. The impact is included starting FY24.

Table 6.15: Ahmednagar Tembhurni construction Impact

	2A	3A	MAV
During construction (FY24-FY26)			
Impact % (SY-Tamalwadi)	0.9%	2.5%	4.1%
Impact % (SY-Yedeshi)	1.1%	2.3%	3.2%
Impact % (YA-Padalsingi)	0.8%	2.0%	3.0%
Impact % (YA-Maliwadi)	1.1%	2.6%	3.8%
Impact % (YA-Pargaon)	0.9%	2.2%	3.2%
After construction completion FY27 onwards			
Impact % (SY-Tamalwadi)	0.4%	1.2%	2.0%

[5] https://www.ijm.com/press-releases/ijm-awarded-rm15-billion-indias-solapur-bijapur-highway-job

[6] https://www.hindustantimes.com/india-news/hyderabad-firm-eyes-record-builds-25-54km-lane-in-less-than-18-hours-101614498788855.html

[7] https://www.tendertiger.co.in/viewtenderdetail.aspx?SrNo=44102474&tendertype=995524332a1bb7290hserF&Year=0

[8] https://twitter.com/nitin_gadkari/status/1379062682653843456?lang=en

	2A	3A	MAV
Impact % (SY-Yedeshi)	0.5%	1.2%	1.6%
Impact % (YA-Padalsingi)	0.4%	1.0%	1.5%
Impact % (YA-Maliwadi)	0.5%	1.3%	1.9%
Impact % (YA-Pargaon)	0.5%	1.1%	1.6%

Source: Steer analysis of OD data, and Generalised journey costs analysis

Autram Tunnel

6.31 The Dhule-Aurangabad section of NH52/NH211[9] is currently two/four lane road with a Ghat section located after Chalisgaon. The NHAI had planned the Ghat section realignment with a twin tube tunnel[10] to be constructure starting March 2020. But the project was delayed due to Covid19. The tender was invited in April 2021 with construction expected to start in FY23 and completion in FY28. Once completed, it will improve the overall attractiveness Level of Service (LoS) for the long-distance traffic on the Assets network.

6.32 The in-scope traffic includes all the trips with Origins & Destinations in North of Dhule and South of Solapur.

Table 6.16: Autram Tunnel construction Impact

	2A	3A	MAV
Impact % (SY-Tamalwadi)	1.6%	4.5%	7.5%
Impact % (SY-Yedeshi)	1.8%	4.3%	5.9%
Impact % (YA-Padalsingi)	1.4%	3.7%	5.5%
Impact % (YA-Maliwadi)	1.9%	4.9%	6.9%
Impact % (YA-Pargaon)	1.6%	4.0%	5.8%

Source: Steer analysis of OD data, and Generalised journey costs analysis

Surat – Solapur – Kurnool Expressway (Surat – Solapur section)

6.33 The Surat-Kurnool-Chennai expressway[11] was recently announced by the government. It will be a four-lane 1,461 km long corridor traversing through Nasik, Ahmednagar, Solapur, Kalaburagi, Kurnool, Kadappa and Tirupati. The Surat-Ahmednagar and Akkalkot-Mahbubnagar sections will have greenfield alignments. The rest of the corridor would include upgradation of the existing two-lane roads into four lanes. The proposed expressway will be 120km shorter and therefore faster than the Assets for traffic between Surat and Solapur. Its completion is expected in FY30.

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9 http://environmentclearance.nic.in/writereaddata/Online/TOR/0_0_29_Jul_2014_1213560671REPORT.pdf

10 https://ambergengineering.com/references/projects/tunnel-autram-ghat/

11 https://swarajyamag.com/insta/nhai-invites-bids-for-telangana-section-of-rs-50000-crore-surat-chennai-expressway

6.34 The in-scope traffic includes all the trips with Origins & Destinations in Surat/West and south/East of Solapur.

Table 6.17: Surat – Solapur – Kurnool Expressway (Surat – Solapur section) Impact

	2A	3A	MAV
Impact % (SY-Yedeshi)	(7.8%)	(7.5%)	(8.5%)
Impact % (YA-Padalsingi)	(6.0%)	(6.4%)	(7.9%)
Impact % (YA-Maliwadi)	(7.9%)	(8.5%)	(10.0%)
Impact % (YA-Pargaon)	(7.0%)	(7.0%)	(8.4%)

Source: Steer analysis of OD data, and Generalised journey costs analysis

Surat – Solapur – Kurnool Expressway (Solapur - Kurnool section)

6.35 The Solapur-Chennai section of Surat-Kurnool-Chennai expressway is majorly existing alignment with existing four laning between Kurnool and Chennai. The greenfield section between Akkalkot-Mahbubnagar and remaining upgrades between Solapur and Kurnool are expected to be completed by FY28.

6.36 The proposed expressway between Solapur and Chennai will improve the asset's overall attractiveness as long-distance corridor for traffic moving between Gwalior/north and Chennai/south.

6.37 The in-scope traffic includes all the trips with Origins & Destinations in Gwalior/north and Chennai/south currently moving on NH3.

Table 6.18: Surat – Solapur – Kurnool Expressway (Surat – Solapur section) Impact

	3A	MAV
Impact % (SY-Tamalwadi)	3.5%	5.8%
Impact % (SY-Yedeshi)	3.3%	4.6%
Impact % (YA-Padalsingi)	2.8%	4.3%
Impact % (YA-Maliwadi)	3.8%	5.4%
Impact % (YA-Pargaon)	3.1%	4.5%

Source: Steer analysis of OD data, and publicly available information

Impact summary

6.38 The impacts discussed above are summarised in below.

Table 6.19: Summary of impacts on the Assets

Impact	Tamalwadi	Yedeshi	Padalsingi	Pargaon	Maliwadi
Solapur Vijayapura upgrade including Solapur Bypass	2A: 2.3% 3A: 5.1% MAV: 8.4%	2A: 2.7% 3A: 4.8% MAV: 6.6%	2A: 2.1% 3A: 4.1% MAV: 6.2%	2A: 2.4% 3A: 4.5% MAV: 6.5%	2A: 2.7% 3A: 5.4% MAV: 7.8%
Ahmednagar Tembhurni construction	2A: 0.9% 3A: 2.5% MAV: 4.1%	2A: 1.1% 3A: 2.3% MAV: 3.2%	2A: 0.8% 3A: 2.0% MAV: 3.0%	2A: 0.9% 3A: 2.2% MAV: 3.2%	2A: 1.1% 3A: 2.6% MAV: 3.8%
Autram Ghat Tunnel completion	2A: 1.6% 3A: 4.5%	2A: 1.8% 3A: 4.3%	2A: 1.4% 3A: 3.7%	2A: 1.6% 3A: 4.0%	2A: 1.9% 3A: 4.9%

Impact	Tamalwadi	Yedeshi	Padalsingi	Pargaon	Maliwadi
	MAV: 7.5%	MAV: 5.9%	MAV: 5.5%	MAV: 5.8%	MAV: 6.9%
Surat-Solapur section of Surat-Chennai expressway	No impact	2A: (7.8%) 3A: (7.5%) MAV: (8.5%)	2A: (6.0%) 3A: (6.4%) MAV: (7.9%)	2A: (7.0%) 3A: (7.0%) MAV: (8.4%)	2A: (7.9%) 3A: (8.5%) MAV: (10.0%)
Solapur Chennai section of Surat-Chennai expressway	3A: 3.5% MAV: 5.8%	3A: 3.3% MAV: 4.6%	3A: 2.8% MAV: 4.3%	3A: 3.1% MAV: 4.5%	3A: 3.8% MAV: 5.4%

Source: Steer analysis of OD data, and publicly available information

Revenue forecasting assumptions

6.40 To forecast the revenues for a particular financial year, the traffic forecast for each vehicle type is converted into tickets sold, which is then multiplied with the corresponding toll rate, which grows over the years as defined in the Concession Agreement. While "trip factors" provide the conversion factor to the former, i.e. traffic (trips) to tickets sold, "toll segmentation" provides the latter i.e. the breakup of trips paying each ticket type. This section discusses assumptions related to trip factors, toll segmentation and toll rates for the forecast period.

Trip factors

6.41 As discussed in chapter 3, a user can by different type of tickets to pay toll depending on the vehicle type. Apart from the Single trips, trips such as Return, Monthly, Local Commercial, Local Personal, Local Monthly are discounted tickets that are offered to the users. The revenue realised from these discounted trips is lower than a single trip fare. Therefore, in order to calculate the revenue for the trips made on discounted tickets (or passes) a trip factor is applied to calculate revenue realised from that particular pass sold.

6.42 The monthly passes allow 50 trips to the user at a discounted rate. The Assets had recently achieved COD with travel patterns still nascent and discounted categories have not yet stabilised. Therefore, a standard assumption of 45 has been taken as the trip factors for such categories where historical data is not available. Once full tolling is undertaken on the Assets, the trip factors for these categories are expected to stabilise. However, as a starting assumption it is reasonable to assume that each pass sold will be utilised more than 90% (45 trips per pass).

6.43 The trip factors assumed based on the latest FY21 data available are listed in the table below.

Table 6.20: Trip factors for the forecast years – SY Tamalwadi

Ticket category	CJV	LCV	Bus	2A	3A	MAV	OSV
Single	1	1	1	1	1	1	1
Return	2	2	2	2	2	2	2
Monthly	1	45	45	1	45	45	45
Local Commercial	1	1	1	1	1	1	1
Local Personal	1	1	1	1	1	1	1
Local Monthly	107	41	500	41	60	45	45
Exemptions/ Violations	1	1	1	1	1	1	1

Source: Steer analysis of Client TMS data

Table 6.21: Trip factors for the forecast years – SY Yedeshi

Ticket category	CJV	LCV	Bus	2A	3A	MAV	OSV
Single	1	1	1	1	1	1	1
Return	2	2	2	2	2	2	2
Monthly	1	45	45	43	45	45	45
Local Commercial	1	1	1	1	1	1	1
Local Personal	1	1	1	1	1	1	1
Local Monthly	75	100	45	1	45	45	45
Exemptions/ Violations	1	1	1	1	1	1	1

Source: Steer analysis of Client TMS data

Table 6.22: Trip factors for the forecast years – YA Maliwadi

Ticket category	CJV	LCV	Bus	2A	3A	MAV	OSV
Single	1	1	1	1	1	1	1
Return	2	2	2	2	2	2	2
Monthly	1	45	45	500	474	45	45
Local Commercial	1	1	1	1	1	1	1
Local Personal	1	1	1	1	1	1	1
Local Monthly	500	44	45	313	436	45	45
Exemptions/ Violations	1	1	1	1	1	1	1

Source: Steer analysis of Client TMS data

Table 6.23: Trip factors for the forecast years – YA Padalsingi

Ticket category	CJV	LCV	Bus	2A	3A	MAV	OSV
Single	1	1	1	1	1	1	1
Return	2	2	2	2	2	2	2
Monthly	1	45	45	45	45	45	45
Local Commercial	1	1	1	1	1	1	1
Local Personal	1	1	1	1	1	1	1
Local Monthly	15	0	45	45	45	45	45
Exemptions/ Violations	1	1	1	1	1	1	1

Source: Steer analysis of Client TMS data

Table 6.24: Trip factors for the forecast years – YA Pargaon

Ticket category	CJV	LCV	Bus	2A	3A	MAV	OSV
Single	1	2	1	1	1	1	1
Return	2	45	2	2	2	2	2
Monthly	1	1	45	45	45	45	45
Local Commercial	1	1	1	1	1	1	1
Local Personal	1	231	1	1	1	1	1

Ticket category	CJV	LCV	Bus	2A	3A	MAV	OSV
Local Monthly	500	1	45	45	45	45	45
Exemptions/ Violations	1	1	1	1	1	1	1

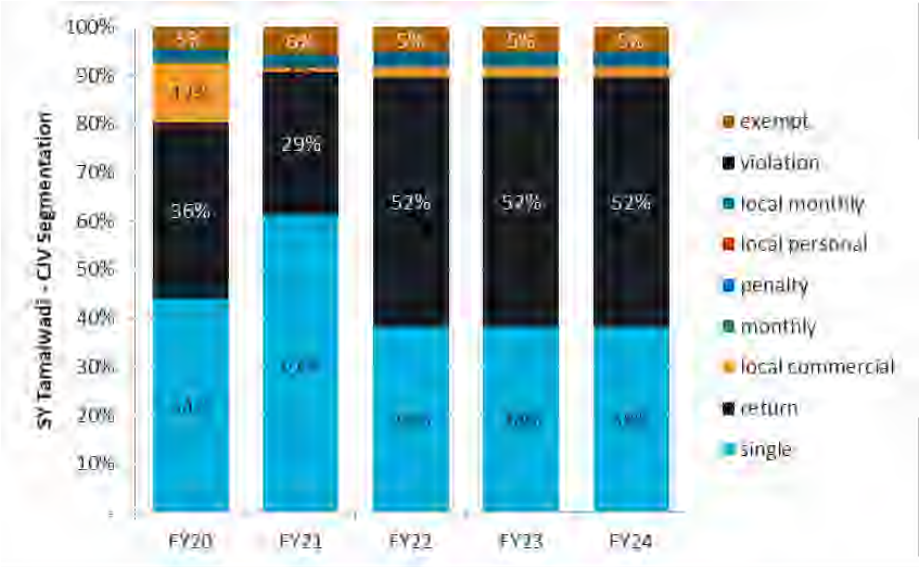
Source: Steer analysis of Client TMS data

Toll segmentation

6.44 Toll segmentation on the Assets has been discussed in detail in chapter 3. The trends have largely been stabilising over the last few months post the mandatory implementation of fast tag 15th Feb 2021 onwards indicating a reduction in the share of exemptions and violations due to FASTag implementation and penetration. By March 2021, FASTag penetration improved alongside normalisation of the trip patterns within Single and Return category across vehicle categories. April and May 2021 were impacted by Covid19 second wave leading to substantial reduction in traffic thereby disrupting traffic patterns. Therefore, the segmentation observed in March 2021 has been taken as a starting point to estimate the future segmentation.

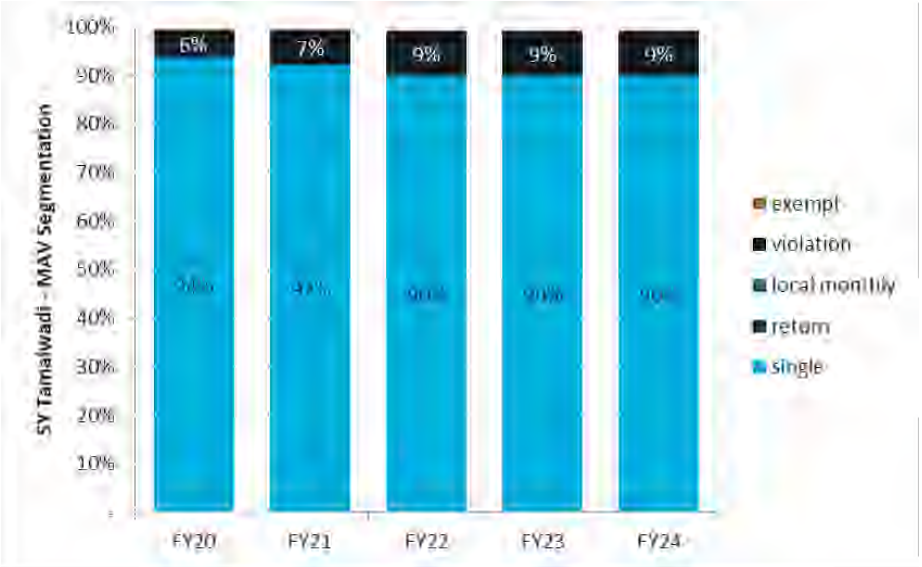
6.45 The toll segmentation adopted in the future years for calculating revenue is presented below for all the vehicle types and toll plazas

Figure 6.7: CJV toll segmentation evolution – SY Tamalwadi



Source: Steer analysis

Figure 6.8: MAV toll segmentation evolution – SY Tamalwadi



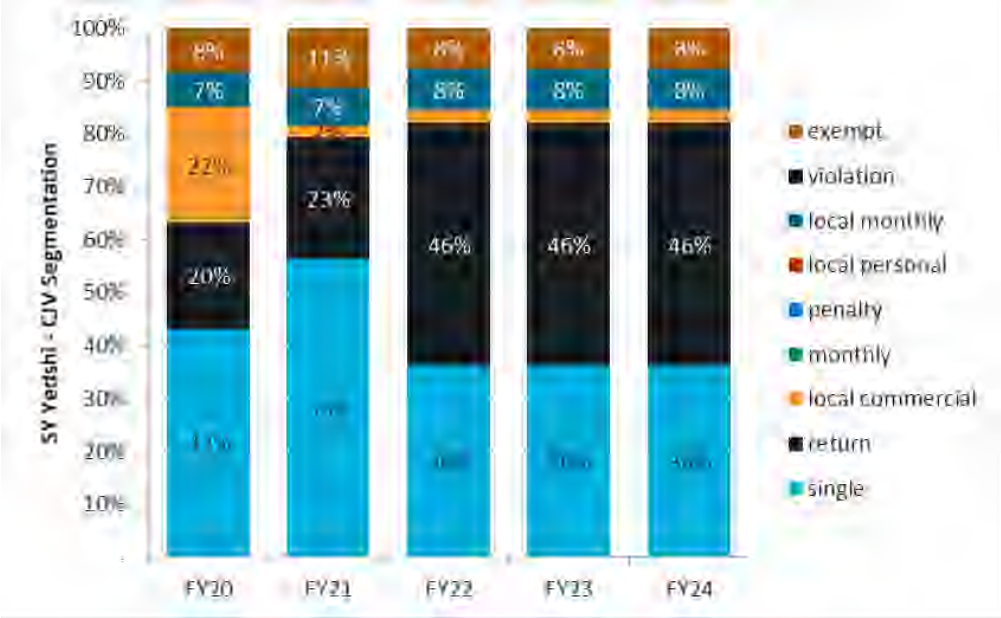
Source: Steer analysis

Table 6.25: Toll segmentation – SY Tamalwadi for FY21

Ticket type	CJV	Bus	LCV	2A	3A	MAV
Single	38.2%	11.9%	49.6%	68.7%	73.9%	89.9%
Return	51.6%	81.6%	30.5%	28.6%	22.5%	9.2%
Monthly	-	-	-	-	-	-
Local commercial	2.0%	0.9%	6.2%	2.6%	2.9%	0.8%
Local personal	-	-	-	-	-	-
Local monthly	3.1%	5.2%	3.0%	-	-	-
Exemptions	-	-	-	-	-	-
Violations	5.2%	0.3%	10.7%	0.2%	0.6%	0.1%

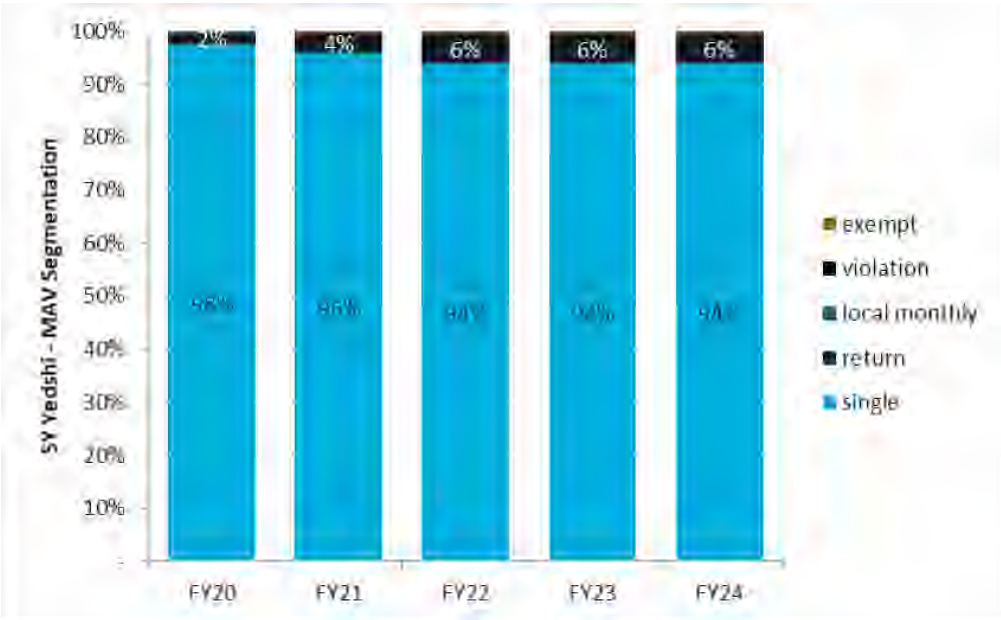
Source: Steer analysis of Client TMS data

Figure 6.9: CJV toll segmentation evolution – SY Yedeshi



Source: Steer analysis

Figure 6.10: MAV toll segmentation evolution – SY Yedeshi



Source: Steer analysis

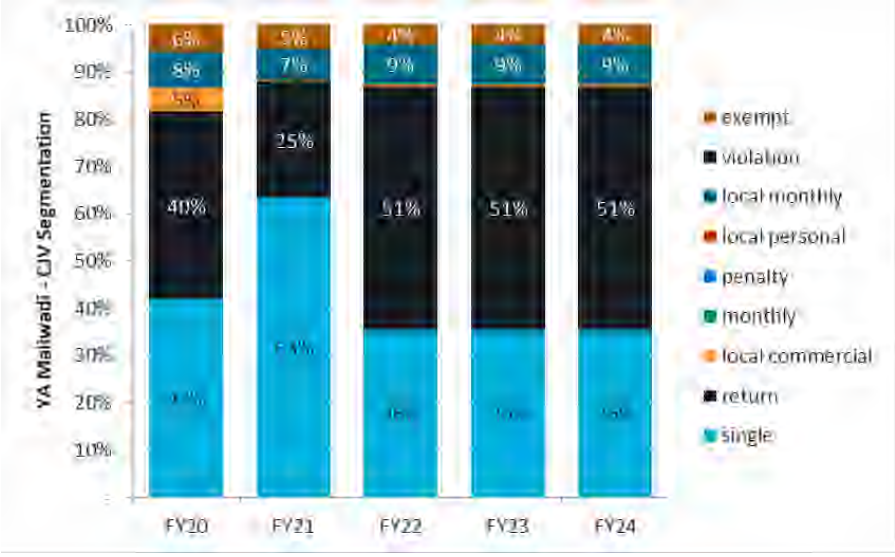
Table 6.26: Toll segmentation for FY21 – SY Yedeshi for FY21

Ticket type	CJV	Bus	LCV	2A	3A	MAV
Single	36.3%	21.8%	63.6%	86.1%	93.1%	93.9%
Return	45.8%	78.2%	22.2%	10.3%	5.6%	5.8%
Monthly	-	-	-	-	-	-
Local commercial	2.6%	-	4.0%	1.4%	0.9%	0.2%
Local personal	-	-	-	-	-	-

Ticket type	CJV	Bus	LCV	2A	3A	MAV
Local monthly	7.6%	-	1.9%	-	0.0%	-
Exemptions	-	-	-	-	-	-
Violations	7.7%	0.0%	8.2%	2.2%	0.3%	0.1%

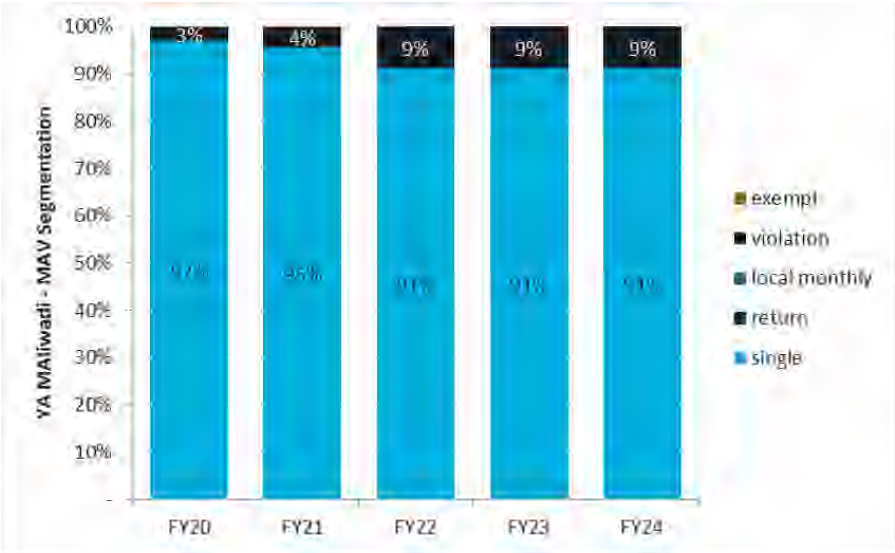
Source: Steer analysis of Client TMS data

Figure 6.11: CJV toll segmentation evolution – YA Maliwadi



Source: Steer analysis

Figure 6.12: MAV toll segmentation evolution – YA Maliwadi



Source: Steer analysis

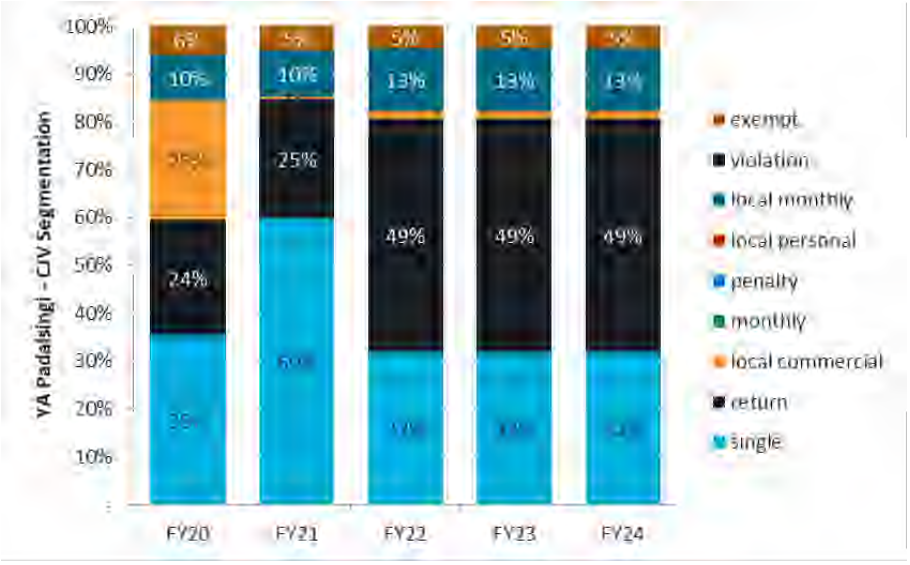
Table 6.27: Toll segmentation for FY21 – YA Maliwadi for FY21

Ticket type	CJV	Bus	LCV	2A	3A	MAV
Single	35.5%	13.9%	63.4%	76.4%	86.9%	91.0%
Return	51.4%	86.1%	24.3%	21.9%	11.9%	8.9%
Monthly	-	-	-	1.1%	0.2%	-

Local commercial	0.4%	-	0.3%	0.4%	0.4%	0.0%
Local personal	-	-	-	-	-	-
Local monthly	8.6%	-	9.6%	-	0.5%	-
Exemptions	-	-	-	-	-	-
Violations	4.1%	0.1%	2.4%	0.1%	0.0%	0.0%

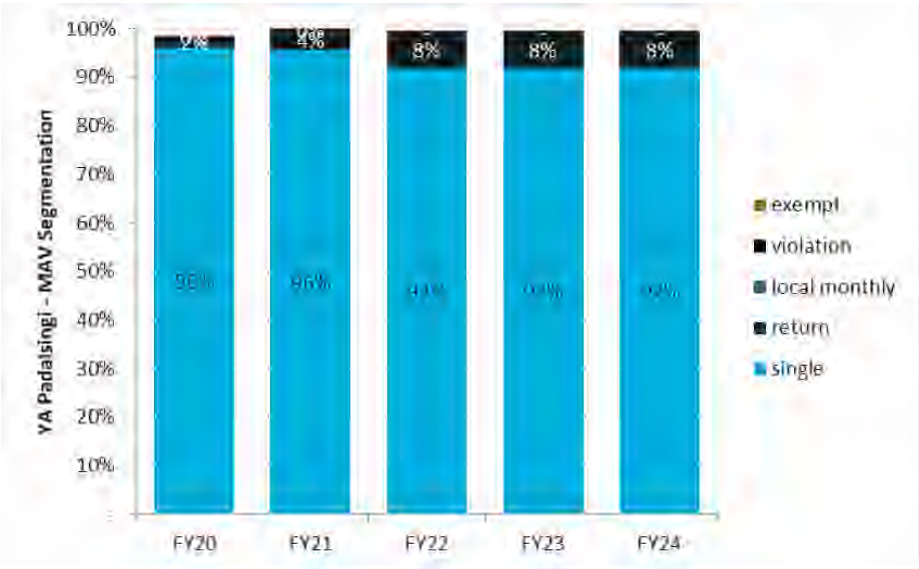
Source: Steer analysis of Client TMS data

Figure 6.13: CJV toll segmentation evolution – YA Padalsingi



Source: Steer analysis

Figure 6.14: MAV toll segmentation evolution – YA Padalsingi



Source: Steer analysis

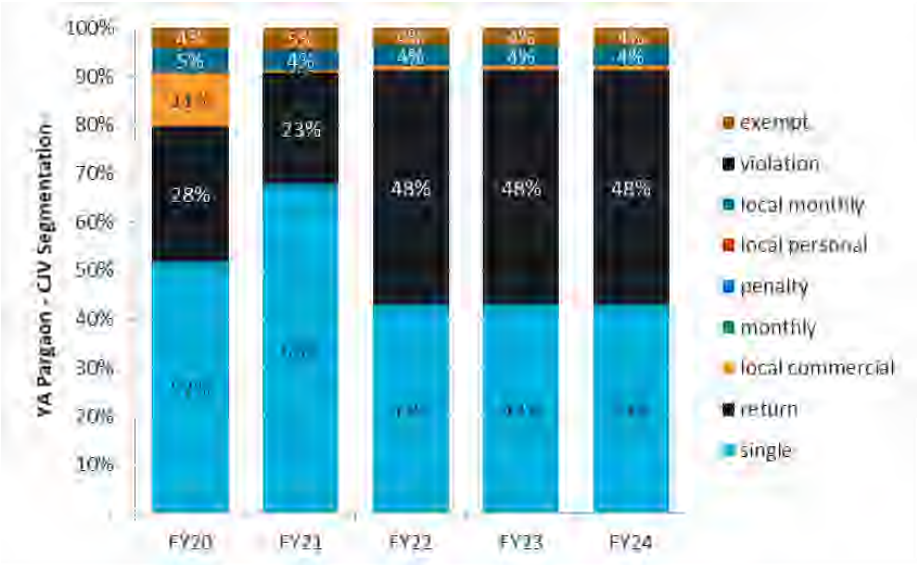
Table 6.28: Toll segmentation for FY21 – YA Padalsingi for FY21

Ticket type	CJV	Bus	LCV	2A	3A	MAV
Single	31.9%	13.4%	59.7%	77.9%	81.7%	91.9%
Return	48.8%	84.9%	26.1%	18.5%	12.4%	7.5%

Ticket type	CJV	Bus	LCV	2A	3A	MAV
Monthly	-	-	-	-	-	-
Local commercial	1.4%	1.6%	7.8%	3.5%	5.9%	0.5%
Local personal	-	-	-	-	-	-
Local monthly	13.2%	-	1.6%	-	-	-
Exemptions	-	-	-	-	-	-
Violations	4.7%	0.0%	4.8%	0.1%	0.0%	0.0%

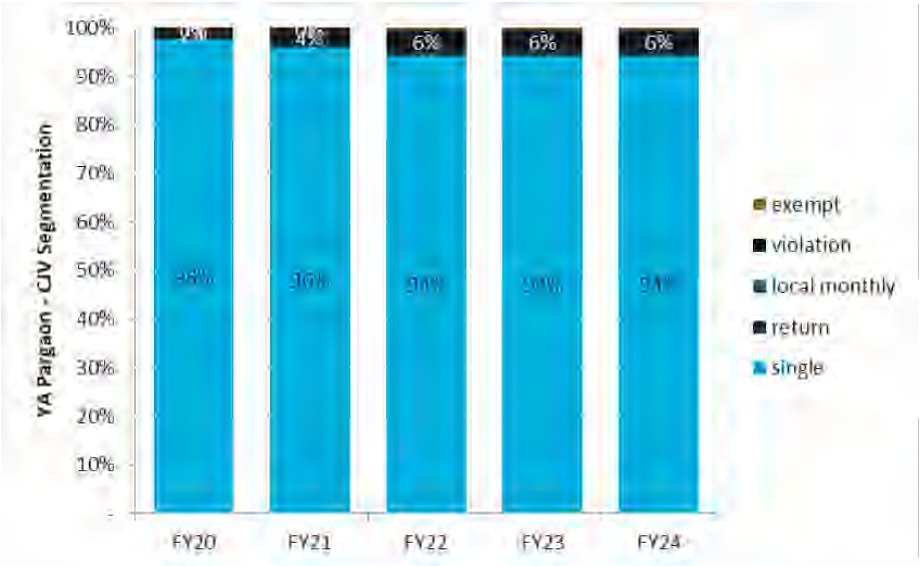
Source: Steer analysis of Client TMS data

Figure 6.15: CJV toll segmentation evolution – YA Pargaon



Source: Steer analysis

Figure 6.16: MAV toll segmentation evolution – YA Pargaon



Source: Steer analysis

Table 6.29: Toll segmentation for FY21 – YA Pargaon for FY21

Ticket type	CJV	Bus	LCV	2A	3A	MAV
Single	43.0%	24.5%	70.1%	80.8%	90.3%	94.3%
Return	48.2%	75.4%	25.6%	18.6%	9.1%	5.5%
Monthly	-	-	-	-	-	-
Local commercial	0.9%	-	2.2%	0.6%	0.6%	0.1%
Local personal	-	-	-	-	-	-
Local monthly	4.3%	-	-	-	-	-
Exemptions	-	-	-	-	-	-
Violations	3.5%	0.1%	2.1%	0.1%	0.0%	0.0%

Source: Steer analysis of Client TMS data

6.46 Based on our analysis of recent trends in FASTag penetration rates by vehicle class, we believe that this will largely peak by FY23 for light vehicles and 2A after which it will remain stable. Heavy vehicles, already showing 90-95% of penetration already. Whilst FASTag has become mandatory for all vehicles at all toll plazas as of February 2021, in reality we still anticipate a small percentage of vehicles to continue to pay via cash and other mode of payment. A full shift to FASTag will be extremely difficult and unlikely, explaining FASTag targets being set to below 100%.

Overloading

6.47 As per our discussion with the Client, on the Asset there is a requirement under the CA to install WIM and static weighbridge to charge overloading. In our experience, overloading is a common practice and is expected to continue at low levels. It is further known that except few specific Assets, concessionaires are only able to charge out up to 2x the toll rate as overloading penalty[12], irrespective of the level of overloading. Therefore, we assume that the overloaded vehicles on the Assets will be charged twice the toll fee as penalty plus the single ticket they would otherwise pay for their ticket type at the toll plaza.

6.48 The table shows the assumptions for share of overloaded vehicles currently being charged a penalty on the toll plazas.

Table 6.30: Overloading assumptions from FY22 onwards

Vehicle Category	Tamalwadi	Yedshi	Maliwadi	Padalsingi	Pargaon
CJV					4.6%
Bus	3.7%	5.0%			
LCV	1.8%	1.0%			
2A	1.2%	0.4%	0.00045%		
3A	3.2%	2.0%		0.00030%	
MAV	4.7%	2.9%			

[12] Latest overloading policy mandates 2x,4x,6x, 8x and 10x penalty charges if the user is 20%, 40%,60%,80% or 100% overloaded respectively.

Source: Steer analysis of the TMS data

Toll evolution

6.49 Based on the concession agreement and the gazetted toll notification, we see that base toll rates increase every year based on WPI-linked inflation to provide us unrounded toll rates. These are rounded as per the CA and toll notifications to estimate the rounded toll rates charged to the road user. We have used actual toll rates from FY20 and FY21 toll notifications to validate the modelling of the toll evolution. These toll lengths are presented in the table below:

Table 6.31: Tolling lengths for toll evolution – SY & YA

	Toll Lengths (FCOD)				
Length (km)	Tamalwadi	Yedeshi	Maliwadi	Padalsingi	Pargaon
Road length excluding bypass	45.563	47.587	56.914	56.499	47.200
Structure on road	3.437	2.130	11.109	12.501	4.800
Converted length of structures	34.37	21.30	111.090	125.010	48.000
Net Tollable length	45.563	47.587	56.914	56.499	47.200

Source: Steer analysis of toll notifications and concession agreement (CA)

6.50 Increase in WPI was calculated based on the WPI numbers are based on the latest year number provided by RBI and forecast are based on the numbers estimated in annual report published by Consensus, as shown in the table below. The upward trend in inflation is expected to continue in the medium term, before gradually tapering to 4.0% in the long term.

Table 6.32: WPI growth forecast assumptions

Financial year	WPI growth (%)
FY22	2.0%
FY23	9.2%
FY24	4.8%
FY25	5.1%
FY26	4.6%
FY27	4.6%
FY28	4.6%
FY29	4.6%
FY30	4.6%
FY31	4.6%
FY32	4.5%
FY33	4.5%
FY34	4.5%
FY35	4.4%
FY36	4.4%
FY37	4.4%
FY38	4.3%
FY39	4.3%

Financial year	WPI growth (%)
FY40	4.3%
FY41	4.2%
FY42	4.2%
FY43	4.1%
FY44	4.1%
FY45	4.1%
FY46	4.0%
FY47	4.0%

Source: RBI, Annual report by Consensus

Revenue reconciliation

6.51 As part of validating the traffic data provided by the Client, as well as our assumptions around toll segmentation and trip factors, we have reconciled the actual reported revenue for FY21 for the Assets. To reconcile we have used the reported segmentation, and FY21 AADT (actual) and compared it with the reported revenue. Due to the mandatory implementation of FASTag, all cash trips had to pay penalty fare. In our segmentation we do not assume any penalty in the future years as the revenue from penalty fares is currently being claimed by NHAI. In addition, several special local passes (local monthly) are being issued on a toll plaza level to deal with local users not willing to pay toll. The usage for these local passes changes on a month to month basis hence larger differences in reconciliation is observed.

6.52 Therefore, the delta is more between the reported revenue and the modelled revenue for FY2021. We believe our segmentation assumptions are robust although there is 1.7% variation on SY and 2.1% variation in YA revenues on the Assets level. This is mainly due to the penalties and local passes trip data shared by toll plaza. The comparison, as shown in the table below, shows the modelled revenue and the reported revenue.

6.53 The comparison, as shown in the table below, shows revenues overall within acceptable differences and therefore the model shows a good fit with the forecast assumptions.

Table 6.33: Revenue reconciliation summary

Assets	Steer modelled revenue (INR Cr)	Reported revenue (INR Cr)	Difference (%)
SY	71.47	69.31	1.7%
YA	134.24	131.51	2.1%

Source: Steer comparison between modelled and reported revenue

Traffic and Revenue forecasts

PCU factor assumption for forecasts

6.54 The PCU factors considered are given in the table below and are derived from IRC: 16-1990 code.

Table 6.34: PCU factors

Vehicle Category	PCU Factor
CJV	1.0

Vehicle Category	PCU Factor
LCV	1.5
Bus	3.0
2A	3.0
3A	3.0
MAV	4.5
OSV	4.5

Source: Steer analysis

6.55 Based on the traffic and revenue-related forecast assumptions discussed above, we have modelled the traffic and revenue forecasts for the forecast period for the Assets. The table below presents the MADT/PCU and revenue forecast growth rates and CAGRs on this Assets. Further, Appendix B presents the AADT and revenues for the forecast period.

6.56 Please note that below tables present the normalised traffic for FY21 and FY22 (FY21N and FY22N) as detailed above. FY22 also includes the exogenous impacts assumed in FY22.

SY – Tamalwadi

Table 6.35: Final (background plus impacts) AADT forecast – TP1 Tamalwadi

Vehicle Type	FY21	FY22	FY25	FY27	FY32	FY37	FY42	FY45
CJV	6,119	5,620	6,882	7,894	10,822	14,255	18,289	21,040
Mini LCV	0	989	1,087	1,158	1,340	1,522	1,707	1,820
Bus	627	645	677	699	752	802	849	877
LCV	827	871	956	1,019	1,179	1,339	1,501	1,602
2A	994	1,069	1,239	1,331	1,608	1,872	2,148	2,321
3A	874	921	1,126	1,216	1,553	1,853	2,175	2,380
MAV	1,226	1,305	1,742	1,915	2,648	3,321	4,076	4,574
OSV	1	1	1	1	2	2	3	3
AADT	**10,669**	**11,421**	**13,710**	**15,234**	**19,903**	**24,966**	**30,748**	**34,616**
PCU's	**20,370**	**21,697**	**26,374**	**28,943**	**37,594**	**46,323**	**56,119**	**62,590**

Source: Steer analysis

Table 6.36: Final (background plus impacts) AADT CAGR (%) – TP1 Tamalwadi

Vehicle Type	FY22-FY25	FY25-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY22-FY45
CJV	7.0%	7.1%	6.5%	5.7%	5.1%	5.9%
Mini LCV	3.2%	3.2%	3.0%	2.6%	2.3%	2.7%
Bus	1.6%	1.6%	1.5%	1.3%	1.2%	1.3%
LCV	3.2%	3.2%	3.0%	2.6%	2.3%	2.7%
2A	5.0%	3.6%	3.9%	3.1%	2.8%	3.4%
3A	7.0%	3.9%	5.0%	3.6%	3.3%	4.2%

MAV	10.1%	4.9%	6.7%	4.6%	4.2%	5.6%
OSV	5.3%	5.8%	5.3%	4.6%	4.2%	4.8%
AADT	**6.3%**	**5.4%**	**5.5%**	**4.6%**	**4.3%**	**4.9%**
PCU's	**6.7%**	**4.8%**	**5.4%**	**4.3%**	**3.9%**	**4.7%**

Source: Steer analysis

Table 6.37: Revenue (INR crores) forecast – TP1 Tamalwadi

Vehicle Type	FY21	FY22	FY25	FY27	FY32	FY37	FY42	FY45
CJV	10.7	10.3	14.6	18.0	32.2	52.9	85.6	113.1
Mini LCV	0.0	2.7	3.4	4.0	6.0	8.5	12.0	14.6
Bus	3.4	3.7	4.6	5.3	7.2	9.6	12.8	15.2
LCV	2.5	2.5	3.3	3.8	5.6	8.0	11.3	13.9
2A	6.7	7.7	10.5	12.4	19.2	28.0	40.4	50.1
3A	6.7	7.5	10.9	12.9	20.9	31.5	46.5	58.5
MAV	14.5	16.9	26.5	31.8	55.8	88.4	136.8	175.6
OSV	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
Total Revenue	**44.5**	**51.2**	**73.9**	**88.2**	**147.0**	**226.9**	**345.6**	**441.1**

Source: Steer analysis

Table 6.38: Final (background plus impacts) revenue CAGR (%) – TP1 Tamalwadi

Vehicle Type	FY22-FY25	FY25-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY22-FY45
CJV	12.3%	11.3%	12.3%	10.4%	10.1%	11.0%
Mini LCV	8.3%	7.4%	8.5%	7.2%	7.2%	7.6%
Bus	7.2%	6.8%	6.4%	6.0%	5.9%	6.3%
LCV	9.6%	7.5%	8.1%	7.5%	7.1%	7.8%
2A	11.2%	8.8%	9.0%	7.9%	7.7%	8.5%
3A	13.5%	8.6%	10.1%	8.5%	8.1%	9.3%
MAV	16.3%	9.4%	11.9%	9.6%	9.1%	10.7%
OSV	11.4%	10.7%	10.5%	9.6%	9.1%	9.9%
Total Revenue	**13.0%**	**9.3%**	**10.8%**	**9.1%**	**8.8%**	**9.8%**

Source: Steer analysis

SY – Yedeshi

Table 6.39: Final (background plus impacts) AADT forecast – TP2 Yedeshi

Vehicle Type	FY21	FY22	FY25	FY27	FY32	FY37	FY42	FY45
CJV	3,699	3,429	4,125	4,675	6,233	8,012	10,054	11,423

Vehicle Type	FY21	FY22	FY25	FY27	FY32	FY37	FY42	FY45
Mini LCV	0	586	644	686	794	902	1,011	1,079
Bus	221	219	230	237	255	272	288	298
LCV	506	532	585	623	721	818	918	979
2A	844	905	1,055	1,132	1,270	1,479	1,697	1,833
3A	924	978	1,214	1,312	1,609	1,920	2,253	2,465
MAV	1,552	1,659	2,204	2,432	3,209	4,024	4,939	5,542
OSV	1	1	1	1	2	2	3	3
AADT	**7,745**	**8,310**	**10,058**	**11,099**	**14,092**	**17,430**	**21,163**	**23,621**
PCU's	**17,409**	**18,590**	**23,066**	**25,291**	**31,958**	**39,274**	**47,394**	**52,709**

Source: Steer analysis

Table 6.40: Final (background plus impacts) AADT CAGR (%) – TP2 Yedeshi

Vehicle Type	FY22-FY25	FY25-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY22-FY45
CJV	6.4%	6.5%	5.9%	5.2%	4.6%	5.4%
Mini LCV	3.2%	3.2%	3.0%	2.6%	2.3%	2.7%
Bus	1.6%	1.6%	1.5%	1.3%	1.2%	1.3%
LCV	3.2%	3.2%	3.0%	2.6%	2.3%	2.7%
2A	5.2%	3.6%	2.3%	3.1%	2.8%	3.1%
3A	7.5%	4.0%	4.2%	3.6%	3.3%	4.1%
MAV	9.9%	5.0%	5.7%	4.6%	4.2%	5.4%
OSV	5.7%	5.8%	5.3%	4.6%	4.2%	4.8%
AADT	**6.6%**	**5.0%**	**4.9%**	**4.3%**	**4.0%**	**4.6%**
PCU's	**7.5%**	**4.7%**	**4.8%**	**4.2%**	**3.8%**	**4.6%**

Source: Steer analysis

Table 6.41: Revenue (INR crores) forecast – TP2 Yedeshi

Vehicle Type	FY21	FY22	FY25	FY27	FY32	FY37	FY42	FY45
CJV	5.8	5.9	8.1	10.0	17.3	27.8	44.0	57.3
Mini LCV	0.0	1.5	1.9	2.2	3.3	4.6	6.5	8.0
Bus	1.3	1.4	1.7	2.0	2.7	3.6	4.8	5.7
LCV	1.5	1.6	2.1	2.5	3.7	5.3	7.4	9.1
2A	5.8	6.6	9.2	10.8	15.5	22.6	32.7	40.4
3A	7.4	8.3	12.4	14.6	22.7	34.2	50.5	63.5
MAV	18.2	21.1	33.0	39.6	66.5	105.2	162.8	209.0
OSV	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1

Vehicle Type	FY21	FY22	FY25	FY27	FY32	FY37	FY42	FY45
Total Revenue	**40.0**	**46.4**	**68.4**	**81.7**	**131.7**	**203.3**	**308.9**	**393.2**

Source: Steer analysis

Table 6.42: Revenue CAGR (%) – TP2 Yedeshi

Vehicle Type	FY22-FY25	FY25-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY22-FY45
CJV	11.6%	10.6%	11.7%	9.9%	9.6%	10.4%
Mini LCV	8.3%	7.4%	8.5%	7.2%	7.2%	7.6%
Bus	7.3%	6.8%	6.5%	6.0%	5.9%	6.3%
LCV	9.6%	7.4%	8.1%	7.5%	7.2%	7.8%
2A	11.5%	8.7%	7.4%	7.9%	7.7%	8.2%
3A	14.0%	8.6%	9.3%	8.5%	8.1%	9.2%
MAV	16.1%	9.6%	10.9%	9.6%	9.1%	10.5%
OSV	11.9%	10.7%	10.5%	9.6%	9.1%	10.0%
Total Revenue	**13.8%**	**9.2%**	**10.0%**	**9.1%**	**8.7%**	**9.7%**

Source: Steer analysis

YA - Maliwadi

Table 6.43: Final (background plus impacts) AADT forecast – TP1 Maliwadi

Vehicle Type	FY21	FY22	FY25	FY27	FY32	FY37	FY42	FY44
CJV	3,991	3,736	4,494	5,093	6,789	8,728	10,952	11,933
Mini LCV	0	575	631	673	778	884	991	1,035
Bus	335	435	456	471	507	541	573	585
LCV	472	497	546	582	673	764	857	895
2A	833	798	931	1,000	1,121	1,305	1,497	1,577
3A	813	860	1,080	1,166	1,429	1,706	2,002	2,127
MAV	1,319	1,411	1,910	2,103	2,783	3,490	4,283	4,627
OSV	1	1	1	1	2	2	3	3
AADT	**7,763**	**8,313**	**10,050**	**11,088**	**14,082**	**17,419**	**21,158**	**22,782**
PCU's	**16,581**	**17,690**	**21,949**	**24,018**	**30,279**	**37,126**	**44,729**	**48,013**

Source: Steer analysis

Table 6.44: Final (background plus impacts) AADT CAGR (%) – TP1 Maliwadi

Vehicle Type	FY22-FY25	FY25-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY22-FY44
CJV	6.4%	6.5%	5.9%	5.2%	4.6%	5.4%
Mini LCV	3.2%	3.2%	3.0%	2.6%	2.3%	2.7%

Vehicle Type	FY22-FY25	FY25-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY22-FY44
Bus	1.6%	1.6%	1.5%	1.3%	1.2%	1.4%
LCV	3.2%	3.2%	3.0%	2.6%	2.3%	2.7%
2A	5.3%	3.6%	2.3%	3.1%	2.8%	3.1%
3A	7.9%	3.9%	4.2%	3.6%	3.3%	4.2%
MAV	10.6%	4.9%	5.8%	4.6%	4.2%	5.5%
OSV	5.7%	5.8%	5.3%	4.6%	4.2%	4.9%
AADT	**6.5%**	**5.0%**	**4.9%**	**4.3%**	**4.0%**	**4.7%**
PCU's	**7.5%**	**4.6%**	**4.7%**	**4.2%**	**3.8%**	**4.6%**

Source: Steer analysis

Table 6.45: Revenue (INR crores) forecast – TP1 Maliwadi

Vehicle Type	FY21	FY22	FY25	FY27	FY32	FY37	FY42	FY44
CJV	9.7	9.3	13.1	16.6	28.2	45.7	71.9	85.8
Mini LCV	0.0	2.2	2.8	3.3	4.9	7.0	9.9	11.3
Bus	2.7	3.9	4.9	5.5	7.6	10.2	13.5	15.2
LCV	2.0	2.2	3.0	3.4	5.0	7.2	10.3	11.7
2A	7.7	8.4	11.6	13.7	19.4	28.5	41.1	47.5
3A	8.3	10.1	15.0	17.8	27.7	41.7	61.6	72.0
MAV	20.3	24.4	38.9	47.0	79.2	124.6	192.7	228.7
OSV	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2
Total Revenue	**50.7**	**60.6**	**89.3**	**107.4**	**172.0**	**265.1**	**401.2**	**472.3**

Source: Steer analysis

Table 6.46: Revenue CAGR (%) – TP1 Maliwadi

Vehicle Type	FY22-FY25	FY25-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY22-FY44
CJV	12.3%	12.5%	11.1%	10.2%	9.5%	10.6%
Mini LCV	9.0%	8.7%	8.1%	7.5%	7.0%	7.8%
Bus	7.5%	6.6%	6.4%	6.1%	5.9%	6.3%
LCV	9.7%	7.7%	7.9%	7.5%	7.2%	7.8%
2A	11.2%	8.5%	7.3%	8.0%	7.6%	8.2%
3A	14.0%	9.0%	9.2%	8.5%	8.1%	9.3%
MAV	16.8%	9.9%	11.0%	9.5%	9.1%	10.7%
OSV	11.6%	11.0%	10.4%	9.6%	9.1%	10.0%
Total Revenue	**13.8%**	**9.7%**	**9.9%**	**9.0%**	**8.6%**	**9.8%**

Source: Steer analysis

YA - Padalsingi

Table 6.47: Final (background plus impacts) AADT forecast – TP2 Padalsingi

Vehicle Type	FY21	FY22	FY25	FY27	FY32	FY37	FY42	FY44
CJV	5,034	4,589	5,521	6,257	8,341	10,722	13,455	14,660
Mini LCV	0	849	932	993	1,149	1,305	1,464	1,528
Bus	490	587	616	636	684	729	773	790
LCV	739	777	854	910	1,053	1,195	1,341	1,400
2A	1,093	1,091	1,283	1,396	1,635	1,951	2,290	2,432
3A	1,075	1,138	1,397	1,511	1,853	2,211	2,595	2,757
MAV	1,664	1,780	2,347	2,592	3,416	4,283	5,257	5,680
OSV	1	1	1	1	2	2	3	3
AADT	**10,096**	**10,813**	**12,950**	**14,296**	**18,131**	**22,400**	**27,176**	**29,249**
PCU's	**21,610**	**23,067**	**28,186**	**30,913**	**38,960**	**47,780**	**57,568**	**61,794**

Source: Steer analysis

Table 6.48: Final (background plus impacts) AADT CAGR (%) – TP2 Padalsingi

Vehicle Type	FY22-FY25	FY25-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY22-FY44
CJV	6.4%	6.5%	5.9%	5.2%	4.6%	5.4%
Mini LCV	3.2%	3.2%	3.0%	2.6%	2.3%	2.7%
Bus	1.6%	1.6%	1.5%	1.3%	1.2%	1.4%
LCV	3.2%	3.2%	3.0%	2.6%	2.3%	2.7%
2A	5.6%	4.3%	3.2%	3.6%	3.3%	3.7%
3A	7.1%	4.0%	4.2%	3.6%	3.3%	4.1%
MAV	9.7%	5.1%	5.7%	4.6%	4.2%	5.4%
OSV	5.7%	5.8%	5.3%	4.6%	4.2%	4.9%
AADT	**6.2%**	**5.1%**	**4.9%**	**4.3%**	**3.9%**	**4.6%**
PCU's	**6.9%**	**4.7%**	**4.7%**	**4.2%**	**3.8%**	**4.6%**

Source: Steer analysis

Table 6.49: Revenue (INR crores) forecast – TP2 Padalsingi

Vehicle Type	FY21	FY22	FY25	FY27	FY32	FY37	FY42	FY44
CJV	12.2	12.6	17.8	22.0	37.6	60.8	96.0	114.3
Mini LCV	0.0	3.2	4.1	4.7	7.1	10.1	14.2	16.2
Bus	3.7	5.4	6.7	7.6	10.3	13.9	18.5	20.8
LCV	6.2	9.4	12.2	14.2	20.9	29.9	42.2	48.5
2A	9.9	11.8	16.3	19.6	28.9	43.8	64.4	75.2

Vehicle Type	FY21	FY22	FY25	FY27	FY32	FY37	FY42	FY44
3A	10.6	13.5	19.5	23.1	36.0	54.3	79.8	93.5
MAV	24.2	31.5	49.1	59.3	99.2	157.0	242.5	288.2
OSV	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2
Total Revenue	**66.9**	**87.3**	**125.6**	**150.6**	**240.2**	**369.8**	**557.8**	**656.9**

Source: Steer analysis

Table 6.50: Revenue CAGR (%) – TP2 Padalsingi

Vehicle Type	FY22-FY25	FY25-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY22-FY44
CJV	12.1%	11.2%	11.4%	10.1%	9.6%	10.5%
Mini LCV	8.8%	7.8%	8.3%	7.4%	7.1%	7.7%
Bus	7.6%	6.6%	6.3%	6.1%	5.9%	6.3%
LCV	9.3%	7.9%	8.0%	7.4%	7.1%	7.8%
2A	11.5%	9.7%	8.1%	8.6%	8.0%	8.8%
3A	13.0%	9.0%	9.3%	8.5%	8.0%	9.2%
MAV	15.9%	9.9%	10.8%	9.6%	9.1%	10.6%
OSV	11.8%	10.9%	10.4%	9.6%	9.1%	10.0%
Total Revenue	**12.9%**	**9.5%**	**9.8%**	**9.0%**	**8.6%**	**9.6%**

Source: Steer analysis

YA - Pargaon

Table 6.51: Final (background plus impacts) AADT forecast – TP3 Pargaon

Vehicle Type	FY21	FY22	FY25	FY27	FY32	FY37	FY42	FY44
CJV	2,398	2,177	2,666	3,059	4,193	5,523	7,086	7,785
Mini LCV	0	426	468	498	577	655	735	767
Bus	194	218	229	236	254	271	287	293
LCV	431	453	498	531	614	697	782	817
2A	943	981	1,139	1,223	1,381	1,608	1,845	1,943
3A	986	1,043	1,289	1,394	1,709	2,040	2,393	2,543
MAV	1,561	1,670	2,215	2,445	3,225	4,045	4,964	5,363
OSV	1	1	1	1	2	2	3	3
AADT	**6,514**	**6,970**	**8,505**	**9,387**	**11,954**	**14,840**	**18,094**	**19,514**
PCU's	**16,443**	**17,531**	**21,826**	**23,921**	**30,243**	**37,190**	**44,918**	**48,261**

Source: Steer analysis

Table 6.52: Final (background plus impacts) AADT CAGR (%) – TP3 Pargaon

Vehicle Type	FY22-FY25	FY25-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY22-FY44
CJV	7.0%	7.1%	6.5%	5.7%	5.1%	6.0%
Mini LCV	3.2%	3.2%	3.0%	2.6%	2.3%	2.7%
Bus	1.6%	1.6%	1.5%	1.3%	1.2%	1.4%
LCV	3.2%	3.2%	3.0%	2.6%	2.3%	2.7%
2A	5.1%	3.6%	2.5%	3.1%	2.8%	3.2%
3A	7.3%	4.0%	4.2%	3.6%	3.3%	4.1%
MAV	9.9%	5.1%	5.7%	4.6%	4.2%	5.4%
OSV	5.7%	5.8%	5.3%	4.6%	4.2%	4.9%
AADT	**6.9%**	**5.1%**	**5.0%**	**4.4%**	**4.0%**	**4.8%**
PCU's	**7.6%**	**4.7%**	**4.8%**	**4.2%**	**3.8%**	**4.7%**

Source: Steer analysis

Table 6.53: Revenue (INR crores) forecast – TP3 Pargaon

Vehicle Type	FY21	FY22	FY25	FY27	FY32	FY37	FY42	FY44
CJV	4.8	4.4	6.5	8.0	14.1	23.6	38.0	45.5
Mini LCV	0.0	1.2	1.6	1.8	2.7	3.9	5.5	6.3
Bus	1.2	1.4	1.8	2.0	2.8	3.7	5.0	5.6
LCV	1.4	1.6	2.1	2.4	3.7	5.2	7.3	8.4
2A	6.8	7.8	10.7	12.5	18.0	26.2	38.0	43.9
3A	7.8	9.3	13.5	15.9	24.9	37.3	55.3	64.3
MAV	18.0	21.3	33.5	40.9	68.0	107.6	166.0	197.2
OSV	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
Total Revenue	**40.0**	**47.1**	**69.7**	**83.6**	**134.2**	**207.6**	**315.2**	**371.3**

Source: Steer analysis

Table 6.54: Revenue CAGR (%) – TP3 Pargaon

Vehicle Type	FY22-FY25	FY25-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY22-FY44
CJV	14.2%	10.9%	12.0%	10.8%	10.0%	11.3%
Mini LCV	10.0%	7.1%	8.2%	7.6%	7.1%	7.8%
Bus	7.5%	6.4%	6.4%	6.1%	5.9%	6.3%
LCV	9.1%	7.1%	8.3%	7.2%	7.2%	7.7%
2A	10.9%	8.4%	7.5%	7.8%	7.7%	8.2%
3A	13.4%	8.4%	9.5%	8.4%	8.2%	9.2%
MAV	16.2%	10.5%	10.7%	9.6%	9.1%	10.6%

Vehicle Type	FY22-FY25	FY25-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY22-FY44
OSV	11.8%	10.8%	10.5%	9.5%	9.1%	10.0%
Total Revenue	**14.0%**	**9.5%**	**9.9%**	**9.1%**	**8.7%**	**9.8%**

Source: Steer analysis

Upside and Downside Cases

Upside and Downside scenario assumptions

6.57 We have developed our base case scenario considering a balanced view on the risks associated with input assumptions around GDP growth and traffic growth elasticities. There is always a risk that the outturn values of these inputs will vary as compared to the assumptions taken due to exogenous impacts, e.g. GDP growth could be influenced both positively and negatively by the impact of monsoons, export-import balances, political changes etc.

6.58 Similarly, traffic growth elasticities could be influenced by increased efficiencies achieved by technology, large shifts in commodity prices globally, changes in local manufacturing practices. However, at this stage we consider that the base case represents a central case scenario given the risks of variation of input assumptions.

6.59 To account for the possible variations in the growth drivers, we are also presenting the forecasts for an Upside (optimistic) and a Downside (pessimistic) scenario. These scenarios are defined by the following variations from the base assumptions:

Table 6.55: Summary of Macro Assumptions for upside and downside cases

Asset	Input	Upside	Downside
Macro Assumptions			
SY & YA	GDP/GSDP	+1% every year	-1% every year
SY & YA	WPI	+1% every year	-1% every year
SY & YA	Elasticities	+ 10%	- 10%

Source: Steer analysis

6.60 Further, network developments are highly dependent on governmental directions, policies, legal and financial measure which might result in early or delayed completion of developments discussed in section 6.38 of this Chapter. Therefore, we have included an Upside (optimistic) and a Downside (pessimistic) case for impacts below. However, at this stage, we consider that the base case represents a central case scenario given the risks of variation of input assumptions.

Impacts-Upside Case

6.61 The upside case impacts included in forecasts are summarised in below.

Table 6.56: Summary of impacts on the Assets

Impact	Year	Tamalwadi	Yedeshi	Padalsingi	Pargaon	Maliwadi
Solapur Vijayapura upgrade	FY23 onwards	2A: 2.9% 3A: 6.3% MAV: 10.5%	2A: 3.4% 3A: 6.0% MAV: 8.3%	2A: 2.6% 3A: 5.1% MAV: 7.7%	2A: 3% 3A: 5.6% MAV: 8.2%	2A: 3.4% 3A: 6.8% MAV: 9.7%

Impact	Year	Tamalwadi	Yedeshi	Padalsingi	Pargaon	Maliwadi
including Solapur Bypass						
Ahmednagar Tembhurni construction	FY23 onwards	2A: 1.1% 3A: 3.1% MAV: 5.1%	2A: 1.3% 3A: 2.9% MAV: 4.0%	2A: 1.0% 3A: 2.5% MAV: 3.8%	2A: 1.2% 3A: 2.7% MAV: 4.0%	2A: 1.3% 3A: 3.3% MAV: 4.7%
Autram Ghat Tunnel completion	FY27 onwards	2A: 1.9% 3A: 5.7% MAV: 9.4%	2A: 2.3% 3A: 5.3% MAV: 7.4%	2A: 1.8% 3A: 4.6% MAV: 6.9%	2A: 2.0% 3A: 5.0% MAV: 7.3%	2A: 2.3% 3A: 6.1% MAV: 8.7%
Surat-Solapur section of Surat-Chennai expressway	FY29 onwards	No impact	2A: (5.8%) 3A: (5.6%) MAV: (6.4%)	2A: (4.5%) 3A: (4.8%) MAV: (5.9%)	2A: (5.2%) 3A: (5.3%) MAV: (6.3%)	2A: (5.9%) 3A: (6.4%) MAV: (7.5%)
Solapur Chennai section of Surat-Chennai expressway	FY27 onwards	3A: 4.4% MAV: 7.3%	3A: 4.1% MAV: 5.7%	3A: 3.5% MAV: 5.3%	3A: 3.9% MAV: 5.6%	3A: 4.7% MAV: 6.7%

Source: Steer analysis of OD data, and publicly available information

Impacts-Downside Case

6.62 The downside case impacts included in forecasts are summarised in below.

Table 6.57: Summary of impacts on the Assets

Impact	Year	Tamalwadi	Yedeshi	Padalsingi	Pargaon	Maliwadi
Solapur Vijayapura upgrade including Solapur Bypass	FY24 onwards	2A: 1.7% 3A: 3.8% MAV: 6.3%	2A: 2.0% 3A: 3.6% MAV: 5.0%	2A: 1.6% 3A: 3.1% MAV: 4.6%	2A: 1.8% 3A: 3.4% MAV: 4.9%	2A: 2.1% 3A: 4.1% MAV: 5.8%
Ahmednagar Tembhurni construction	FY25 onwards	2A: 0.7% 3A: 1.9% MAV: 3.1%	2A: 0.8% 3A: 1.7% MAV: 2.4%	2A: 0.6% 3A: 1.5% MAV: 2.3%	2A: 0.7% 3A: 1.6% MAV: 2.4%	2A: 0.8% 3A: 2.0% MAV: 2.8%
Autram Ghat Tunnel completion	FY25 onwards	2A: 1.2% 3A: 3.4% MAV: 5.6%	2A: 1.4% 3A: 3.2% MAV: 4.4%	2A: 1.1% 3A: 2.8% MAV: 4.1%	2A: 1.2% 3A: 3.0% MAV: 4.4%	2A: 1.4% 3A: 3.6% MAV: 5.2%
Surat-Solapur section of Surat-Chennai expressway	FY27 onwards	No impact	2A: (9.7%) 3A: (9.4%) MAV: (10.6%)	2A: (7.5%) 3A: (8.0%) MAV: (9.9%)	2A: (8.7%) 3A: (8.8%) MAV: (10.5%)	2A: (9.8%) 3A: (10.6%) MAV: (12.5%)
Solapur Chennai section of Surat-Chennai expressway	FY25 onwards	3A: 2.6% MAV: 4.4%	3A: 2.5% MAV: 3.4%	3A: 2.1% MAV: 3.2%	3A: 2.3% MAV: 3.4%	3A: 2.8% MAV: 4%

Source: Steer analysis of OD data, and publicly available information

6.65 The traffic forecast and growth, and revenue incorporating the upside and downside assumptions are presented in the following sections.

Traffic and Revenue Forecasts - upside scenario

SY – Tamalwadi

Table 6.58: Final (background plus impacts) AADT forecast for upside scenario – TP1 Tamalwadi

Vehicle Type	FY21	FY22	FY25	FY27	FY32	FY37	FY42	FY45
CJV	4,038	5,620	7,257	8,626	12,894	18,461	25,689	31,005
Mini LCV	0	989	1,114	1,208	1,456	1,719	2,003	2,185
Bus	364	645	685	714	784	853	921	962
LCV	906	871	980	1,063	1,281	1,512	1,762	1,922
2A	876	1,069	1,287	1,420	1,795	2,190	2,629	2,918
3A	818	921	1,186	1,334	1,782	2,246	2,778	3,136
MAV	1,097	1,305	1,872	2,180	3,179	4,272	5,606	6,545
OSV	1	1	1	1	2	3	3	4
AADT	**8,101**	**11,421**	**14,384**	**16,546**	**23,172**	**31,256**	**41,392**	**48,677**
PCU's	**16,514**	**21,697**	**27,747**	**31,649**	**43,670**	**57,550**	**74,565**	**86,591**

Source: Steer analysis

Table 6.59: Final (background plus impacts) AADT CAGR (%) for upside scenario – TP1 Tamalwadi

Vehicle Type	FY22-FY25	FY25-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY22-FY45
CJV	8.9%	9.0%	8.4%	7.4%	6.8%	7.7%
Mini LCV	4.0%	4.1%	3.8%	3.4%	3.1%	3.5%
Bus	2.0%	2.1%	1.9%	1.7%	1.6%	1.8%
LCV	4.0%	4.1%	3.8%	3.4%	3.1%	3.5%
2A	6.4%	5.0%	4.8%	4.1%	3.7%	4.5%
3A	8.8%	6.1%	6.0%	4.7%	4.3%	5.5%
MAV	12.8%	7.9%	7.8%	6.1%	5.6%	7.3%
OSV	6.7%	7.4%	6.8%	6.1%	5.6%	6.2%
AADT	**8.0%**	**7.3%**	**7.0%**	**6.2%**	**5.8%**	**6.5%**
PCU's	**8.5%**	**6.8%**	**6.7%**	**5.7%**	**5.3%**	**6.2%**

Source: Steer analysis

Table 6.60: Revenue (INR crores) forecast for upside scenario – TP1 Tamalwadi

Vehicle Type	FY21	FY22	FY25	FY27	FY32	FY37	FY42	FY45
CJV	7.0	10.3	15.7	20.7	40.6	75.9	139.3	198.2
Mini LCV	0.0	2.7	3.6	4.3	6.9	10.6	16.3	20.9
Bus	2.0	3.7	4.8	5.5	8.0	11.4	16.1	19.8
LCV	2.7	2.5	3.4	4.1	6.4	10.1	15.4	19.7
2A	5.8	7.7	11.2	13.7	22.7	36.4	57.2	74.8

Vehicle Type	FY21	FY22	FY25	FY27	FY32	FY37	FY42	FY45
3A	6.1	7.5	11.7	14.6	25.6	42.5	68.8	91.5
MAV	12.4	16.9	28.9	37.4	71.9	126.1	217.4	299.2
OSV	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2
Total Revenue	**36.1**	**51.2**	**79.3**	**100.5**	**182.1**	**313.1**	**530.6**	**724.5**

Source: Steer analysis

Table 6.61: Final (background plus impacts) revenue CAGR (%) for upside scenario – TP1 Tamalwadi

Vehicle Type	FY22-FY25	FY25-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY22-FY45
CJV	15.2%	14.8%	14.4%	13.3%	12.9%	13.7%
Mini LCV	10.3%	9.2%	9.7%	9.0%	9.0%	9.3%
Bus	8.6%	7.3%	7.7%	7.4%	7.2%	7.5%
LCV	10.9%	10.2%	9.4%	9.4%	8.7%	9.4%
2A	13.4%	10.8%	10.6%	10.0%	9.4%	10.4%
3A	16.1%	11.7%	11.9%	10.6%	10.1%	11.5%
MAV	19.7%	13.8%	14.0%	11.9%	11.5%	13.3%
OSV	13.4%	13.3%	12.9%	12.0%	11.4%	12.3%
Total Revenue	**15.7%**	**12.5%**	**12.6%**	**11.4%**	**11.1%**	**12.2%**

Source: Steer analysis

SY – Yedeshi

Table 6.62: Final (background plus impacts) AADT forecast for upside scenario – TP2 Yedeshi

Vehicle Type	FY21	FY22	FY25	FY27	FY32	FY37	FY42	FY45
CJV	2,701	3,429	4,331	5,070	7,316	10,150	13,717	16,283
Mini LCV	0	586	660	716	862	1,019	1,187	1,295
Bus	131	219	232	242	266	289	312	326
LCV	596	532	599	650	783	925	1,078	1,175
2A	738	905	1,098	1,211	1,450	1,769	2,124	2,357
3A	845	978	1,283	1,465	1,899	2,394	2,961	3,342
MAV	1,397	1,659	2,367	2,805	3,955	5,315	6,975	8,143
OSV	1	1	1	1	2	3	3	4
AADT	**6,409**	**8,310**	**10,572**	**12,160**	**16,534**	**21,862**	**28,358**	**32,926**
PCU's	**15,027**	**18,590**	**24,387**	**28,144**	**38,007**	**49,839**	**64,116**	**74,077**

Source: Steer analysis

Table 6.63: Final (background plus impacts) AADT CAGR (%) for upside scenario – TP2 Yedeshi

Vehicle Type	FY22-FY25	FY25-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY22-FY45
CJV	8.1%	8.2%	7.6%	6.8%	6.2%	7.0%
Mini LCV	4.0%	4.1%	3.8%	3.4%	3.1%	3.5%
Bus	2.0%	2.1%	1.9%	1.7%	1.6%	1.8%
LCV	4.0%	4.1%	3.8%	3.4%	3.1%	3.5%
2A	6.7%	5.0%	3.7%	4.1%	3.7%	4.3%
3A	9.5%	6.8%	5.3%	4.7%	4.3%	5.5%
MAV	12.6%	8.9%	7.1%	6.1%	5.6%	7.2%
OSV	7.3%	7.4%	6.8%	6.1%	5.6%	6.3%
AADT	**8.4%**	**7.2%**	**6.3%**	**5.7%**	**5.3%**	**6.2%**
PCU's	**9.5%**	**7.4%**	**6.2%**	**5.6%**	**5.2%**	**6.2%**

Source: Steer analysis

Table 6.64: Revenue (INR crores) forecast for upside scenario – TP2 Yedeshi

Vehicle Type	FY21	FY22	FY25	FY27	FY32	FY37	FY42	FY45
CJV	4.3	5.9	8.8	11.4	21.5	39.0	69.5	97.2
Mini LCV	0.0	1.5	2.0	2.4	3.8	5.8	8.9	11.4
Bus	0.8	1.4	1.8	2.1	3.0	4.3	6.1	7.4
LCV	1.8	1.6	2.2	2.7	4.3	6.6	10.1	12.9
2A	5.0	6.6	9.7	12.0	18.7	30.1	47.6	61.8
3A	6.6	8.3	13.3	16.8	28.6	47.5	76.8	102.2
MAV	16.0	21.1	35.9	47.3	87.9	154.1	266.9	365.7
OSV	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2
Total Revenue	**34.4**	**46.4**	**73.7**	**94.6**	**167.8**	**287.4**	**486.0**	**659.0**

Source: Steer analysis

Table 6.65: Final (background plus impacts) revenue CAGR (%) for upside scenario – TP2 Yedeshi

Vehicle Type	FY22-FY25	FY25-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY22-FY45
CJV	14.3%	13.9%	13.6%	12.6%	12.2%	13.0%
Mini LCV	10.3%	9.3%	9.7%	9.0%	9.0%	9.3%
Bus	8.6%	7.4%	7.6%	7.4%	7.3%	7.5%
LCV	10.8%	10.3%	9.9%	9.0%	8.7%	9.4%
2A	13.8%	11.0%	9.3%	10.0%	9.6%	10.2%
3A	16.9%	12.4%	11.2%	10.7%	10.1%	11.5%
MAV	19.4%	14.8%	13.2%	11.9%	11.6%	13.2%
OSV	14.3%	12.7%	12.9%	12.0%	11.4%	12.3%

Vehicle Type	FY22-FY25	FY25-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY22-FY45
Total Revenue	**16.7%**	**13.3%**	**12.1%**	**11.4%**	**11.1%**	**12.2%**

Source: Steer analysis

YA - Maliwadi

Table 6.66: Final (background plus impacts) AADT forecast for upside scenario – TP1 Maliwadi

Vehicle Type	FY21	FY22	FY25	FY27	FY32	FY37	FY42	FY44
CJV	2,916	3,736	4,717	5,523	7,970	11,057	14,943	16,765
Mini LCV	0	575	647	701	846	999	1,164	1,233
Bus	184	435	462	481	529	575	621	640
LCV	611	497	560	607	731	863	1,006	1,066
2A	656	798	969	1,070	1,280	1,562	1,875	2,010
3A	697	860	1,144	1,310	1,698	2,140	2,648	2,872
MAV	1,138	1,411	2,060	2,451	3,462	4,652	6,106	6,774
OSV	1	1	1	1	2	3	3	4
AADT	**6,204**	**8,313**	**10,562**	**12,144**	**16,518**	**21,850**	**28,366**	**31,364**
PCU's	**13,571**	**17,690**	**23,207**	**26,753**	**36,023**	**47,128**	**60,538**	**66,662**

Source: Steer analysis

Table 6.67: Final (background plus impacts) AADT CAGR (%) for upside scenario – TP1 Maliwadi

Vehicle Type	FY22-FY25	FY25-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY22-FY44
CJV	8.1%	8.2%	7.6%	6.8%	6.2%	7.1%
Mini LCV	4.0%	4.1%	3.8%	3.4%	3.1%	3.5%
Bus	2.0%	2.1%	1.9%	1.7%	1.6%	1.8%
LCV	4.0%	4.1%	3.8%	3.4%	3.1%	3.5%
2A	6.7%	5.0%	3.7%	4.1%	3.7%	4.3%
3A	10.0%	7.0%	5.3%	4.7%	4.3%	5.6%
MAV	13.5%	9.1%	7.2%	6.1%	5.6%	7.4%
OSV	7.3%	7.4%	6.8%	6.1%	5.6%	6.4%
AADT	**8.3%**	**7.2%**	**6.3%**	**5.8%**	**5.4%**	**6.2%**
PCU's	**9.5%**	**7.4%**	**6.1%**	**5.5%**	**5.1%**	**6.2%**

Source: Steer analysis

Table 6.68: Revenue (INR crores) forecast for upside scenario – TP1 Maliwadi

Vehicle Type	FY21	FY22	FY25	FY27	FY32	FY37	FY42	FY44
CJV	7.1	9.3	14.3	18.3	35.2	64.0	113.7	141.8
Mini LCV	0.0	2.2	3.0	3.5	5.7	8.8	13.5	15.9

Vehicle Type	FY21	FY22	FY25	FY27	FY32	FY37	FY42	FY44
Bus	1.5	3.9	5.0	5.8	8.4	12.0	17.0	19.6
LCV	2.5	2.2	3.1	3.7	5.8	9.1	13.9	16.5
2A	6.0	8.4	12.2	15.0	23.7	37.9	59.5	71.6
3A	7.2	10.1	16.3	20.7	35.3	58.3	94.5	114.9
MAV	17.5	24.4	42.7	56.5	104.8	184.4	318.3	395.4
OSV	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.3
Total Revenue	**41.8**	**60.6**	**96.6**	**123.5**	**219.0**	**374.6**	**630.6**	**775.8**

Source: Steer analysis

Table 6.69: Final (background plus impacts) revenue CAGR (%) for upside scenario – TP1 Maliwadi

Vehicle Type	FY22-FY25	FY25-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY22-FY44
CJV	15.6%	13.0%	14.0%	12.7%	12.2%	13.2%
Mini LCV	11.2%	8.7%	10.0%	9.1%	8.9%	9.5%
Bus	8.5%	7.4%	7.7%	7.4%	7.2%	7.6%
LCV	10.8%	9.9%	9.6%	9.4%	8.8%	9.5%
2A	13.2%	10.6%	9.6%	9.9%	9.5%	10.2%
3A	17.1%	12.8%	11.3%	10.6%	10.1%	11.7%
MAV	20.4%	15.0%	13.2%	12.0%	11.5%	13.5%
OSV	13.8%	13.3%	12.9%	12.0%	11.5%	12.4%
Total Revenue	**16.8%**	**13.1%**	**12.1%**	**11.3%**	**11.0%**	**12.3%**

Source: Steer analysis

YA - Padalsingi

Table 6.70: Final (background plus impacts) AADT forecast for upside scenario – TP2 Padalsingi

Vehicle Type	FY21	FY22	FY25	FY27	FY32	FY37	FY42	FY44
CJV	3,813	4,589	5,796	6,785	9,791	13,583	18,358	20,596
Mini LCV	0	849	956	1,036	1,248	1,474	1,718	1,821
Bus	272	587	623	649	713	776	838	863
LCV	956	777	876	949	1,144	1,351	1,574	1,668
2A	893	1,091	1,339	1,500	1,880	2,370	2,931	3,179
3A	962	1,138	1,472	1,676	2,173	2,738	3,387	3,674
MAV	1,478	1,780	2,516	2,977	4,194	5,636	7,396	8,205
OSV	1	1	1	1	2	3	3	4
AADT	**8,374**	**10,813**	**13,578**	**15,573**	**21,146**	**27,930**	**36,206**	**40,011**
PCU's	**18,280**	**23,067**	**29,695**	**34,121**	**45,938**	**60,107**	**77,205**	**85,009**

Source: Steer analysis

Table 6.71: Final (background plus impacts) AADT CAGR (%) for upside scenario – TP2 Padalsingi

Vehicle Type	FY22-FY25	FY25-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY22-FY44
CJV	8.1%	8.2%	7.6%	6.8%	6.2%	7.1%
Mini LCV	4.0%	4.1%	3.8%	3.4%	3.1%	3.5%
Bus	2.0%	2.1%	1.9%	1.7%	1.6%	1.8%
LCV	4.0%	4.1%	3.8%	3.4%	3.1%	3.5%
2A	7.1%	5.8%	4.6%	4.7%	4.3%	5.0%
3A	9.0%	6.7%	5.3%	4.7%	4.3%	5.5%
MAV	12.2%	8.8%	7.1%	6.1%	5.6%	7.2%
OSV	7.3%	7.4%	6.8%	6.1%	5.6%	6.4%
AADT	**7.9%**	**7.1%**	**6.3%**	**5.7%**	**5.3%**	**6.1%**
PCU's	**8.8%**	**7.2%**	**6.1%**	**5.5%**	**5.1%**	**6.1%**

Source: Steer analysis

Table 6.72: Revenue (INR crores) forecast for upside scenario – TP2 Padalsingi

Vehicle Type	FY21	FY22	FY25	FY27	FY32	FY37	FY42	FY44
CJV	9.3	12.6	18.9	24.6	47.1	85.0	150.4	189.7
Mini LCV	0.0	3.2	4.3	5.1	8.2	12.5	19.1	22.8
Bus	2.1	5.4	6.9	8.0	11.5	16.4	23.3	26.8
LCV	8.0	9.4	12.7	15.3	24.3	37.5	57.5	68.1
2A	8.1	11.8	17.4	21.6	35.5	58.8	95.9	115.8
3A	9.5	13.5	21.0	26.5	44.9	74.3	121.1	146.9
MAV	21.5	31.5	53.5	70.3	130.1	228.8	395.4	489.9
OSV	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.3
Total Revenue	**58.5**	**87.3**	**134.8**	**171.3**	**301.6**	**513.6**	**862.9**	**1,060.3**

Source: Steer analysis

Table 6.73: Final (background plus impacts) revenue CAGR (%) for upside scenario – TP2 Padalsingi

Vehicle Type	FY22-FY25	FY25-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY22-FY44
CJV	14.5%	14.0%	13.8%	12.6%	12.1%	13.1%
Mini LCV	10.5%	9.3%	9.8%	9.0%	8.8%	9.4%
Bus	8.8%	7.3%	7.6%	7.4%	7.3%	7.6%
LCV	10.6%	9.8%	9.7%	9.1%	8.9%	9.4%
2A	14.0%	11.3%	10.5%	10.6%	10.3%	11.0%
3A	15.9%	12.4%	11.1%	10.6%	10.2%	11.5%
MAV	19.3%	14.6%	13.1%	12.0%	11.6%	13.3%
OSV	14.0%	13.5%	12.8%	12.0%	11.5%	12.4%

Vehicle Type	FY22-FY25	FY25-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY22-FY44
Total Revenue	**15.6%**	**12.8%**	**12.0%**	**11.2%**	**10.9%**	**12.0%**

Source: Steer analysis

YA - Pargaon

Table 6.74: Final (background plus impacts) AADT forecast for upside scenario – TP3 Pargaon

Vehicle Type	FY21	FY22	FY25	FY27	FY32	FY37	FY42	FY44
CJV	1,653	2,177	2,812	3,342	4,995	7,152	9,953	11,291
Mini LCV	0	426	480	520	626	740	862	914
Bus	119	218	232	241	265	288	311	321
LCV	514	453	511	553	667	788	918	973
2A	751	981	1,184	1,306	1,571	1,916	2,301	2,467
3A	861	1,043	1,361	1,551	2,012	2,535	3,136	3,401
MAV	1,399	1,670	2,378	2,818	3,973	5,338	7,006	7,772
OSV	1	1	1	1	2	3	3	4
AADT	**5,297**	**6,970**	**8,958**	**10,333**	**14,111**	**18,761**	**24,490**	**27,143**
PCU's	**13,914**	**17,531**	**23,095**	**26,675**	**36,051**	**47,326**	**60,978**	**67,224**

Source: Steer analysis

Table 6.75: Final (background plus impacts) AADT CAGR (%) for upside scenario – TP3 Pargaon

Vehicle Type	FY22-FY25	FY25-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY22-FY44
CJV	8.9%	9.0%	8.4%	7.4%	6.8%	7.8%
Mini LCV	4.0%	4.1%	3.8%	3.4%	3.1%	3.5%
Bus	2.0%	2.1%	1.9%	1.7%	1.6%	1.8%
LCV	4.0%	4.1%	3.8%	3.4%	3.1%	3.5%
2A	6.5%	5.0%	3.8%	4.1%	3.7%	4.3%
3A	9.2%	6.8%	5.3%	4.7%	4.3%	5.5%
MAV	12.5%	8.8%	7.1%	6.1%	5.6%	7.2%
OSV	7.3%	7.4%	6.8%	6.1%	5.6%	6.4%
AADT	**8.7%**	**7.4%**	**6.4%**	**5.9%**	**5.5%**	**6.4%**
PCU's	**9.6%**	**7.5%**	**6.2%**	**5.6%**	**5.2%**	**6.3%**

Source: Steer analysis

Table 6.76: Revenue (INR crores) forecast for upside scenario – TP3 Pargaon

Vehicle Type	FY21	FY22	FY25	FY27	FY32	FY37	FY42	FY44
CJV	3.2	4.4	6.9	9.2	18.1	33.6	62.0	77.9
Mini LCV	0.0	1.2	1.6	2.0	3.2	4.9	7.5	8.8

Vehicle Type	FY21	FY22	FY25	FY27	FY32	FY37	FY42	FY44
Bus	0.7	1.4	1.8	2.1	3.1	4.4	6.3	7.2
LCV	1.7	1.6	2.2	2.7	4.2	6.5	10.0	11.8
2A	5.4	7.8	11.3	13.8	21.8	34.8	55.0	66.0
3A	6.8	9.3	14.5	18.2	31.2	51.3	83.6	101.8
MAV	16.1	21.3	36.8	48.1	89.5	157.4	272.0	337.6
OSV	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2
Total Revenue	**34.0**	**47.1**	**75.1**	**96.1**	**171.1**	**293.0**	**496.5**	**611.3**

Source: Steer analysis

Table 6.77: Final (background plus impacts) revenue CAGR (%) for upside scenario – TP3 Pargaon

Vehicle Type	FY22-FY25	FY25-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY22-FY44
CJV	16.3%	15.6%	14.6%	13.2%	13.0%	14.0%
Mini LCV	10.9%	10.4%	9.6%	9.0%	9.1%	9.5%
Bus	8.5%	7.5%	7.7%	7.3%	7.3%	7.6%
LCV	10.0%	10.1%	9.6%	9.2%	9.0%	9.4%
2A	13.0%	10.6%	9.6%	9.8%	9.6%	10.2%
3A	16.1%	12.0%	11.4%	10.5%	10.2%	11.5%
MAV	19.9%	14.4%	13.2%	11.9%	11.6%	13.4%
OSV	13.9%	13.4%	12.8%	12.0%	11.5%	12.4%
Total Revenue	**16.9%**	**13.1%**	**12.2%**	**11.4%**	**11.1%**	**12.4%**

Source: Steer analysis

Traffic and Revenue Forecasts - downside scenario

SY – Tamalwadi

Table 6.78: Final (background plus impacts) AADT forecast for downside scenario – TP1 Tamalwadi

Vehicle Type	FY21	FY22	FY25	FY27	FY32	FY37	FY42	FY45
CJV	4,038	5,620	6,561	7,289	9,246	11,308	13,501	14,889
Mini LCV	0	989	1,063	1,116	1,245	1,365	1,481	1,549
Bus	364	645	669	686	724	759	790	808
LCV	906	871	935	981	1,095	1,201	1,303	1,363
2A	876	1,069	1,187	1,267	1,456	1,627	1,793	1,892
3A	818	921	1,054	1,148	1,368	1,557	1,744	1,856
MAV	1,097	1,305	1,581	1,773	2,235	2,637	3,050	3,305
OSV	1	1	1	1	1	2	2	2
AADT	**8,101**	**11,421**	**13,051**	**14,262**	**17,371**	**20,455**	**23,664**	**25,664**
PCU's	**16,514**	**21,697**	**24,876**	**27,166**	**32,845**	**38,176**	**43,652**	**47,034**

Source: Steer analysis

Table 6.79: Final (background plus impacts) AADT CAGR (%) for downside scenario – TP1 Tamalwadi

Vehicle Type	FY22-FY25	FY25-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY22-FY45
CJV	5.3%	5.4%	4.9%	4.1%	3.6%	4.3%
Mini LCV	2.4%	2.5%	2.2%	1.9%	1.6%	2.0%
Bus	1.2%	1.2%	1.1%	0.9%	0.8%	1.0%
LCV	2.4%	2.5%	2.2%	1.9%	1.6%	2.0%
2A	3.5%	3.3%	2.8%	2.2%	2.0%	2.5%
3A	4.6%	4.4%	3.6%	2.6%	2.3%	3.1%
MAV	6.6%	5.9%	4.7%	3.4%	3.0%	4.1%
OSV	4.0%	4.4%	4.0%	3.4%	3.0%	3.5%
AADT	**4.5%**	**4.5%**	**4.0%**	**3.3%**	**3.0%**	**3.6%**
PCU's	**4.7%**	**4.5%**	**3.9%**	**3.1%**	**2.7%**	**3.4%**

Source: Steer analysis

Table 6.80: Revenue (INR crores) forecast for downside scenario – TP1 Tamalwadi

Vehicle Type	FY21	FY22	FY25	FY27	FY32	FY37	FY42	FY45
CJV	7.0	10.3	13.9	16.6	27.5	41.9	63.2	80.0
Mini LCV	0.0	2.7	3.4	3.8	5.5	7.6	10.4	12.5
Bus	2.0	3.7	4.6	5.2	6.9	9.1	11.9	14.0
LCV	2.7	2.5	3.2	3.6	5.2	7.2	9.8	11.8
2A	5.8	7.7	10.1	11.9	17.4	24.3	33.8	40.8
3A	6.1	7.5	10.2	12.2	18.4	26.4	37.3	45.6
MAV	12.4	16.9	24.1	29.4	47.1	70.2	102.4	126.9
OSV	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
Total Revenue	**36.1**	**51.2**	**69.4**	**82.8**	**128.2**	**186.8**	**268.9**	**331.7**

Source: Steer analysis

Table 6.81: Final (background plus impacts) revenue CAGR (%) for downside scenario – TP1 Tamalwadi

Vehicle Type	FY22-FY25	FY25-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY22-FY45
CJV	10.5%	9.5%	10.6%	8.8%	8.6%	9.3%
Mini LCV	7.5%	6.6%	7.7%	6.5%	6.5%	6.9%
Bus	6.8%	6.4%	6.1%	5.6%	5.6%	5.9%
LCV	8.8%	6.6%	7.4%	6.8%	6.4%	7.0%
2A	9.6%	8.5%	7.9%	7.0%	6.8%	7.6%
3A	11.0%	9.1%	8.6%	7.5%	7.1%	8.2%
MAV	12.6%	10.6%	9.9%	8.3%	7.8%	9.2%

Vehicle Type	FY22-FY25	FY25-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY22-FY45
OSV	10.1%	9.2%	9.1%	8.2%	7.9%	8.6%
Total Revenue	**10.7%**	**9.2%**	**9.1%**	**7.8%**	**7.6%**	**8.5%**

Source: Steer analysis

SY – Yedeshi

Table 6.82: Final (background plus impacts) AADT forecast for downside scenario – TP2 Yedeshi

Vehicle Type	FY21	FY22	FY25	FY27	FY32	FY37	FY42	FY45
CJV	2,701	3,429	3,949	4,347	5,398	6,484	7,620	8,330
Mini LCV	0	586	630	661	737	809	877	918
Bus	131	219	227	233	246	257	268	274
LCV	596	532	572	600	669	734	797	833
2A	738	905	1,008	1,037	1,124	1,255	1,384	1,460
3A	845	978	1,134	1,190	1,375	1,565	1,753	1,866
MAV	1,397	1,659	2,014	2,159	2,632	3,104	3,591	3,891
OSV	1	1	1	1	2	2	2	2
AADT	**6,409**	**8,310**	**9,534**	**10,227**	**12,183**	**14,211**	**16,291**	**17,574**
PCU's	**15,027**	**18,590**	**21,610**	**23,007**	**27,223**	**31,605**	**36,073**	**38,817**

Source: Steer analysis

Table 6.83: Final (background plus impacts) AADT CAGR (%) for downside scenario – TP2 Yedeshi

Vehicle Type	FY22-FY25	FY25-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY22-FY45
CJV	4.8%	4.9%	4.4%	3.7%	3.3%	3.9%
Mini LCV	2.4%	2.5%	2.2%	1.9%	1.6%	2.0%
Bus	1.2%	1.2%	1.1%	0.9%	0.8%	1.0%
LCV	2.4%	2.5%	2.2%	1.9%	1.6%	2.0%
2A	3.7%	1.4%	1.6%	2.2%	2.0%	2.1%
3A	5.1%	2.5%	2.9%	2.6%	2.3%	2.8%
MAV	6.7%	3.5%	4.0%	3.4%	3.0%	3.8%
OSV	4.3%	4.4%	4.0%	3.4%	3.0%	3.5%
AADT	**4.7%**	**3.6%**	**3.6%**	**3.1%**	**2.8%**	**3.3%**
PCU's	**5.1%**	**3.2%**	**3.4%**	**3.0%**	**2.7%**	**3.3%**

Source: Steer analysis

Table 6.84: Revenue (INR crores) forecast for downside scenario – TP2 Yedeshi

Vehicle Type	FY21	FY22	FY25	FY27	FY32	FY37	FY42	FY45
CJV	4.3	5.9	7.8	9.3	15.0	22.5	33.3	41.8

Vehicle Type	FY21	FY22	FY25	FY27	FY32	FY37	FY42	FY45
Mini LCV	0.0	1.5	1.8	2.1	3.0	4.1	5.7	6.8
Bus	0.8	1.4	1.7	1.9	2.6	3.4	4.5	5.3
LCV	1.8	1.6	2.1	2.4	3.4	4.7	6.4	7.8
2A	5.0	6.6	8.7	9.9	13.7	19.2	26.7	32.2
3A	6.6	8.3	11.6	13.2	19.4	27.8	39.3	48.1
MAV	16.0	21.1	30.1	35.2	54.5	81.2	118.4	146.7
OSV	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
Total Revenue	**34.4**	**46.4**	**63.9**	**74.0**	**111.7**	**163.0**	**234.4**	**288.7**

Source: Steer analysis

Table 6.85: Final (background plus impacts) revenue CAGR (%) for downside scenario – TP2 Yedeshi

Vehicle Type	FY22-FY25	FY25-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY22-FY45
CJV	10.0%	9.0%	10.1%	8.4%	8.2%	8.9%
Mini LCV	7.5%	6.6%	7.7%	6.5%	6.5%	6.9%
Bus	6.9%	6.4%	6.1%	5.6%	5.6%	5.9%
LCV	8.8%	6.6%	7.3%	6.8%	6.4%	7.0%
2A	9.8%	6.4%	6.7%	7.0%	6.8%	7.1%
3A	11.5%	7.0%	8.0%	7.5%	7.1%	7.9%
MAV	12.7%	8.1%	9.1%	8.3%	7.8%	8.8%
OSV	10.4%	9.2%	9.1%	8.2%	7.9%	8.6%
Total Revenue	**11.3%**	**7.6%**	**8.6%**	**7.8%**	**7.5%**	**8.3%**

Source: Steer analysis

YA - Maliwadi

Table 6.86: Final (background plus impacts) AADT forecast for downside scenario – TP1 Maliwadi

Vehicle Type	FY21	FY22	FY25	FY27	FY32	FY37	FY42	FY44
CJV	2,916	3,736	4,302	4,735	5,880	7,064	8,301	8,814
Mini LCV	0	575	617	648	723	793	860	887
Bus	184	435	451	462	488	512	533	541
LCV	611	497	534	560	625	686	744	767
2A	656	798	889	915	991	1,107	1,221	1,266
3A	697	860	1,004	1,051	1,213	1,380	1,546	1,613
MAV	1,138	1,411	1,732	1,851	2,257	2,663	3,080	3,251
OSV	1	1	1	1	2	2	2	2
AADT	**6,204**	**8,313**	**9,530**	**10,224**	**12,180**	**14,206**	**16,287**	**17,140**
PCU's	**13,571**	**17,690**	**20,551**	**21,844**	**25,784**	**29,874**	**34,045**	**35,748**

Source: Steer analysis

Table 6.87: Final (background plus impacts) AADT CAGR (%) for downside scenario – TP1 Maliwadi

Vehicle Type	FY22-FY25	FY25-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY22-FY44
CJV	4.8%	4.9%	4.4%	3.7%	3.3%	4.0%
Mini LCV	2.4%	2.5%	2.2%	1.9%	1.6%	2.0%
Bus	1.2%	1.2%	1.1%	0.9%	0.8%	1.0%
LCV	2.4%	2.5%	2.2%	1.9%	1.6%	2.0%
2A	3.7%	1.4%	1.6%	2.2%	2.0%	2.1%
3A	5.3%	2.3%	2.9%	2.6%	2.3%	2.9%
MAV	7.1%	3.4%	4.0%	3.4%	3.0%	3.9%
OSV	4.3%	4.4%	4.0%	3.4%	3.0%	3.6%
AADT	**4.7%**	**3.6%**	**3.6%**	**3.1%**	**2.8%**	**3.3%**
PCU's	**5.1%**	**3.1%**	**3.4%**	**3.0%**	**2.6%**	**3.2%**

Source: Steer analysis

Table 6.88: Revenue (INR crores) forecast for downside scenario – TP1 Maliwadi

Vehicle Type	FY21	FY22	FY25	FY27	FY32	FY37	FY42	FY44
CJV	7.1	9.3	12.6	15.4	24.4	37.0	54.5	63.3
Mini LCV	0.0	2.2	2.7	3.2	4.6	6.3	8.6	9.7
Bus	1.5	3.9	4.8	5.4	7.3	9.6	12.6	14.1
LCV	2.5	2.2	2.9	3.3	4.7	6.5	8.9	10.0
2A	6.0	8.4	11.1	12.5	17.1	24.2	33.5	38.1
3A	7.2	10.1	13.9	16.1	23.5	33.7	47.6	54.6
MAV	17.5	24.4	35.3	41.3	64.3	95.1	138.6	160.6
OSV	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1
Total Revenue	**41.8**	**60.6**	**83.3**	**97.3**	**145.9**	**212.5**	**304.4**	**350.6**

Source: Steer analysis

Table 6.89: Final (background plus impacts) revenue CAGR (%) for downside scenario – TP1 Maliwadi

Vehicle Type	FY22-FY25	FY25-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY22-FY44
CJV	10.7%	10.9%	9.6%	8.7%	8.1%	9.1%
Mini LCV	8.2%	7.9%	7.3%	6.7%	6.3%	7.0%
Bus	7.1%	6.2%	6.0%	5.7%	5.5%	6.0%
LCV	8.8%	6.9%	7.2%	6.8%	6.5%	7.0%
2A	9.5%	6.2%	6.5%	7.1%	6.7%	7.1%
3A	11.2%	7.4%	7.9%	7.5%	7.1%	8.0%
MAV	13.0%	8.3%	9.2%	8.2%	7.8%	8.9%

Vehicle Type	FY22-FY25	FY25-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY22-FY44
OSV	10.2%	9.5%	9.0%	8.3%	7.8%	8.6%
Total Revenue	**11.2%**	**8.1%**	**8.4%**	**7.8%**	**7.4%**	**8.3%**

Source: Steer analysis

YA - Padalsingi

Table 6.90: Final (background plus impacts) AADT forecast for downside scenario – TP2 Padalsingi

Vehicle Type	FY21	FY22	FY25	FY27	FY32	FY37	FY42	FY44
CJV	3,813	4,589	5,285	5,817	7,224	8,678	10,198	10,828
Mini LCV	0	849	911	957	1,067	1,171	1,270	1,309
Bus	272	587	609	624	659	690	719	730
LCV	956	777	835	876	978	1,073	1,164	1,199
2A	893	1,091	1,226	1,282	1,437	1,635	1,832	1,911
3A	962	1,138	1,311	1,379	1,596	1,815	2,033	2,121
MAV	1,478	1,780	2,151	2,308	2,813	3,318	3,838	4,051
OSV	1	1	1	1	2	2	2	2
AADT	**8,374**	**10,813**	**12,329**	**13,245**	**15,775**	**18,382**	**21,056**	**22,151**
PCU's	**18,280**	**23,067**	**26,570**	**28,337**	**33,499**	**38,821**	**44,246**	**46,461**

Source: Steer analysis

Table 6.91: Final (background plus impacts) AADT CAGR (%) for downside scenario – TP2 Padalsingi

Vehicle Type	FY22-FY25	FY25-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY22-FY44
CJV	4.8%	4.9%	4.4%	3.7%	3.3%	4.0%
Mini LCV	2.4%	2.5%	2.2%	1.9%	1.6%	2.0%
Bus	1.2%	1.2%	1.1%	0.9%	0.8%	1.0%
LCV	2.4%	2.5%	2.2%	1.9%	1.6%	2.0%
2A	4.0%	2.3%	2.3%	2.6%	2.3%	2.6%
3A	4.8%	2.6%	3.0%	2.6%	2.3%	2.9%
MAV	6.5%	3.6%	4.0%	3.4%	3.0%	3.8%
OSV	4.3%	4.4%	4.0%	3.4%	3.0%	3.6%
AADT	**4.5%**	**3.6%**	**3.6%**	**3.1%**	**2.8%**	**3.3%**
PCU's	**4.8%**	**3.3%**	**3.4%**	**3.0%**	**2.7%**	**3.2%**

Source: Steer analysis

Table 6.92: Revenue (INR crores) forecast for downside scenario – TP2 Padalsingi

Vehicle Type	FY21	FY22	FY25	FY27	FY32	FY37	FY42	FY44
CJV	9.3	12.6	17.0	20.4	32.6	49.2	72.7	84.4

Vehicle Type	FY21	FY22	FY25	FY27	FY32	FY37	FY42	FY44
Mini LCV	0.0	3.2	4.0	4.6	6.6	9.0	12.3	13.9
Bus	2.1	5.4	6.6	7.5	10.0	13.2	17.3	19.2
LCV	8.0	9.4	12.0	13.7	19.4	26.8	36.6	41.6
2A	8.1	11.8	15.6	18.0	25.5	36.7	51.5	59.1
3A	9.5	13.5	18.3	21.1	31.0	44.6	62.6	72.0
MAV	21.5	31.5	45.0	52.8	81.7	121.6	177.0	205.5
OSV	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1
Total Revenue	**58.5**	**87.3**	**118.4**	**138.2**	**206.8**	**301.2**	**430.2**	**495.8**

Source: Steer analysis

Table 6.93: Final (background plus impacts) revenue CAGR (%) for downside scenario – TP2 Padalsingi

Vehicle Type	FY22-FY25	FY25-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY22-FY44
CJV	10.5%	9.6%	9.8%	8.6%	8.1%	9.0%
Mini LCV	8.0%	7.0%	7.5%	6.6%	6.4%	7.0%
Bus	7.2%	6.2%	5.9%	5.7%	5.6%	6.0%
LCV	8.5%	7.1%	7.2%	6.7%	6.4%	7.0%
2A	9.8%	7.6%	7.2%	7.6%	7.0%	7.6%
3A	10.6%	7.5%	8.0%	7.5%	7.0%	7.9%
MAV	12.6%	8.4%	9.1%	8.3%	7.8%	8.9%
OSV	10.4%	9.4%	9.0%	8.3%	7.8%	8.7%
Total Revenue	**10.7%**	**8.0%**	**8.4%**	**7.8%**	**7.4%**	**8.2%**

Source: Steer analysis

YA - Pargaon

Table 6.94: Final (background plus impacts) AADT forecast for downside scenario – TP3 Pargaon

Vehicle Type	FY21	FY22	FY25	FY27	FY32	FY37	FY42	FY44
CJV	1,653	2,177	2,542	2,824	3,582	4,381	5,231	5,587
Mini LCV	0	426	457	480	536	588	637	657
Bus	119	218	226	232	245	257	267	271
LCV	514	453	487	511	570	626	679	699
2A	751	981	1,090	1,125	1,226	1,370	1,510	1,566
3A	861	1,043	1,206	1,268	1,466	1,667	1,868	1,948
MAV	1,399	1,670	2,026	2,172	2,647	3,122	3,611	3,812
OSV	1	1	1	1	2	2	2	2
AADT	**5,297**	**6,970**	**8,036**	**8,613**	**10,273**	**12,012**	**13,806**	**14,543**
PCU's	**13,914**	**17,531**	**20,418**	**21,723**	**25,702**	**29,848**	**34,082**	**35,812**

Source: Steer analysis

Table 6.95: Final (background plus impacts) AADT CAGR (%) for downside scenario – TP3 Pargaon

Vehicle Type	FY22-FY25	FY25-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY22-FY44
CJV	5.3%	5.4%	4.9%	4.1%	3.6%	4.4%
Mini LCV	2.4%	2.5%	2.2%	1.9%	1.6%	2.0%
Bus	1.2%	1.2%	1.1%	0.9%	0.8%	1.0%
LCV	2.4%	2.5%	2.2%	1.9%	1.6%	2.0%
2A	3.6%	1.6%	1.7%	2.2%	2.0%	2.1%
3A	5.0%	2.5%	2.9%	2.6%	2.3%	2.9%
MAV	6.6%	3.5%	4.0%	3.4%	3.0%	3.8%
OSV	4.3%	4.4%	4.0%	3.4%	3.0%	3.6%
AADT	**4.9%**	**3.5%**	**3.6%**	**3.2%**	**2.8%**	**3.4%**
PCU's	**5.2%**	**3.1%**	**3.4%**	**3.0%**	**2.7%**	**3.3%**

Source: Steer analysis

Table 6.96: Revenue (INR crores) forecast for downside scenario – TP3 Pargaon

Vehicle Type	FY21	FY22	FY25	FY27	FY32	FY37	FY42	FY44
CJV	3.2	4.4	6.2	7.4	12.0	18.7	28.0	32.7
Mini LCV	0.0	1.2	1.6	1.8	2.5	3.5	4.8	5.4
Bus	0.7	1.4	1.8	2.0	2.7	3.5	4.6	5.2
LCV	1.7	1.6	2.1	2.4	3.4	4.6	6.4	7.2
2A	5.4	7.8	10.2	11.5	16.0	22.3	31.1	35.4
3A	6.8	9.3	12.6	14.4	21.4	30.5	43.1	49.3
MAV	16.1	21.3	30.6	36.3	55.8	83.1	120.8	140.2
OSV	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
Total Revenue	**34.0**	**47.1**	**65.1**	**75.8**	**113.9**	**166.4**	**238.9**	**275.3**

Source: Steer analysis

Table 6.97: Final (background plus impacts) revenue CAGR (%) for downside scenario – TP3 Pargaon

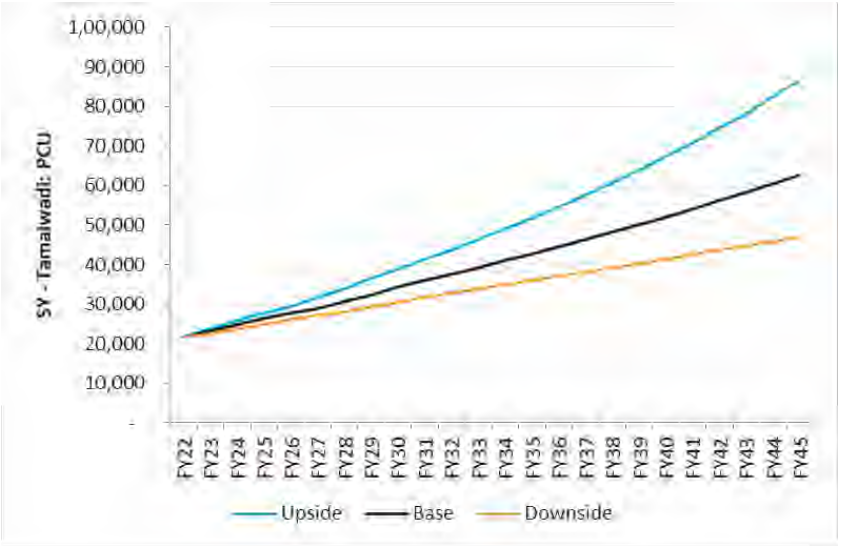
Vehicle Type	FY22-FY25	FY25-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY22-FY44
CJV	12.4%	9.1%	10.3%	9.2%	8.4%	9.6%
Mini LCV	9.1%	6.3%	7.4%	6.8%	6.4%	7.1%
Bus	7.1%	6.0%	6.0%	5.7%	5.5%	5.9%
LCV	8.3%	6.3%	7.5%	6.5%	6.5%	6.9%
2A	9.3%	6.2%	6.8%	6.9%	6.9%	7.1%
3A	10.9%	6.8%	8.2%	7.4%	7.2%	7.9%
MAV	12.8%	8.9%	9.0%	8.3%	7.8%	8.9%

Vehicle Type	FY22-FY25	FY25-FY27	FY27-FY32	FY32-FY37	FY37-FY42	FY22-FY44
OSV	10.4%	9.4%	9.1%	8.2%	7.8%	8.7%
Total Revenue	**11.4%**	**7.9%**	**8.5%**	**7.9%**	**7.5%**	**8.4%**

Source: Steer analysis

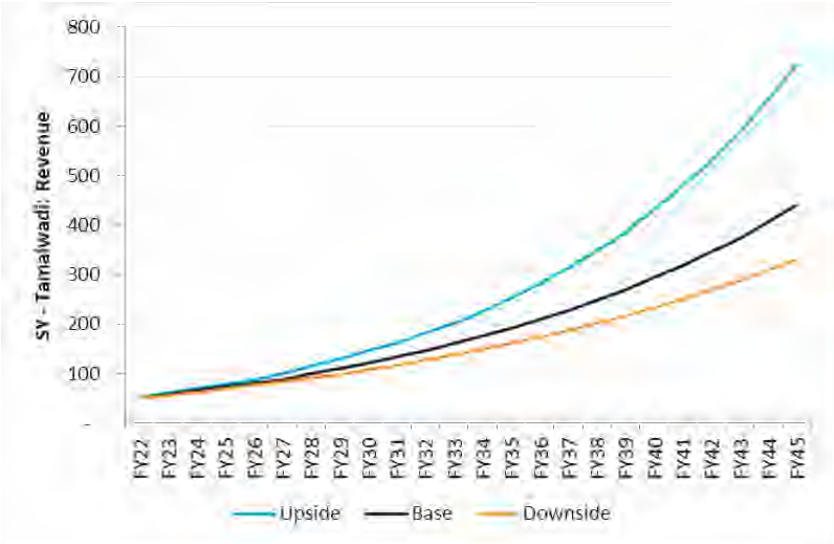
6.66 The following charts shows comparison of traffic and revenue forecasts with the Upside and downside scenarios presented in sections above.

Figure 6.17: Final AADT forecast including Upside and Downside scenarios – SY Tamalwadi



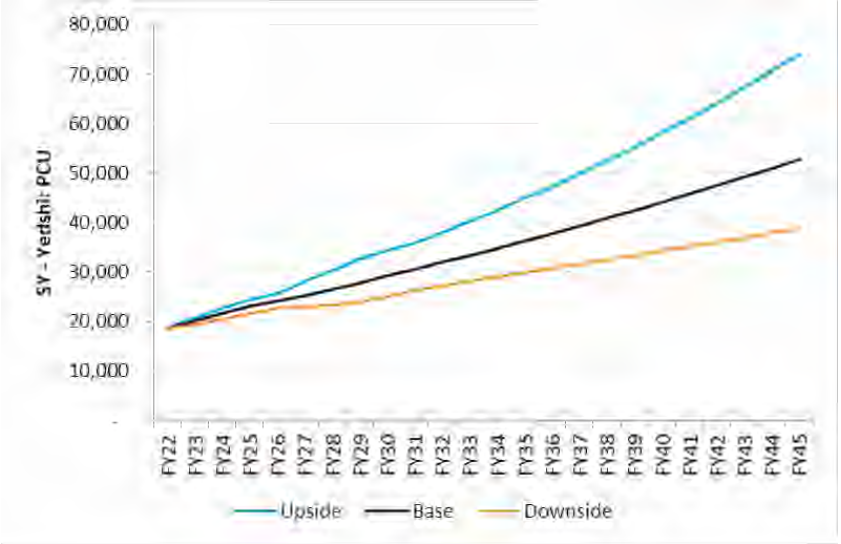
Source: Steer analysis

Figure 6.18: Final Revenue forecast including Upside and Downside scenarios – SY Tamalwadi



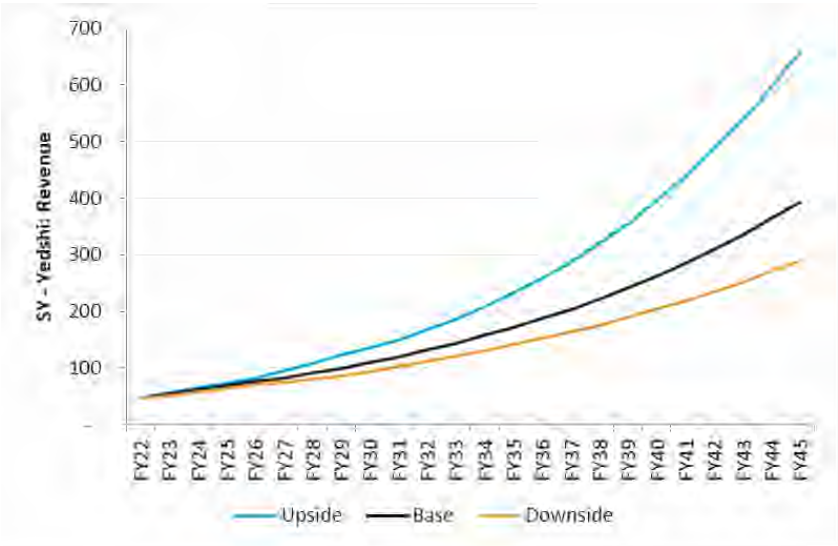
Source: Steer analysis

Figure 6.19: Final AADT forecast including Upside and Downside scenarios – SY Yedshi



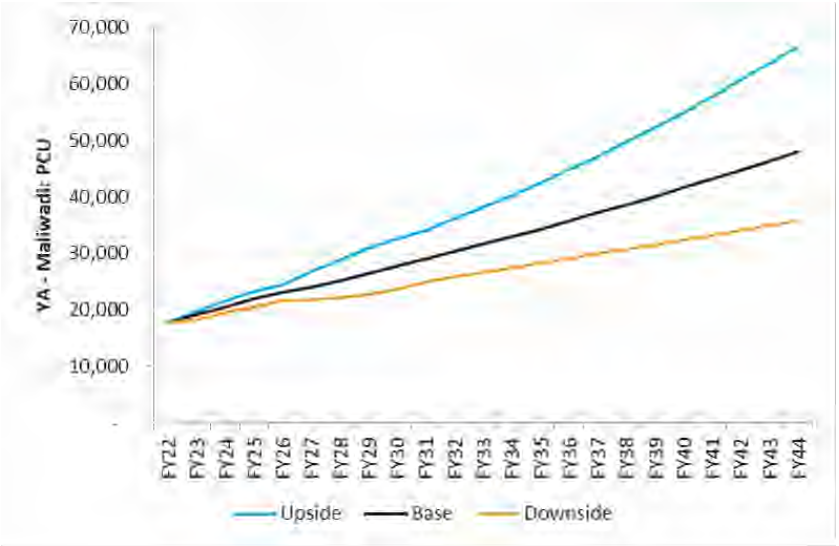
Source: Steer analysis

Figure 6.20: Final Revenue forecast including Upside and Downside scenarios – SY Yedshi



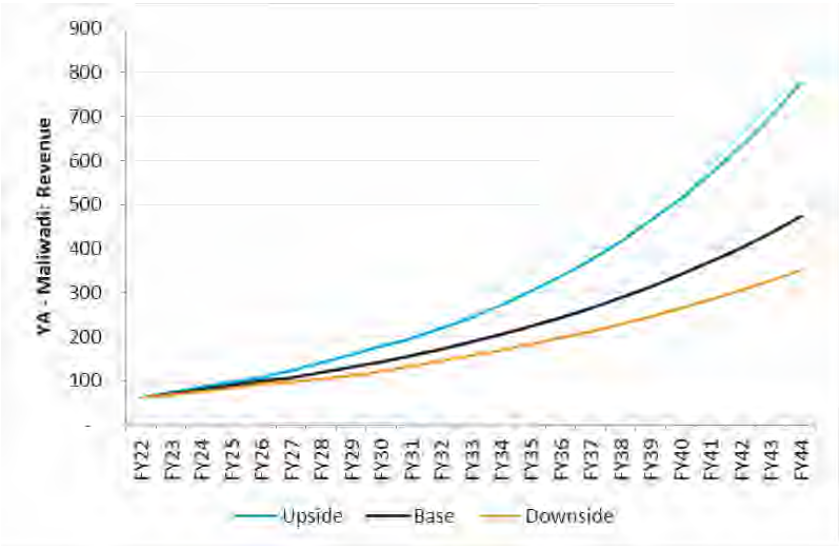
Source: Steer analysis

Figure 6.21: Final AADT forecast including Upside and Downside scenarios – YA Maliwadi



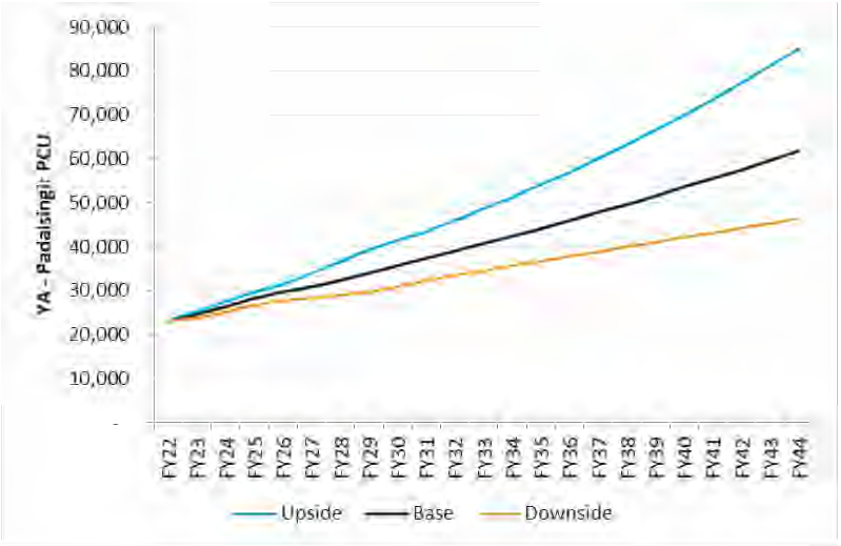
Source: Steer analysis

Figure 6.22: Final Revenue forecast including Upside and Downside scenarios– YA Maliwadi



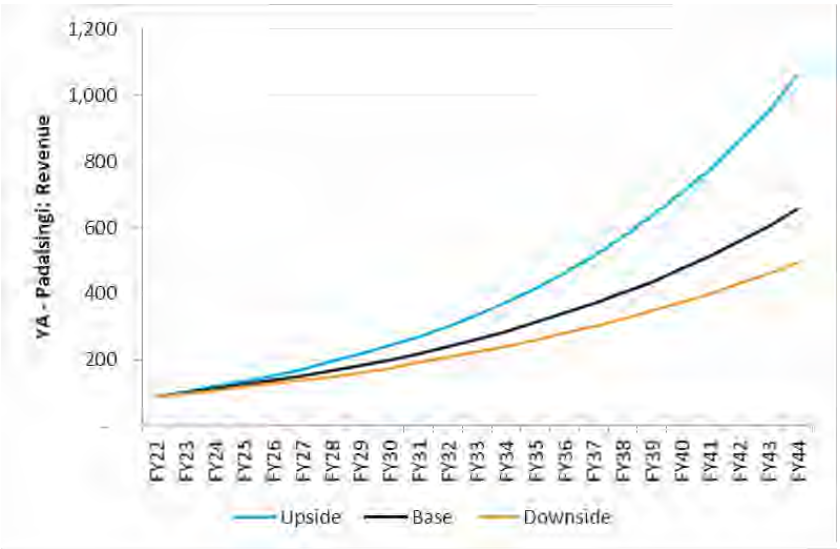
Source: Steer analysis

Figure 6.23: Final AADT forecast including Upside and Downside scenarios – YA Padalsingi



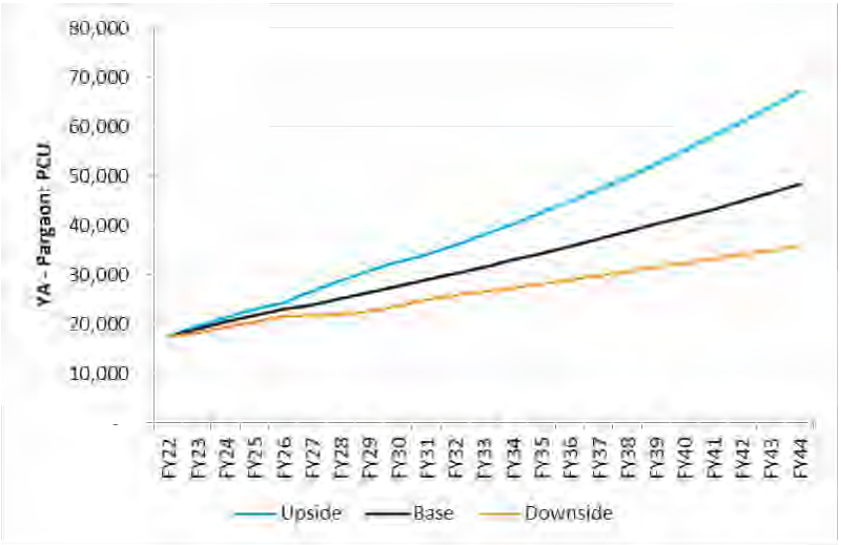
Source: Steer analysis

Figure 6.24: Final Revenue forecast including Upside and Downside scenarios– YA Padalsingi



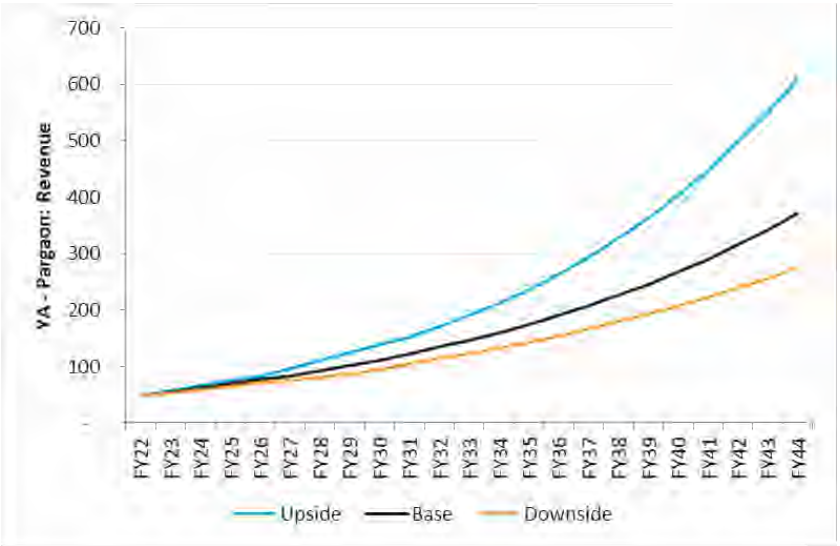
Source: Steer analysis

Figure 6.25: Final AADT forecast including Upside and Downside scenarios – YA Pargaon



Source: Steer analysis

Figure 6.26: Final Revenue forecast including Upside and Downside scenarios– YA Pargaon



Source: Steer analysis

Target traffic and modification of concession period

6.67 As per the concession agreement, the target traffic should be 22,210 PCUs for SY and 20,553 PCUs for YA for the target date of 1st October 2023. The traffic sampling will be undertaken for a continuous period of 7 days during anytime within 15 days prior to the date on the specified year, previous year and following year. The average thereof will be deemed as 'actual traffic.' If the target traffic for any section falls short or exceeds by 2.5%, the concession period shall be deemed to be modified using the laid-out conditions in the concession agreement. The table below presents the summary of the analysis.

Table 6.98: Target Traffic

Asset	Target month	Estimated traffic (PCUs)			Average traffic	Target traffic	Variation (%)
		FY23	FY24	FY25	(PCUs)	(PCUs)	
SY	Oct-23	19,703	21,066	22,537	21,102	22,210	(5.0%)
YA	Oct-23	19,179	20,520	21,959	20,553	24,407	(15.8%)

Source: Steer analysis

6.68 We have used the average AADT forecast for target year, previous year and following year as a proxy for 'actual traffic.' We have forecast seasonality of September month to adjust for seasonal trends and arrive at September traffic from AADT traffic.

6.69 According to the CA, based on the variation of traffic, the concession period is expected to be increased by two years (till FY47) for SY and by six years (till FY50) for YA.

Summary outlook

6.70 Passenger vehicles are the largest contributors to share of traffic on these Assets owing to Aurangabad, Solapur and Tuljapur's tourism activity along the Assets. This drive both passenger traffic and the consumption demand generated by these tourism centres leading to a natural growth path for Mini LCV, LCV and 2A trucks.

6.71 The agricultural and industrial activity in vicinity of Assets including in Aurangabad, Solapur, Osmanabad, Beed and Tuljapur contribute significantly to traffic movement on Assets. This captive nature of the traffic is expected to result in positive long-term growth for the corridor.

6.72 As discussed in earlier, the Assets was upgraded from a two-lane road to four lanes under the National Highways Development Program (NHDP) Phase – IVB. This resulted in significant improvement in Level of Service with improved geometrics and speeds led to reduced travel times. Further, this has made Assets more attractive in comparison to its parallel routes attributing to positive shift towards Assets.

6.73 The NH52 corridor improvements have resulted in increased attractiveness of Assets corridor for long distance movement alongside NH-7. The upgrades including Solapur Vijaypura, Dhule-Chalisgaon-Aurangabad and Autram Ghat will result in reduced travel times making it more competitive for traffic using NH-7/44 for trips between Delhi/North and South India.

6.74 It has been observed that even though traffic across the country saw significant impact of Covid 19 impact and dropped up to 70% of pre-Covid19 levels during Q2FY21, only to recover during the second half of the year, this Assets saw a growth and subsequent stabilisation of traffic volumes. The impact is much more on passenger vehicles as all the tourism related activities were completely stopped in the Area. Similar decline is traffic was seen due to 2nd wave which impacted CJV and Bus traffic the most, however the good vehicle performance remained good with less reduction in traffic volumes. It is expected that by Q2FY22 the traffic across all vehicle types should return to normal trends as was after the first wave of Covid19.

6.75 With regards to the short-term background growth, we see the following risk:

- The nascent recovery from the pandemic could be subdued due stronger lockdowns being implemented and traffic growth not sustaining the coming months. However as it was

observed in FY21 that a very a strong recovery of traffic took place once the nationwide lockdown was relaxed. This included pent up demand from the lockdown period giving a major boost to traffic in FY21. It can be expected that a similar pattern, albeit to a much smaller extent, could repeat itself in FY22 with the first quarter being more subdued and the follow three quarters seeing stronger recovery.

- The underlying strengthening and sustainability of the wider economic growth, particularly for sectors like tourism, industry and agriculture could see a major comeback in the second part of FY22 resulting in increased activity in the corridor.

6.76 We expect that the implementation of FASTag rules, will also help in improving the operational efficiency and overall compliance levels on the Assets and overall corridor, thereby resulting in an improved level of service for all users.

6.77 Overall, we see a positive outlook for the region in the Assets given that it serves and connects major urban centres of Delhi NCR, Maharashtra, Rajasthan, Punjab, Kerala, Karnataka, Tamil Nadu, and Andhra Pradesh while connecting Mangalore Port to the rest of the country. The underlying growth drivers of the corridor are strong and are expected to deliver long term sustained growth.

Appendices

A Top 10 OD Pairs

A.1 Further to the OD analysis presented in Chapter 3 this appendix presents the top 10 OD pairs at each toll plaza. Please see this data for both CJVs and MAVs and OSVs combined below.

Table A.1: 3A/MAV top 10 OD pair shares – SY Tamalwadi

	OD Pair	Share
1.	Solapur city - Latur	7%
2.	NCT of Delhi - Bengaluru	6%
3.	Tuljapur - Solapur city	5%
4.	Osmanabad - Solapur city	4%
5.	Solapur city - Nanded	4%
6.	Aurangabad City - Solapur city	3%
7.	NCT of Delhi - Karnataka	2%
8.	Solapur city - Jalna	2%
9.	Rest of Gujarat - Bengaluru	2%
10.	Latur - Karnataka	2%

Source: Steer analysis

Table A.2: 3A/ MAV and OSV top 10 OD pair shares - SY Yedeshi

	OD Pair	Share
1.	Rest of Gujarat - Telangana	8%
2.	Aurangabad City - Telangana	3%
3.	NCT of Delhi - Bengaluru	3%
4.	Rest of Gujarat - Tamil Nadu	3%
5.	Rest of Gujarat - Bengaluru	3%
6.	Aurangabad City - Karnataka	3%
7.	Rest of Gujarat - Karnataka	2%
8.	Aurangabad City - Solapur city	2%
9.	Aurangabad City - Tamil Nadu	2%
10.	Beed - Solapur city	2%

Source: Steer analysis

Table A.3: 3A/MAV top 10 OD pair shares – YA Padalsingi

	OD Pair	Share
1.	Rest of Gujarat - Telangana	9%
2.	NCT of Delhi - Bengaluru	3%
3.	Ahmedabad - Telangana	3%
4.	Aurangabad City - Telangana	3%
5.	Rest of Gujarat - Tamil Nadu	3%
6.	Aurangabad City - Tamil Nadu	3%
7.	Rest of Gujarat - Bengaluru	2%
8.	Madhya Pradesh - Bengaluru	2%
9.	Aurangabad City - Bengaluru	2%
10.	Rest of Gujarat - Andhra Pradesh	2%

Source: Steer analysis

Table A.4: 3A/ MAV and OSV top 10 OD pair shares - YA Maliwadi

	OD Pair	Share
1.	Rest of Gujarat - Telangana	9%
2.	Ahmedabad - Telangana	5%
3.	Surat - Telangana	4%
4.	Aurangabad City - Telangana	4%
5.	NCT of Delhi - Bengaluru	4%
6.	Aurangabad City - Solapur city	4%
7.	Rest of Gujarat - Tamil Nadu	3%
8.	Aurangabad City - Beed	3%
9.	Aurangabad City - Tamil Nadu	3%
10.	Rest of Gujarat - Karnataka	2%

Source: Steer analysis

B Detailed forecasts

B.1 Further to the summary of forecasts presented in Chapter 6, this appendix presents detailed forecasts.

Traffic forecasts

SY - Tamalwadi

Table B.1: Forecasts for final (background + impacts) AADT – SY Tamalwadi

Vehicle Category	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
CJV	4,038	5,620	5,982	6,416	6,882	7,376	7,894	8,432	8,993	9,580
Mini LCV	-	989	1,018	1,052	1,087	1,122	1,158	1,194	1,230	1,266
Bus	364	645	655	666	677	688	699	710	720	731
LCV	906	871	896	926	956	987	1,019	1,050	1,082	1,114
2A	876	1,069	1,124	1,180	1,239	1,287	1,331	1,388	1,443	1,503
3A	818	921	988	1,054	1,126	1,178	1,216	1,290	1,356	1,436
MAV	1,097	1,305	1,449	1,588	1,742	1,844	1,915	2,076	2,217	2,396
OSV	1	1	1	1	1	1	1	1	1	2
Total	**8,101**	**11,421**	**12,113**	**12,882**	**13,710**	**14,483**	**15,234**	**16,141**	**17,044**	**18,028**
PCU	**16,514**	**21,697**	**23,169**	**24,706**	**26,374**	**27,742**	**28,943**	**30,714**	**32,390**	**34,316**

Source: Steer analysis

Table B.2: Forecasts for final (background + impacts) AADT – SY Tamalwadi

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
CJV	10,190	10,822	11,471	12,137	12,821	13,526	14,255	15,009	15,789	16,596
Mini LCV	1,303	1,340	1,376	1,413	1,449	1,485	1,522	1,558	1,595	1,632
Bus	742	752	762	772	782	792	802	811	821	830
LCV	1,147	1,179	1,211	1,243	1,275	1,307	1,339	1,371	1,403	1,436
2A	1,556	1,608	1,661	1,713	1,766	1,819	1,872	1,926	1,981	2,036
3A	1,494	1,553	1,612	1,672	1,731	1,792	1,853	1,916	1,979	2,044
MAV	2,521	2,648	2,778	2,910	3,044	3,181	3,321	3,465	3,612	3,763
OSV	2	2	2	2	2	2	2	2	2	2
Total	**18,953**	**19,903**	**20,873**	**21,861**	**22,870**	**23,904**	**24,966**	**26,059**	**27,183**	**28,339**
PCU	**35,937**	**37,594**	**39,278**	**40,989**	**42,728**	**44,505**	**46,323**	**48,186**	**50,098**	**52,058**

Source: Steer analysis

Table B.3: Forecasts for final (background + impacts) AADT – SY Tamalwadi

Vehicle Category	FY41	FY42	FY43	FY44	FY45
CJV	17,429	18,289	19,177	20,094	21,040
Mini LCV	1,669	1,707	1,744	1,782	1,820
Bus	840	849	859	868	877
LCV	1,469	1,501	1,535	1,568	1,602
2A	2,092	2,148	2,205	2,263	2,321
3A	2,109	2,175	2,242	2,310	2,380
MAV	3,918	4,076	4,238	4,404	4,574
OSV	3	3	3	3	3
Total	**29,527**	**30,748**	**32,003**	**33,292**	**34,616**
PCU	**54,064**	**56,119**	**58,225**	**60,382**	**62,590**

Source: Steer analysis

SY - Yedeshi

Table B.4: Forecasts for final (background + impacts) AADT – SY Yedeshi

Vehicle Category	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
CJV	2,701	3,429	3,630	3,869	4,125	4,394	4,675	4,964	5,265	5,577
Mini LCV	-	586	603	623	644	665	686	707	729	750
Bus	131	219	222	226	230	233	237	241	244	248
LCV	596	532	548	566	585	604	623	642	662	681
2A	738	905	953	1,003	1,055	1,096	1,132	1,147	1,175	1,188
3A	845	978	1,062	1,136	1,214	1,270	1,312	1,369	1,428	1,487
MAV	1,397	1,659	1,850	2,020	2,204	2,333	2,432	2,586	2,736	2,903
OSV	1	1	1	1	1	1	1	1	1	2
Total	**6,409**	**8,310**	**8,870**	**9,444**	**10,058**	**10,596**	**11,099**	**11,658**	**12,240**	**12,836**
PCU	**15,027**	**18,590**	**20,098**	**21,530**	**23,066**	**24,267**	**25,291**	**26,550**	**27,847**	**29,189**

Source: Steer analysis

Table B.5: Forecasts for final (background + impacts) AADT – SY Yedeshi

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
CJV	5,900	6,233	6,572	6,919	7,274	7,638	8,012	8,397	8,794	9,202
Mini LCV	772	794	816	837	858	880	902	923	945	967
Bus	251	255	259	262	265	269	272	275	278	282
LCV	701	721	740	760	779	799	818	838	858	878
2A	1,229	1,270	1,312	1,354	1,395	1,437	1,479	1,522	1,565	1,609
3A	1,548	1,609	1,670	1,732	1,794	1,857	1,920	1,985	2,050	2,117
MAV	3,054	3,209	3,366	3,526	3,689	3,855	4,024	4,199	4,377	4,560

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
OSV	2	2	2	2	2	2	2	2	2	2
Total	**13,457**	**14,092**	**14,737**	**15,391**	**16,056**	**16,735**	**17,430**	**18,141**	**18,870**	**19,617**
PCU	**30,560**	**31,958**	**33,377**	**34,814**	**36,271**	**37,757**	**39,274**	**40,826**	**42,414**	**44,039**

Source: Steer analysis

Table B.6: Forecasts for final (background + impacts) AADT – SY Yedeshi

Vehicle Category	FY41	FY42	FY43	FY44	FY45
CJV	9,622	10,054	10,498	10,954	11,423
Mini LCV	989	1,011	1,034	1,056	1,079
Bus	285	288	291	294	298
LCV	898	918	938	959	979
2A	1,653	1,697	1,742	1,787	1,833
3A	2,185	2,253	2,323	2,394	2,465
MAV	4,747	4,939	5,135	5,336	5,542
OSV	3	3	3	3	3
Total	**20,381**	**21,163**	**21,964**	**22,783**	**23,621**
PCU	**45,698**	**47,394**	**49,128**	**50,900**	**52,709**

Source: Steer analysis

YA - Maliwadi

Table B.7: Forecasts for final (background + impacts) AADT – YA Maliwadi

Vehicle Category	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
CJV	2,916	3,736	3,955	4,215	4,494	4,787	5,093	5,408	5,735	6,075
Mini LCV	-	575	592	611	631	652	673	693	714	736
Bus	184	435	442	449	456	464	471	478	486	493
LCV	611	497	511	528	546	564	582	600	618	636
2A	656	798	842	885	931	968	1,000	1,013	1,037	1,048
3A	697	860	939	1,007	1,080	1,130	1,166	1,217	1,268	1,322
MAV	1,138	1,411	1,588	1,743	1,910	2,022	2,103	2,239	2,370	2,517
OSV	1	1	1	1	1	1	1	1	1	2
Total	**6,204**	**8,313**	**8,870**	**9,440**	**10,050**	**10,587**	**11,088**	**11,649**	**12,230**	**12,828**
PCU	**13,571**	**17,690**	**19,133**	**20,491**	**21,949**	**23,073**	**24,018**	**25,204**	**26,422**	**27,687**

Source: Steer analysis

Table B.8: Forecasts for final (background + impacts) AADT – YA Maliwadi

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
CJV	6,427	6,789	7,160	7,537	7,924	8,320	8,728	9,147	9,580	10,025
Mini LCV	757	778	799	821	842	863	884	905	926	948
Bus	500	507	514	521	527	534	541	547	554	560
LCV	654	673	691	710	728	746	764	783	801	820
2A	1,084	1,121	1,158	1,194	1,231	1,268	1,305	1,343	1,381	1,419
3A	1,375	1,429	1,484	1,539	1,594	1,650	1,706	1,763	1,822	1,881
MAV	2,648	2,783	2,919	3,058	3,199	3,342	3,490	3,641	3,795	3,954
OSV	2	2	2	2	2	2	2	2	2	2
Total	**13,448**	**14,082**	**14,727**	**15,381**	**16,046**	**16,725**	**17,419**	**18,131**	**18,861**	**19,609**
PCU	**28,970**	**30,279**	**31,606**	**32,951**	**34,316**	**35,706**	**37,126**	**38,579**	**40,066**	**41,587**

Source: Steer analysis

Table B.9: Forecasts for final (background + impacts) AADT – YA Maliwadi

Vehicle Category	FY41	FY42	FY43	FY44	FY45
CJV	10,482	10,952	11,436	11,933	12,444
Mini LCV	970	991	1,013	1,035	1,057
Bus	566	573	579	585	592
LCV	838	857	876	895	914
2A	1,458	1,497	1,537	1,577	1,618
3A	1,941	2,002	2,064	2,127	2,190
MAV	4,116	4,283	4,453	4,627	4,805
OSV	3	3	3	3	3
Total	**20,374**	**21,158**	**21,961**	**22,782**	**23,623**
PCU	**43,141**	**44,729**	**46,353**	**48,013**	**49,709**

Source: Steer analysis

YA - Padalsingi

Table B.10: Forecasts for final (background + impacts) AADT – YA Padalsingi

Vehicle Category	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
CJV	3,813	4,589	4,859	5,178	5,521	5,881	6,257	6,644	7,046	7,464
Mini LCV	-	849	873	902	932	962	993	1,024	1,055	1,086
Bus	272	587	596	606	616	626	636	645	655	665
LCV	956	777	800	827	854	882	910	938	966	995
2A	893	1,091	1,152	1,216	1,283	1,342	1,396	1,431	1,478	1,511
3A	962	1,138	1,228	1,310	1,397	1,460	1,511	1,577	1,644	1,713
MAV	1,478	1,780	1,977	2,155	2,347	2,484	2,592	2,754	2,914	3,090

Vehicle Category	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
OSV	1	1	1	1	1	1	1	1	1	2
Total	**8,374**	**10,813**	**11,486**	**12,194**	**12,950**	**13,638**	**14,296**	**15,015**	**15,760**	**16,525**
PCU	**18,280**	**23,067**	**24,761**	**26,414**	**28,186**	**29,634**	**30,913**	**32,436**	**34,002**	**35,621**

Source: Steer analysis

Table B.11: Forecasts for final (background + impacts) AADT – YA Padalsingi

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
CJV	7,896	8,341	8,796	9,260	9,734	10,221	10,722	11,238	11,769	12,315
Mini LCV	1,118	1,149	1,180	1,212	1,243	1,274	1,305	1,336	1,368	1,400
Bus	675	684	693	702	711	720	729	738	747	755
LCV	1,024	1,053	1,081	1,110	1,138	1,167	1,195	1,224	1,253	1,282
2A	1,573	1,635	1,697	1,760	1,823	1,886	1,951	2,017	2,083	2,151
3A	1,782	1,853	1,923	1,994	2,066	2,138	2,211	2,286	2,361	2,438
MAV	3,251	3,416	3,583	3,753	3,926	4,103	4,283	4,469	4,659	4,854
OSV	2	2	2	2	2	2	2	2	2	2
Total	**17,320**	**18,131**	**18,956**	**19,793**	**20,643**	**21,512**	**22,400**	**23,309**	**24,242**	**25,198**
PCU	**37,274**	**38,960**	**40,670**	**42,403**	**44,160**	**45,952**	**47,780**	**49,651**	**51,566**	**53,524**

Source: Steer analysis

Table B.12: Forecasts for final (background + impacts) AADT – YA Padalsingi

Vehicle Category	FY41	FY42	FY43	FY44	FY45
CJV	12,877	13,455	14,049	14,660	15,287
Mini LCV	1,432	1,464	1,496	1,528	1,561
Bus	764	773	781	790	798
LCV	1,311	1,341	1,370	1,400	1,430
2A	2,220	2,290	2,360	2,432	2,505
3A	2,516	2,595	2,675	2,757	2,839
MAV	5,053	5,257	5,466	5,680	5,898
OSV	3	3	3	3	3
Total	**26,175**	**27,176**	**28,200**	**29,249**	**30,322**
PCU	**55,524**	**57,568**	**59,658**	**61,794**	**63,976**

Source: Steer analysis

YA - Pargaon

Table B.13: Forecasts for final (background + impacts) AADT – YA Pargaon

Vehicle Category	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
CJV	1,653	2,177	2,318	2,486	2,666	2,858	3,059	3,267	3,484	3,711
Mini LCV	-	426	438	453	468	483	498	514	529	545
Bus	119	218	221	225	229	232	236	240	243	247
LCV	514	453	467	482	498	514	531	547	564	580
2A	751	981	1,032	1,084	1,139	1,183	1,223	1,242	1,274	1,291
3A	861	1,043	1,130	1,207	1,289	1,348	1,394	1,455	1,517	1,580
MAV	1,399	1,670	1,861	2,031	2,215	2,345	2,445	2,599	2,750	2,918
OSV	1	1	1	1	1	1	1	1	1	2
Total	**5,297**	**6,970**	**7,468**	**7,969**	**8,505**	**8,965**	**9,387**	**9,865**	**10,363**	**10,874**
PCU	**13,914**	**17,531**	**18,985**	**20,355**	**21,826**	**22,963**	**23,921**	**25,115**	**26,344**	**27,618**

Source: Steer analysis

Table B.14: Forecasts for final (background + impacts) AADT – YA Pargaon

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
CJV	3,948	4,193	4,444	4,702	4,967	5,240	5,523	5,815	6,117	6,430
Mini LCV	561	577	592	608	624	639	655	671	686	702
Bus	251	254	258	261	264	268	271	274	277	281
LCV	597	614	631	647	664	681	697	714	731	748
2A	1,336	1,381	1,426	1,471	1,517	1,562	1,608	1,654	1,701	1,749
3A	1,644	1,709	1,774	1,839	1,905	1,972	2,040	2,108	2,178	2,249
MAV	3,070	3,225	3,383	3,544	3,707	3,874	4,045	4,220	4,399	4,583
OSV	2	2	2	2	2	2	2	2	2	2
Total	**11,408**	**11,954**	**12,510**	**13,075**	**13,650**	**14,238**	**14,840**	**15,458**	**16,093**	**16,744**
PCU	**28,917**	**30,243**	**31,589**	**32,953**	**34,337**	**35,749**	**37,190**	**38,666**	**40,177**	**41,723**

Source: Steer analysis

Table B.15: Forecasts for final (background + impacts) AADT – YA Pargaon

Vehicle Category	FY41	FY42	FY43	FY44	FY45
CJV	6,752	7,086	7,430	7,785	8,152
Mini LCV	718	735	751	767	783
Bus	284	287	290	293	297
LCV	765	782	799	817	834
2A	1,797	1,845	1,894	1,943	1,993
3A	2,321	2,393	2,467	2,543	2,619
MAV	4,771	4,964	5,161	5,363	5,570

Vehicle Category	FY41	FY42	FY43	FY44	FY45
OSV	3	3	3	3	3
Total	**17,410**	**18,094**	**18,795**	**19,514**	**20,250**
PCU	**43,303**	**44,918**	**46,571**	**48,261**	**49,988**

Source: Steer analysis

Revenue forecasts

B.2 The following table presents the year-wise annual revenue forecasts for the forecast period until FY38.

B1.2 SY - Tamalwadi

Table B.16: Forecasts for final (background +impacts) revenue – SY Tamalwadi

Vehicle Category	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
CJV	7.0	10.3	11.2	12.8	14.6	16.5	18.0	20.7	23.1	25.7
Mini LCV	-	2.7	2.9	3.2	3.4	3.7	4.0	4.4	4.7	5.1
Bus	2.0	3.7	4.1	4.4	4.6	4.9	5.3	5.6	6.0	6.3
LCV	2.7	2.5	2.8	3.0	3.3	3.5	3.8	4.2	4.5	4.8
2A	5.8	7.7	8.7	9.6	10.5	11.6	12.4	13.7	14.9	16.1
3A	6.1	7.5	8.7	9.7	10.9	11.9	12.9	14.4	15.8	17.5
MAV	12.4	16.9	19.9	23.0	26.5	29.2	31.8	36.5	40.6	46.2
OSV	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Revenue	**36.1**	**51.2**	**58.3**	**65.8**	**73.9**	**81.4**	**88.2**	**99.6**	**109.7**	**121.8**

Source: Steer analysis

Table B.17: Forecasts for final (background +impacts) revenue – SY Tamalwadi

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
CJV	28.6	32.2	35.5	39.5	43.9	48.0	52.9	58.2	64.9	71.2
Mini LCV	5.5	6.0	6.4	6.9	7.4	7.9	8.5	9.1	9.8	10.5
Bus	6.7	7.2	7.6	8.1	8.5	9.1	9.6	10.2	10.8	11.5
LCV	5.2	5.6	6.0	6.5	6.9	7.5	8.0	8.6	9.2	9.9
2A	17.5	19.2	20.6	22.4	24.0	26.0	28.0	30.1	32.6	35.0
3A	19.3	20.9	22.8	24.8	26.9	29.2	31.5	34.2	36.8	39.9
MAV	50.6	55.8	61.6	67.4	74.0	81.2	88.4	96.9	105.2	115.7
OSV	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
Total Revenue	**133.4**	**147.0**	**160.5**	**175.6**	**191.7**	**209.0**	**226.9**	**247.3**	**269.5**	**293.8**

Source: Steer analysis

Table B.18: Forecasts for final (background +impacts) revenue – SY Tamalwadi

Vehicle Category	F41	FY42	FY43	FY44	FY45
CJV	77.5	85.6	93.0	103.5	113.1
Mini LCV	11.2	12.0	12.7	13.8	14.6
Bus	12.1	12.8	13.6	14.4	15.2
LCV	10.7	11.3	12.1	13.0	13.9
2A	37.6	40.4	43.4	46.6	50.1
3A	43.2	46.5	50.3	54.1	58.5
MAV	125.5	136.8	148.8	161.9	175.6
OSV	0.1	0.1	0.1	0.1	0.1
Total Revenue	**317.9**	**345.6**	**374.0**	**407.4**	**441.1**

Source: Steer analysis

B1.3 SY - Yedeshi

Table B.19: Forecasts for final (background +impacts) revenue – SY Yedeshi

Vehicle Category	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
CJV	4.3	5.9	6.4	7.2	8.1	9.2	10.0	11.4	12.6	14.0
Mini LCV	-	1.5	1.6	1.7	1.9	2.0	2.2	2.4	2.6	2.8
Bus	0.8	1.4	1.5	1.6	1.7	1.9	2.0	2.1	2.2	2.4
LCV	1.8	1.6	1.8	2.0	2.1	2.3	2.5	2.7	2.9	3.1
2A	5.0	6.6	7.6	8.4	9.2	10.1	10.8	11.6	12.4	13.2
3A	6.6	8.3	9.8	11.0	12.4	13.4	14.6	16.0	17.5	19.0
MAV	16.0	21.1	24.9	28.8	33.0	36.7	39.6	44.7	49.3	55.0
OSV	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Revenue	**34.4**	**46.4**	**53.7**	**60.7**	**68.4**	**75.6**	**81.7**	**91.0**	**99.6**	**109.5**

Source: Steer analysis

Table B.20: Forecasts for final (background +impacts) revenue – SY Yedeshi

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
CJV	15.5	17.3	19.0	21.0	23.3	25.3	27.8	30.4	33.8	36.9
Mini LCV	3.0	3.3	3.5	3.8	4.1	4.3	4.6	5.0	5.4	5.7
Bus	2.5	2.7	2.9	3.0	3.2	3.4	3.6	3.8	4.1	4.3
LCV	3.4	3.7	4.0	4.3	4.5	4.9	5.3	5.6	6.0	6.5
2A	14.3	15.5	16.6	18.1	19.4	21.0	22.6	24.3	26.4	28.3
3A	20.9	22.7	24.8	27.0	29.2	31.7	34.2	37.1	40.3	43.7
MAV	60.2	66.5	73.3	80.2	88.1	96.7	105.2	115.3	126.0	137.7
OSV	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Total Revenue	**119.9**	**131.7**	**144.1**	**157.4**	**171.8**	**187.5**	**203.3**	**221.7**	**242.0**	**263.2**

Source: Steer analysis

Table B.21: Forecasts for final (background +impacts) revenue – SY Yedeshi

Vehicle Category	F41	FY42	FY43	FY44	FY45
CJV	40.0	44.0	47.6	52.7	57.3
Mini LCV	6.1	6.5	6.9	7.5	8.0
Bus	4.6	4.8	5.1	5.4	5.7
LCV	7.0	7.4	7.9	8.5	9.1
2A	30.4	32.7	35.1	38.0	40.4
3A	47.0	50.5	54.7	59.2	63.5
MAV	149.3	162.8	177.1	193.6	209.0
OSV	0.1	0.1	0.1	0.1	0.1
Total Revenue	**284.4**	**308.9**	**334.5**	**365.0**	**393.2**

Source: Steer analysis

B1.4 YA - Maliwadi

Table B.22: Forecasts for final (background +impacts) revenue – YA Maliwadi

Vehicle Category	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
CJV	7.1	9.3	10.5	11.9	13.1	15.1	16.6	18.6	20.6	22.8
Mini LCV	-	2.2	2.4	2.6	2.8	3.1	3.3	3.6	3.9	4.2
Bus	1.5	3.9	4.3	4.6	4.9	5.2	5.5	5.9	6.3	6.7
LCV	2.5	2.2	2.5	2.7	3.0	3.2	3.4	3.7	4.0	4.4
2A	6.0	8.4	9.5	10.5	11.6	12.6	13.7	14.6	15.6	16.5
3A	7.2	10.1	11.9	13.5	15.0	16.5	17.8	19.5	21.4	23.2
MAV	17.5	24.4	29.5	34.0	38.9	43.3	47.0	52.5	58.4	64.7
OSV	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Revenue	**41.8**	**60.6**	**70.5**	**79.8**	**89.3**	**98.9**	**107.4**	**118.5**	**130.2**	**142.5**

Source: Steer analysis

Table B.23: Forecasts for final (background +impacts) revenue – YA Maliwadi

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
CJV	25.1	28.2	30.8	34.1	37.5	41.4	45.7	50.0	54.4	59.8
Mini LCV	4.5	4.9	5.2	5.6	6.1	6.5	7.0	7.5	8.0	8.6
Bus	7.1	7.6	8.0	8.5	9.0	9.6	10.2	10.8	11.4	12.1
LCV	4.7	5.0	5.5	5.8	6.3	6.7	7.2	7.8	8.3	8.9
2A	17.8	19.4	20.9	22.6	24.4	26.5	28.5	30.7	33.0	35.7
3A	25.4	27.7	30.2	32.7	35.6	38.7	41.7	45.3	49.0	53.1
MAV	71.4	79.2	86.5	95.0	104.0	114.3	124.6	136.5	149.1	162.8
OSV	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Total Revenue	**156.1**	**172.0**	**187.3**	**204.5**	**223.0**	**243.8**	**265.1**	**288.7**	**313.3**	**341.2**

Source: Steer analysis

Table B.24: Forecasts for final (background +impacts) revenue – YA Maliwadi

Vehicle Category	F41	FY42	FY43	FY44	FY45
CJV	65.3	71.9	78.8	85.8	93.2
Mini LCV	9.2	9.9	10.6	11.3	12.1
Bus	12.8	13.5	14.3	15.2	16.0
LCV	9.5	10.3	10.9	11.7	12.5
2A	38.3	41.1	44.1	47.5	50.8
3A	57.3	61.6	66.7	72.0	77.4
MAV	177.1	192.7	209.9	228.7	247.9
OSV	0.1	0.1	0.2	0.2	0.2
Total Revenue	**369.6**	**401.2**	**435.5**	**472.3**	**510.2**

Source: Steer analysis

B1.5 YA - Padalsingi

Table B.25: Forecasts for final (background +impacts) revenue – YA Padalsingi

Vehicle Category	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
CJV	9.3	12.6	14.2	15.8	17.8	19.9	22.0	24.5	27.6	30.5
Mini LCV	-	3.2	3.5	3.7	4.1	4.4	4.7	5.2	5.6	6.1
Bus	2.1	5.4	5.9	6.3	6.7	7.1	7.6	8.1	8.6	9.1
LCV	8.0	9.4	10.3	11.3	12.2	13.2	14.2	15.5	16.6	17.9
2A	8.1	11.8	13.4	14.8	16.3	17.9	19.6	21.1	22.8	24.3
3A	9.5	13.5	15.6	17.4	19.5	21.3	23.1	25.3	27.7	30.3
MAV	21.5	31.5	37.5	42.9	49.1	54.2	59.3	66.2	73.4	81.7
OSV	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Revenue	**58.5**	**87.3**	**100.4**	**112.2**	**125.6**	**138.1**	**150.6**	**165.8**	**182.4**	**200.1**

Source: Steer analysis

Table B.26: Forecasts for final (background +impacts) revenue – YA Padalsingi

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
CJV	33.7	37.6	41.2	45.5	50.1	55.2	60.8	66.3	72.4	80.1
Mini LCV	6.5	7.1	7.5	8.1	8.7	9.3	10.1	10.8	11.4	12.4
Bus	9.7	10.3	11.0	11.6	12.4	13.1	13.9	14.7	15.6	16.6
LCV	19.4	20.9	22.5	24.1	26.0	28.0	29.9	32.1	34.4	37.0
2A	26.7	28.9	31.4	34.3	37.2	40.5	43.8	47.3	51.1	55.4
3A	33.1	36.0	39.0	42.5	46.1	50.1	54.3	58.5	63.3	68.9
MAV	90.1	99.2	108.9	119.4	131.3	144.1	157.0	171.8	187.4	204.5
OSV	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Total Revenue	**219.1**	**240.2**	**261.6**	**285.7**	**311.8**	**340.5**	**369.8**	**401.6**	**435.7**	**475.1**

Source: Steer analysis

Table B.27: Forecasts for final (background +impacts) revenue – YA Padalsingi

Vehicle Category	F41	FY42	FY43	FY44	FY45
CJV	87.3	96.0	104.4	114.3	124.4
Mini LCV	13.2	14.2	15.1	16.2	17.3
Bus	17.5	18.5	19.6	20.8	21.9
LCV	39.5	42.2	45.2	48.5	51.7
2A	59.7	64.4	69.5	75.2	80.7
3A	73.9	79.8	86.4	93.5	100.5
MAV	222.3	242.5	263.9	288.2	312.1
OSV	0.1	0.1	0.2	0.2	0.2
Total Revenue	**513.6**	**557.8**	**604.3**	**656.9**	**708.8**

Source: Steer analysis

B1.6 YA - Pargaon

Table B.28: Forecasts for final (background +impacts) revenue – YA Pargaon

Vehicle Category	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
CJV	3.2	4.4	5.0	5.8	6.5	7.3	8.0	9.0	10.2	11.3
Mini LCV	-	1.2	1.3	1.5	1.6	1.7	1.8	2.0	2.2	2.3
Bus	0.7	1.4	1.6	1.7	1.8	1.9	2.0	2.2	2.3	2.4
LCV	1.7	1.6	1.8	1.9	2.1	2.3	2.4	2.7	2.9	3.1
2A	5.4	7.8	8.8	9.6	10.7	11.5	12.5	13.4	14.3	15.2
3A	6.8	9.3	10.6	12.0	13.5	14.6	15.9	17.6	19.1	20.8
MAV	16.1	21.3	25.8	29.3	33.5	37.1	40.9	45.5	50.4	56.1
OSV	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Revenue	**34.0**	**47.1**	**54.9**	**61.8**	**69.7**	**76.5**	**83.6**	**92.3**	**101.4**	**111.3**

Source: Steer analysis

Table B.29: Forecasts for final (background +impacts) revenue – YA Pargaon

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
CJV	12.7	14.1	15.7	17.2	19.0	21.5	23.6	25.8	28.8	31.4
Mini LCV	2.5	2.7	2.9	3.1	3.4	3.7	3.9	4.2	4.5	4.8
Bus	2.6	2.8	2.9	3.1	3.3	3.5	3.7	3.9	4.2	4.5
LCV	3.3	3.7	3.9	4.2	4.5	4.8	5.2	5.5	5.9	6.4
2A	16.4	18.0	19.3	20.9	22.6	24.4	26.2	28.4	30.6	33.1
3A	22.8	24.9	26.8	29.4	31.8	34.4	37.3	40.5	43.7	47.3
MAV	61.8	68.0	74.8	82.2	90.0	98.5	107.6	117.6	128.1	140.4
OSV	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Total Revenue	**122.3**	**134.2**	**146.4**	**160.1**	**174.6**	**190.9**	**207.6**	**226.0**	**245.9**	**268.1**

Source: Steer analysis

Table B.30: Forecasts for final (background +impacts) revenue – YA Pargaon

Vehicle Category	F41	FY42	FY43	FY44	FY45
CJV	34.7	38.0	41.7	45.5	49.7
Mini LCV	5.1	5.5	5.9	6.3	6.7
Bus	4.7	5.0	5.3	5.6	5.9
LCV	6.8	7.3	7.8	8.4	8.9
2A	35.5	38.0	40.7	43.9	47.0
3A	51.1	55.3	59.6	64.3	69.3
MAV	152.7	166.0	180.9	197.2	214.2
OSV	0.1	0.1	0.1	0.1	0.1
Total Revenue	**290.7**	**315.2**	**342.0**	**371.3**	**401.8**

Source: Steer analysis

C Data collection exercise

C.1 To validate and inform various inputs used in our forecasting, we undertook primary data collection on the Assets. OD survey data was collected on behalf of the Client, TVC surveys were commissioned by Steer with a third party. OD data collection typically involves manual data entry by enumerators based on oral surveys with road users crossing toll plazas. TVC data collection involves video-graphic capture of traffic passing crossing the toll plazas, followed by manual counting.

7 days TVC count

Table C.1: 7-day TVC counts – SY Tamalwadi

Date	Source	CJV	Mini LCV	LCV	Bus	2 Axle	3 Axle	MAV	OSV	Total
21-06-2021	TVC	4,424	810	495	461	634	738	1,082	-	8,644
22-06-2021	TVC	4,625	860	589	469	575	696	908	-	8,722
23-06-2021	TVC	4,044	819	523	459	566	779	1,107	-	8,297
24-06-2021	TVC	3,641	777	615	476	601	722	1,133	-	7,965
25-06-2021	TVC	4,383	777	625	470	619	795	1,130	-	8,799
26-06-2021	TVC	4,562	803	599	478	680	857	1,162	-	9,141
27-06-2021	TVC	5,475	639	514	469	563	777	1,185	-	9,622

Source: Steer analysis

Table C.2: 7-day TVC counts – SY Yedeshi

Date	Source	CJV	Mini LCV	LCV	Bus	2 Axle	3 Axle	MAV	OSV	Total
21-06-2021	TVC	2,785	570	418	135	496	746	1,461	-	6,611
22-06-2021	TVC	3,348	512	482	159	463	692	1,310	-	6,966
23-06-2021	TVC	2,614	475	455	152	522	746	1,424	-	6,388
24-06-2021	TVC	2,787	529	490	152	588	820	1,481	-	6,847
25-06-2021	TVC	3,258	559	533	166	552	840	1,525	-	7,433
26-06-2021	TVC	2,899	460	505	150	594	883	1,467	-	6,958
27-06-2021	TVC	3,186	464	509	150	552	881	1,623	-	7,365

Source: Steer analysis

Table C.3: 7-day TVC counts – YA Maliwadi

Date	Source	CJV	Mini LCV	LCV	Bus	2 Axle	3 Axle	MAV	OSV	Total
21-06-2021	TVC	3,713	542	365	253	364	546	1,209	-	6,992
22-06-2021	TVC	3,666	571	357	264	300	527	1,100	-	6,785
23-06-2021	TVC	3,242	563	394	269	347	631	1,126	-	6,572
24-06-2021	TVC	2,952	556	401	270	401	655	1,187	-	6,422
25-06-2021	TVC	3,697	536	430	279	385	606	1,193	-	7,126
26-06-2021	TVC	4,006	539	443	264	435	694	1,170	-	7,551
27-06-2021	TVC	4,256	621	436	304	384	667	1,252	-	7,920

Source: Steer analysis

Table C.4: 7-day TVC counts – YA Padalsingi

Date	Source	CJV	Mini LCV	LCV	Bus	2 Axle	3 Axle	MAV	OSV	Total
21-06-2021	TVC	4,726	837	519	369	519	796	1,558	-	9,324
22-06-2021	TVC	4,801	971	581	375	540	758	1,429	-	9,455
23-06-2021	TVC	4,096	882	583	399	525	827	1,532	-	8,844
24-06-2021	TVC	3,833	900	619	394	611	868	1,569	-	8,794
25-06-2021	TVC	4,852	832	669	397	577	888	1,568	-	9,783
26-06-2021	TVC	5,031	835	653	381	638	914	1,543	-	9,995
27-06-2021	TVC	5,258	770	639	402	605	948	1,670	-	10,292

Source: Steer analysis

Table C.5: 7-day TVC counts – YA Pargaon

Date	Source	CJV	Mini LCV	LCV	Bus	2 Axle	3 Axle	MAV	OSV	Total
21-06-2021	TVC	1,707	349	351	107	417	684	1,459	2	5,076
22-06-2021	TVC	1,874	418	365	120	451	672	1,302	-	5,202
23-06-2021	TVC	1,681	362	343	118	442	741	1,430	-	5,117
24-06-2021	TVC	1,571	361	397	122	536	788	1,486	-	5,261
25-06-2021	TVC	1,953	376	459	130	519	799	1,532	-	5,768
26-06-2021	TVC	1,967	341	431	122	550	828	1,473	1	5,713
27-06-2021	TVC	2,244	335	442	124	535	867	1,593	-	6,140

Source: Steer analysis

Table C.6: 7-WADT TVC vs TMS

Date	Source	CJV	LCV	Bus	2A	3A/MAV	OSV	Total
SY Tamalwadi	TVC	5,234	566	469	605	1,867	-	8,741
	TMS	5,229	366	1,233	44	1,848	1	8,721
	Schedule N	5,249	344	481	797	1,855	1	8,726
SY Yedeshi	TVC	3,492	485	152	538	2,271	-	6,938
	TMS	3,336	352	833	43	2,273	1	6,839
	Schedule N	3,357	344	170	704	2,274	0	6,850
YA Tamalwadi	TVC	4,209	404	272	374	1,795	-	7,053
	TMS	4,121	253	539	252	1,796	1	6,962
	Schedule N	4,126	246	279	512	1,796	1	6,959
YA Padalsingi	TVC	5,518	609	388	574	2,410	-	9,498
	TMS	5,254	474	791	380	2,419	1	9,319
	Schedule N	5,270	454	409	761	2,417	1	9,312
YA Pargaon	TVC	2,220	398	120	493	2,236	0	5,468
	TMS	2,090	305	721	61	2,255	1	5,432
	Schedule N	2,163	236	141	635	2,254	1	5,430

Source: Steer analysis

Zone list

Table C.7: Zone list used for OD analysis

Zone No	Zone Name	Description/State
1	Aurangabad City	
2	Chalisgaon	
3	Malegaon	
4	Kannad	
5	Sillod	
6	Daulatabad, Khuldabad, Maliwada	
7	Chittegaon	
8	Adul	
9	Dabhrul	
10	Adagaon	
11	Bakshachiwadi	
12	Bhokarwadi, Maliwadi	
13	Pachod	
14	Dongaon	
15	Wadigodri	
16	Mahakala	
17	Shahgadh	
18	Bagmipalgaon	

Zone No	Zone Name	Description/State
19	Georai	
20	Talewadi	
21	Malajgaon	
22	Shevgaon	
23	Tisgaon, Kharwandi, Pathardi	
24	Padalsinghi	
25	Pathardi	
26	Beed	
27	Wadwani, Telgaon	
28	Manjarsumbha	
29	Chousla	
30	Pargaon	
31	Tarkheda	
32	Yermala	
33	Barshi	
34	Tembhurni	
35	Kurduvadi	
36	Yedashi	
37	Murud	
38	Osmanabad	
39	Ausa	
40	Tuljapur	
41	Tamalwadi	
42	Solapur city	
43	Ahmednagar	District
44	Akola	District
45	Amravati	District
46	Aurangabad	District
47	Beed	District
48	Bhandara	District
49	Buldhana	District
50	Chandrapur	District
51	Dhule	District
52	Gadchiroli	District
53	Gondia	District
54	Hingoli	District
55	Jalgaon	District
56	Jalna	District
57	Kolhapur	District

Zone No	Zone Name	Description/State
58	Latur	District
59	Mumbai City	District
60	Mumbai Suburban	District
61	Nagpur	District
62	Nanded	District
63	Nandurbar	District
64	Nashik	District
65	Osmanabad	District
66	Palghar	District
67	Parbhani	District
68	Pune District	District
69	Raigad	District
70	Ratnagiri	District
71	Sangli	District
72	Satara	District
73	Sindhudurg	District
74	Solapur	District
75	Thane	District
76	Wardha	District
77	Washim	District
78	Yavatmal	District
79	Ahmedabad	Gujarat
80	Surat	Gujarat
81	Rest of Gujarat	Gujarat
82	Porbandar Port	Gujarat
83	Kandala Port	Gujarat
84	Mundra Port	Gujarat
85	Jaipur	Rajasthan
86	Rest of Rajasthan	Rajasthan
87	NCT of Delhi	NCT of Delhi
88	Haryana	Haryana
89	Madhya Pradesh	Madhya Pradesh
90	Punjab	Punjab, Chandigarh
91	Himachal Pradesh	Himachal Pradesh
92	Uttarakhand	Uttarakhand
93	Jammu & Kashmir	Jammu and Kashmir
94	Uttar Pradesh	Uttar Pradesh
95	West Bengal	West Bengal
96	Andhra Pradesh	Andhra Pradesh

Zone No	Zone Name	Description/State
97	Bengaluru	Karnataka
98	Karnataka	Karnataka
99	Kerala	Kerala
100	Tamil Nadu	Tamil Nadu
101	Telangana	Telangana
102	Arunachal Pradesh, Assam, Bihar, Jharkhand, Manipur, Meghalaya, Mizoram, Nagaland, Odisha, Tripura, SIKKIM, Chhattisgarh	Bihar
103	Goa	Goa
104	Nepal	Nepal
105	Bangladesh	Bangladesh
106	Bhutan	Bhutan

Source: OD data

D Vehicle Classification Chart

Vehicle Type	Description
2-Wheeler	
Auto-Rickshaw	
Car/Jeep/Van	
Taxi- shared/private	
Buses (govt/Pvt)	
Mini Bus	
Mini LCV	

Vehicle Type	Description
LCV 4 Tyre	
LCV 6 Tyre	
2 Axle Truck	
3 Axle Truck	
4 Axle Truck (MAV)	
5 Axle Truck (MAV)	
6 Axle Truck (MAV)	

Vehicle Type	Description
Oversized Vehicle/ Earth moving equipment (OSV)	

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Palsit – Dankuni Traffic and Revenue Due Diligence

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Table of Contents

Disclaimer **6**

Glossary Items **8**

1 Introduction **10**

The assignment 10

Our approach 11

Evolution of Covid19 pandemic in India in FY21 and FY22 12

Contents of this Report 14

2 The Asset **15**

Introduction 15

Asset context 15

Concession and tolling details 17

Key economic activities 18

3 Traffic description **20**

Introduction 20

Historical trends 20

Key findings of the TVC data analysis 25

Key findings of origin-destination analysis 27

Conclusions 34

4 Socio Economic Context **36**

Introduction 36

Population growth 36

Economic Indicators 37

Industrial Production 37

Vehicle ownership 38

Summary 40

5 Background growth relationships and forecasting assumptions **42**

Introduction 42

Estimation of background elasticities 43

Overview 43

Forecasts for growth drivers 44

6 Forecasts: Base AADT, and Traffic and Revenue forecasts 47

Introduction 47

Seasonal Correction Factors 47

Base year FY22 traffic 48

Estimation of FY22 Base traffic 48

FY23 Estimation and base AADT for forecast 49

Base year AADT 49

Analysis of potential impacts 50

Revenue Forecasting Assumptions 52

Traffic and Revenue forecasts 57

Upside and Downside Cases 59

Traffic and Revenue Forecasts-Upside case 61

Traffic and Revenue Forecasts-Downside case 62

Target traffic and modification of concession period 64

Summary outlook 66

Figures

Figure 1: Daily Reported Covid 19 cases in India 13

Figure 2.1: Asset location in the regional network context 15

Figure 2.2 Asset context 16

Figure 2.3: Typical cross-sections and toll plazas on the Asset 17

Figure 3.1 Category wise vehicle shares (%) and AADT at PD Dankuni 22

Figure 3.2 CJV toll segmentation for PD - Dankuni 24

Figure 3.3 MAV toll segmentation for PD - Dankuni 24

Figure 3.4: Vehicle share comparison - PD 26

Figure 3.5 TVC counts – PD Dankuni 26

Figure 3.6 Zonal distribution: PD - Dankuni 29

Figure.7 Zonal influence: PD - Dankuni 30

Figure 3.8 Commodity distribution: PD - Dankuni 31

Figure 3.9 Trip length distribution: PD - Dankuni 33

Figure 4.1: Annual growth - Index of Industrial Production 37

Figure 4.2: Car ownership in India per 1,000 population 38
Figure 4.3: Per capita income 39
Figure 5.1: FY21-40 GDP forecast 45
Figure 5.2: Forecasts for India GDP, West Bengal GSDP 46
Figure 6.1: Asset route shown against the regional network context 50
Figure 6.2: CJV toll segmentation evolution – PD Dankuni 54
Figure 6.3: MAV toll segmentation evolution – PD Dankuni 54
Figure 6.4: Final AADT forecast including Upside and Downside scenarios 64
Figure 6.5: Final Revenue forecast including Upside and Downside scenarios 64

Tables

Table 1.1: Scope of work and sources of data 10
Table 1.2: Data collection schedule 12
Table 2.1: Summary of concession 17
Table 2.2: Single toll rates on the Asset (INR), applicable April 2021 to March 2022 18
Table 3.1: Reported ETC MADT by vehicle class: PD - Dankuni 20
Table 3.2: Typical ticket types sold at NHAI plazas 22
Table 3.3: Timeline of national ETC implementation 23
Table 3.4: Data collection schedule 25
Table 3.5: WADT at Asset 25
Table 3.6: Sample rates for OD data 27
Table 3.7: Zone aggregations for zonal influence analysis 28
Table 3.8: Aggregate commodity categories 30
Table 3.9: Directional commodity distribution – PD - Dankuni 32
Table 3.10: Average trip lengths (in km) 33
Table 4.1: CAGR of population in India 36
Table 4.2: Population Growth in India (2001 – 2011) 37
Table 4.3: GDP/GSDP index (2012=100) 40
Table 5.1: Identified growth drivers to model traffic growth 43
Table 5.2: Elasticity recommendations for the Asset 44
Table 6.1: Key intermediate and final outputs in the forecast 47
Table 6.2: Adopted SCF: PD Dankuni 48

Table 6.3: June 2022 to January-March FY22 factors used to estimate base AADT 49
Table 6.4: FY22N Base AADT estimates compared to FY22 Estimated (PD-Dankuni) 49
Table 6.5: Summary of impact 51
Table 6.6: Impact of LoS Improvement 51
Table 6.7: Impact of HP Gas pipeline 52
Table 6.8: Impact of EDFC 52
Table 6.9: Summary of impacts on the Assets 52
Table 6.10: Trip factors for the forecast years – PD Dankuni 53
Table 6.11: Toll segmentation for FY21 onwards – PD Dankuni 54
Table 6.12: VDF Summaries at Km 586.600 55
Table 6.13: VDF Summaries at Km 560.000 55
Table 6.14: Overloading assumptions for FY22 and forecast years 56
Table 6.15: Tolling lengths for toll evolution assumed 56
Table 6.16: WPI growth forecast assumptions 56
Table 6.17: PCU factors 57
Table 6.18: Final (background plus impacts) AADT forecast – PD Dankuni* 58
Table 6.19: Final (background plus impacts) AADT CAGR (%) – PD Dankuni 58
Table 6.20: Final (background plus impacts) revenue (INR crores) forecast – PD Dankuni 58
Table 6.21: Final (background plus impacts) revenue CAGR (%) – PD Dankuni 59
Table 6.22: Summary of Macro Assumptions for upside and downside cases 59
Table 6.23: Summary of impacts on the Assets 60
Table 6.24: Summary of impacts on the Assets 60
Table 6.25: Final (background plus upside impacts) AADT forecast – PD Dankuni* 61
Table 6.26: Final (background plus upside impacts) AADT CAGR (%) – PD Dankuni 61
Table 6.27: Final (background plus upside impacts) revenue (INR crores) forecast – PD Dankuni 61
Table 6.28: Final (background plus upside impacts) revenue CAGR (%) – PD Dankuni 62
Table 6.29: Final (background plus downside impacts) AADT forecast – PD Dankuni* 62
Table 6.30: Final (background plus downside impacts) AADT CAGR (%) – PD Dankuni 63
Table 6.31: Final (background plus downside impacts) revenue (INR crores) forecast – PD Dankuni 63
Table 6.32: Final (background plus upside impacts) revenue CAGR (%) – PD Dankuni 63
Table 6.33: Target traffic dates for the asset as per concession agreement 65

Table 6.34: Target Traffic 65

Appendices

A	**Detailed forecasts**	**69**
D	**Vehicle Classification Chart**	**76**

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Traffic Consultant developed the relationships in the models used to produce the forecasts for the projects based on data available through May 2021. Since March 2020, the outbreak of the virus known as COVID- 19 has spread throughout the world and has been defined by the World Health Organization as a "pandemic". As of the date of distribution of the Reports, the COVID19 outbreak is having a material impact on global economic and political affairs including having a significant impact on all the transportation industries, including toll road traffic, where in particular vehicle volumes have fallen in response to quarantine and self-care measures that governments have been imposing as a response to the different waves of infection rates in different parts of the country. The situation remains dynamic and is subject to significant change. In this challenging context, Traffic Consultant has produced base forecasts (directly produced from models using a combination of pre-COVID19 and post-COVID19 views) with a view on a possible scenario for the traffic forecasts based on an assumption of recovery from the COVID19-related traffic decrease. However, it is important to note that this is only one view, and there continues to remain uncertainty as to the short-term, intermediate or prolonged effects of and responses to the COVID19 pandemic on the projects. All of these effects could impact the COVID19-related aspects of the Reports.

As a result, no assurance can be provided by Traffic Consultant that the scenarios and assumptions Traffic Consultant has identified will prove to be accurate. Given the uncertainty inherent in this unprecedented pandemic, Traffic Consultant advises that all readers of the Reports consider the Reports in the context of their own assessment of the COVID19 outbreak and its current and potential impacts before making final decisions related to the projects.

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Glossary Items

Acronym	Meaning
AADT	Annual Average Daily Traffic
ADT	Average Daily Traffic
CAGR	Compound Annual Growth Rate
CAGR	Compound Annual Growth Rate
CJV	Cars / Jeeps / Vans
COD	Commercial Operations Date
DPR	Detailed Project Report
EDFC	Eastern Dedicated Freight corridor
ETC	Electronic Toll Collection
FY	Financial Year
GDP	Gross Domestic Product
GJC	Generalised Journey Cost
GQ	Golden Quadrilateral
GSDP	Gross State Domestic Product
HCM	Heavy Commercial Vehicles
IAOI	Immediate Area of Influence
KR	Kaithal to Haryana Rajasthan Border
LCV	Light Commercial Vehicles
LoS	Level of Service
MAV	Multi Axle Vehicle
MLCV	Mini LCV
NE	National Expressway
NH	National Highway
NHAI	National Highways Authority of India
NHDP	National Highways Development Project
NSDP	Net State Domestic Product
OD	Origin Destination
PCI	Per Capita Income
PCOD	Partial Commercial Operations Date
PCU	Passenger Car Unit
RNP	Registered Number Plate
RoS	Rest of State

Acronym	Meaning
SCF	Seasonality Correction Factors
SH	State Highway
T&R	Traffic and Revenue
TMS	Traffic Management System
TP	Toll plaza
TVC	Traffic Volume Count
VOC	Vehicle Operating Costs
VOT	Value of Time
WADT	Weekly Average Daily Traffic
WDFC	Western Dedicated Freight corridor
YTD	Year to Date

1 Introduction

The assignment

1.1 IRB Infrastructure Developers Limited (the "Client") has commissioned Steer Davies Gleave India Private Limited ("Steer") for a traffic due diligence to be carried out on Palsit - Dankuni section referred to as the "Asset" in the report.

1.2 Our scope of work for the traffic and revenue forecasts process includes:

Table 1.1: Scope of work and sources of data

Scope of work	Data source
• Review of historical Traffic Management System (TMS) data, Origin-Destination (OD) data, Vendor reports and documents	No historical data was available.
• Historical analysis and forecasts for baseline growth, including – Background growth, – Seasonality	No historical data was available. Benchmarks from assets in the vicinity wherever long time series historical data was not available were used.
• Validation of TMS data using independent Traffic Volume Counts (TVC) counts • Validation of Revenue reported in FY21	• TMS data was not available. • TVC counts independently undertaken by Steer • Revenue reconciliation using toll plaza traffic and ticket type data to calculate revenue and reconciling it with toll plaza reported revenue.
• OD analysis to understand growth drivers – Zonal influence and top OD pairs – Commodity distribution – Trip length distribution	Origin Destination surveys undertaken by Steer
• Analysis of upcoming network improvements and other developments, that may have future impacts on traffic	Secondary research and our in-house experience of working in the vicinity of the asset. Impact analysis based on Generalised Journey Cost spreadsheet-based analysis
• Historical revenue analysis and forecasts for revenue estimation, including – Toll segmentation and trip factors, – Overloading shares,	Calculated from ETC segmentation data provided by Client
• Final traffic growth forecasts including baseline growth rates and potential future impacts	Elasticity based base growth and potential impacts from secondary research and our in-house experience of working in the vicinity of the asset

Scope of work	Data source
• Toll revenue estimation for the entire concession including toll evolution	Toll evolution based on toll notification published by NHAI and WPI line based on forecast published by Consensus and RBI (FY23)
• Target traffic estimation	The target traffic calculation is based on the clause as per the concession agreement.

1.3 This report presents our draft T&R forecasts.

Our approach

1.4 The information related to the traffic, concession agreements, toll notifications, toll calculations and all other relevant data required was provided by the client in the virtual data room.

1.5 **The asset was recently awarded to the client for upgrade to six lane from existing four lane configuration. The concession agreement was executed in June 2021 and appointed date is awaited. The client will get the tolling rights once the appointed date is fixed by the authority. Since, the project is still in initial phase of transfer to client, there was no historical information available for the project road.**

1.6 Although, Electronic Toll Collection (ETC) data for months of March, June and July 2021 was shared by the client. Therefore, we have relied primarily on primary survey data collected by Steer along with ETC data.

1.7 To understand the current traffic on the Assets, we have analysed traffic data from multiple independent sources, these are presented below, further approach to analysis is detailed below:

- Assembled traffic/revenue data for up-to-date representation of the performance of the project road. **Client-provided ETC transaction data for March 2021 and June - July 2021.**
- Review of Concession agreement and toll notifications provided by client
- To arrive at the base position, ETC transaction data was benchmarked using our understanding and TVC counts to conducted by Steer. In order to gain confidence in the traffic data, and validate the TMS data, 7 days (24 hours) traffic volume counts (TVC) were undertaken by an independent agency at all the toll plaza locations. The TMS data for the same dates was not available as client is yet to take charge of tolling operations on the asset. We therefore relied on Steer TVC counts for our analysis along with ETC transaction data for March, June and July 2021. ; and
- Revenue Reconciliation: Reported revenue was not available for the toll plaza. TO gain confidence in ETC transaction data, we undertook revenue reconciliation by building up revenue in our model with estimated base traffic (disused in Chapter 6) and compared it with the revenue reported in ETC transaction data shared by the client using the prevalent toll rates and reported segmentation/toll-frequencies. The estimation of future traffic demand on the Assets was undertaken through:
- Detailed assessment of the asset performance from traffic and revenue perspective based on the site visit observation, discussions with the toll plaza managers and client team.
- The OD survey data was cleaned and analysed to determine the key commodity drivers of the traffic on the asset. This information was further utilised in developing the views on the forecasts of traffic on this corridor. Outputs from OD data such as zonal influence, trip lengths, and commodity distribution are presented in this report.
- Developing a bespoke growth model for each asset/plaza/toll class to forecast year-on-year traffic growth from FY22 to the end of each concession period.

- Investigating the elasticity of historic traffic growth compared to state (GSDP) and national (GDP) growth. Where historic data is limited, we have benchmarked the asset against our Steer knowledge base (e.g., similar asset types in the same state), to derive appropriate elasticities
- Applying our elasticities to independent GDP/GSDP forecasts.
- Identifying and analysing the potential impacts of any relevant changes to the competitive position of each asset – these include impacts of changes to road network including expressways and opening of competitive modes of travel.
- Identifying and analysing any other potential impacts to traffic and revenue on each asset – these include axle load norms, FASTag implementation
- Considering changes in trends of segmentation over time and making suggestions for changes in exemptions in the future
- Preparing traffic and revenue forecast for the Asset for the complete length of concession. The analysis here includes the specific impacts of toll, network, or other exogenous factors specific to the asset. We have developed a set of forecasting assumptions for three scenarios: a base case and upside and downside scenarios.

Table 1.2: Data collection schedule

Toll Plaza	TMS Data	7-day videography-based TVC		1-day OD survey	
		Start date	**End date**	**Start date**	**Start time**
PD Dankuni	March 2021, June – July 2021	28th June 2021	4th July 2021	29th June 2021	0800 hrs

Evolution of Covid19 pandemic in India in FY21 and FY22

1.8 On 24 March FY20, the Central government announced a nationwide 21-day lockdown which was extended for another three weeks until May 3rd. Further extensions until May 17th and again until May 31 featured relaxations in 'green' and 'orange' zones. Starting 8th June 2021, 'Unlock' phases began. States have also taken their own measures, with Central guidelines being the minimum expected restrictions from States. The tolling across all national highways in India was stopped between 25th March and 20th April. These lockdowns resulted in significant disruptions to traffic, with a reduction of both commuting trips to work (as people were required to work from home or stay at home) and leisure trips (due to the closure of various entertainment venues, places of worship, tourist destinations, etc.). Goods movements, while still impacted, continued to a lesser extent due to a need to supply essential goods such as food, etc.

1.9 The traffic volumes since then gradually started recovering on most Assets in India, with varying extent. By Q3 of FY21 traffic levels were already at par FY20 AADT numbers and even higher in some cases. Q4 of FY21 was largely unimpacted by COVID and toll plazas reported stabilised traffic numbers for the quarter.

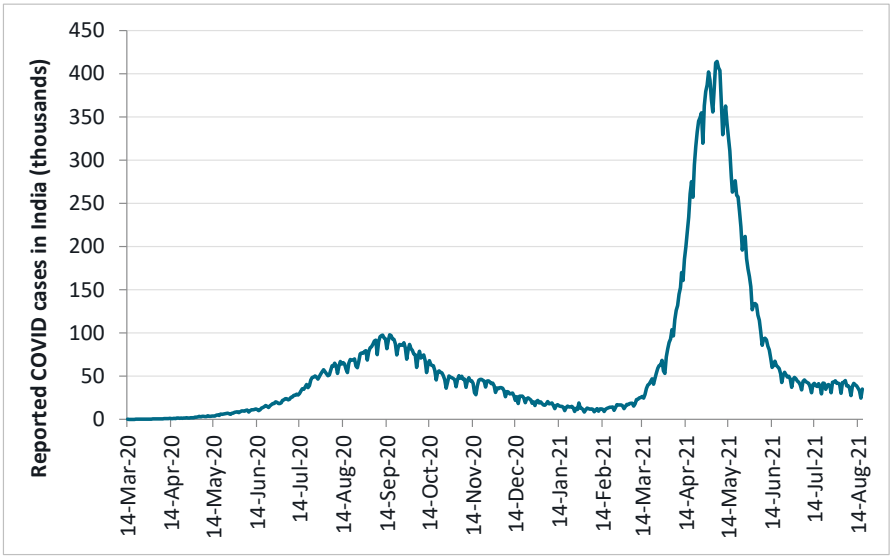
1.10 Data from various roads across the country indicates that the largest impact on traffic was experienced between the months of March 2020 and May 2020, with the rest of the months showing volumes surpassing FY20 levels for most months of FY21. It is important to note that FY20 itself was a subdued year due to the nosedive in Indian economic growth to lowest in a decade (4.0% in FY20 relative to a FY10-20 average of 6.5%). The recovery of traffic in Q3 FY21 was being driven by two factors - a release of pent-up demand in certain vehicle categories, as well as, underlying long-term growth trends in various sectors of the economy which are contributing to the growth of commercial traffic across the road network. We believe that the

pent-up demand was most confined till the October-November FY21 period which coincides with the Diwali festival related increase in traffic levels.

1.11 The traffic trends observed on most of the India toll roads during Q4FY21, showed sustained traffic levels as were witnessed in Q3FY21, which reflected sustained demand revival in the Indian economy. These traffic levels reflected the longer-term trends of a strong economic recovery, in segments like auto manufacturing, road construction, energy consumption /production etc., are more stable and are driving the growth over and above FY20 levels and are expected to continue as more segments of the economy, like hospitality, tourism, etc., recover fully from the pandemic.

1.12 Last week of March 2021 onwards, another spike in COVID cases was observed which gradually kept increasing to reach a peak value of 415,000 daily cases by 6th May 2021. The figure below presents the daily reported Covid19 cases in India up-to 14th August 2021.

Figure 1: Daily Reported Covid 19 cases in India



Source: Steer analysis, https://data.COVID19india.org/

1.13 This second wave of Covid19 was accompanied by various local and state level night curfews and lockdowns starting from April until end of June. The second wave of Covid19, although had a higher infection rate, the movement of traffic and goods was not impacted by the same magnitude as the first wave when whole country went under strict lockdown for two quarters. This can be attributed to the fact that almost all the restrictions were localised or at state level. Moreover, there was no restriction on movement of goods vehicles and other services. As the industries and agricultural activities continued to operate, the truck traffic did not fall as steeply as it did in Q1 FY21.

1.14 There is also a behavioral shift of passengers towards personal mobility due to perceptions of safety and reduction of public transport services which we have been observed across the road network. This shift is expected to sustain and continue in the short term as such perception shifts for longer periods of time could result in more permanent changes in passenger choices. For example, once a family starts using a personal CJV for inter-urban travel to avoid public transport during the pandemic period over 1-2 years, it is likely that they continue using their personal vehicles even as the pandemic recedes. In our analysis around the short/medium-term

impact of this pandemic, we have included assumptions around the above, as well as longer-term impacts of the pandemic.

Contents of this Report

1.15 The report has been divided into 6 chapters, including

- Chapter 1 introduces the methodology and approach to undertake the traffic and revenue due diligence;
- Chapter 2 describes the key characteristics of the Asset and its surrounding road network, primarily based on site visits;
- Chapter 3 summarises the current and historical traffic on the Asset, including results from the TMS, TVC and OD analysis;
- Chapter 4 discusses the socio-economic context of the corridor and region/state containing the Asset;
- Chapter 6 summarises our approach and results on estimating background traffic demand growth; and
- Chapter 6 summarises our key forecasting assumptions, estimation of Base year AADT, assessment of network impacts, and presents our traffic and revenue forecasts for the Asset.

2 The Asset

Introduction

2.1 This chapter provides a description of the Assets, based on primary data (from site visits), our understanding of the region and network surrounding the Asset. We cover the strategic network context, followed by key economic activities and network developments around the Asset.

Asset context

2.2 The Asset is a 63.8 km long four lane section connecting Dankuni near Kolkata and Palsit near Bardhhaman in the state of West Bengal. The asset has been recently had recently awarded to the client for upgrade to six lanes from existing four lane configuration.

2.3 The concession agreement was executed June 2021 and client start operations once appointed date is confirmed by authority. It is expected to achieve Full COD in March 2024.

2.4 The Asset is part of NH19 Golden Quadrilateral corridor connecting New Delhi in the west with West Bengal in the east as shown in Figure 2.1 below.

Figure 2.1: Asset location in the regional network context

Source: Steer cartography using OpenStreetMap data

2.5 The asset lies in close proximity to state capital, Kolkata, which is one of the key distribution centres and has good connectivity with several parts of the country and generates a significant volume of traffic on the asset.

2.6 The areas along asset are agricultural along with industries and warehouse concentrated around urban areas. The key industrial areas include Durgapur, Asansol, Panagarh and Dankuni.

2.7 Currently, there is one alternate road connecting Palsit and Dankuni via SH31. The alternate, also known as the Old Delhi Road, is around 17 km longer than the Asset. It is getting upgraded between Saktigarh and Dankuni and has one toll plaza proposed.

2.8 This Asset primarily caters to three different types of traffic movements:

- **Short-distance trips** undertaken by passenger vehicles for work/business and tourism trips between Kolkata, Palsit, Dankuni and Howrah. Some of the local consumption demand generated by these towns is met by the short distance goods movement on the Assets.
- **Medium-distance trips** undertaken largely by the trips plying between the urban and industrial centres in vicinity of the Asset in state of West Bengal. These centres include Kolkata, Durgapur, Bardhhaman, Asansol, Panagarh etc. A significant number of medium distance trips are catering to the manufacturing, construction, and petroleum related demand from West Bengal, Jharkhand, and the states along NH19.
- **Long-distance trips**, by 3A and MAVs, catering to the movement between urban and industrial centres of Kolkata, Haldia Port, Durgapur, Bardhhaman, Asansol, Panagarh towards Uttar Pradesh, Madhya Pradesh, Assam, Delhi NCR, Rajasthan, and Punjab.

2.9 The Asset has one plaza located at Dankuni as shown in map below.

Figure 2.2 Asset context

Source: Steer cartography using OpenStreetMap data

Concession and tolling details

Table 2.1: Summary of concession

	Particulars
State	West Bengal
Highway and lane configuration	NH19, four-laned (divided)
Toll plazas	• TP1 Dankuni at KM 646+005
Length (km) as per concession agreement, applicable	• TP1 Dankuni: 63.749 (tollable)
Commencement of operations*	PCOD/FCOD: on appointed date/March 2024
Operated by Client since	October 2021
Concession period	18 years
Last year of concession	FY39

Source: Client data, *NHAI is yet to confirm appointed date, concession has been signed in June 2021.

2.10 Figure 2.3 below shows a typical cross-section of the Asset and its toll plazas as captured during site visits in June 2021.

Figure 2.3: Typical cross-sections and toll plazas on the Asset

Source: Steer site visit

Toll plazas and toll rates

2.11 As discussed earlier in section 2.9, the Asset has one toll plaza. The toll plaza on the Asset has 6+6 lane configuration on each side for FASTag collection on all lanes for mandatory electronic tolling. The toll plaza also has Weigh in Motion (WIM) on all lanes and one Static Weigh Bridges (SWB) for each plaza to keep check on overloading on the Asset.

2.12 The road users having valid FASTag installed on their respective vehicles approach the ETC lanes where the installed RFID readers detect the tag and deduct toll charges equalling single trip or for Local/monthly pass/discounts wherever applicable. In case, the RFID reader is not able to detect the FASTag, handheld devices are used to read the vehicle's tag. Further, in cases where FASTag is blacklisted or not working, the user can only buy single cash ticket and are charged twice the single trip fare. The users crossing toll plaza twice within 24 hours automatically get return discount.

2.13 Like the other National Highway plazas, the Asset has Single, Return, Local Commercial, Local Personal, Monthly and Local Monthly tickets. Single toll rates and categories on each of the toll plaza are presented in the table below.

Table 2.2: Single toll rates on the Asset (INR), applicable April 2021 to March 2022

Type of Vehicle	Dankuni
CJV	90
LCV	145
Bus/Truck	300
3A	325
MAV/ HCM/EME	470
OSV	570

Source: NHAI Revision of User fee Rate w.e.f 01.04.2021

Key economic activities

2.14 The Asset is situated in the state of West Bengal. West Bengal is situated in eastern India and shares its borders with Jharkhand, Bihar, Odisha, Sikkim, and Assam. The state also shares international borders with Bangladesh, Bhutan, and Nepal. The Bay of Bengal is in the south of West Bengal.

2.15 West Bengal is the largest producer of rice in India and is the second largest tea-producing state in India and is home to the globally acclaimed Darjeeling tea variety. Its location advantage makes the state a traditional market for eastern India, the Northeast, Nepal, and Bhutan. It is also a strategic entry point for markets in Southeast Asia and is home to major ports of Haldia, Sagar, and Khidirpur. Haldia Port, being in close vicinity of the Asset, becomes a key generator of port related traffic on the toll plaza.

2.16 The Asset is located on National Highway 19 (NH2). NH2 runs over 1,465 kms and connects some of the major states of Delhi, Haryana, Uttar Pradesh with the eastern states of Bihar, Jharkhand and West Bengal. This highway also connects the capital, Delhi with cities like, Mathura, Agra, Kanpur, Allahabad, Durgapur and later stretches to connect to Kolkata, all these cities have major industrial centres.

Industrial influence

2.17 Dankuni in South of asset has several manufacturing units and warehouses giving the traffic a more industrial characteristic. The key industries include Mother Diary, Coca Cola along with Food Corporation of India's major storage depots. Dankuni is well connected with the recently completed Eastern Dedicated Freight Corridor (EDFC) connecting Dankuni with northern parts of the country.

2.18 Durgapur in north of asset is a major industrial city. Durgapur is the only city in eastern India to have an operational dry dock. Durgapur is one of the biggest industrial hubs of West Bengal and was planned as an integrated industrial town. The major industries in Durgapur include Steel Plant, Alloy Steel Plant, Hindustan Cables Ltd, chemical manufacturing units and Eastern Coalfields, the biggest government owned mining unit. Durgapur has strong influence on goods traffic on the asset as there is frequent movement of coal, petroleum, LPG from Haldia port towards Durgapur and processed steel and allows moving to Haldia port for exporting.

2.19 The other key industrial areas in vicinity of asset include Panagarh and Asansol. Panagarh has fertilizers and stream Urea Plant, Johnson (India) ceramic tiles manufacturing unit, Emami cement plant, Globus's distillery and Hindustan Petroleum (HPCL) LPG bottling plant.

2.20 Dhanbad, further west of asset, has some of the largest coal mines in India and is called the Coal Capital of India. The city is surrounded by ~112 coal mines with a total production of 27.5 million tonnes[1]. The key mining units include Tata Steel, Bharat Coking Coal Limited (BCCL), Eastern Coalfields Limited (ECL) and Indian Iron and Steel Company (IISCO). Coal freight is moved by rail and road to every major city in India.

2.21 The Asset becomes a key link in connecting Haldia port, in south of the Asset, to rest of West Bengal, Uttar Pradesh, Bihar, Jharkhand, Assam, Arunachal Pradesh, and Nepal. The port's main imports include petroleum, chemicals and machine parts while exports include coal, iron ore and steel. The same is validated by the findings of Origin-Destination Analysis as discussed later in Chapter 3.

2.22 Asansol has steel, coalfields and rail locomotive plant at Chittaranjan. Pakur and surrounding region in north of Bardhhaman are known from its stone mining which is also used in cement manufacturing.

Tourism influence

2.23 Kolkata, also known as the "City of Joy", offers a wide range of engaging choices to visitors, ranging from sightseeing, events, activities, cuisine, and culture. The city is famous for Durga Puja celebrations, Kolkata Book Fair, and Victoria Memorial. The city also attracts sport-related tourists because of the presence of Eden Garden and Salt Lake stadiums. The city is religiously significant as well as It is considered as one of the 52 Shakti Peethas. Many devotees visit the Kalighat Kali Temple to offer prayers to the Goddess Kali and hence, benefitting our Asset.

2.24 In sum, the Asset has got good mix of industrial activities along with tourism demand driving the local economy and growth. This captive nature of the traffic movement is expected to result in a positive long term growth profile for the corridor. This is further discussed in Chapter 3 and Chapter 6 of this report.

[1] https://urbanemissions.info/india-apna/dhanbad-india/

3 Traffic description

Introduction

3.1 This chapter outlines the current traffic and revenues on the Asset based on data provided by the client. As discussed previously in section 1.5 of Chapter 1, historical data wasn't available for the Asset as the client is yet to get appointed data following which they can start operating the toll plaza on the asset. ETC transaction data for only three months (March 2021, June – July 2021) was shared by client which was further used to calculate toll segmentation, base position, and further forecasts.

3.2 Traffic demand data is generally collected and analysed to understand the volume and vehicle composition of demand currently using the Asset, while OD data is used to obtain a better understanding of travel patterns, trip lengths, trip purposes and areas of influence in the vicinity of the Asset, as well as the commodities being moved by goods vehicles. In the absence of primary data collection, we have relied on client data and our understanding of Asset from our previous commission in 2018. to identify the key drivers of demand on the Asset.

3.3 Actual toll plaza data is used as the basis from which the current/base year annual average daily traffic (AADT) is established. This data is typically provided by the Client and independently analysed and validated by us using traffic volume count (TVC) information.

Historical trends

3.4 As discussed in previous section, the Asset was recently awarded to client and authority is yet to confirm appointed date on which operations will be handed over to the client. The asset is expected to complete construction by March 2024.

3.5 The following table illustrates the recorded MADT by vehicle class, at the Asset's toll plaza for March 2021 and July to June 2021 (provided by the Client). Since the Client hasn't taken over the operations, data for only three months was available.

3.6 The Client provided monthly ETC details for the above-mentioned months. It was assumed that the plaza observes healthy share of ETC transactions as use of FASTag for toll payment got mandatory in February 2021. Hence, the daily traffic using FASTag was supposed to be the MADT for the particular month.

Table 3.1: Reported ETC MADT by vehicle class: PD - Dankuni

Vehicle Class	March-21	June-21	July-21
CJV	9,426	7,485	11,678
LCV	1,589	1,050	1,799
Bus	961	213	971
2A	3,925	1,779	5,038
3A	3,807	1,812	3,107
MAV	5,202	3,443	4,860

Vehicle Class	March-21	June-21	July-21
OSV	2	4	6
Total	**24,912**	**15,786**	**27,459**
PCU	**61,306**	**35,983**	**63,622**

Source: Steer analysis of the Client data

3.7 The traffic share on the plaza is dominated by CJV which make up around 40% of the total vehicle composition. 3A/MAVs collectively account for 30% of the traffic whereas 2As account for 17% in the total mix.

3.8 June 2021 observed a drop in total traffic as the month was affected from lockdowns and travel restrictions due to the 2nd wave of Covid19 pandemic.

3.9 CJV traffic saw a healthy growth in July 2021 as compared to the previous month. While car ownership is slowly increasing in the region and in India (discussed in chapter 4), part of this growth has also been achieved due to the preference for personal mobility post Covid19, and the non-resumption of bus and train networks across the country. Furthermore, CJV traffic didn't reduce drastically from March to June 2021 even when the latter month was pandemic-affected. This is due to the fact that West Bengal observed inter-state travel curbs instead of intra-state curbs. Since, the CJV traffic is dominated by Local, IAOI, and Rest of State zones (as discussed in later sections), the passenger traffic didn't take a severe hit.

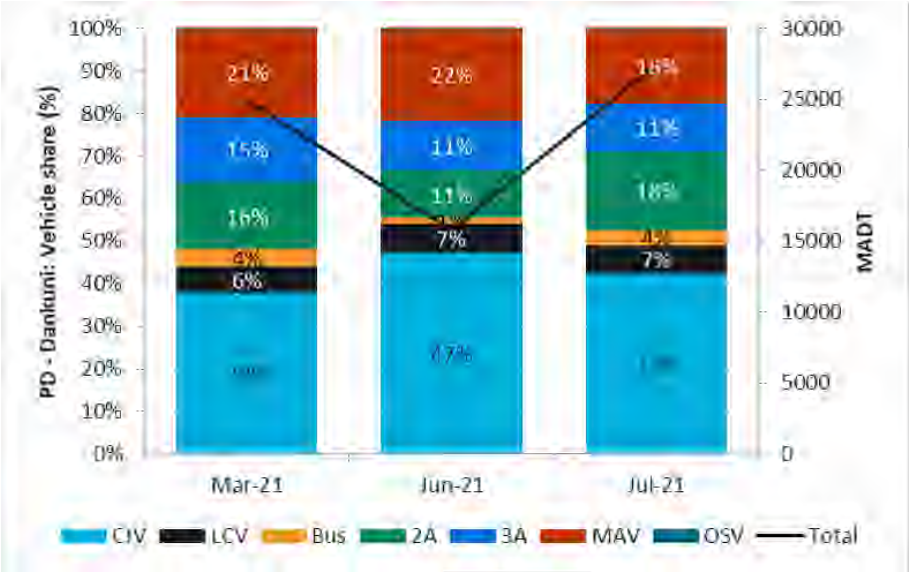
3.10 Due to Covid19 the bus networks have still not come back to pre-Covid19 levels, once the impact of Covid19 related restrictions reduces it is expected that the Bus volumes will return to the levels seen in FY19 and more.

3.11 LCVs and 2As observed a higher traffic volume in July 2021 as compared to March 2021 even when the state was recovering from the Covid19 infections in the former. This can be attributed to the fact that the Asset lies in close vicinity of local industries along the section as well as in Panagarh, Bardhhaman, and Asansol and the growth of the smaller trucks (LCVs and 2As) was in proportion with the recovery of the above mentioned local industrial sectors.

3.12 Serving the strategic movement of Delhi - Kolkata, the Asset caters to local, state-centric as well as nation-centric industrial demands. 3A/MAVs volumes are trending closer to the pre 2nd wave volumes in March 2021 after a drop observed during the lockdown period from May – June 2021. Most of this ramp up has been observed post lifting of travel restrictions.

3.13 The following figure shows the historical variation in traffic volume at Dankuni toll plaza, in terms of vehicle shares and total AADT. The share of CJV's increased in June 2021 compared to other months primarily attributed to inter-state travel restrictions leading to lesser share of trucks during Covid19 lockdowns. LCV shares remained constant at 6%, whereas buses decreased by 3% from March to June 2021.

Figure 3.1 Category wise vehicle shares (%) and AADT at PD Dankuni



Source: Steer analysis of the Client data

Toll Frequencies

3.14 Toll frequency or segmentation is typically the share of each ticket category recorded for a particular vehicle type. Each vehicle category has different segmentation. As a part of historical analysis, we calculate the toll frequency for each vehicle category from the monthly data shared by the client. The most common ticket categories observed on a typical National Highway concession are: Single, Return, Monthly, Local and Exempt. Given the local nature of traffic, some assets offer custom made local passes to attract the local commuters to opt for these category passes instead of evading toll. Brief description of different ticket-types is given in table below.

3.15 Understanding the toll frequency gives insights into the nature of traffic. CJVs generally have higher shares of return passes or monthly passes, while heavy trucks mostly have single tickets since they travel long distance. However, this varies from asset to asset or even toll plaza to toll plaza. The asset catering to short distance local traffic generally observes high share of return or other local monthly passes while the asset catering to strategic long-distance traffic generally observes high share of single ticket traffic.

3.16 The following are the types of tickets being sold at the plazas of the Asset.

Table 3.2: Typical ticket types sold at NHAI plazas

Category	Description
Single	Allows the vehicle to cross the toll plaza once
Return	Daily pass for crossing the toll plaza multiple times within 24 hours. Charged 1.5 times the single toll
Monthly	Monthly pass
Local Personal	Discounted monthly pass only for private cars of residents within 20km radius of toll plaza
Local Commercial	50% discount on single trips for commercial vehicles registered in the local district

Category	Description
Exemptions	Officially exempted vehicles like ambulance, police cars, key political personnel etc.

3.17 In addition to the above ticket categories, a special category pass of "Local Monthly" is also being sold on the Asset. This pass has been issued by the toll plazas individually and the toll plaza is deciding on the toll for such special passes.

FASTag implementation

3.18 Government of India has introduced (and more recently, mandated) Electronic Toll Collection (ETC) across National Highways in India, collected via "FASTag". The timeline of ETC implementation is presented in the following table.

Table 3.3: Timeline of national ETC implementation

Date	ETC Development
2014	FASTag system set up as a pilot on the Ahmedabad to Mumbai stretch followed by installation on Delhi to Mumbai stretch of the Golden Quadrilateral in November 2014.
December 2019	FASTag is made mandatory on all National Highways with only one lane on either side keep as a Cash lane, cash users entering ETC lanes were charged double the toll.
February 2021	FASTag was made mandatory for across all vehicle categories crossing any National Highway toll plazas in the country starting 15th Feb 2021

Source: NHAI.gov.in and Wikipedia

3.19 Generally, over the period the shares of single/return/monthly tickets tend to stabilise within 2-3 years of asset operations. The trip patterns are expected to change significantly in case of any major external events. During the last one year, two key events impacted the traffic patterns throughout the country: Covid19 and FASTag implementation.

3.20 With the FASTag implementation in December 2020, it was ensured that only FASTag users benefited from discounted tickets such as return/monthly and cash users were only allowed to buy single tickets, thus leading to a drastic increase in single ticket users. However, with the increase in FASTag, it was observed that traffic patterns have begun to return to their previous segmentation levels as observed on other National Highways of the country.

Evolution of segmentation

3.21 Because of the unavailability of long-term TMS historical data for the Asset, the ETC data for the months of March, June, and July 2021 to was used to study the segmentation trends.

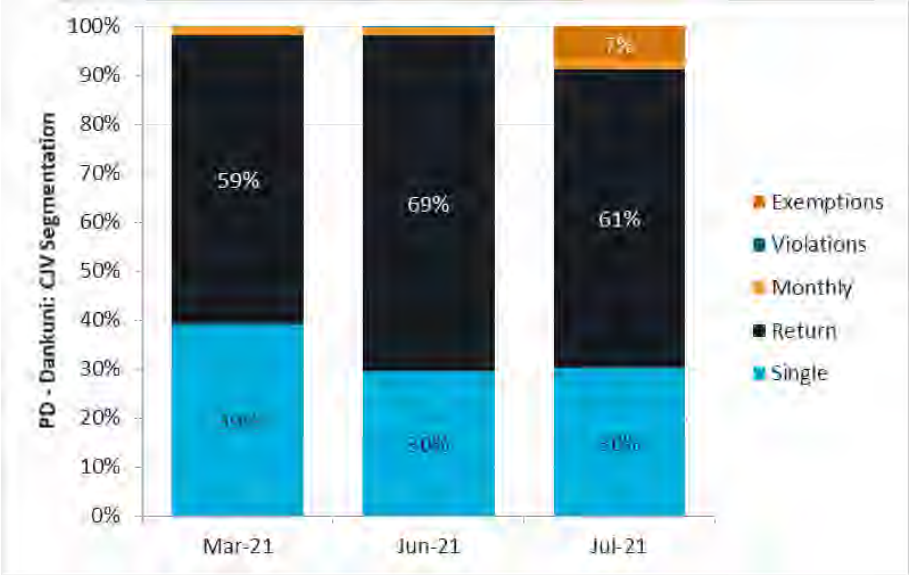
3.22 In order to validate our process, the July ETC data was compared with the Steer TVC count data which was also conducted in the month of July. These two data sets observed lower differences. The difference was assumed to be made of cash transactions and exemptions.

3.23 Furthermore, to gain an understanding of ETC transaction levels, historical data, available for an Asset in close vicinity in the state of West Bengal, was studied where it was observed that a healthy share of ETC transaction levels is observed on the plazas of the benchmark Asset.

3.24 The lower differences in July ETC and Steer TVC as well as healthy ETC transaction shares observed on the benchmark Asset validated our fact ETC data can be used to study the segmentation trends on the Palsit – Dankuni Asset.

3.25 CJV and MAV segmentation for Dankuni toll plaza is presented below:

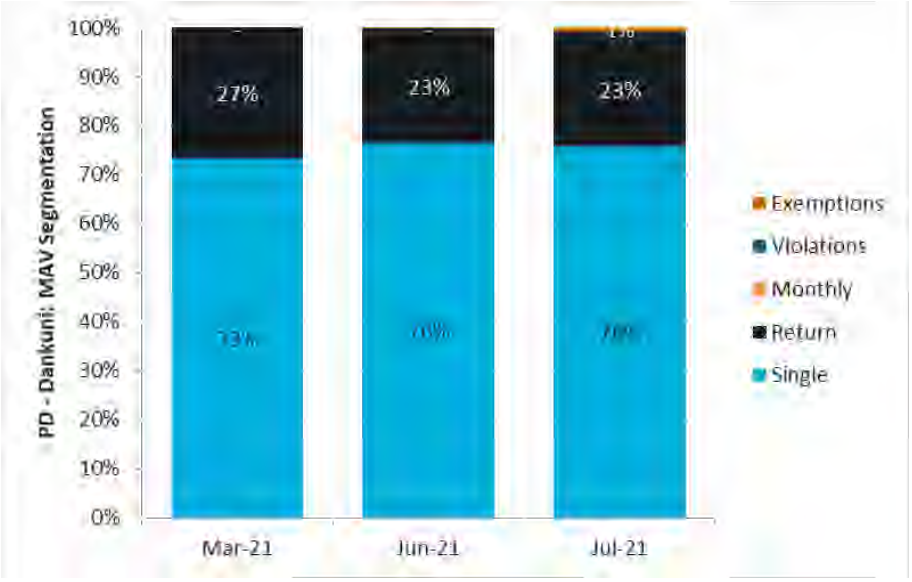
Figure 3.2 CJV toll segmentation for PD - Dankuni



Source: Steer analysis of the Client data

3.26 CJV segmentation share is dominated by return tickets as the category makes up for around 60% of the tickets sold. This is in line with the fact that the asset is dominated by Local zonal influence for CJV trips as mentioned in the following sections. These trips are generally for work/business/leisure reasons and ply between Kolkata, Howrah and Singur, Shaktinagar, Durgapur, Bardhhaman where the user returns back within 24 hours.

Figure 3.3 MAV toll segmentation for PD - Dankuni



Source: Steer analysis of the Client data

Data Collection exercise

3.27 To validate and inform various inputs used in our forecasting, we undertook primary data collection on the Asset, comprising the surveys listed in the table below. OD survey data was collected on behalf of the Client, TVC surveys were commissioned by Steer with a third party.

3.28 OD data collection typically involves manual data entry by enumerators based on oral surveys with road users crossing toll plazas, which Steer also commissioned with a third party. TVC data collection involves video-graphic capture of traffic passing crossing the toll plazas, followed by manual counting. Steer site visit was also undertaken at the time of the surveys to ensure the quality of the data being captured and also gain a perspective of the traffic profile of the toll plaza users.

Table 3.4: Data collection schedule

Toll Plaza	7-day videography-based TVC		1-day OD survey	
	Start date	End date	Start date	Start time
PD - Dankuni	28th June	4th July	29th June	0800 hrs

Source: Steer

3.29 It should be noted that, in our experience, traffic on national highways shows variation across the week due to the economic activities surrounding each road. To derive a representative TVC count considering daily variation, three-day to seven-day traffic counts are generally recommended, and hence, in order to fully understand the impact of this weekly fluctuation on the Asset, we collected seven-day counts at each toll plaza.

Key findings of the TVC data analysis

WADT estimates

3.30 Taking a simple average of the seven-day TVC counts, we obtained the following weekly average daily traffic (WADT) for each toll plaza. This WADT excludes non-tollable vehicle such as tractors, two-wheelers, bullock-carts, etc., but includes officially exempt vehicles such as police cars, ambulances, emergency response vehicle, government vehicle and other vehicle types officially allowed as 'exempted' under the concession agreement.

3.31 The TVC data is directly used for base year AADT and splits between vehicle types, in cases like our asset where TMS is not available.

3.32 During the site visits, our team makes sure that the cameras are located at a location where complete tollable traffic is captured. Additionally, emphasis is laid on positioning camera at such a location that the traffic from local leakages or bypass is also captured, if any.

3.33 In order to check the reliance of the TVC data, several checks are applied before using it in our analysis. Directional counts are verified by matching the sum of both the directions with the total counts. The table below present the 7day average (WADT) of independent counts undertaken by Steer.

Table 3.5: WADT at Asset

Toll Plaza	CJV	Mini LCV	LCV	Bus	2 Axle	3 Axle	MAV	Total	PCU
PD Dankuni	9,718	1,960	3,775	391	3,062	3,107	4,860	26,875	58,901

Source: Steer analysis of TVC data

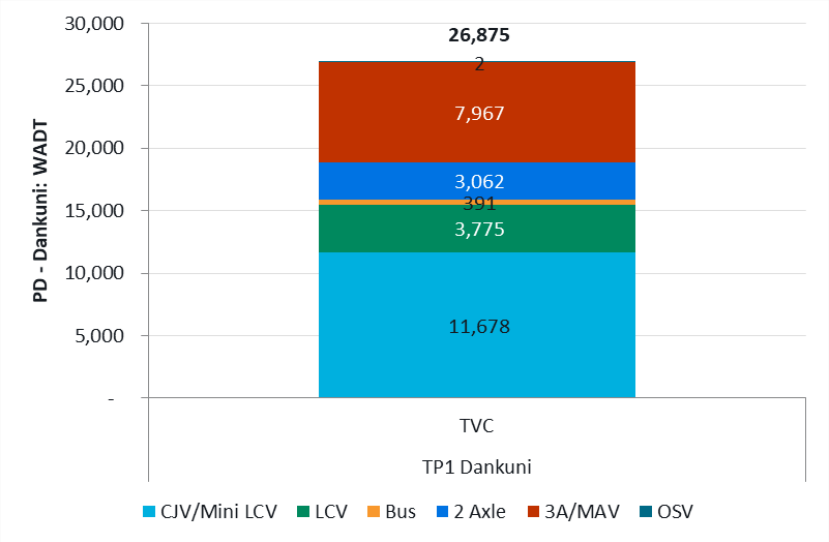
TVC (Total Volume Count) analysis

3.34 The below analysis presents the following source of data based on independent 7-day video-based counts (TVC) undertaken by Steer.

3.35 In absence of TMS data as mentioned in Chapter 1, the TVC data is directly used for validating our base year AADT and benchmarked with respect to traffic volumes on the sections in close vicinity of the Asset (discussed in Chapter 6).

3.36 The figure below compares the vehicle wise shares as recorded by TVC. As mentioned in the earlier sections and validated by the TVC counts, CJVs account for 40% of total traffic on plaza making them the highest contributors to traffic on the asset followed by 40% contribution by 3A/MAVs.

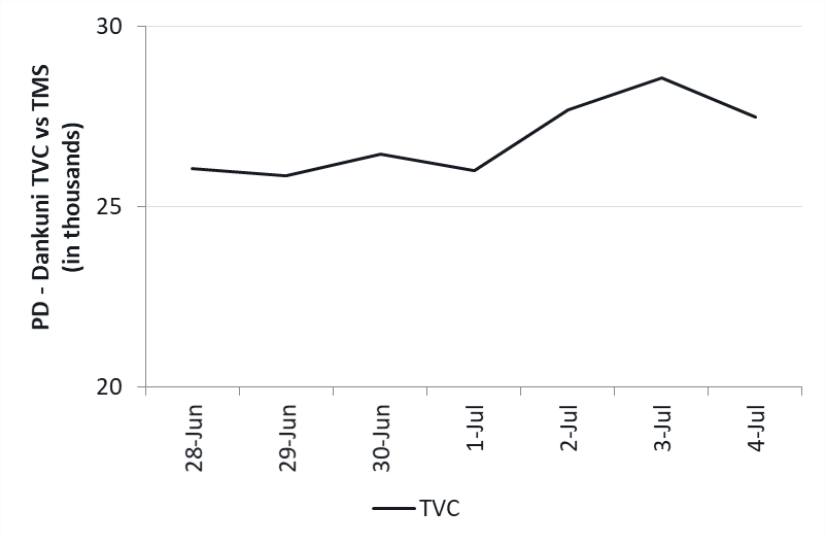
Figure 3.4: Vehicle share comparison - PD



Source: Steer analysis of TVC counts

3.37 The following figures show the daily traffic observed in our TVC counts for the toll plaza.

Figure 3.5 TVC counts – PD Dankuni



Source: Steer analysis of TVC counts

Key findings of origin-destination analysis

Overview

3.38 OD surveys were conducted using on the toll plaza location and interviews for 24 hour at the toll location, typically starting at 8 AM and finishing at same time on the following day, were conducted. Each toll lane had an interviewer filling OD records with supervisor monitoring them to minimise errors in data collected. This was accompanied by Steer staff visiting the toll plaza to ensure the data is being collected to quality and standards required to understand the traffic patterns on the Asset.

3.39 Data collected was segregated into vehicle types, origin area, origin zone, destination area, destination zones, commodity being carried, total load, and frequency of travel. The zones were further segmented into Internal, Rest of State, and External zones. The zones were also used to calculate the trip distances of the traffic plying on the Asset.

3.40 Before using the data for final analysis, the data is first cleaned, and numerous checks are applied. Some of these checks include verifying that the zones are physically apart as well as these zones are located within a reasonable distance and boundary. Reliability checks are also used which confirms that the sample rates are 30-50% for passenger and 50-70% for goods. Sanity checks includes verifying the sanctity of direction wise origin and destination as well as establishing that the share of empty vehicles is in line with the site visit observations (not more than 50% in any case). The final check includes matching the OD numbers with the TVC counts of the particular day and substantiating that the OD numbers aren't greater than the TVC counts.

3.41 Origin-destination (OD) analysis enables the understanding of the nature of traffic movement on the Asset. We have analysed the regional drivers of demand based on the following analysis:

- Zonal influence
- Commodity distribution
- Top OD pairs
- Trip length distribution

3.42 While zonal analysis and the list of top OD pairs help to understand 'where' people and goods travel, commodity distribution sheds light on 'what' goods get transported on this asset. Trip length distribution shows 'how far' vehicles and people travel, and goods get transported. This set of analysis is used to estimate key drivers of traffic and aid in making informed forecasting assumptions related to traffic demand elasticities, growth drivers and exogenous impacts.

Sample rates

3.43 Sample rates help understand the reliability of OD data. They are calculated by dividing OD samples by the TVC count observed on the same date for each vehicle category at the toll plaza. The table below presents the sample rates for key vehicle type aggregations at the toll plaza. We believe that the sample rates of the OD data are reasonable for the analysis required.

Table 3.6: Sample rates for OD data

Vehicle type	PD - Dankuni
CJV	16%
Bus	93%
MLCV	13%
LCV	25%

Vehicle type	PD - Dankuni
2A	40%
3A	46%
MAV	65%

Source: Steer analysis of OD data

3.44 CJV users are traditionally difficult to interview primarily because their waiting times have reduced significantly due to FASTag implementation and secondly due to reluctance to stop and answer questions due to Covid19 related concerns leading to lesser sample sizes as compared to other categories.

Zone Categories

3.45 To facilitate better interpretation of key regional drivers of traffic as determined by their OD zones, and influenced by various towns, cities, states, and regions in the vicinity of the Asset, we have aggregated zonal data as described in the table below. The methodology behind this aggregation of zones may vary as per the characteristics displayed by the different Assets being studied.

Table 3.7: Zone aggregations for zonal influence analysis

Aggregate Zone	Description
Local	Local zones are those that fall on or very close to the Asset.
IAOI	IAOI zones are the locations which generate traffic and lie within approximately 75-150 km distance from the Asset.
Rest of State	Rest of the cities/Districts in the state that Asset lies in (other than Local/IAOI)
Jharkhand	Jharkhand
Bihar	Bihar
Central India	Chhattisgarh, Madhya Pradesh
West India	Gujarat, Rajasthan
North India	Uttarakhand, Haryana, Punjab, Jammu and Kashmir
South India	Andhra Pradesh, Kerala, Tamil Nadu, Telangana, Karnataka
East India	Arunachala Pradesh, Assam, Bihar, Jharkhand, Manipur, Meghalaya, Mizoram, Nagaland, Odisha, Tripura, Sikkim, Chhattisgarh
Outside India	Nepal, Bangladesh, Bhutan

Source: Steer analysis

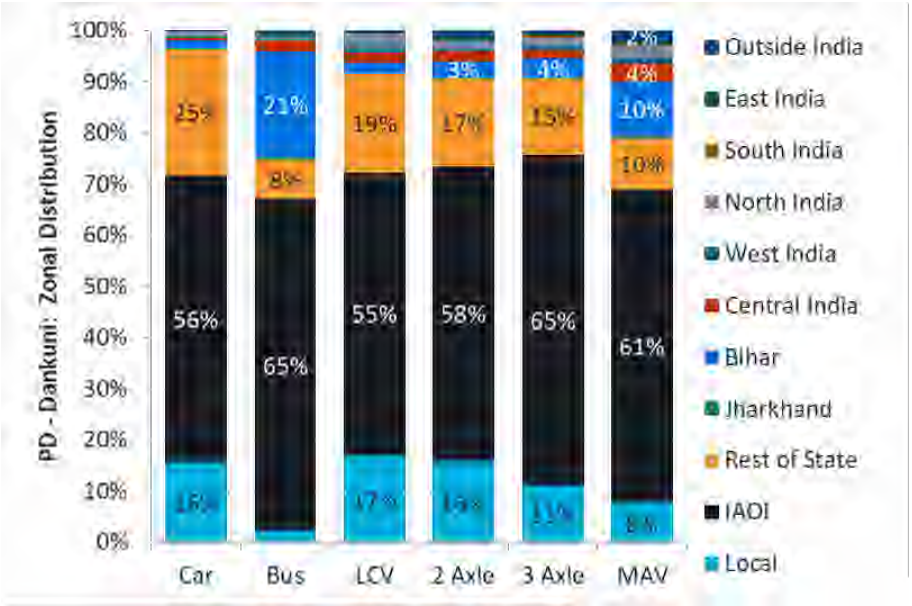
Zonal influence

3.46 The zonal influence is the contribution of the zone or the zonal aggregation to trips by a vehicle type. This section presents the zonal influence[2] at the toll plaza for the Asset, based on

[2] For example, if out of 100 trips at a toll plaza on an Asset, 10 trips are between Hyderabad and Delhi and 90 trips are between Hyderabad and Chennai, then zonal influence of Hyderabad would be 50%

zonal aggregation listed in the previous sub-section. it should be noted that zonal influence is analysed on trip ends and not trips.

Figure 3.6 Zonal distribution: PD - Dankuni



Source: Steer Analysis of OD data

3.47 On PD Dankuni toll plaza, about 80%-85% of total traffic movement is dominated by the IAOI and Local zones. Most of which are moving from Durgapur, Asansol, Panagarh, Burdwan towards Kolkata and southern regions of West Bengal.

3.48 Almost 95% of CJV traffic has origin and/or destination points on/close to the Asset (Local+IAOI). On the other hand, this share decreases to 75% for buses as the plaza observes inter-state bus movement towards the neighbouring states of Bihar and Jharkhand.

3.49 LCV, 2A observe a similar zonal distribution pattern as both of these categories cater to the state centric demands of West Bengal and hence, West Bengal dominates around 90% of the zonal distribution for these categories. These smaller trucks carry commodities majorly between the industries, warehouses along the Asset to the urban centres in close vicinity.

3.50 For 3A and MAV vehicle category, similar to 2A trucks West Bengal dominates the zonal distribution. Since, 3A, MAVs observe long distance movements as mentioned in the section below, a higher zonal share of other states is observed for these categories. About 10% of the share is from Bihar as it is one of the neighbouring states the traffic passes through NH 19. Another 4% of the total share is dominated by central Indian states including Uttar Pradesh as it also lies on NH19. This movement is a result of all the industrial activity around the Asset which adds to the east-west movement along the highway.

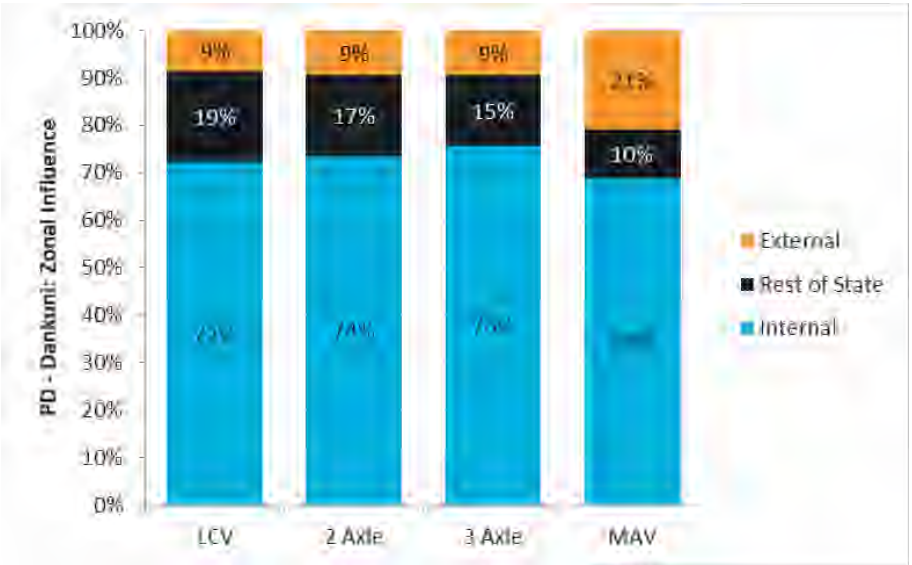
Internal External analysis

3.51 Internal-External analysis helps in identifying the trips which have both an origin and destination on or near the Asset i.e. local/IAOI zones (Internal-Internal or I-I), any one end on the Asset (Internal-External or I-E), or neither end on the Asset i.e. through trips (External-External or E-

since one end of all trips are at Hyderabad. Likewise, zonal influence of Delhi and Chennai would be 5% and 45%, respectively.

E). RoS here represents areas within the state which are neither local nor IAOI. 'Internal' zones are those that were analysed as 'local' and 'IAOI' in the zonal influence analysis, i.e. lying on the Asset, while 'External' zones are areas lying outside the state.

Figure.7 Zonal influence: PD - Dankuni



Source: Steer Analysis of OD data

3.52 As discussed in the zonal distribution section, total traffic movement is dominated by the IAOI and Local zones, most of which are moving from Durgapur, Asansol, Punagad, Burdwan towards Kolkata and southern regions of West Bengal. Same is validated by the Internal-External distribution where we observe that all the categories are dominated by Internal zones. In our analysis, Internal zones are made up of Local and IAOI zones.

3.53 The trucks plying on the Asset cater the state-centric demands and hence, a considerable share of Rest of State zones is observed across all vehicle type categpries. These are the trips towards Howrah, Medinapur, Malda, and Hooghly.

3.54 In addition to the above zonal shares, external zones influence 9%-20% of truck trips on the Asset. These trips are majorly between the industrial centres of the state and towards the neighbouring states of Bihar, Jharkhand and Orissa and also move towards the farther states of Madhya Pradesh, New Delhi.

Commodity distribution

3.55 We have grouped various commodities into aggregate categories for ease of interpretation, as shown in the table below. The charts in the following sub-section present information in terms of aggregate commodity categories.

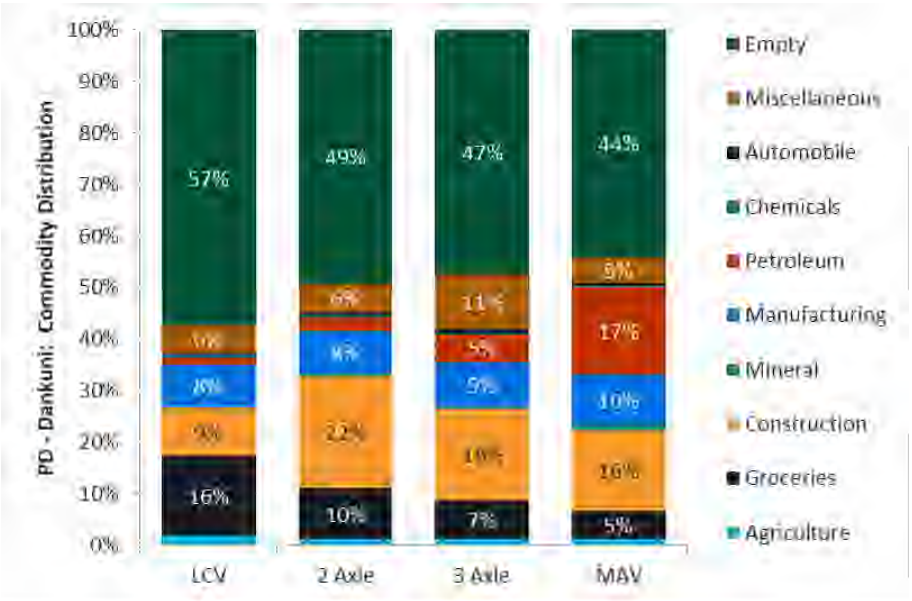
Table 3.8: Aggregate commodity categories

Commodity Description	Code	Combined codes used for charts
Agricultural Products / Cash crops (Wheat, Rice, Sugar cane, Maize etc.)	AGR	AGR
Perishable Items (Fruits, vegetables, milk, meat, fish etc.)	PER	
Cattle Food / Livestock (sheep, goat, cow, cattle food etc)	LIV	

Commodity Description	Code	Combined codes used for charts
Building Material / Construction (Cement, Lime, Brick etc)	CNS	CNS
Container	CTR	CTR
Empty	EMT	EMT
Groceries / Food items (Soap, Salt, Sugar, Pulses, Spices, Biscuits, bread, cool drinks, beer etc.)	GRO	GRO
Machinery / Spare parts	MAC	MAC
Steel / Metal (Iron, steel etc)	STL	MAN
Chemicals / Fertilizers (Acids, Fertilizers etc.)	CHM	
Manufacturing (Electronic items, Medicine, Leather, Wine, Rubber/ Tyre, Plastics, Cloth, Paper etc.)	MAN	
Automobiles (Finished products)	AUT	
Basic / Fabricated Metals (steel, iron)	MET	
Raw Wood, Cork & Wood Products, Fern	WUD	
Mining Minerals (Coal, Gypsum, Cobalt etc.)	MIN	MIN
Miscellaneous (Parcel, Courier, Household items etc.)	MSC	MSC
Passengers	PAS	
Petroleum Products (Oil, LPG, CNG, etc.)	PET	PET
Sand	SND	SND
Stone (Kota stone, marble, Granite, Aggregate stone etc.)	STN	STN
Cement	CMT	CMT

Source: Steer Analysis

Figure 3.8 Commodity distribution: PD - Dankuni



Source: Steer Analysis of OD data

3.56 Among all the vehicle types, construction items make up for 10%-20% of total traffic which is pre-dominated by the cement factories of, Durgapur Cement Works and Durgapur Hitech Cement. Miscellaneous commodities are observed across all the vehicle categories and make up about 7% of the total share. Most of the miscellaneous goods include couriers and parcels which are transported from the warehouses along the Asset to Kolkata, Bali, Dhulagori. Manufacturing goods make up for 8% of the share and include, cloth, plastic, tyre. They witness a west-east movement, between the industrial centres of Rajasthan, Gujarat, Punjab, West Bengal using the Asset.

3.57 For 3A, MAV categories, a significant portion of Petroleum is transported Haldia port towards the refineries of Bardhman, Durgapur and vice versa. It is also transported to other states of the country to meet the nation centric demand of petroleum. Around 45% of 3A and MAVs are observed to be empty. This is due to the large proportion of goods traffic carrying commodities including petroleum and associated products such as Liquified Petroleum gas (LPG) from Haldia port to destination in Durgapur and further west. These trucks are designed to carry specific fuels/gages therefore, they appear empty on the return to the Port.

Table 3.9: Directional commodity distribution – PD - Dankuni

Palsit To Dankuni				Commodity	Dankuni to Palsit			
LCV	**2 Axle**	**3 Axle**	**MAV**		**LCV**	**2 Axle**	**3 Axle**	**MAV**
1.7%	0.8%	0.7%	1.0%	Agriculture	2.1%	1.4%	2.0%	1.4%
11.5%	6.3%	4.2%	2.8%	Groceries	22.9%	12.2%	11.4%	8.3%
12.4%	39.4%	24.3%	19.3%	Construction	3.7%	9.8%	9.5%	12.0%
-	0.4%	0.2%	0.9%	Mineral	0.2%	0.3%	0.8%	0.7%
5.0%	3.7%	4.0%	5.3%	Manufacturing	14.0%	11.8%	14.5%	14.5%
0.5%	2.7%	4.7%	6.7%	Petroleum	3.4%	2.3%	6.4%	28.1%
0.1%	0.2%	0.2%	-	Chemicals	1.1%	0.6%	0.3%	0.4%
0.1%	0.4%	0.5%	0.4%	Automobile	0.7%	0.7%	0.8%	0.6%
5.3%	7.6%	15.6%	6.5%	Miscellaneous	6.0%	4.3%	4.7%	3.6%
63.3%	38.6%	45.6%	57.1%	Empty	45.9%	56.7%	49.6%	30.5%

Source: Steer Analysis of OD data

3.58 The direction wise distribution of commodities for each vehicle types helps to gauge a better understanding of the distribution as per the direction of goods movement. As for Palsit to Dankuni direction, constructions items make up for about 20% of the share which is due to the presence of cement industries in Durgapur with a majority of cement movement towards Kolkata whereas for Dankuni to Palsit direction, petroleum makes up around 28% of total commodities transported as it is transported from Haldia port to Durgapur refineries and further towards other states of the country.

Trip length analysis

3.59 Trip-length distribution provides the distance-based profile of various vehicle categories. This aids in validating assumptions around the share of macro-economic drivers, inputs from zonal influence and toll segmentation. For ease of interpretation, we have categorised distances into 5 groups – local (0-65km), short-distance (65-300 km), medium-distance (300-500 km), long-

distance (500-1000 km) and very-long-distance (+1,000 km). The trip distances were derived as driving distances from Google Distance Matrix Tool based on zonal coordinates for OD pairs.[3]

3.60 The following table states the average trip lengths of traffic plying on the Assets across the four toll plazas.

Table 3.10: Average trip lengths (in km)

	CJV	Mini LCV	LCV	2 Axle	3 Axle	MAV
PD Dankuni	234	162	379	332	329	480

Source: Steer analysis of OD data

3.61 CJV, MLCV, LCV average trip lengths are within 300 kms, as these trips a predominantly local and within the state. For 2A, 3A, and MAV categories, due to a mix of both local and long-distance movement of the traffic, the averages are lower and in the range of 300 - 500 kms. This is essentially because up to 35-40% of the trips are within state and short distance, bringing the overall averages down.

3.62 The trip length proportions for each vehicle type for each of the toll plaza is discussed below.

Figure 3.9 Trip length distribution: PD - Dankuni

Source: Steer Analysis of OD data

3.63 At PD Dankuni Toll plaza, share of short distance trips, for less than 250kms, is in the range of 50%-80%. This is in line with the findings of the above sections where it was observed that the trips on the Asset are dominated by the influence of Local and IAOI zones. These trips are primarily between industrial and commercial centres of Durgapur, Asansol, Panagarh, Burdwan, and Kolkata, Howrah as well as the port of Haldia.

[3] Google Distance API is a tool that is available on a chargeable basis from Google Maps Platform. Link: https://developers.google.com/maps/documentation/distance-matrix/start. Travel distance and time information for driving/transit under various congestion scenarios can be extracted through this tool by using macro-enabled Excel, R, etc.

3.64 The trips traversing distances between 250-1000kms are generally between Kolkata, Haldia port and industrial centres of Bihar, Jharkhand, and northern West Bengal. 3A and MAVs are also observed to travel long distances between 1000-5000kms. These trips are along the states of NH19 and majorly between Kolkata, Haldia port and Delhi/NCR, Uttar Pradesh, Madhya Pradesh and further towards the northern states of India including, Rajasthan and Punjab.

Conclusions

3.65 The Asset is expected to complete construction by March 2024. Since the Client hasn't taken over the operations yet, ETC data for only three months was available which was further used to study the traffic patterns on the Asset.

3.66 The asset benefits from the long distance Golden Quadrilateral (GQ) NH19 north-east movement connecting Kolkata with Delhi and northern states including Punjab, Haryana and Himachal Pradesh.

3.67 The asset is heavily influenced by industrial movement from Durgapur, Panagarh and Asansol towards Kolkata and Haldia port . This is also confirmed by commodity and trip length analysis presented in previous sections wherein 40% of traffic across goods vehicles is doing only 100-250km long trips and carrying no commodity (empty) in one direction.

3.68 The traffic share on the plaza is dominated by CJV which makes up around 40% of the total vehicle composition. 3A/MAVs collectively account for 30% of the traffic whereas 2As account for 17% in the total mix. The share of CJV's increased in June 2021 compared to other months primarily attributed to inter-state travel restrictions leading to lesser share of trucks during Covid19 lockdowns. LCV shares remained constant at 6%, whereas buses decreased by 3% from March to June 2021.

3.69 The ETC monthly data was used to study the segmentation trends and it was observed that CJV share is dominated by return tickets making up for around 60% of the tickets sold. On the contrary, MAVs are observed to have high share of single tickets which is aligned to observation of MAVs doing medium to long distance trips on the asset.

3.70 According to the zonal influence analysis, about 80%-85% of total traffic movement is dominated by the IAOI and Local zones where most of these trips were moving from Durgapur, Asansol, Punagad, Burdwan towards Kolkata and southern regions of West Bengal and vice versa. Same is validated by the Internal-External distribution where it was observed that all the categories are dominated by Internal zones as it makes up about 70% of the total mix. 3A/MAVs, traversing comparatively longer distances, observed the influence of neighbouring states of Bihar and Jharkhand as well as the farther state of Uttar Pradesh which lies along the NH19. The same is the reason for 21% share of External trips for MAVs.

3.71 The Asset a fair share of commodities like construction (cement, powder), manufacturing (medicines, cloth, plastic), petroleum (oil, gas), and miscellaneous products (parcels, couriers) as these are transported from the industries along the Asset an in Durgapur, Panagarh, Asansol, Bardhhaman as well as port of Haldia.

3.72 As observed in the Zonal Influence as well as in the Internal-External analysis, share of short distance trips, for less than 250kms, is in the range of 50%-80% and dominates the mix. The long-distance trips are generally along the states of NH19 and majorly between Kolkata, Haldia port and Delhi/NCR, Uttar Pradesh, Madhya Pradesh and further towards the northern states of India including, Rajasthan and Punjab.

3.73 Overall, the Asset has benefits heavily from Kolkata and Haldia port in south and mining and industrial activity in north of Asset. Alongside, presence of agricultural and warehousing activity in vicinity further strengthens the demand for traffic movement on the asset and validates the growth prospects of the corridor as a whole. These are discussed in detail in the later chapters.

4 Socio Economic Context

Introduction

4.1 The growth of traffic on existing (brownfield) roads depends on, firstly, how fast the background travel demand grows (background growth); and secondly, how successful the Asset is in attracting that traffic (traffic capture). Background travel demand is driven by the socio-economic conditions of the region where the Asset is located and conditions on a national scale. These include:

- Changes in factors such as population, economic growth (regional and national) and industrial production; and
- Other local factors such as strategic port growth, and growth in local industries near the Assets.

4.2 In turn, the change in the competitive position of the Asset (and thus of the traffic capture it will achieve) derives from how the service offered and the prices charged on the Asset change in comparison to competing roads; and whether any new competing road facilities are available.

4.3 In this chapter, we assess the socio-economic indicators relevant to traffic growth on the Assets.

Population growth

National Level

4.4 The total population in India has grown at a Compound Annual Growth Rate (CAGR) of 1.5% since 2000, decreasing over the years, as shown in the table below. The World Bank forecasts this growth to decrease to 0.6% CAGR by the 2030-45 period.

Table 4.1: CAGR of population in India

Years	CAGR		
	Total Population (m)	Rural Population (m)	Urban Population (m)
1970 - 1985	2.3%	1.9%	3.8%
1985 - 2000	2.0%	1.7%	2.9%
2000 - 2015	1.5%	1.0%	2.6%
2015 – 2030*	1.0%	0.3%	2.3%
2030 – 2045*	0.6%	-0.3%	1.9%

Source: World Bank Data on Health Nutrition and Population Statistics, *forecast population growth

4.5 West Bengal represents 7.5% of the country's population, with the total state population of 91 million (2011 Census). The rate of growth of the urban population in West Bengal has been consistently higher than that of the total population, indicating a trend towards urban agglomeration.

4.6 The table below shows population evolution in West Bengal compared to that of the country.

Table 4.2: Population Growth in India (2001 – 2011)

State	2001 Population (m)			2011 Population (m)			CAGR (2001 – 2011)		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
West Bengal	80.2	57.7	22.4	91.3	62.2	29.1	1.3%	0.7%	2.6%
India	1,028.7	742.6	286.1	1,210.9	833.7	377.1	1.6%	1.2%	2.8%

Source: Census 2011 Data

4.7 West Bengal has observed healthy growth in population in the last decade indicating that the Asset is expected to continue serving the local state consumption demand. However, due to the complexities of the patterns in which urbanisation takes place, and the very dynamic nature of local population migration (which are very difficult to forecast with accuracy), we do not use population growth as a proxy for understanding future travel demand growth on the Asset. It has been included in this section simply to provide a general context of the region in which the Asset are located.

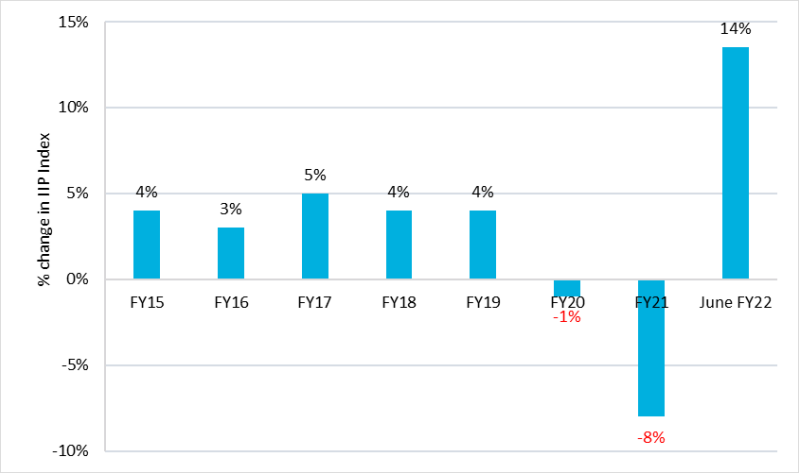
Economic Indicators

Industrial Production

4.8 The Index of Industrial Production (IIP) is a composite indicator that measures the short-term changes in the volume of production for a basket of industrial products. The IIP data tracks the manufacturing activity in different sectors of an economy, with mining, manufacturing, and electricity being the three broad sectors in which IIP constituents fall.

4.9 At an annual level, the IIP was growing on an average of 4% between FY15-19, before being hit by liquidity crisis and overall economic slowdown in FY20. Post that, the IIP shrank by over 8% in FY21, due to a decline in economic activities in the wake of global lockdowns introduced to curb coronavirus pandemic. However, with the gradual opening of economy and rebound observed in demand, the IIP on a month-on-month grew by +28.6% in May 2021 and 13.5% in June 2021, as per the latest available data, indicting a revival in economic growth.

Figure 4.1: Annual growth - Index of Industrial Production



Source: Central Statistical Organisation (CSO)

4.10 Since the IIP data in India is released only at a national level and not at the state level, we do not use IIP growth as a proxy for understanding future travel demand growth on the Asset.

Also, availability of long-term forecast is the key for using an indicator as a growth driver, while long-term forecast for IIP is not available we refrain from using it to forecast traffic.

Vehicle ownership

4.11 Car ownership in India has traditionally been very low, however this is slowly changing with the increasing per capita income levels. Between 2007-17, number of cars per 1,000 people has more than doubled and increased at a CAGR of about 11%. The corresponding ownership rates for urban cities like Delhi, Mumbai, Bengaluru, and Chennai are over 100 cars per 1,000 people. The region where the Asset lie is semi-urban, therefore the car ownership in the region is lower than the India average.

4.12 India overall also stands at a very nascent stage in the vehicle saturation curve, offering a huge potential, as the income per capita of India and the region itself grow further, we expect the car ownership levels to increase. As per the India Energy Outlook, the car ownership is projected to grow steeply to 175 cars per 1,000 population by 2040 in India[4].

Figure 4.2: Car ownership in India per 1,000 population

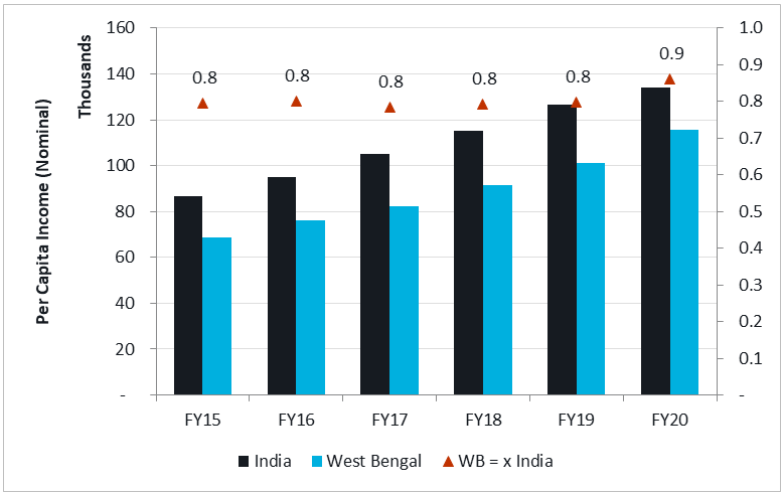
Source: Central Statistical Organisation (CSO)

Per Capita Income (PCI)

4.13 The per capita income of the state where the Asset lie i.e., West Bengal is slightly lower as compared to the national average. However, in dollar terms, PCI of just $2,000 per head indicates that the state is at a very early stage of consumption curve. Going forward, we therefore expect local consumption to be strong with increasing per capita income which would drive the growth in both passenger and commercial traffic on the Asset.

[4] https://www.gita.org.in/Attachments/Reports/IndiaEnergyOutlook_WEO2015.pdf

Figure 4.3: Per capita income



Source: Central Statistical Organisation (CSO)

4.14 However, given the difficulty in obtaining granular district level PCI data, it is not advisable to use this as a growth driver. Also, the long-term forecast for PCI is not available, we therefore refrain from using it to forecast traffic.

GDP and GSDP Growth

4.15 The Indian economy has grown at a CAGR of 6.6% during FY12-20, aided by a strong growth in the services/tertiary sector. The economic growth of West Bengal (GSDP)[5] has been weaker than the country overall. West Bengal approximately contributes 5% to the India's GDP. In terms of per capita income, West Bengal has slightly lower per capita income than the country.

4.16 The state of West Bengal lies on the eastern coast of India forming a gateway to Southeast Asia and North East India. The state has natural location advantage that makes it a traditional market for the Northeast India, Nepal, and Bhutan. It is also a strategic entry point for markets in South-east Asia.

4.17 In terms of sectoral contribution, the tertiary sector has the highest contribution to the state GSDP (56%) followed by the secondary (20%) and primary (24%) sectors. Some of the key cities and regions that contribute towards the state's growth are Kolkata, Durgapur, Kharagpur and Burdwan. West Bengal has two major ports located in Kolkata and Haldia. In FY20, the combined volume of cargo handled by these ports was 64 million tonnes.

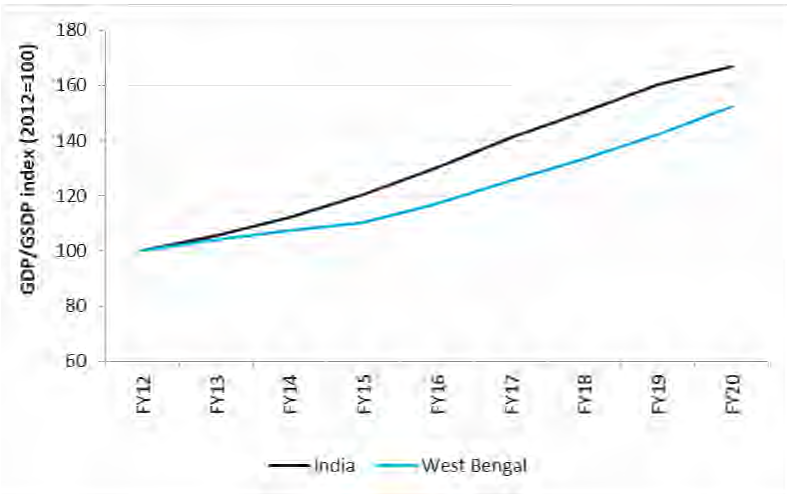
4.18 West Bengal is one of the leading states in terms of production of petroleum and natural gas. Indian Oil Corporation Limited (IOCL) has its refinery located in Haldia which has annual capacity of 7.5 million metric tonnes. Apart from IOCL, Oil India Limited and Haldia Petrochemicals Ltd also have their petrochemical complex located at Haldia. The state is also rich in mineral production especially, coal. Deocha-Pachami coal block, India's largest coal mine is located in the south-western part of Birbhum coalfield in West Bengal. The state also has number of steel plants in Durgapur and Asansol.

[5] GSDP is the Gross State Domestic Product i.e., the GDP equivalent for a particular state, it is the final value of goods and services produced by a particular state

4.19 West Bengal is also one of the largest producers of tea in India and key exporter of Rice. Potato, rice, fisheries, and tea are key agro-based products of the state.

4.20 West Bengal's GSDP CAGR was 5.4% between FY12-20 and its relative share to the national GDP was around 5% in FY20.

Table 4.3: GDP/GSDP index (2012=100)



Source: Central Statistical Organisation (CSO)

4.21 The official historical GDP and GSDP data for India are released by the Central Statistical Organisation (CSO). The GDP forecasts for India are available from various reliable sources such as Oxford and Consensus, but the GSDP forecasts for the same are not published. However, using the past trends for the relationship between GDP and GSDP, we can develop reasonable GSDP forecasts.

4.22 Therefore, in our view, GDP is the best source to be used as a growth driver for long term forecasts of traffic.

Summary

4.23 For any indicator to be used as a growth driver to forecast traffic, a reliable source of historical and forecast available for that indicator is the key requirement. Of the key socioeconomic indicators discussed above GDP seems to be the only growth driver for which reliable data is available both in terms of historical and forecast data, therefore, to forecast traffic we would be using GDP/GSDP as our key growth drivers.

Indicator	Remarks
GDP/GSDP	Available annually ***National level reliable historical and forecast available***
Population/Urbanisation	Revised every 10 years, last available 2011. Population estimates are not available annually, making it difficult to run regressions. Also, the very dynamic nature of local population migration (which are very difficult to forecast with accuracy), we do not use population growth as a proxy for understanding future travel demand growth on the Asset. *Forecast available but historical data is a constraint*
Per Capita income	National and state level per capita historical data is available, but future estimates for the same are not to base traffic growth on.

Indicator	Remarks
	Historical data available but forecast data is a constraint
IIP Index (Industrial production)	Unlike GDP, reliable IIP forecast are not available, also the IIP data is only available at national levels and not for each state individually.
Vehicle ownership	Vehicle ownership at India level is available latest for 2017. At state level, not all states release their vehicle ownership data annually making it difficult for consistency. A lot of research organisations have published forecast at national level, but a reliable estimate is not available.

Source: Steer analysis

5 Background growth relationships and forecasting assumptions

Introduction

5.1 In this chapter, we present our approach, assumptions around estimation of elasticities and forecast assumptions of Macro parameters for each vehicle category on the Asset.

5.2 Traffic growth is commonly related to a variety of macro-economic and industry- or commodity-specific factors (hereafter referred to as 'traffic growth drivers'). These growth drivers are typically identified from the results of the OD data analysis and the site visits that help us appreciate the nature of traffic movement – 'what' travels 'where' and 'why'.

5.3 On Assets where long time series historical data is available, to understand the historical traffic trends in relation to these growth drivers, we typically carry out regression analysis, to determine the historical relationship between traffic belonging to each major vehicle category and its macroeconomic growth driver at the toll plaza. The dynamics of traffic demand is the dependent variable while the dynamics of one or more identified growth drivers are the independent or explanatory variables. This is the primary approach to determine the elasticity relationships. However, for Asset under consideration where only limited historical data is available, we have adopted an approach which is explained in detail in the sections below.

5.4 While working on several Assets across the country where historical data is available, it has been observed that typically, growth of passenger and light commercial vehicles like cars, buses and LCVs which have relatively shorter trip lengths (<200-250 km) is more closely linked to the local economic growth drivers where the toll road is located. These categories are generally driven by the demand driven by local production/consumption centres and are in most cases captive to the toll plazas. Local factors coupled with tourism driven demand is often seen as the key driver for consumption of goods and services in the areas. Therefore, we typically link the growth rate of these vehicle categories with GSDP growth rates of the state where the asset is located as that is closest proxy of the local economic activity in the region.

5.5 Whereas Heavy vehicle traffic like 3-axle trucks (sometimes 2A trucks as well) and MAVs tend to have a much longer average trip lengths (>350-500 km) and serve multiple economic activity centres located along an Asset as well beyond the Asset across multiple states of the country. For these vehicle categories we therefore assume these vehicle categories to grow in line with the national GDP. This is because most light goods vehicles tend to travel shorter distances within the state, whereas a significant proportion of heavy vehicles carry commodities for long - distances across the country and have much longer trip lengths. These commodities also tend to be part of industry ecosystems whose demand-supply relationships are scattered across the country and therefore relate more with GDP growth. Therefore, using the OD data trip lengths of various vehicle types and the commodity carried by these goods vehicles form the basis for estimating the elasticity relationships.

Estimation of background elasticities

Overview

5.6 For brownfield Assets, where sufficient historical traffic evolution is available, it is common practice to use regression model analysis to determine the relationship, expressed as elasticity, between traffic growth and key socioeconomic drivers. This relationship is then applied to assumptions of future socio-economic evolution to estimate future traffic growth.

5.7 As for the Asset under consideration, concession agreement has been signed recently in June 2021 and appointed date is awaited following which concessionaire will get tolling rights. Since, the project is still in initial phase of transfer to client, there was no historical information available for the project road. Therefore, we undertook a benchmarking analysis in order to estimate our forecast elasticities, sources used included our understanding of the Assets, outputs of the OD data analysis (OD pairs, trip lengths, zonal influence, and commodity mix). We also took account of the regional Assets having similar traffic profiles, which give us reasonable confidence the relationships proposed.

5.8 In terms of selection of growth drivers for vehicle types, in general we have assumed state GDP as the key driving factor for the passenger traffic given this traffic is generally driven by the local economies of the cities and state containing the Assets. The heavier commercial vehicles generally ply long-distance, and the underlying growth is governed by the general economies of several states or nation as whole.

5.9 The forecast elasticities are assumed to remain constant over the concession period as the logistics sector in still in early stages of development in India (95% of trucks still owned by operators owning less than 5 trucks). Car ownership levels are still around 22+ per 1000 people, and it is likely to take a few years before the market reaches maturity. These trends are based on a long-term understanding of historical relationships and an overall outlook on the growth of the region and the country. The table below presents the growth drivers identified to model the forecast background traffic growth rates.

Table 5.1: Identified growth drivers to model traffic growth

Vehicle type	Growth driver
Car	100% GSDP West Bengal
LCV	100% GSDP West Bengal
Bus	100% GSDP West Bengal
2A	100% GDP India
3A	100% GDP India
MAV	100% GDP India

Source: Steer analysis of Client data

5.10 The sections below detail out the reasoning for selection of respective growth driver(s) for each vehicle category.

Table 5.2: Elasticity recommendations for the Asset

Vehicle Category	Proposed	Growth Driver	Comments
CJV	1.1	GSDP West Bengal	Car traffic is largely driven by the local demand from Kolkata, Howrah, Dankuni, Bardhhaman and Durgapur. The asset is also influenced by Kolkata and Durgapur tourism traffic. CJVs are expected to grow on the asset as the car ownership levels continue to increase in the region in future years. With the presence of a religious and tourism activities in vicinity of the asset, CJV traffic is expected to grow at a higher rate with a 1.1 relationship to West Bengal's GSDP.
Buses	0.4	GSDP West Bengal	Buses are primarily a mix of public and private inter-city buses. serving local intercity demand. As these cities grow, the buses are also expected to respond to the increasing demand however only at a muted rate.
LCV	0.5	GSDP West Bengal	LCV have been observed to carry a mix of commodities over short distance trips with trip lengths up to 250km in addition to catering to the local demand. LCV/2A trucks are observed to be carrying groceries, agricultural, construction, courier, parcel etc on this corridor between Kolkata and Durgapur serving local demand. Further both LCV and 2A have also serving the manufactured goods industry. 2A are very low in volume on the corridor and mostly local. With the allowance of more tonnage under the axle load revisions, this category has witnessed growth over the last couple of years. Therefore, we believe that the LCV/2A category will continue to grow in the future and elasticity of 0.5 is considered reasonable for this category.
2A	0.6	GDP	
3A	0.7	GDP	The asset is part of the traditional Golden Quadrilateral with 3A and MAV's are making long distance movements catering to the New Delhi and North India towards Eastern parts of India. The asset corridor has industrial character between Delhi and Uttar Pradesh/Bihar. Further, Jharkhand and West Bengal have mining and industries located along the corridor. The corridor also connects to Haldia port in West Bengal catering to majority of North India's Gas and Oil demand. The Assets benefits from heavy industrial movement along the corridor and in the vicinity. The asset is strongly influenced by Indusial development in Durgapur, Asansol, Panagarh, Bardhhaman and port related activity at Haldia. Therefore, is expected to have a closer growth relationship with national GDP. Therefore, a higher assumption 0.9 to GDP has been assumed.
MAV	0.9	GDP	

Source: Steer analysis

Forecasts for growth drivers

5.11 Following the discussion in Chapter 4 on the nature of economic activity in the state of Haryana, in this section, we describe the assumptions in relation to forecasts of the key macro-economic drivers of traffic growth. Particularly, we have based our forecast on GDP and GSDP projections provided by the Client.

National GDP

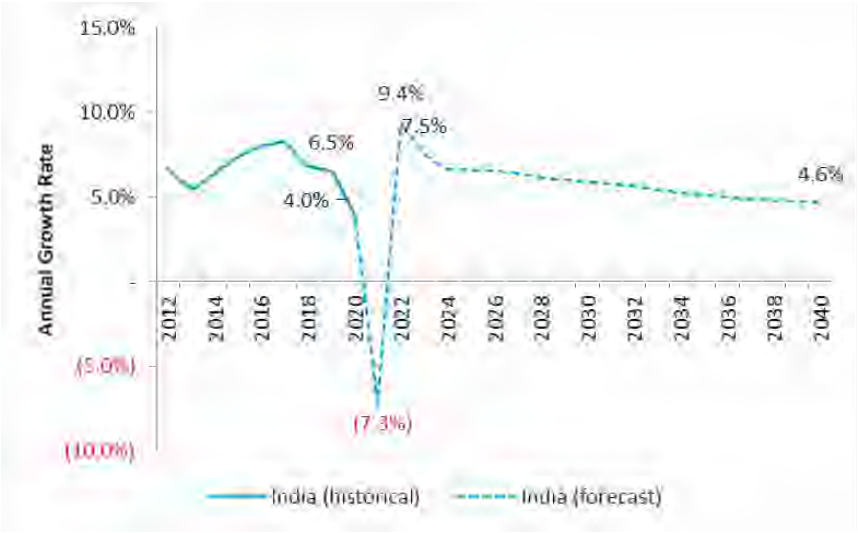
5.12 India's GDP and the relevant state GSDPs are the primary macroeconomic variables that have been modelled to drive our traffic growth forecasts.

5.13 After the last period of economic slowdown in FY11-12, the country has been experiencing an economic downturn since late FY19 with the FY20 reporting 4% GDP growth. India's GDP growth declined as domestic investment and consumption demand were already under stress because of the liquidity crunch before Covid-19. Related events to the economic slowdown include reduced growth rates in automobile sales and production, liquidity crunch, rising number of non-performing assets, lower manufacturing outputs and lower rural consumption. Furthermore, the last months of FY20 and FY21 have been affected by Covid19, with impacts on industry (economic activity) and society (social activity). This bias has been addressed in terms of base traffic estimation by normalising the traffic projections for FY21 (as described in Chapter 6) and we based our forecast on the GDP projections as shown in figure below.

5.14 There was a substantial impact of the covid-19 outbreak on the Indian economy during the first two quarters of FY21. The growth momentum eventually picked up in Q3 FY21. A sharp rebound is expected in FY22 with economy projected to grow by 9.4%. In the long term, Indian GDP would reduce gradually after 2030, to reach 5% by 2030 and 4.5% by FY40.

5.15 Our national GDP forecasts are a blend of published forecasts by independent sources such as Consensus, World Bank, IMF, OECD, and RBI.

Figure 5.1: FY21-40 GDP forecast



Source: Steer analysis of GDP forecast by various organisations.
Average of long-term forecast of Consensus, OECD, Oxford and short-term forecast of IMF and World Bank

Normalisation of FY22 GDP and FY23 GDP

5.16 To arrive at the FY22 normalized position, we have assumed that the Q4FY22 would be a normal period, with no further impact of Covid-19. However, we cannot directly use FY22-Q4 estimates because of inherent seasonality attached to it. In India, it is typically observed that during the first half of the financial year (April-September) the GDP growth and contribution to overall GDP is generally lower than the annual average. Widespread monsoon-related disruptions result in subdued economic activity in this period. The second half of the financial year (October-March) typically shows a gradual pick-up in economic activity as the monsoon recedes and construction, mining and agricultural activities start ramping. The agricultural harvest season coupled with the festive season around Diwali boosts the consumer spend in the second half of the financial year.

5.17 We have analysed how Q4 grew with respect to annual GDP for the last five years and have taken an average of FY16 and FY18 and excluding FY17, FY19 and FY20 as they were impacted years due to demonisation and slowdown in Indian Economy. The Q4 grew on an average of 1.22 times the annual GDP, applying this factor to the FY22-Q4 estimates, we have arrived at FY22 normalised GDP position of 5.4%.

Quarter	FY16	FY17*	FY18	FY19*	FY20	FY22
Q1	7.6%	8.7%	6.1%	7.6%	5.4%	18.5%
Q2	8.0%	9.7%	5.3%	6.5%	4.6%	7.9%
Q3	7.2%	8.6%	6.7%	6.3%	3.3%	7.2%
Q4	9.1%	6.3%	8.9%	5.8%	3.0%	6.6%
FY	8.0%	8.3%	6.8%	6.5%	4.0%	9.5%
Q4 factor wrt to FY	1.14	0.76	1.31	0.89	0.74	
Adopted Q4 factor wrt to FY	1.22					
Normalised FY22	5.4%					
Normalised FY23	5.9%					

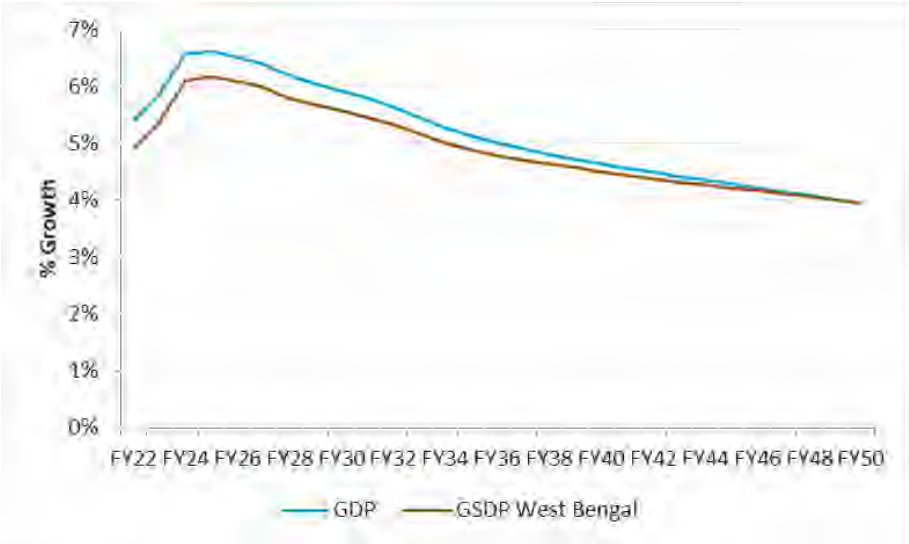
Source: RBI for FY22 estimates, and historical QoQ GDP have been sourced from MOSPI (Ministry of Statistics and Programme Implementation, Central Statistical Organisation), *FY17 and FY19 have been ignored due to exogenous impacts such as Demonetisation and slowdown the economy in FY19

State GSDP

5.18 By comparing historic trends of state level GSDP growth with the national GDP growth we have established GSDP projections for each state. We assumed that as the Indian economy grows, the states which have historically grown at a faster pace will, over 10 years, see a slowdown in GSDP growth, tending to the national average, whereas the states that have grown slower than the national GDP will begin to pick-up and grow faster. The GDP-GSDP gap would partially converge by 2040, and fully converge by 2049.

5.19 The West Bengal GSDP is expected to grow slower than the national GDP for next 10 years and is expected to start converging towards national average by 2040. The chart below shows the forecast growth lines for GDP and West Bengal GSDP.

Figure 5.2: Forecasts for India GDP, West Bengal GSDP



Source: Steer analysis of historical State GSDP data and India GDP projections

6 Forecasts: Base AADT, and Traffic and Revenue forecasts

Introduction

6.1 Following the discussion on our forecast of background growth elasticity relationships in the previous chapter, this chapter first covers the forecasting assumptions around estimation of base year AADT and potential network impacts on traffic growth on the Asset. Thereafter, we present our assumptions around toll segmentations, trip factors and evolution of toll rates for the forecast period which are used to forecast revenues as derived from forecast traffic. In the final section, this chapter summarises traffic growth rates for the forecast years.

6.2 The following table lists key intermediate and final outputs that have presented in previous Chapters and in this chapter.

Table 6.1: Key intermediate and final outputs in the forecast

Forecast	Final outputs	Intermediate outputs	Inputs	Chapter
Traffic	Base year AADT	ADT, SCF estimate for base year	Historical SCF and year-to-date AADT	Chapter 3, 6
	Background traffic growth	Background forecast elasticity	Background historical elasticities with respect to growth drivers	Chapter 5, Appendix C
		Forecasts for growth drivers	Historical performance of growth drivers along with Macro assumptions (GDP and GSDP)	Chapter 4, 5, Appendix C
	Impact growth rates and staging	Impacts	Network analysis	Chapters 6
Revenue	Annual/daily revenue forecasts	Forecast toll segmentation: Trip frequencies and trip factors	Historical trip frequencies	Chapter 3, 6
			Historical trip factors	Chapter 6
		Future toll rates	Toll evolution	Chapter 6

Source: Steer

Seasonal Correction Factors

6.3 Traffic on any Asset varies on a month-on-month level. Such variations maybe due to monsoons (typically Jul to Sept) or due to festivals in the region. For e.g. It is observed that typically the truck traffic during the first half of the financial year (April-September) is generally lower than the annual average, mainly because of peak summer season followed by monsoons affecting

the freight movement patterns in large parts of the country in the July-September period. In addition to these there may be other seasonal variations specific to the Asset.

6.4 In order to normalise for these variations across the year to provide an AADT estimate, Seasonality Correction Factors (SCF) are used. SCFs are estimated to convert the monthly traffic numbers to an AADT level while accounting for seasonal variation due to local/national festivals, weather changes and/or temporary external impacts. These are typically estimated using historical data for each plaza and vehicle category over multiple years. An SCF >1 means that the traffic for the month is lower than the annual average and vice-versa.

6.5 As discussed in section 5.7 of Chapter 5, there was no historical data available for the asset. Therefore, in absence of longer-term historical data to arrive at the SCF, we have benchmarked our SCF from various sources:

- Assets in the vicinity, south or north of the Asset carrying very similar traffic profiles;
- SCF from toll plaza data;
- Site observations and information provided by the toll plaza to validate SCF assumptions (such as traffic volume drop during monsoon months).

6.6 The below table presents the assumptions in SCF used to estimate the AADT:

Table 6.2: Adopted SCF: PD Dankuni

Vehicle type	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
CJV	1.05	1.00	0.99	1.04	1.05	1.06	1.02	1.03	0.93	0.94	0.98	0.95
LCV	1.02	1.00	0.98	1.02	1.02	1.00	1.12	1.00	0.99	0.99	0.94	0.96
Bus	1.06	1.07	1.06	1.00	1.03	1.08	1.03	1.02	0.96	0.86	0.93	0.94
2A	1.03	1.04	1.03	0.95	0.91	1.03	1.06	1.00	1.01	1.00	0.98	1.02
3A	1.00	0.99	1.01	1.00	0.94	1.03	1.09	0.99	1.01	1.01	0.96	1.00
MAV	1.00	0.99	1.01	1.00	0.94	1.03	1.09	0.99	1.01	1.01	0.96	1.00

Source: Steer analysis of various sources

Base year FY22 traffic

6.7 As the Asset is yet to start tolling, and in the absence of availability of historical data, FY22 estimates have been based on benchmark SCF, Steer TVC counts, and data available from a benchmark Asset which has longer time series data available.

6.8 The methodology and assumptions taken to estimate FY22 is discussed in the following sections.

Estimation of FY22 Base traffic

6.9 ETC collection data for March 2021 to June 2021 period and TVC surveys conducted by Steer in last week of June 2021 were the only reference points available for this asset. In a normal year FY22* can be estimated using TVC counts and a SCF factor. However, as discussed 2nd wave of Covid19 infection affected traffic patterns in the region starting April 2021. Therefore, we believe that June 2021 traffic numbers do not represent a normalised June MADT.

6.10 To arrive at a FY22 base position, we had to rely on the benchmark Asset where historical data was available. On the benchmark Asset, normalised FY21 (FY21N, based on Q4FY21) was calculated from the available historical data. Using FY21N, a FY22* (no 2nd wave of Covid19,

Hypothetical) was calculated (for the benchmark Asset). The MADT for Jan, Feb, March for FY22* were derived using the SCF factors. Subsequently, the actual June 2021 MADT was compared to each of these months MADT to arrive at a relationship factor.

Table 6.3: June 2022 to January-March FY22 factors used to estimate base AADT

Ratio	CJV	LCV	Bus	2A	3A	MAV
January FY22N	1.12	1.08	2.65	1.13	1.28	1.10
February FY22N	1.07	1.13	2.65	1.17	1.34	1.15
March FY22N	1.11	1.12	2.65	1.15	1.33	1.14

Source: Steer analysis of benchmark asset data

6.11 These relationship factors were subsequently used on the June MADT for the Asset, to arrive at the Jan, Feb, and March FY22 for the Asset. Once these MADT were calculated, they were adjusted for seasonality to arrive at a normalised FY22 (FY22N) AADT, which will then be used as a base traffic AADT for all future projections. In absence of any historical data we think, the above approach is robust as the benchmark Asset used had very similar traffic patterns and a seasonality profile. This was further validated by Steer teams visiting the site and confirming the traffic behaviour on each of these Assets. **These are of course the best estimates provided with the minimal data available for estimation.**

FY23 Estimation and base AADT for forecast

6.12 These FY22N AADT are then used to estimate a FY23 AADT position, with an underlying assumption of no further COVID waves. FY23 then becomes the basis of all future forecasts which again start to follow the GDP and elasticity-based growth pattern for traffic.

Base year AADT

6.13 Based on the methodology discussed above, the tables below present FY22N for the toll plaza.

Table 6.4: FY22N Base AADT estimates compared to FY22 Estimated (PD-Dankuni)

	FY22	FY22*	FY22N
	Estimated	**No covid**	**Q4 N**
CJV	11,678	12,280	12,280
LCV	3,775	4,030	4,030
Bus	391	948	948
2A	3,062	3,519	3,519
3A	3,107	4,055	4,055
MAV	4,860	5,450	5,450
Total	**26,873**	**30,280**	**30,280**
PCU	**58,891**	**68,412**	**68,412**

Source: Steer Analysis, FY22* if 2nd Covid wave had happened.

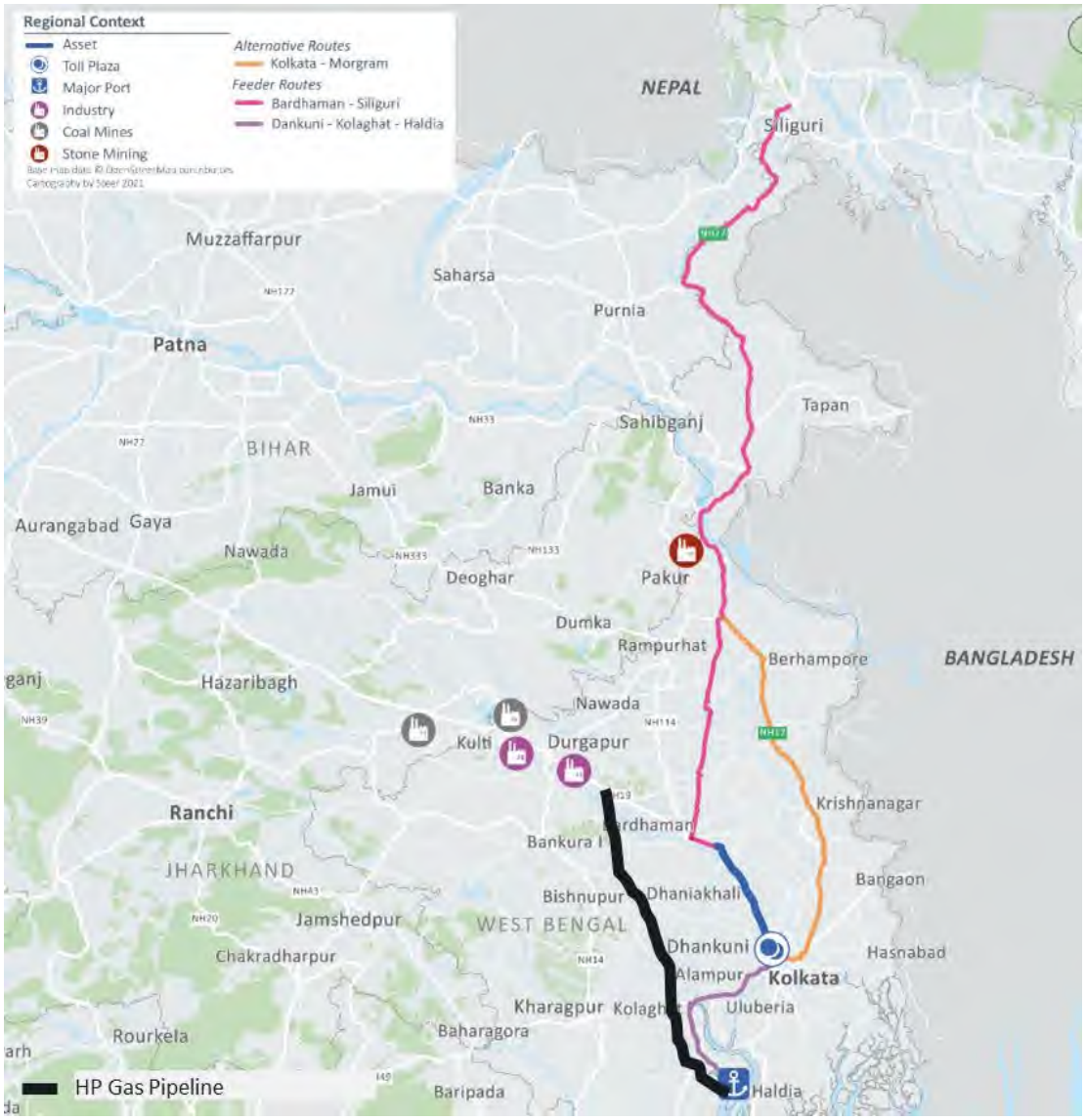
Analysis of potential impacts

Summary of alternate routes and planned changes

6.14 The section below details the impacts which we believe would affect traffic on the Asset during the concession period. As discussed in earlier Chapters, in order to assess the impacts on the Asset, whether positive or negative, we have studied developments (alternate roads, feeder roads and regulatory) in the surrounding road network.

6.15 The map below shows the road network surrounding the Asset.

Figure 6.1: Asset route shown against the regional network context



Source: Steer analysis and cartography

Summary of impact assessments

6.16 The following table lists the impacts considered on the Asset.

Table 6.5: Summary of impact

Impact	Year of impact	Probability/scale of impact	Impact (+/-)
LoS Improvement	FY26 onwards	High/Medium	+ve
HP Gas Pipeline	FY25 onwards	High/High	-ve
Eastern Dedicated Freight Corridor	FY24 onwards	High/Low	-ve

Source: Steer analysis of OD data and publicly available information

6.17 The subsections below include a narrative of each of the improvements, and impacts associated from each of these on our traffic forecasts. Please note that all traffic volumes for impacts were estimated as impact rates applied on FY22 AADT.

LoS Improvement

6.18 The Asset is recently awarded to concessionaire for expiation to six lanes from existing four lane configuration. The client has recently executed concession agreement for the asset with NHAI in June 2021. The construction is planned from October and the asset is expected to achieve COD in FY25. Once the construction completes, the asset would provide improved level of service with reduced travel times for all the local trips which have at least Origin or Destination trip end on the asset.

6.19 The in-scope traffic includes all the trips with Origins & Destinations locate on asset, immediate area of influence and trips originating in Kolkata, Howrah and Bardhhaman districts. The impact is included from FY26.

Table 6.6: Impact of LoS Improvement

	CJV	LCV	2A	3A	MAV
Impact % (PD-Dankuni)	1.8%	3.4%	2.1%	3.9%	2.8%

Source: Steer analysis of OD data, and publicly available information

Hindustan Petroleum Limited (HPCL) Gas Pipeline

6.20 Hindustan Petroleum (HPCL) is planning to lay a 215-km pipeline[6] to transport liquefied petroleum gas (LPG) from the Haldia port to the company's bottling plant in Panagarh, West Bengal (refer map above). Currently, LPG demand for West Bengal, Bihar and Jharkhand is met through imports in the Haldia terminal and the fuel is now transported to HPCL's bottling plants by road.

6.21 The new pipeline is expected to carry 1.31 million tonne per annum (MTPA) of LPG fuel through the pipeline[7]. This will impact the LPG tankers moving on asset between Haldia port and HP bottling plant carrying HP gas as once the pipeline starts operating at its peak, it will result in shift of commodity from road.

6.22 The in-scope traffic includes all Gas carrying trucks with one end on Haldia port and other end in Panagarh/West. The impact is included from FY25.

[6] https://pngrb.gov.in/pdf/public-notice/EOI15062021.pdf

[7] https://www.financialexpress.com/industry/hpcl-plans-215-km-lpg-pipeline-from-haldia-port-to-panagarh/2272736/

Table 6.7: Impact of HP Gas pipeline

	3A	MAV
Impact % (PD-Dankuni)	(1.0%)	(6.3%)

Source: Steer analysis of OD data, and publicly available information

Eastern Dedicated Freight Corridor (EDFC)

6.23 The Eastern Dedicated Freight Corridor (EDFC) project is part of India's Dedicated Freight Corridor (DFC) programme, which aims to create one of the world's biggest cargo operations. EDFC project involves the construction of 1,839 km-long freight line extending from Ludhiana in the Indian state of Punjab to Dankuni near Kolkata, the capital city of West Bengal[8]. It is expected to be completed in FY23 and will carry Coal, Steel, Fertilizers and food grains between Punjab, Haryana, Uttar Pradesh, Delhi. Bihar, Jharkhand, and West Bengal.

6.24 The in-scope traffic includes Coal, Steel, Fertilizers and food grains between Punjab, Haryana, Uttar Pradesh, Delhi. Bihar, Jharkhand and West Bengal. The impact is included from FY24.

Table 6.8: Impact of EDFC

	2A	3A	MAV
Impact % (PD-Dankuni)	(0.3%)	(1.0%)	(1.4%)

Source: Steer analysis of OD data, and publicly available information

Impact summary

6.25 The impacts discussed above are summarised in below.

Table 6.9: Summary of impacts on the Assets

Impact	Dankuni
LoS Improvement	CJV: 1.8% LCV: 3.4% 2A: 2.1% 3A: 3.9% MAV: 2.8%
HP Gas pipeline	3A: (1.0%) MAV: (6.3%)
Eastern Dedicated Freight Corridor (EDFC)	2A: (0.3%) 3A: (1.0%) MAV: (1.4%)

Source: Steer analysis of OD data, and publicly available information

Revenue Forecasting Assumptions

6.26 To forecast the revenues for a particular financial year, the traffic forecast for each vehicle type is converted into tickets sold, which is then multiplied with the corresponding toll rate, which grows over the years as defined in the Concession Agreement. While "trip factors" provide the conversion factor to the former, i.e. traffic (trips) to tickets sold, "toll segmentation" provides

[8] https://dfccil.com/Home/DynemicPages?MenuId=76

the latter i.e. the breakup of trips paying each ticket type. This section discusses assumptions related to trip factors, toll segmentation and toll rates for the forecast period.

Trip factors

6.27 As discussed in chapter 3, a user can by different type of tickets to pay toll depending on the vehicle type. Apart from the Single trips, trips such as Return, Monthly, Local Commercial, Local Personal, Local Monthly are discounted tickets that are offered to the users. The revenue realised from these discounted trips is lower than a single trip fare. Therefore, in order to calculate the revenue for the trips made on discounted tickets (or passes) a trip factor is applied to calculate revenue realised from that particular pass sold.

6.28 As discussed in previous chapters, ETC data for March to July 2021 and primary surveys were the only data points available for asset. The state was impacted by 2nd wave of lockdown starting last week of March and restrictions were in place till mid-June period. After 15th June, the restriction were eased every week. Therefore, we have used the July 2021 ETC data as based and compared it with benchmark to determine trip factors and are listed in the table below:

Table 6.10: Trip factors for the forecast years – PD Dankuni

Ticket category	CJV	LCV	Bus	2A	3A	MAV	OSV
Single	1	1	1	1	1	1	1
Return	2	2	2	2	2	2	2
Monthly	38	38	43	37	38	36	45
Local Commercial	1	1	1	1	1	1	1
Local Personal	1	1	1	1	1	1	1
Local Monthly	45	45	45	45	45	45	45
Exemptions	1	1	1	1	1	1	1
Violations	1	1	1	1	1	1	1

Source: Steer analysis

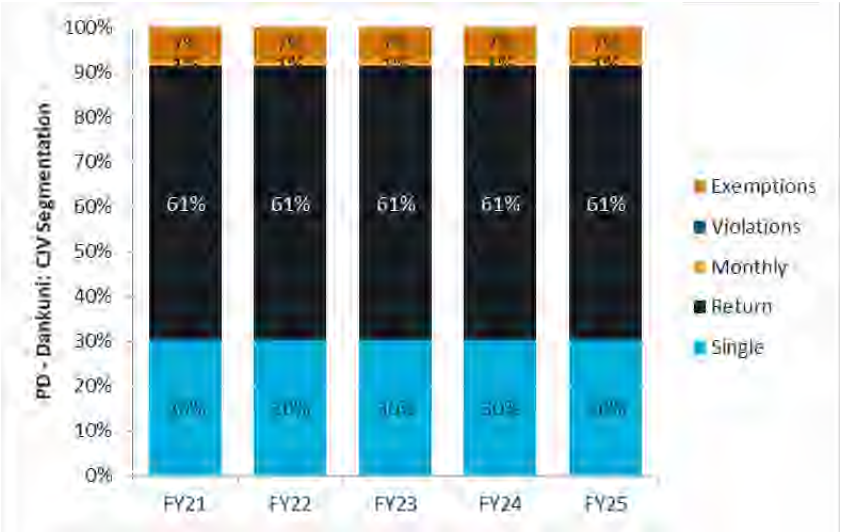
Toll segmentation

6.29 As disused in section 6.31 above, ETC collection data for March to July 2021 was the only one data point available. Further, after mandatory implementation of FASTag in February 2021, July as the most recent and normal month in terms of Covid19 restrictions. Therefore, we have used July 2021 ETC segmentation as base for toll segmentation. Further, we determined cash trips by comparing ETC transactions with TVC counts assuming the difference between two as cash trips. These trips were further improved based on segmentation of benchmark asset.

6.30 Bus exemptions are expected to go down following stricter FASTag implementation after completion of six laning of asset in FY26. We have gradually reduced the Bus exemptions on the asset by FY26 and assumed FY26 segmentation to continue for the rest of the concession. However, we do believe that the violators will get passes under the local personal/local commercial/monthly discounted category, thereby improving the overall compliance, with not a significant impact on the revenue realisation from such trips.

6.31 The toll segmentation adopted in the future years for calculating revenue is presented below for all the vehicle types and toll plazas.

Figure 6.2: CJV toll segmentation evolution – PD Dankuni



Source: Steer analysis

Figure 6.3: MAV toll segmentation evolution – PD Dankuni

Source: Steer analysis

Table 6.11: Toll segmentation for FY21 onwards – PD Dankuni

Ticket type	CJV	Bus	LCV	2A	3A	MAV
Single	30.2%	17.2%	43.7%	47.0%	96.3%	75.7%
Return	61.1%	57.7%	52.7%	36.2%	2.2%	23.5%
Monthly	1.5%	0.0%	0.5%	0.0%	0.1%	0.1%
Local commercial	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Local personal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Local monthly	0.0%	0.0%	0.0%	10.0%	0.0%	0.0%
Exemptions	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%
Violations	7.2%	25.0%	3.1%	6.7%	1.4%	0.8%

Source: Steer analysis

Overloading

6.32 The Asset has been recently been awarded to the client for expansion to 6 lanes from the current 4 lane configuration. As part of the bid process, axle load surveys were undertaken by NHAI and were made available as part of the detailed project report. As per section 4.8 of the NHAI report the Axle load surveys were undertaken at two locations. VDF factors are presented below:

Table 6.12: VDF Summaries at Km 586.600

KM 586.60	To Bardhwan	To Kolkata
LCV	0.96	1.85
Bus	1.09	1.36
2 AT	2.22	3.53
3 AT	3.28	5.99
MAV	11.01	8.08

Source: NHAI DPR, section 4.8 of main report

Table 6.13: VDF Summaries at Km 560.000

KM 586.60	To Bardhwan	To Kolkata
LCV	0.65	2.98
Bus	1.37	0.88
2 AT	5.68	2.33
3 AT	6.24	9.07
MAV	16.29	15.46

Source: NHAI DPR, section 4.8 of main report

6.33 As we can see from the above tables the VDF factor for 3A-MAV are higher than 5-6 (VDF) range which is reasonable. This does support the site visit evidence that there is overloading on the Asset, however the proportions provided are very high and we do not believe that the data collected in the Axle load surveys is a reasonable reflection of the situation on the ground. Although it does confirm that overloading is prevalent and can be charged one tolling commences.

6.34 We have analysed the OD data collected by Steer, for commodities such as construction material, groceries, sand, stone, and scrap. These commodities are more prone to overloading. We have further segregated those trips which have a trip length of up-to 175kms, since these trips are mostly local and are more susceptible to overload, it is reasonable to believe that almost half of these trips can be charged an overloading penalty.

6.35 Overloaded vehicles on the Asset will be charged twice the toll fee as penalty they would otherwise pay for a Single ticket at the toll plaza. The table shows the assumptions for share of overloaded Single journey vehicles that are expected to be charged overloading on the Asset and the shares assumed for the future.

Table 6.14: Overloading assumptions for FY22 and forecast years

Vehicle type	Dankuni
2A	FY22: 8.9% FY25 onwards: 4.9%
3A	FY22: 6.9% FY25 onwards: 4.9%
MAV	FY22: 4.8%

Source: Steer analysis

6.36 These proportions are much lower than the estimates provided in the NHAI DPR and are in line with overloading currently being charged in the region on other Assets. We also believe as construction on the Asset finishes and stricter tolling is implemented the overloading share will also normalise (in the range of 5%) as seen on other corridors.

Toll evolution

6.37 Based on the concession agreement and the toll notification, we see that base toll rates increase every year based on WPI-linked inflation to provide us unrounded toll rates. These are rounded as per the CA and toll notifications to estimate the rounded toll rates charged to the road user. We have used actual toll rates from FY20 and FY21 toll notifications to validate the modelling of the toll evolution. The construction is planned on the Asset and the tolling lengths are currently difference than the final tolling lengths which will be applicable post completion in FY26. These toll lengths are presented in the table below:

Table 6.15: Tolling lengths for toll evolution assumed

	Existing toll lengths (FCOD)
Length (km)	Dankuni
Road length excluding bypass	62.620
Structure on road	1.210
Converted length of structures	12.102
Net Tollable length	74.722

Source: Steer analysis of toll notifications and concession agreement (CA)

6.38 Increase in WPI was calculated based on the WPI numbers are based on the latest year number provided by RBI and forecast are based on the numbers estimated in annual report published by Consensus, as shown in the table below. The upward trend in inflation is expected to continue in the medium term, before gradually tapering to 4.0% in the long term.

Table 6.16: WPI growth forecast assumptions

Financial year	WPI growth (%)
FY22	2.0%
FY23	9.2%
FY24	4.8%
FY25	5.1%
FY26	4.6%

Financial year	WPI growth (%)
FY27	4.6%
FY28	4.6%
FY29	4.6%
FY30	4.6%
FY31	4.6%
FY32	4.5%
FY33	4.5%
FY34	4.5%
FY35	4.4%
FY36	4.4%
FY37	4.4%
FY38	4.3%
FY39	4.3%
FY40	4.3%
FY41	4.2%
FY42	4.2%
FY43	4.1%
FY44	4.1%
FY45	4.1%
FY46	4.0%
FY47	4.0%

Source: RBI, Annual report by Consensus

Traffic and Revenue forecasts

PCU factor assumption for forecasts

6.39 The PCU factors considered are given in the table below. These are derived from IRC: 16-1990 code.

Table 6.17: PCU factors

Vehicle Category	PCU Factor
CJV	1.0
LCV	1.5
Bus	3.0
2A	3.0
3A	3.0
MAV	4.5
OSV	4.5

Source: Steer analysis, IRC Codes

6.40 Based on the traffic and revenue-related forecast assumptions discussed above, we have modelled the traffic and revenue forecasts for the forecast period for the Assets. The table below presents the MADT/PCU and revenue forecast growth rates and CAGRs on this Assets. Further, Appendix B presents the AADT and revenues for the forecast period.

6.41 Please note that below tables present the normalised traffic for FY22 (FY21N and FY22N) as detailed above. FY22 also includes the exogenous impacts assumed in FY22. FY21 is not included as there was no historical data available.

Table 6.18: Final (background plus impacts) AADT forecast – PD Dankuni*

Vehicle Type	FY22	FY27	FY30	FY32	FY34	FY36	FY39
CJV	10,219	14,273	17,117	18,932	20,747	22,393	24,556
Mini LCV	2,061	2,385	2,594	2,717	2,834	2,935	3,062
Bus	948	1,066	1,140	1,183	1,224	1,259	1,302
LCV	4,030	4,823	5,245	5,495	5,731	5,936	6,192
2A	3,519	4,323	4,811	5,103	5,381	5,624	5,927
3A	4,055	5,143	5,824	6,238	6,636	6,985	7,425
MAV	5,450	6,851	8,032	8,769	9,491	10,136	10,963
OSV	2	3	3	4	4	4	5
AADT	**30,282**	**38,867**	**44,767**	**48,440**	**52,048**	**55,272**	**59,432**
PCU's	**68,421**	**86,330**	**99,066**	**1,06,938**	**1,14,629**	**1,21,463**	**1,30,222**

Source: Steer analysis,* FY21 not included as there was no historical data available

Table 6.19: Final (background plus impacts) AADT CAGR (%) – PD Dankuni

Vehicle Type	FY22-FY27	FY27-FY30	FY30-FY32	FY32-FY34	FY34-FY36	FY22-FY39
CJV	6.9%	6.2%	5.2%	4.7%	3.9%	5.3%
Mini LCV	3.0%	2.8%	2.3%	2.1%	1.8%	2.4%
Bus	2.4%	2.3%	1.9%	1.7%	1.4%	1.9%
LCV	3.7%	2.8%	2.3%	2.1%	1.8%	2.6%
2A	4.2%	3.6%	3.0%	2.7%	2.2%	3.1%
3A	4.9%	4.2%	3.5%	3.1%	2.6%	3.6%
MAV	4.7%	5.4%	4.5%	4.0%	3.3%	4.2%
OSV	6.4%	6.1%	5.0%	4.5%	3.7%	5.0%
AADT	**5.1%**	**4.8%**	**4.0%**	**3.7%**	**3.1%**	**4.0%**
PCU's	**4.8%**	**4.7%**	**3.9%**	**3.5%**	**2.9%**	**3.9%**

Source: Steer analysis

Table 6.20: Final (background plus impacts) revenue (INR crores) forecast – PD Dankuni

Vehicle Type	FY21	FY22	FY27	FY30	FY32	FY34	FY36	FY39
CJV	0.0	25.9	48.3	66.7	81.4	97.2	116.6	145.5
Mini LCV	0.0	5.2	8.1	10.1	11.7	13.3	15.3	18.1
Bus	0.0	6.3	10.8	13.2	15.2	17.2	19.5	23.0

Vehicle Type	FY21	FY22	FY27	FY30	FY32	FY34	FY36	FY39
LCV	0.0	17.7	28.6	35.9	41.3	47.2	53.7	64.3
2A	0.0	32.8	52.0	66.5	78.1	90.1	103.7	124.9
3A	0.0	53.5	89.7	116.4	137.3	160.0	185.3	225.6
MAV	0.0	94.0	159.7	216.6	259.9	308.2	361.8	448.7
OSV	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2
Total Revenue	**0.0**	**235.5**	**397.3**	**525.5**	**625.0**	**733.3**	**856.2**	**1,050.4**

Source: Steer analysis

Table 6.21: Final (background plus impacts) revenue CAGR (%) – PD Dankuni

Vehicle Type	FY22-FY25	FY25-FY28	FY28-FY31	FY31-FY35	FY35-FY39	FY22-FY39
CJV	13.2%	11.3%	10.5%	9.3%	9.5%	10.7%
Mini LCV	9.1%	7.7%	7.6%	6.6%	7.3%	7.6%
Bus	11.4%	7.1%	7.1%	6.4%	6.5%	8.0%
LCV	10.0%	7.9%	7.3%	6.9%	6.7%	7.9%
2A	9.7%	8.5%	8.4%	7.4%	7.3%	8.2%
3A	10.9%	9.1%	8.6%	7.9%	7.6%	8.8%
MAV	11.2%	10.7%	9.5%	8.9%	8.4%	9.6%
OSV	13.1%	11.1%	10.2%	9.3%	8.8%	10.5%
Total Revenue	**11.0%**	**9.8%**	**9.1%**	**8.3%**	**8.1%**	**9.2%**

Source: Steer analysis

Upside and Downside Cases

6.42 We have developed our base case scenario considering a balanced view on the risks associated with input assumptions around GDP growth and traffic growth elasticities. There is always a risk that the outturn values of these inputs will vary as compared to the assumptions taken due to exogenous impacts, e.g. GDP growth could be influenced both positively and negatively by the impact of monsoons, export-import balances, political changes etc.

6.43 Similarly, traffic growth elasticities could be influenced by increased efficiencies achieved by technology, large shifts in commodity prices globally, changes in local manufacturing practices. However, at this stage we consider that the base case represents a central case scenario given the risks of variation of input assumptions.

6.44 To account for the possible variations in the growth drivers, we are also presenting the forecasts for an Upside (optimistic) and a Downside (pessimistic) scenario. These scenarios are defined by the following variations from the base assumptions:

Table 6.22: Summary of Macro Assumptions for upside and downside cases

Asset	Input	Upside	Downside
Macro Assumptions			
PD	GDP/GSDP	+1% every year	-1% every year
PD	WPI	+1% every year	-1% every year

Asset	Input	Upside	Downside
PD	Elasticities	+ 10%	- 10%

Source: Steer analysis

6.45 Further, network developments are highly dependent on governmental directions, policies, legal and financial measure which might result in early or delayed completion of developments discussed in section 6.25 of this Chapter. Therefore, we have included an Upside (optimistic) and a Downside (pessimistic) case for impacts below. However, at this stage, we consider that the base case represents a central case scenario given the risks of variation of input assumptions.

Impacts-Upside Case

6.46 The upside case impacts included in forecasts are summarised in below.

Table 6.23: Summary of impacts on the Assets

Impact	Year	Dankuni
LoS Improvement	FY25 onwards	CJV: 2.3% LCV: 4.3% 2A: 2.6% 3A: 4.9% MAV: 3.5%
HP Gas pipeline	FY27 onwards	3A: (0.8%) MAV: (4.8%)
Eastern Dedicated Freight Corridor (EDFC)	FY25 onwards	2A: (0.2%) 3A: (0.7%) MAV: (1.0%)

Source: Steer analysis of OD data, and publicly available information

Impacts-Downside Case

6.47 The downside case impacts included in forecasts are summarised in below.

Table 6.24: Summary of impacts on the Assets

Impact	Year	Dankuni
LoS Improvement	FY25 onwards	CJV: 1.4% LCV: 2.6% 2A: 1.5% 3A: 2.9% MAV: 2.1%
HP Gas pipeline	FY25 onwards	3A: (1.3%) MAV: (7.9%)
Eastern Dedicated Freight Corridor (EDFC)	FY24 onwards	2A: (0.3%) 3A: (1.2 %) MAV: (1.7%)

Source: Steer analysis of OD data, and publicly available information

6.48 The traffic forecast and growth, and revenue incorporating the upside and downside assumptions are presented in the following sections.

Traffic and Revenue Forecasts-Upside case

6.49 Based on the Upside assumptions discussed above, we have modelled the traffic and revenue forecasts for the forecast period for the Assets. The table below presents the MADT/PCU and revenue forecast growth rates and CAGRs on this Assets for Upside case.

6.50 Please note that below tables present the normalised traffic for FY22 (FY21N and FY22N) as detailed above. FY22 also includes the Upside exogenous impacts assumed in FY22. FY21 is not included as there was no historical data available.

Table 6.25: Final (background plus upside impacts) AADT forecast – PD Dankuni*

Vehicle Type	FY22	FY27	FY30	FY32	FY34	FY36	FY39
CJV	10,219	15,635	19,737	22,334	24,355	26,259	28,923
Mini LCV	2,061	2,485	2,769	2,932	3,051	3,158	3,301
Bus	948	1,102	1,201	1,258	1,299	1,335	1,383
LCV	4,030	5,066	5,645	5,977	6,220	6,439	6,730
2A	3,519	4,570	5,239	5,628	5,916	6,176	6,524
3A	4,055	5,554	6,479	7,043	7,464	7,848	8,364
MAV	5,450	7,799	9,278	10,323	11,119	11,856	12,866
OSV	2	3	4	4	5	5	5
AADT	**30,282**	**42,213**	**50,351**	**55,499**	**59,429**	**63,076**	**68,097**
PCU's	**68,421**	**94,503**	**1,11,497**	**1,22,490**	**1,30,832**	**1,38,528**	**1,49,054**

Source: Steer analysis,* FY21 not included as there was no historical data available

Table 6.26: Final (background plus upside impacts) AADT CAGR (%) – PD Dankuni

Vehicle Type	FY22-FY27	FY27-FY30	FY30-FY32	FY32-FY34	FY34-FY36	FY22-FY39
CJV	8.9%	8.1%	6.4%	4.4%	3.8%	6.3%
Mini LCV	3.8%	3.7%	2.9%	2.0%	1.7%	2.8%
Bus	3.1%	2.9%	2.3%	1.6%	1.4%	2.2%
LCV	4.7%	3.7%	2.9%	2.0%	1.7%	3.1%
2A	5.4%	4.7%	3.7%	2.5%	2.2%	3.7%
3A	6.5%	5.3%	4.3%	2.9%	2.5%	4.4%
MAV	7.4%	6.0%	5.5%	3.8%	3.3%	5.2%
OSV	8.1%	7.8%	6.1%	4.2%	3.6%	5.9%
AADT	**6.9%**	**6.1%**	**5.0%**	**3.5%**	**3.0%**	**4.9%**
PCU's	**6.7%**	**5.7%**	**4.8%**	**3.3%**	**2.9%**	**4.7%**

Source: Steer analysis

Table 6.27: Final (background plus upside impacts) revenue (INR crores) forecast – PD Dankuni

Vehicle Type	FY22	FY27	FY30	FY32	FY34	FY36	FY39
CJV	26.0	54.7	81.3	103.6	125.1	151.6	195.9
Mini LCV	5.2	8.7	11.4	13.6	15.7	18.2	22.4
Bus	6.3	11.5	14.8	17.3	19.9	22.9	27.9

Vehicle Type	FY22	FY27	FY30	FY32	FY34	FY36	FY39
LCV	17.7	30.9	40.6	48.3	55.9	64.7	79.3
2A	32.8	57.0	76.9	92.1	108.1	126.0	156.8
3A	54.3	100.1	137.1	166.1	196.0	231.3	288.5
MAV	94.9	188.9	264.0	328.5	393.7	469.2	599.7
OSV	0.0	0.1	0.1	0.1	0.2	0.2	0.3
Total Revenue	**237.3**	**452.0**	**626.3**	**769.7**	**914.5**	**1,084.2**	**1,370.7**

Source: Steer analysis

Table 6.28: Final (background plus upside impacts) revenue CAGR (%) – PD Dankuni

Vehicle Type	FY22-FY25	FY25-FY28	FY28-FY31	FY31-FY35	FY35-FY39	FY22-FY39
CJV	16.1%	14.1%	12.9%	9.9%	10.1%	12.6%
Mini LCV	10.7%	9.5%	9.2%	7.3%	7.9%	8.9%
Bus	12.9%	8.6%	8.1%	7.4%	7.2%	9.2%
LCV	11.8%	9.5%	9.1%	7.5%	7.6%	9.2%
2A	11.7%	10.5%	9.5%	8.3%	8.0%	9.6%
3A	13.0%	11.1%	10.1%	8.6%	8.6%	10.3%
MAV	14.8%	11.8%	11.5%	9.5%	9.2%	11.5%
OSV	15.6%	13.7%	12.2%	9.8%	9.6%	12.2%
Total Revenue	**13.8%**	**11.5%**	**10.9%**	**9.0%**	**8.9%**	**10.9%**

Source: Steer analysis

Traffic and Revenue Forecasts-Downside case

6.51 Based on the downside assumptions discussed above, we have modelled the traffic and revenue forecasts for the forecast period for the Assets. The table below presents the MADT/PCU and revenue forecast growth rates and CAGRs on this Assets for Downside case.

6.52 Please note that below tables present the normalised traffic for FY22 (FY21N and FY22N) as detailed above. FY22 also includes the Downside exogenous impacts assumed in FY22. FY21 is not included as there was no historical data available.

Table 6.29: Final (background plus downside impacts) AADT forecast – PD Dankuni*

Vehicle Type	FY22	FY27	FY30	FY32	FY34	FY36	FY39
CJV	10,219	13,148	15,059	16,396	17,749	18,944	20,726
Mini LCV	2,061	2,300	2,448	2,546	2,640	2,720	2,835
Bus	948	1,035	1,088	1,123	1,156	1,184	1,224
LCV	4,030	4,613	4,910	5,106	5,295	5,456	5,685
2A	3,519	4,111	4,456	4,686	4,909	5,099	5,370
3A	4,055	4,812	5,286	5,605	5,917	6,184	6,568
MAV	5,450	6,236	7,034	7,580	8,125	8,599	9,290
OSV	2	3	3	3	3	4	4
AADT	**30,282**	**36,257**	**40,284**	**43,044**	**45,795**	**48,190**	**51,702**

Vehicle Type	FY22	FY27	FY30	FY32	FY34	FY36	FY39
PCU's	**68,421**	**80,315**	**89,028**	**94,965**	**1,00,857**	**1,05,961**	**1,13,396**

Source: Steer analysis,* FY21 not included as there was no historical data available

Table 6.30: Final (background plus downside impacts) AADT CAGR (%) – PD Dankuni

Vehicle Type	FY22-FY27	FY27-FY30	FY30-FY32	FY32-FY34	FY34-FY36	FY22-FY39
CJV	5.2%	4.6%	4.3%	4.0%	3.3%	4.2%
Mini LCV	2.2%	2.1%	2.0%	1.8%	1.5%	1.9%
Bus	1.8%	1.7%	1.6%	1.5%	1.2%	1.5%
LCV	2.7%	2.1%	2.0%	1.8%	1.5%	2.0%
2A	3.2%	2.7%	2.5%	2.4%	1.9%	2.5%
3A	3.5%	3.2%	3.0%	2.7%	2.2%	2.9%
MAV	2.7%	4.1%	3.8%	3.5%	2.9%	3.2%
OSV	4.8%	4.5%	4.2%	3.9%	3.2%	4.1%
AADT	**3.7%**	**3.6%**	**3.4%**	**3.1%**	**2.6%**	**3.2%**
PCU's	**3.3%**	**3.5%**	**3.3%**	**3.1%**	**2.5%**	**3.0%**

Source: Steer analysis

Table 6.31: Final (background plus downside impacts) revenue (INR crores) forecast – PD Dankuni

Vehicle Type	FY22	FY27	FY30	FY32	FY34	FY36	FY39
CJV	25.4	43.0	55.3	65.0	77.1	89.0	108.8
Mini LCV	5.1	7.5	9.0	10.1	11.5	12.8	14.9
Bus	6.2	10.1	12.0	13.5	15.0	16.6	19.2
LCV	17.4	26.2	31.5	35.9	39.7	44.4	52.1
2A	32.6	47.7	58.3	66.9	75.7	85.0	100.4
3A	53.5	80.2	99.5	115.6	131.0	148.3	176.4
MAV	93.9	140.7	179.3	209.2	243.0	278.5	335.9
OSV	0.0	0.1	0.1	0.1	0.1	0.1	0.2
Total Revenue	**234.2**	**355.5**	**444.9**	**516.4**	**593.2**	**674.6**	**807.8**

Source: Steer analysis

Table 6.32: Final (background plus upside impacts) revenue CAGR (%) – PD Dankuni

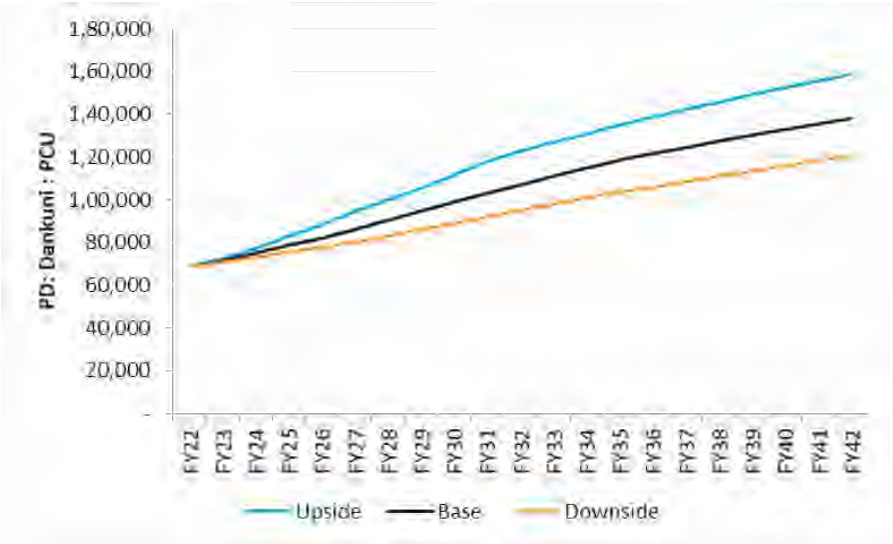
Vehicle Type	FY22-FY25	FY25-FY28	FY28-FY31	FY31-FY35	FY35-FY39	FY22-FY39
CJV	11.1%	8.7%	8.4%	9.0%	7.4%	8.9%
Mini LCV	8.0%	6.1%	6.0%	6.6%	5.5%	6.5%
Bus	10.2%	5.8%	5.9%	5.5%	5.2%	6.9%
LCV	8.5%	6.4%	6.9%	5.1%	5.7%	6.7%
2A	7.9%	6.9%	7.1%	6.4%	5.9%	6.8%
3A	8.4%	7.5%	7.8%	6.4%	6.4%	7.3%
MAV	8.4%	8.4%	8.0%	7.8%	7.1%	7.8%

Vehicle Type	FY22-FY25	FY25-FY28	FY28-FY31	FY31-FY35	FY35-FY39	FY22-FY39
OSV	10.7%	8.8%	8.6%	8.0%	7.4%	8.7%
Total Revenue	**8.7%**	**7.8%**	**7.7%**	**7.2%**	**6.6%**	**7.6%**

Source: Steer analysis

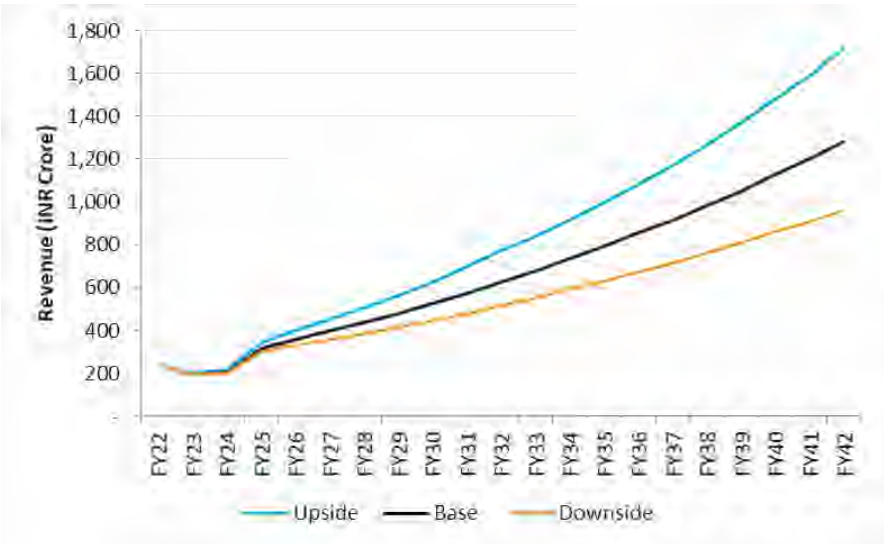
6.53 The following charts shows comparison of traffic and revenue forecasts with the Upside and downside scenarios presented in sections above.

Figure 6.4: Final AADT forecast including Upside and Downside scenarios



Source: Steer analysis

Figure 6.5: Final Revenue forecast including Upside and Downside scenarios



Source: Steer analysis

Target traffic and modification of concession period

6.54 As per the article 29 subsection 29.1.1 of the concession agreement, there are three target traffic dates defined for the asset and are presented in table below. The Actual Average Traffic

for the asset will be calculated based on the average of the daily PCUs for 365 days prior to the Target Date as per table below.

Table 6.33: Target traffic dates for the asset as per concession agreement

Target Date	Target traffic (PCUs)	Remaining concession period
1st May 2026	65,830	12
1st May 2031	84,018	7
1st May 2036	107,270	2

Source: Concession agreement

6.55 As per concession agreement, if the Actual Average Traffic exceeds the Target Traffic by more than five percent, then for every one percent increase as compared to the Target Traffic, the Concession Period shall be reduced by one percent thereof; provided that such reduction in Concession Period shall not in any case exceed twenty percent of the total Concession Period. For increase in traffic in fraction of one percent or part thereof beyond 5% variation shall result in decrease in Concession period on pro-rata basis. Also, the subsequent Target Traffics as specified in 29.1.1 and presented in table above shall also be increased by the same percentage.

6.56 We have used the average AADT forecast for target year, previous year and following year as a proxy for 'actual traffic.' We have used forecast seasonality of May month to adjust for seasonal trends and arrive at May traffic from AADT traffic and the analysis is presented below.

Table 6.34: Target Traffic

Target month	Estimated traffic (PCUs)			Average traffic	Target traffic	Variation (%)
	FY25	**FY26**	**FY27**	**(PCUs)**	**(PCUs)**	
May-26	**78,643**	**81,929**	**86,214**	**82,262**	65,830	24.96%

Source: Steer analysis

6.57 As presented in table above, the actual traffic PCUs are 24.96% greater than the Target traffic PCUs included in subsection 29.1.1 of the concession agreement. Therefore, as described above in section 6.57 based on concession agreement clause 29.2.2, the total concession period will be shortened by 20% (maximum cap) of remaining concession period at that target date (12 years). According to the CA, based on the variation of traffic, the concession period is expected to be shortened by 2.4 years (till FY36).

Summary outlook

6.58 Palsit Dankuni asset is part of the GQ corridor connecting key large urban centres and industrial agglomerations of Durgapur, Asansol, and Kolkata. In addition, the Asset also caters to the long distance NH19 GQ movement which connects northern parts of the country to West Bengal and other eastern states.

6.59 The asset benefits from the industrial and mining clusters of these cities specifically specialising in Steel, rail locomotive parts, cement, chemicals and petroleum related products. In addition, the presence of large urban and rural population aides the consumption demand generated by these cities. Corridor being located in the near vicinity of Hooghly river which feeds into Bay of Bengal, the land is extremely fertile thereby aiding the agriculture production particularly rice in the region. All these factors aid the traffic profile of the Asset and will continue to contribute to the growth of the Asset.

6.60 The asset connects Haldia port with central and northern states of country including Bihar, Jharkhand, Uttar Pradesh and Punjab. These states rely heavily on Haldia port for petroleum and coal imports to meet their manufacturing and mobility related demands. Further, the asset has unique advantage of no competing route for the traffic moving between Haldia Port and northern states thereby strengthening the growth prospects of the asset.

6.61 Kolkata, on southern end of asset, biggest tourism centre in the state known for Durga Puja celebrations, Kolkata Book Fair, and Victoria Memorial among other attractions. The religious and tourism related activities are further expected to generate demand on the asset.

6.62 The proposed HPCL gas pipeline is a potential risk for 3A and MAV traffic carrying LPG gas from Haldia port to HPCL's bottling plant in Panagarh. Once the pipeline comes up, the need for transporting would decline along with the decrease in number of trucks on the asset.

6.63 Based on the estimates, the current 68,421 PCU levels in FY22 are already exceeding its first target traffic level of 65,830 PCUs slated for FY26. This will result in reduction of concession period by 20% or 2.4 years to FY36 from FY38 based on calculations mentioned in Article 29.1 of the concession agreement.

6.64 It has been observed that even though traffic across the country saw significant impact of Covid 19 impact and dropped up to 70% of pre-Covid19 levels during Q2FY21, only to recover during the second half of the year, this Assets saw a growth and subsequent stabilisation of traffic volumes. The impact is much more on passenger vehicles as all the tourism related activities were completely stopped in the Area. Similar decline is traffic was seen due to 2nd wave which impacted CJV and Bus traffic the most, however the good vehicle performance remained good with less reduction in traffic volumes. It is expected that by Q2FY22 the traffic across all vehicle types should return to normal trends as was after the first wave of Covid19.

6.65 With regards to the short-term background growth, we see the following risk:

- The nascent recovery from the pandemic could be subdued due stronger lockdowns being implemented and traffic growth not sustaining the coming months. However as it was observed in FY21 that a very a strong recovery of traffic took place once the nationwide lockdown was relaxed. This included pent up demand from the lockdown period giving a major boost to traffic in FY21. It can be expected that a similar pattern, albeit to a much smaller extent, could repeat itself in FY22 with the first quarter being more subdued and the follow three quarters seeing stronger recovery.

- The underlying strengthening and sustainability of the wider economic growth, particularly for sectors like tourism, industry and agriculture could see a major comeback in the second part of FY22 resulting in increased activity in the corridor.

6.66 We expect that the implementation of FASTag rules, will also help in improving the operational efficiency and overall compliance levels on the Assets and overall corridor, thereby resulting in an improved level of service for all users.

Appendices

A Detailed forecasts

A.1 Further to the summary of forecasts presented in Chapter 6, this appendix presents detailed forecasts.

Traffic forecasts

A.2 This section presents the detailed traffic forecasts for the forecast period until FY39, year of expected close of the concession. The following two tables show the traffic growth rates and AADT, respectively.

TP1 Dankuni

Table A.1: Forecasts for final (background + impacts) AADT – TP1 Dankuni

Vehicle Category	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
CJV	10,219	10,822	11,550	12,443	13,275	14,273	15,181	16,128	17,117
Mini LCV	2,061	2,116	2,181	2,248	2,316	2,385	2,454	2,524	2,594
Bus	948	968	992	1,016	1,041	1,066	1,090	1,115	1,140
LCV	4,030	4,138	4,264	4,470	4,606	4,823	4,963	5,103	5,245
2A	3,519	3,642	3,782	3,970	4,121	4,323	4,483	4,646	4,811
3A	4,055	4,221	4,398	4,664	4,848	5,143	5,365	5,592	5,824
MAV	5,450	5,737	6,042	6,311	6,556	6,851	7,232	7,626	8,032
OSV	2	2	2	2	3	3	3	3	3
Total	**30,282**	**31,647**	**33,211**	**35,124**	**36,766**	**38,867**	**40,772**	**42,738**	**44,767**
PCU	**68,421**	**71,465**	**74,844**	**78,757**	**82,045**	**86,330**	**90,454**	**94,697**	**99,066**

Source: Steer analysis

Table A.2: Forecasts for final (background + impacts) AADT – TP1 Dankuni

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39
CJV	18,021	18,932	19,842	20,747	21,647	22,393	23,127	23,847	24,556
Mini LCV	2,656	2,717	2,777	2,834	2,890	2,935	2,979	3,021	3,062
Bus	1,162	1,183	1,204	1,224	1,243	1,259	1,274	1,288	1,302
LCV	5,372	5,495	5,615	5,731	5,844	5,936	6,024	6,110	6,192
2A	4,958	5,103	5,244	5,381	5,515	5,624	5,728	5,829	5,927
3A	6,032	6,238	6,439	6,636	6,828	6,985	7,136	7,283	7,425
MAV	8,401	8,769	9,132	9,491	9,845	10,136	10,418	10,694	10,963
OSV	3	4	4	4	4	4	4	4	5

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39
Total	**46,606**	**48,440**	**50,256**	**52,048**	**53,817**	**55,272**	**56,691**	**58,078**	**59,432**
PCU	**1,03,012**	**1,06,938**	**1,10,814**	**1,14,629**	**1,18,383**	**1,21,463**	**1,24,460**	**1,27,379**	**1,30,222**

Source: Steer analysis

Revenue forecasts

A.3 The following table presents the year-wise annual revenue forecasts for the forecast period until FY39.

TP1 Dankuni

Table A.3: Revenue forecasts for final (background + impacts) AADT – TP1 Dankuni

Vehicle Category	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
CJV	26	21	23	37	43	48	54	60	67
Mini LCV	5	4	4	7	7	8	9	9	10
Bus	6	5	6	9	10	11	12	12	13
LCV	18	15	15	23	26	29	31	33	36
2A	33	27	28	42	47	52	57	61	66
3A	54	45	46	70	80	90	98	106	116
MAV	94	80	85	129	146	160	177	196	217
Total	**236**	**197**	**206**	**317**	**359**	**397**	**437**	**479**	**526**

Source: Steer analysis

Table A.4: Revenue forecasts (background + impacts) AADT – TP1 Dankuni

Vehicle Category	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39
CJV	73	81	90	97	106	117	124	135	146
Mini LCV	11	12	13	13	14	15	16	17	18
Bus	14	15	16	17	18	20	21	22	23
LCV	38	41	44	47	50	54	57	60	64
2A	72	78	84	90	97	104	110	118	125
3A	126	137	148	160	173	185	199	211	226
MAV	237	260	283	308	334	362	388	418	449
Total	**573**	**625**	**677**	**733**	**793**	**856**	**915**	**981**	**1,050**

Source: Steer analysis

B Top 10 OD Pairs

B.1 Further to the OD analysis presented in Chapter 3 this appendix presents the top 10 OD pairs at each toll plaza. Please see this data for both CJVs and MAVs and OSVs combined below.

Table B.1: 3A/MAV top 10 OD pair shares – PD Dankuni

	OD Pair	Share
1.	Kolkata city-Burdwan	12.33%
2.	Kolkata city-Durgapur city	11.53%
3.	Haldia port-Bihar	10.20%
4.	Kolkata city-Bihar	5.00%
5.	Dankuni-Burdwan	3.01%
6.	Dankuni-Durgapur city	2.86%
7.	Burdwan-Howrah	2.21%
8.	Haldia port-Uttar Pradesh	2.12%
9.	Kolkata city-Darjeeling	1.86%
10.	Haldia port-Nepal	1.78%

Source: Steer analysis

C Data collection exercise

C.1 To validate and inform various inputs used in our forecasting, we undertook primary data collection on the Asset. OD survey data was collected on behalf of the Client, TVC surveys were commissioned by Steer with a third party. OD data collection typically involves manual data entry by enumerators based on oral surveys with road users crossing toll plazas. TVC data collection involves video-graphic capture of traffic passing crossing the toll plazas, followed by manual counting.

7 days TVC count

Table C.1: 7-day TVC counts – PD Dankuni

Date	Source	CJV	Mini LCV	LCV	Bus	2 Axle	3 Axle	MAV	OSV	Total
28-06-2021	TVC	10,174	1,773	3,618	223	2,978	2,816	4,481	2	26,065
29-06-2021	TVC	8,618	1,994	3,975	203	3,023	3,164	4,876	-	25,853
30-06-2021	TVC	9,102	2,053	3,996	234	3,109	3,105	4,871	2	26,472
01-07-2021	TVC	8,464	1,977	3,945	427	3,184	3,174	4,819	4	25,994
02-07-2021	TVC	10,311	2,057	3,782	537	2,903	3,102	4,989	1	27,682
03-07-2021	TVC	10,258	2,140	4,047	567	3,124	3,204	5,228	-	28,568
04-07-2021	TVC	11,100	1,723	3,060	548	3,115	3,185	4,754	7	27,492

Source: Steer analysis

Table C.2: 7-WADT TVC vs TMS

Toll plaza	Source	CJV	LCV	Bus	2A	3A/MAV	OSV	Total
PD Dankuni	TVC	9,718	3,775	391	3,062	3,107	2	26,875
	TMS	-	-	-	-	-	-	-
	Schedule N	-	-	-	-	-	-	-

Source: Steer analysis

Zone list

Table C.3: Zone list used for OD analysis - PD Dankuni

Zone No	Zone Name	Description/State
1	Kolkata city	West Bengal
2	Howrah city	West Bengal
3	Dhulagori, Sankrail	West Bengal
4	Baigachi	West Bengal

Zone No	Zone Name	Description/State
5	Belanagar	West Bengal
6	Dankuni	West Bengal
7	Dankunibil	West Bengal
8	Kapashanria, Boripara, Sahana	West Bengal
9	Bora Bazar, Bora,Borai	West Bengal
10	Singur	West Bengal
11	Rattanpur	West Bengal
12	Beraberi, Khaser bheri, Sinher Bheri	West Bengal
13	Mahisatikri	West Bengal
14	Kangai	West Bengal
15	Tamila	West Bengal
16	Holda	West Bengal
17	Gopalpur	West Bengal
18	Genraghata, Belut, Rasulpur	West Bengal
19	Palsit	West Bengal
20	Saktigarh	West Bengal
21	Burdwan	West Bengal
22	Panagarh	West Bengal
23	Durgapur city	West Bengal
24	Raniganj	West Bengal
25	Asansol	West Bengal
26	Haldia port	West Bengal
27	Paradeep port	West Bengal
28	Dhamra port	West Bengal
29	Alipurduar	West Bengal
30	Bankura	West Bengal
31	Birbhum	West Bengal
32	Cooch Behar	West Bengal
33	Dakshin Dinajpur (South Dinajpur)	West Bengal
34	Darjeeling	West Bengal
35	Hooghly	West Bengal
36	Howrah	West Bengal
37	Jalpaiguri	West Bengal
38	Jhargram	West Bengal
39	Kalimpong	West Bengal
40	Kolkata	West Bengal
41	Malda	West Bengal

Zone No	Zone Name	Description/State
42	Murshidabad	West Bengal
43	Nadia	West Bengal
44	North 24 Parganas	West Bengal
45	Paschim Medinipur (West Medinipur)	West Bengal
46	Paschim (West) Burdwan (Bardhaman)	West Bengal
47	Purba Burdwan (Bardhaman)	West Bengal
48	Purba Medinipur (East Medinipur)	West Bengal
49	Purulia	West Bengal
50	South 24 Parganas	West Bengal
51	Uttar Dinajpur (North Dinajpur)	West Bengal
52	Dhanbad	Jharkhand
53	Bokaro	Jharkhand
54	Hazaribagh	Jharkhand
55	Jamtara	Jharkhand
56	Ranchi	Jharkhand
57	Rest of Jharkhand	Jharkhand
58	Bihar	Bihar
59	Chhattisgarh	Chhattisgarh
60	Odisha	Odisha
61	Gujarat	Gujarat
62	Rajasthan	Rajasthan
63	NCT of Delhi	NCT of Delhi
64	Haryana	Haryana
65	Madhya Pradesh	Madhya Pradesh
66	Punjab	Punjab, Chandigarh
67	Himachal Pradesh	Himachal Pradesh
68	Uttarakhand	Uttarakhand
69	Jammu & Kashmir	Jammu and Kashmir
70	Kanpur	Kanpur
71	Lucknow	Lucknow
72	Uttar Pradesh	Uttar Pradesh
73	West Bengal	West Bengal
74	Andhra Pradesh	Andhra Pradesh
75	Karnataka	Karnataka
76	Kerala	Kerala
77	Tamil Nadu	Tamil Nadu

Zone No	Zone Name	Description/State
78	Telangana	Telangana
79	Arunachala Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Tripura, Sikkim	Eastern states
80	Goa	Goa
81	Nepal	Nepal
82	Bangladesh	Bangladesh
83	Bhutan	Bhutan

Source: OD data

D Vehicle Classification Chart

Vehicle Type	Description
2-Wheeler	
Auto-Rickshaw	
Car/Jeep/Van	
Taxi- shared/private	
Buses (govt/Pvt)	
Mini Bus	
Mini LCV	

Vehicle Type	Description
LCV 4 Tyre	
LCV 6 Tyre	
2 Axle Truck	
3 Axle Truck	
4 Axle Truck (MAV)	
5 Axle Truck (MAV)	
6 Axle Truck (MAV)	

Vehicle Type	Description
Oversized Vehicle/ Earth moving equipment (OSV)	

Control Information

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Version control/issue number	**Date**
V1.0 Draft	October 2021

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ANNEXURE C

PDTPL VALUATION REPORT

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SUNIT KHANDELWAL
Registered Valuer under Companies (Registered Valuers and Valuation) Rules, 2017
IBBI Registration No. IBBI/RV/05/2018/10426
Asset class: Securities or Financial Assets

Valuation report

Valuation date: 31 December 2021
Report date: 03 April 2022

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1. Contents

2. Definitions, abbreviations & glossary of terms 4
3. Background 5
3.1 Brief Background and Purpose 5
3.1.1 IRB Infrastructure Developers Limited ("IRBIDL") is a listed infrastructure development company, undertaking development of various infrastructure projects via the Public Private Partnership model in the toll road sector. 5
3.1.2 IRBIDL is one of the largest infrastructure development and construction companies in India in the roads and highways sector. It was incorporated on July 27,1998 and is based in Mumbai, India 5
3.1.3 IRBIDL's Build Operate and Transfer ("BOT") infrastructure development business involves the construction, development, operation and maintenance of road projects. 5
3.1.4 We understand that IRBIDL has proposed to transfer PDTPL to Private InvIT and accordingly the valuation of PDTPL is required in accordance with Regulation 21(8)(a) of Securities Exchange Board of India (Infrastructure Investment Trusts) Regulations, 2014 ("SEBI InvIT Regulations"). ("**Proposed Transaction**"). 5
3.1.5 In this this regard, the Valuer has been appointed to determine Enterprise Value ("EV") of the PDTPL on a stand-alone basis under the SEBI InvIT Regulations along with equity valuation of the Trust as on 31 December 2021 ("Valuation Date"). 5
4. Sources of Information 6
4.1 Details of Site Visit 6
5. Exclusions and Limitations 7
5.1 Context and Purpose 7
5.2 Restricted Audience 7
5.3 Limitation Clause 8
6. Overview of the SPV 11
6.1 Palsit Dankuni Tollway Private Limited ("PDTPL" or "Palsit Dhankuni") 11
7. Industry Overview 12
7.1 Indian Economy 12
7.2 Infrastructure Sector in India 12
7.3 Road and Highway Sector in India (Sector background) 13
7.4 Sector Trends 13
7.5 Momentum in Expansion of Roadways 13
7.6 Private Financing under Public Private Partnership (PPP) 14
7.7 Evolution of PPP in road sector in India 15
7.8 Policy Initiatives 16
7.9 Budgetary Outlay for Roads 17
7.10 COVID-19 lockdown 17
7.11 Way Forward (Outlook) 18
8. Valuation Approach 18

9. Valuation Analysis 20
10. Valuation of the SPV 23
10.1 PDTPL 23
11. CONCLUSION 25
11.1.1 Based on the foregoing, and on a consideration of all the relevant factors and circumstances as discussed and outlined hereinabove, we have computed the following value: 26
11.1.2 Accordingly, the value of each credited and fully paid-up equity shares of Palsit Dhankuni Tollway Private Limited as of 31 December 2021 to be be INR 87,447.23/- (Indian Rupees Eighty-Seven Thousand Four Hundered and Forty-Seven Point Two-Three Only) (face value per unit: INR 10/-). 26
12. Annexures 27
12.1 Annexure I PDTPL – Table 1: List of one-time sanctions/approvals 29
12.2 Annexure II PDTPL – Table 2 List of ongoing material litigations or litigations where financial implication cannot be ascertained 29
12.3 Annexure III – Comparable companies' description 29
12.4 Annexure IV – Parties to the InvIT 29

2. Definitions, abbreviations & glossary of terms

Abbreviations	Definitions/Meaning
BOT	Build, Operate and Transfer
CAGR	Compounded Annual Growth Rate
CCM	Comparable Companies Multiple
CTM	Comparable Transaction Multiple
DCF	Discounted Cash Flow
EV	Enterprise value
IBBI	Insolvency and Bankruptcy Board of India
ICAI	Institute of Chartered Accountants of India
INR	Indian Rupees
IRBIDL	IRB Infrastructure Developers Limited
IRR	Internal rate of return
Kms	Kilometres
Management	Management or representative of the Company/Target
NAV	Net Asset Value
NHAI	National Highways Authority of India
PAT	Profit After Tax
PBT	Profit before Tax
PDTPL or Asset or SPV	Palsit Dhankuni Tollway Private Limited
Private InvIT	IRB Infrastructure Trust
SEBI InvIT Regulations	Securities Exchange Board of India (Infrastructure Investment Trusts) Regulations, 2014
Steer	Steer Davies Gleave India Private Limited
Valuer or I or me or my	Sunit Khandelwal
You or Client or Company	IRB Infrastructure Trust

3. Background

3.1 Brief Background and Purpose

3.1.1 IRB Infrastructure Developers Limited ("IRBIDL") is a listed infrastructure development company, undertaking development of various infrastructure projects via the Public Private Partnership model in the toll road sector.

3.1.2 IRBIDL is one of the largest infrastructure development and construction companies in India in the roads and highways sector. It was incorporated on July 27,1998 and is based in Mumbai, India.

3.1.3 IRBIDL's Build Operate and Transfer ("BOT") infrastructure development business involves the construction, development, operation and maintenance of road projects.

3.1.4 We understand that IRBIDL has proposed to transfer PDTPL to Private InvIT and accordingly the valuation of PDTPL is required in accordance with Regulation 21(8)(a) of Securities Exchange Board of India (Infrastructure Investment Trusts) Regulations, 2014 ("SEBI InvIT Regulations"). ("**Proposed Transaction**").

3.1.5 In this this regard, the Valuer has been appointed to determine Equity Value of the PDTPL on a stand-alone basis under the SEBI InvIT Regulations as on 31 December 2021 ("Valuation Date") as per letter of engagement (LOE) dated 13 January 2022 read along with addendum dated 14 January 2022 to this LOE.

4. Sources of Information

We have relied on the following sources of information:

- As provided by the Management:
  - Concession agreement between PDTPL and National Highways Authority of India ("NHAI"), dated June 2021
  - Unaudited financial statements of PDTPL as on 31 December 2021.
  - Financial projections of PDTPL from FY22 till the end of the concession period
  - Traffic study report prepared by Steer Davies Gleave India Private Limited ("Steer") dated September 2021. We have relied on such third-party reports and studies provided to us by the Client
  - Toll rate notification
  - The estimates and timing of the proposed major repairs to be carried out by the Business as provided by the Management.
  - Management has represented that there are no one-time sanctions/ approvals which are obtained or pending for PDTPL.
  - Management has also represented that there are no on-going material litigations including tax litigations in relation to PDTPL.
  - Management has represented that other operating income mentioned in the consolidated management business plan is operating in nature and is on DSRA created for each SPV.
  - Site Visits and Physical inspection of the SPV
  - Other industry related information from various publicly available sources
  - Correspondence with the management of the Company
  - In addition to the above, we have also obtained such other information and explanations from the management, either verbally or in written form, as were considered relevant for the valuation.
  - Publicly available information and information available from proprietary secondary sources.

Please note that with respect to the audited, provisional and projected financial statements, rounding-off of amounts in the underlying financial information could result in immaterial arithmetic differences

The Company has been provided with the opportunity to review the draft Report (excluding the valuation of the Business) as part of our standard practice to make sure that factual inaccuracies / omissions are avoided in our final Report.

4.1 Details of Site Visit

The site visit of the SPV is conducted during the fortnight ending 28 March 2022. Please refer later part of this report for the site photographs of the SPV.

5. Exclusions and Limitations

5.1 Context and Purpose

The Management has appointed the Valuer to determine the Enterprise Value of PDTPL pursuant to the SEBI InvIT Regulations.

This valuation analysis exercise and valuation report are solely for the Purpose mentioned herein in the Report.

5.2 Restricted Audience

This report and the information contained herein are absolutely confidential and are intended for use only in connection with the Purpose set out in the report.

It should not be copied, disclosed, circulated, quoted or referred to, either in whole or in part, in correspondence or in discussion with any other person except to whom it is issued without the written consent of the Valuer. It can however be relied upon and disclosed in connection with any statutory and regulatory filing in connection with the SEBI InvIT Regulations. This report and summary of valuation included herein can be reproduced and included in the statutory filings and may be made available for inspection in the manner specified therein. In the event, if the Client or its management extend the use of the report beyond the Purpose mentioned earlier in the report, with or without the consent of the Valuer, the Valuer will not accept any responsibility to any other party to whom this report may be shown or who may acquire a copy of the report.

It is clarified that this report is not a fairness opinion under any of the stock exchange / listing regulations. In case of any third-party having access to this report, please note that this report is not a substitute for the third party own due diligence / appraisal / enquiries / independent advice that the third party should undertake for its purpose.

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5.3 Limitation Clause

The report is subject to the limitations detailed hereinafter. This Report is to be read in totality, and not in parts, in conjunction with the relevant documents referred to therein.

The scope of the assignment did not include performing audit tests for the purpose of expressing an opinion on the fairness or accuracy of any financial or analytical information that was used during the course of the work. Further, conducting a financial or technical feasibility study was also not covered. During the course of this work, the Valuer has relied upon assumptions and projections related to the SPV made by the management of the Sponsor. These assumptions require exercise of judgment and are subject to uncertainties. Also, the Valuer has relied on the traffic study reports.

Further, this valuation Report is based on the extant regulatory environment and the financial, economic, monetary and business/market conditions, and the information made available to the Valuer or used by the Valuer up to the date hereof, which are dynamic in nature and may change in future, thereby impacting the valuation of the SPV. Subsequent developments in the aforementioned conditions may affect this Report and the assumptions made in preparing this report and the Valuer shall not be obliged to update, review or reaffirm this report if the information provided to the Valuer changes. The information presented in this valuation Report does not reflect the outcome of any due diligence procedures, which may change the information contained herein and, therefore, the valuation Report materially.

Valuation is not a precise science and the conclusions arrived at in many cases will of necessity be subjective and dependent on the exercise of individual judgment. There is therefore no indisputable single value. While the Valuer has provided an assessment of the value based on an analysis of information available and within the scope of engagement, others may place a different value on the businesses.

Valuation is based on estimates of future financial performance or opinions, which represent reasonable expectations at a particular point in time, but such information, estimates or opinions are not offered as prediction or as assurances that a particular level of income or profit will be achieved, a particular event will occur or that a particular price will be offered or accepted. Actual results achieved during the period covered by the prospective financial analysis will vary from these estimates and the variations may be material.

The realization of these projections is dependent on the continuing validity of the assumptions on which they are based. Since the projections relate to the future, actual results are likely to be different from the projected results in case of events and circumstances not occurring as projected and the differences may be material. The Valuer's work did not constitute a validation of the financial projections of the Target under consideration and accordingly, the Valuer does not express any opinion on the same. The Valuer has not commented on the appropriateness of or independently verified the assumptions or Information provided to us for arriving at the financial projections. Further, while the Valuer has discussed the assumptions and projections with the management of the Sponsor, Valuer's reliance on them for the purpose of valuation should not be construed as an assurance about the accuracy of the assumptions or the achievability of the financial projections.

This Report is based on information received from sources mentioned herein and discussions with the management of the Sponsor. This information has not been independently verified by the Valuer. The Valuer has assumed that the Sponsor has furnished all information, which it is aware of concerning the financial statements and respective liabilities, which may have an impact on my report.

The Valuer has not done any independent technical valuation or appraisal or due diligence of the assets or liabilities of the SPV mentioned in this Report and has considered them at the value as

disclosed by the Trust in their regulatory filings or in submissions, oral or written, made to me. Nothing has come to the Valuer's knowledge to indicate that the material provided to the Valuer was misstated or incorrect or would not afford reasonable grounds upon which to base my Report.

The Valuer has not made any independent verification with respect to the Sponsor's claim to title of assets or property for the purpose of this valuation. With respect to claim to title of assets or property, the Valuer has solely relied on representations, whether verbal or otherwise, made by the Management to us for the purpose of this Report.

For the present valuation analysis exercise, the Valuer has also relied upon information available in the public domain; however, the accuracy and timeliness of the same has not been independently verified. Further, the Valuer has not verified the publicly available information cited in this Report.

In the particular circumstances of this case, the Valuer shall be liable only to the Sponsor, the Trust and the Investment Manager. The Valuer shall have no liability (in contract or under statute or otherwise) to any other party for any economic loss or damage arising out of or in connection with this engagement, however the loss or damage is caused other than in cases of fraud, gross negligence or wilful misconduct, or on account of any natural calamities, shall be limited to the amount of fees actually received by the Valuer as laid out in the engagement letter, for such valuation work.

Whilst, all reasonable care has been taken to ensure that facts stated in the Report are accurate and opinions given are fair and reasonable, neither the Valuer, nor any of the Valuer's team member shall in any way be responsible for the management content, third party content or other any content sourced from publicly available information, stated herein. Accordingly, the Valuer makes no representation or warranty, express or implied, in respect of the completeness, authenticity or accuracy of such content. The Valuer expressly disclaim any and all liabilities, which may arise based upon such content used in this Report.

This Report does not look into the business / commercial reasons behind the transaction nor the likely benefits arising out of the same. Similarly, it does not address the relative merits of investing in InvIT as compared with any other alternative business transaction, or other alternatives, or whether or not such alternatives, or whether or not such alternatives could be achieved or are available. The assessment of commercial and investment merits of the Trust are sole responsibility of the investors of the Trust and the Valuer does not express opinion on the suitability or otherwise of entering into any financial or other transactions with the Investment Manager, the Trust or the Sponsor.

The Valuer is not advisor with respect to legal tax and regulatory matters for the transaction. No investigation of the SPV claim to title or assets has been made for the purpose of this Report and the SPVs' claim to such right have been assumed to be valid. No consideration has been given to liens or encumbrances against the assets beyond the loans disclosed in the accounts. Therefore, no responsibility is assumed for matters of a legal nature.

Except to the extent required under the SEBI InvIT Regulations and other applicable law, the Valuer is not responsible for matters of legal nature including issues of legal title and compliance with local laws in respect of the SPV and also no consideration has been given to litigation and other contingent liabilities that are not recorded in the financials of the SPV.

The valuation analysis in this Report should not be construed as investment advice; specifically, and the Valuer do not express any opinion on the suitability or otherwise of entering into any financial or other transactions with the Investment Manager, the Trust or any of the SPVs.

The estimate of value contained herein are not intended to represent value of the SPV at any time other than the dates specifically mentioned for each valuation result, as per the agreed scope of

engagement and as required under the SEBI InvIT Regulations.

Our work in preparing the report was undertaken, and our report has been produced in accordance with the terms of engagement between us and the Client. Provision of valuation opinions and consideration of the issues described herein are areas of our regular practice. The services do not represent accounting, assurance, diligence services, or consulting/ tax-related services.

This Valuation Report, its contents, and results herein are specific to (i) the purpose of valuation agreed as per the terms of our engagement along with subsequent discussions with the management; (ii) the date of this Valuation Report, and (iii) are based on the data detailed in the section – Sources of information. An analysis of this nature is necessarily based on the prevailing stock market, financial, economic, and other conditions in general and industry trends in particular, and the information made available to us as of the Valuation Date. Events occurring after the Valuation Date may affect this Valuation Report and the assumptions used in preparing it, and we do not assume any obligation to update, revise or reaffirm this Valuation Report

The outbreak of the COVID-19 pandemic has created significant uncertainty in valuation and accordingly, the Valuer has recommended a degree of caution to the values arrived under current circumstances, as the same may change rapidly depending on the changing market scenario. Due to the outbreak of the COVID-19 pandemic, the valuation exercise undertaken by the Valuer is based on significant assumptions within the valuation approach and methodology, which are based on factors whose outcomes are uncertain and hence, results in lower certainty of the value determined in the Valuation Report, than would otherwise be in this case

Management has represented that the business activities of the Company have been carried out in the normal and ordinary course and that no material adverse change has occurred in operations between the Valuation Date and the date of issue of the Valuation Report

The Valuer is not responsible for updating this Valuation Report because of events or transactions occurring subsequent to the date of issue of this Report

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6. Overview of the SPV

6.1 Palsit Dankuni Tollway Private Limited ("PDTPL" or "Palsit Dhankuni")

Palsit Dankuni Tollway Private Limkited is a toll road asset owned by IRBIDL. It is a 63.8 km long four lane section connecting Dankuni near Kolkata and Palsit near Bardhhaman in the state of West Bengal. The Asset has been recently awarded to the client for upgrade to six lanes from existing four lane configuration. The Asset is part of NH19 Golden Quadrilateral corridor connecting New Delhi in the west with West Bengal in the east.

Concession Period: The concession period for this project is 17 years commencing from 14 June 2021. As per the concession agreement, PDTPL is entitled to collect fees from project highway users, subject to the National Highways fee rules. The toll rates are revised annually on April 1st subject to and in accordance with such fee rules.

Operation and Maintenance: PDTPL is required to carry out the operation and maintenance of this project, and if required, modify, repair or otherwise make improvements to the project highway in accordance with the concession agreement.

Category of Vehicles	Fee For Single Journey (₹)	Fee For Return Journey Within a day (₹)	Fee For Monthly Pass for 50 Single Journey in a month (₹)
Car / Jeep/ Van Light Motor Vehicle	75	110	2440
Light Commercial Vehicle / Light Goods Vehicle/ Mini Bus	120	175	3945
Bus and Truck	250	370	8265
Three Axle Commercial Vehicle	270	405	9015
Heavy Construction Machinery (HCM) / Earth Moving Equipment (EME)/ Multi Axle Vehicle (MAV) (4 to 6 axle)	390	585	12960
Oversized Vehicles (Seven or more axles)	475	710	15775

The key details of PDTPL are as follows:

Particulars	Details
Project name	6 laning of Dankuni to Palsit of NH-79 in West Bengal on BOT (Toll) basis
Name of concessionaire	Palsit Dankuni Tollway Private Limited
State	West Benngal
NH	NH-79
PPP mode	Design, Build, Finance, Operate and Transfer ("DBFOT")
Execution of concession agreement date	Jun 14, 2021
Appointed date	Jan 31, 2022
Provisional Completion certificate date	Jul 29, 2024
Scheduled concession end date	Apr 02, 2039
Original concession period (yrs)	17 years
Expected Concession End Date as per Target traffic – Article 29 of CA	Dec 01, 2038
Tollable length (Kms)	74.72
Toll plaza (No.)	1

The shareholding pattern of PDTPL as on 31 December 2021 is as follows:

Name of shareholder	No. of Shares held	Stake%
IRB Infrastructure Developers Limited	50,000	100
Total	**50,000**	**100**

For the list of approvals and disclosure on litigation please refer annexure I related to the above SPV.

7. Industry Overview

7.1 Indian Economy

India has emerged as the fastest-growing major economy in the world and is expected to be one of the top three economic powers of the world over the next 10-15 years, backed by its strong democracy and partnerships.

Market Size and Growth:

India's GDP (at constant 2011-2012 prices) was estimated at INR 35.73 trillion (US$ 475 billion) for the second quarter of FY21-22, against INR 32.97 trillion (US$ 439 billion) in the second quarter of FY20-21 showing a growth of 8.4 per cent as compared to the 7.4 per cent contraction in the same quarter a year ago.

7.2 Infrastructure Sector in India

The infrastructure sector is a key driver for the Indian economy. The infrastructure sector includes power, bridges, dams, roads, and urban infrastructure development.

Market Size:
According to the Department for Promotion of Industry and Internal Trade (DPIIT), FDIs in the

construction development sector (townships, housing, built-up infrastructure, and construction development projects) and construction (infrastructure) activities stood at US$ 26.14 billion and US$ 25.38 billion, respectively, between April 2000 and June 2021.

7.3 Road and Highway Sector in India (Sector background)

India with a total road network of 6.37 million Km comprises national & state highways and urban & rural roads. Out of this approx. 1.71 lakh Kms are State Highways (SHs) and approx. 1.41 lakh Kms are National Highways (NHs) which account for 3 per cent & 2 per cent of the total roads in India, respectively.

National Highways of 5,835 km length have been constructed in the first nine months of FY 2021-22.

Total Roads	63,71,847 km
National Highways	1,40,995 km
State Highways	1,71,039 km
Other Roads	60,59,813 km

7.4 Sector Trends

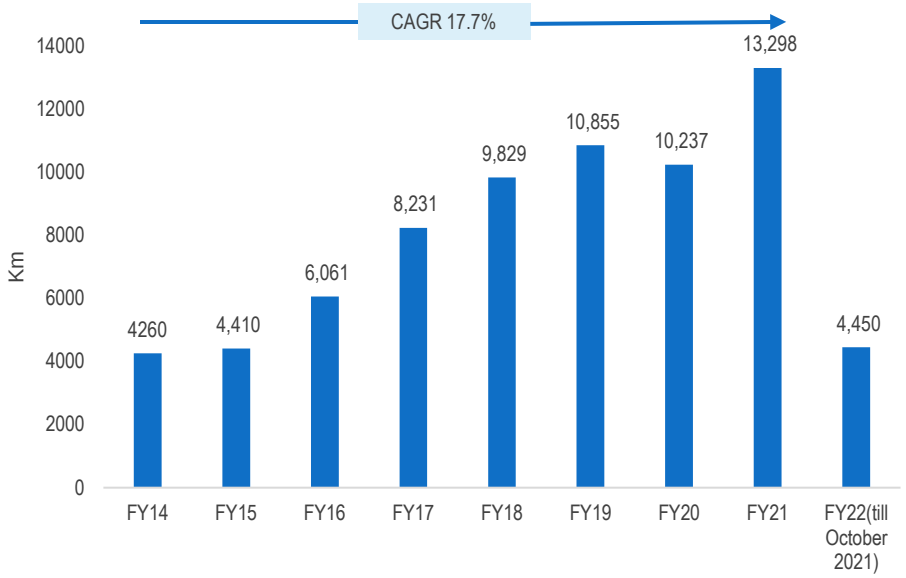
The Government of India has launched major initiatives to upgrade and strengthen National Highways through various phases of the National Highways Development Project (NHDP). The status of various programmes up to 31.12.2021 are as under:

Components / Scheme	Total Length in km	Length completed up to 31.03.2021 in km	Length completed during 01.04.2021 to 31.12.2021 in km	Length Completed up to 31.12.2021 in km
A. BharatmalaPariyojana Phase-I				
Economic Corridors	9,000	1,167	390	1,557
Inter Corridors & Feeder Roads	6,000	348	214	562
National Corridor Efficiency Improvement	5,000	774	238	1,012
Border & International Road Connectivity	2,000	901	219	1,120
Roads	2,000	29	23	52
Expressways	800	267	182	449
Subtotal	**24,800**	**3,486**	**1,266**	**4,752**
Balance road works under NHDP	10,000	1,782	462	2,244
Grand Total	**34,800**	**5,268**	**1,728**	**6,996**
B. Other Schemes				
SARDP-NE (Phase A+Arunachal Pradesh)	6,418	3,828	293	4,121
LWE (including Vijayawada Ranchi Route)	6,085	5,704	37	5,741
EAP(WB+JICA+ADB)	2,855	1,280	126	1,406

Source: https://www.ibef.org/economy/indian-economy-overview; https://www.ibef.org/industry/infrastructure-sector-india.aspx; MoRTH annual report FY 21-22
http://www.news.cn/english/asiapacific/2021-11/30/c_1310343673.htm; https://tradingeconomics.com/india/gdp-constant-prices

7.5 Momentum in Expansion of Roadways

- Highway construction in India increased at 17.7 per cent CAGR between FY14-21. In FY22 (until October), the Ministry of Road Transport and Highways constructed national highways extending 4,450 kms compared with 4,956 kms, as of October 2020.



Source: Road Network in India, ibef.org dated November 2021, https://www.ibef.org/download/Roads-November-2021.pdf

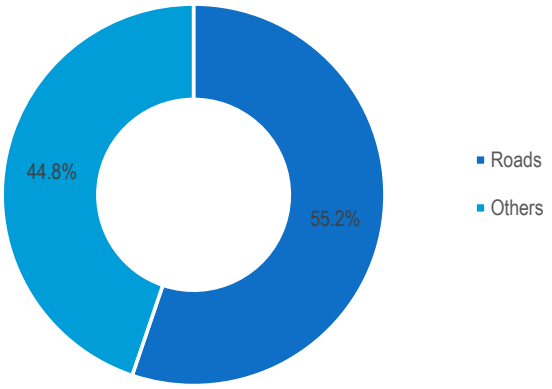
- In May 2021, the Government has set a target of constructing roads worth INR 15 lakh crore (US$ 206 billion) over the next two years.
- The government will use plastic waste for the construction of roads. One of the roads has recently been constructed with plastic waste near Dhaula Kuan (New Delhi) with plans to construct Delhi-Meerut Expressway and Gurgaon-Sohna Road.

7.6 Private Financing under Public Private Partnership (PPP)

The PPP framework was introduced to increase the efficiency of infrastructure projects through long-term collaboration between the public sector and private businesses.

- In FY21, there were 125 PPP projects worth US$ 23.25 billion in India.
- Projects awarded under build-operate-transfer (BOT) were 37.62 per cent of the total awarded projects as of December 2019.
- In August 2020, the Government of India revised the Model Concession Agreement for BOT projects to plug delays by imposing a deadline on the NHAI and incentivizing timely work by concessionaires. According to revised norms, the NHAI will have to hand over 90 per cent of the project land (vacant and ready to build) to private developers, thus creating a more market-friendly sector and attracting more private players.
- In November 2020, L&T Construction bagged a contract to build India's longest river bridge, across the Brahmaputra River connecting Dhubri in Assam to Phulbari in Meghalaya, valued at Rs. 2,500–5,000 crore (US$ 339.76–679.53 million).
- KKR, a global investment firm, announced to acquire the entire stake of Global Infrastructure Partners in Highway Concessions One (HC1) and seven other highway assets totaling 487 kms.

Total PPP Projects in India (as on November 2021)



Source: Road Network in India, ibef.org dated November 2021 https://www.ibef.org/download/Roads-November-2021.pdf

7.7 Evolution of PPP in road sector in India

PPP in the road sector in India has passed through several distinct phases:

- Build- Operate-Transfer:
  It is a form of project financing, wherein a private entity receives a concession from the private or public sector to finance, design, construct, own, and operate a facility stated in the concession contract. This enables the project proponent to recover its investment, operating, and maintenance expenses in the project. But significant improvements in private participation were observed. Private sector participation in BOT projects peaked till Financial Year (FY)12. But a steep decline in PPP participation was observed in FY13 and FY14 with many viable projects unable to attract even a single bid.

- Hybrid Annuity Mode (HAM):
  HAM was introduced to reinvigorate PPP participation in the road sector after interest in BOT projects waned. It has mainly provided advantages to the developers in form of reduction in Initial funding requirements in PPP projects as 60 per cent of the bid project cost is to be arranged by the concessionaire. This reduces the initial equity requirement and encourages participation by mid-sized developers to invest in PPP projects. Further, debt requirements go down from 70 per cent to around 42 per cent of the project cost. The introduction and strong implementation of HAM has seen HAM become the preferred PPP mode in India.

- Toll- Operate- Transfer (TOT)
  TOT is a model for monetising operational national highway projects where investors make a lump sum payment in return for long-term toll collection rights backed by a sound tolling system. Three TOT bundles have been floated by NHAI so far out of which financial closure of one bundle was achieved in August 2018 with the highest bidder bid at least 1.5 times the IECV and for one bundle bid process is ongoing.

  The National Highways Authority of India is looking to tweak the BOT framework as the Government plans to revive the BOT model to make it more attractive to private investors and lenders.

7.8 Policy Initiatives

- The Prime Minister's Gram Sadak Yojana (PMGSY) is a scheme for the development of rural roads in India. The Government of India has succeeded in providing road connectivity to 85 per cent of 178,184 rural habitations. As per Union Budget 2020-21, the Government of India has allocated INR 19,500 crores (US$ 2.79 billion) for PMGSY. As per Union Budget 19-20, 30,000 km of PMGSY roads were built using green technology, waste plastic, and cold-mix technology, thereby reducing carbon footprint.

- The government of India has set up the India Infrastructure Finance Company (IIFCL) to provide long-term funding for infrastructure projects. As per the Union Budget 2019-20, the government proposed to permit investments made by FIIs/FPIs in debt securities issued by Infrastructure Debt Fund – Non-Bank Finance Companies (IDF-NBFCs) to be transferred/sold to any domestic investor within the specified lock-in period.

- The Bhoomi Rashi portal of the Ministry of Road Transport & Highways allows for totally digital and paperless processing of land acquisition cases and has resulted in transparent, quick, corruption-free, and error-free handling of land acquisition cases. With the operation of this Portal, the land acquisition process has been expedited significantly, become error-free and more transparent and the notifications at every stage are being processed on a real-time basis. From 01 April 2018 till 31 December 2020, a total of 6,291 Land Acquisition notifications have been issued and nearly 59,825 hectares of land have been acquired for all National Highway projects.

- In October 2020, a memorandum of understanding (MoU) has been signed with the NHAI by Guru Nanak Dev University (GNDU) to conduct advanced research on various aspects, including highway architecture, protection, and revitalisation, The GNDU will undertake studies on ~137 km length of the National Highways passing through Pathankot, Gurdaspur and Amritsar districts.

- Some of the green initiatives are exemption of electric, ethanol, and methanol vehicles from permit, emission standards for construction equipment vehicles and tractors, linking of PUC data (emission-related data) with the VAHAN database, etc.

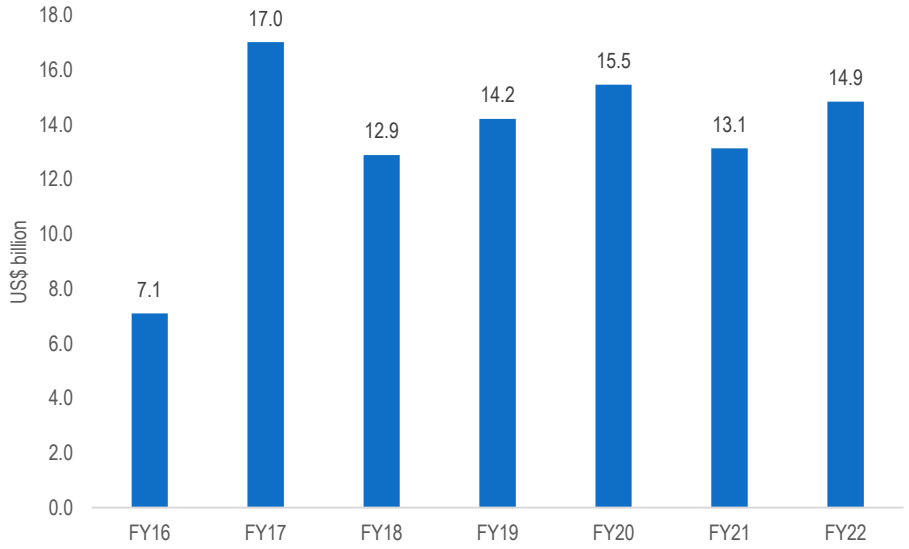
- FASTag is an electronic toll collection system, operated by NHAI. A mobile application has been launched for the purchase of tags and top-up of FASTags. As on 31 December 2020, collectively banks have issued over 2.29 crore FASTags with an average daily ETC transactions of 44.65 lakhs; the average daily collection through ETC has increased to INR 74.32 crore with a penetration of 76 per cent in total fee collection. There are 668 National Highways (NH) fee plazas live with ETC infrastructure in all lanes.

- In October 2021, the Union Cabinet of India approved the PM Gati Shakti National Master Plan including implementation, monitoring, and support mechanism for providing multi-modal connectivity. As a part of the Gati Shakti National Master Plan, the government is planning to launch a geospatial digital platform to facilitate planning and monitoring of projects ranging from telecom networks, gas pipelines to road and railways.

Source: Road Network in India, ibef.org dated November 2021 https://www.ibef.org/download/Roads-November-2021.pdf; MoRTH annual report FY21-22. https://www.ibef.org/industry/infrastructure-sector-india.aspx.

7.9 Budgetary Outlay for Roads

Roadways have been the key focus area for budget allocations over the years. Under the Union Budget 2021-22, the Government of India has allocated Rs. 108,230 crore (US$ 14.85 billion) to the Ministry of Road Transport and Highways.
On October 12, 2020, the government announced that it has constructed 2,921 kms of highways under the Bharatmala Pariyojna. The government envisages building 34,800 kms of highways at a cost of about Rs. 5.35 trillion (US$ 74.15 billion) under the ambitious Bharatmala Pariyojna.
In July 2021, the union minister for Road Transport and Highways laid the foundation stone for 16 National Highway projects in Manipur that will cost US$ 556.67 million to build and will cover a total distance of 298 kms and The Ministry of Road Transport & Highways allocated Rs. 165 crore (US$ 22 million) under the Economic Importance and Inter-State Connectivity Scheme (EIC&ISC) for FY22.
In September 2021, the Ministry of Road Transport and Highways allocated Rs. 7,270 crore (US$ 980.9 million) for road safety programmes in 14 states constitute 85 per cent of the total road fatalities in India
The outlay for roads under respective Union Budgets (USD billion)



Road Network in India, ibef.org dated November 2021 https://www.ibef.org/download/Roads-November-2021.pdf.

7.10 COVID-19 lockdown

- The global construction market size declined from USD 11,217.4 billion in 2019 to USD 10,741.2 billion in 2020. However, the industry is showing signs of recovery since the beginning of 2021 and reaches a market size of USD 13,572.4 billion in 2024, projecting a CAGR of 6.0 per cent between 2020 and 2024.

- The recent spike in COVID-19 cases increases the risk of restrictions on construction activities at the localised level and curtails labour availability at project sites, which could cause short-term disruptions in construction activities. However, an increase in automation in public spaces, government initiatives along with the rising awareness about antibacterial construction materials, is expected to boost the construction industry post-COVID-19 pandemic.

- Given that the sector had faced a more intense effect during the first wave, most companies have improved their preparedness in terms of labour and raw material availability.

Source: https://www.marketwatch.com/press-release/impact-of-covid-19-on-construction-industry-market-revenue-growth-key-players-qualitative-analysis-quantitative-analysis-forecast-up-to-2030-2022-01-20?tesla=y

7.11 Way Forward (Outlook)

- The market for roads and highways has projected a CAGR of 36.16 per cent during 2016-2025, on account of growing government initiatives to improve transportation infrastructure in the country.

- The National Highways Authority of India (NHAI) is expected to award projects worth ~Rs. 2.25 lakh crore (US$ 30.3 billion) with a total length of ~5,000 kms in FY22.

- In the coming years, NHAI's increased delegation autonomy along with the Bharatmala Pariyojana initiative is expected to enable growth in awarding momentum. Overall, more than 61,300 Km of road projects, costing over 6.48 lakh crore, are in progress under the Bharatmala Pariyojana, which will be awarded to the private players in the coming years under different formats.

- A paradigm shift is expected from highway construction/ development to the provision of quality service to highway users, both for freight and passenger transport. Enhanced use of technology applications will be a key requirement here.

- Promoting sustainability will be another significant focus area with increased reliance on e-mobility, use of biofuels, and eco-friendly development/construction. Further, augmenting existing sources of finance to complete the required highway construction in the next five to six years shall also be an important consideration.

- Investment, merger, and acquisition (M&A) activity in the roads sector has picked up pace this year as foreign investors pump in millions of dollars to acquire operating roads and developers look to sell assets to pare debt. About INR 1.4 trillion is estimated to be invested by the private sector between 2018-22 to build new road assets.

8. Valuation Approach

The standard of value used in our analysis is fair value, which is often defined as the price, in terms of cash or equivalent, that a buyer could reasonably be expected to pay, and a seller could reasonably be expected to accept, if the business were exposed for sale on the open market for a reasonable period of time, with both buyer and seller being in possession of the pertinent facts and neither being

under any compulsion to act.

There are several commonly used and internationally accepted methods for determining the fair value of companies, which have been considered in the present case, to the extent relevant and applicable. Accordingly, we have carried out valuation of the SPV as on 31 December 2021.

It should be understood that the valuation of any company or its assets is inherently subjective and is subject to certain uncertainties and contingencies, all of which are difficult to predict and are beyond our control. In performing our analysis, we made assumptions with respect to industry performance and general business and economic conditions, many of which are beyond the control of the SPV. In addition, this valuation will fluctuate with changes in prevailing market conditions, the conditions and prospects, financial and otherwise, of the SPV, and other factors which generally influence the valuation analysis.

The application of any particular method of valuation depends on the purpose for which the valuation is done. Although different values may exist for different purposes, it cannot be too strongly emphasized that a valuer can only arrive at one value for one purpose. Our choice of methodology of valuation has been arrived at using usual and conventional methodologies adopted for transactions of a similar nature and our reasonable judgment, in an independent and bona fide manner is based on our previous experience of assignments of a similar nature.

In respect of going concerns, certain valuation techniques have evolved over time and are commonly in vogue. These can be broadly categorised as follows:

Market Price (MP) Method

The market price of an equity share as quoted on a Stock Exchange is generally considered as the value of the equity shares of that company where such quotations are arising from the shares being regularly and freely traded in, subject to the element of speculative support that may be inbuilt in the value of the shares.

Equity shares of the SPV is not listed on any stock exchange. Hence, this method has not been considered for the purpose of valuation.

Comparable Companies Market Multiple ("CCM") Method

Under this method, the value of the equity shares of a company/ business undertaking is arrived at by using multiples derived from valuations of comparable companies, as apparent through stock market valuations of listed companies. This valuation is based on the principle that market valuations, taking place between informed buyers and informed sellers, incorporate all factors relevant for the assessment of the value of the company.

Relevant multiples need to be chosen carefully and adjusted for differences between the circumstances. We have not considered this method in our valuation analysis in the absence of closely comparable listed companies having similar geographical locations, stage of growth, size, terms and profitability.

Comparable Companies Transaction Multiple ("CTM") Method

Under the CTM method, the value of the equity shares of a company/ business undertaking is arrived at by using the prices implied by reported transactions/ deals of comparable companies.

Relevant multiples need to be chosen carefully and adjusted for differences between the circumstances.

We have not been able to identify any comparable company to the SPV for which a transaction has taken place in the last one year. We believe that the older transactions are not relevant for our

valuation considering share price movements and changes in the macro-economic situation in India. Also, transactions multiples as times tend to be biased due to premium which may be embedded in the price for strategic benefits and synergies which an acquirer may perceive in the target. Accordingly, we have not applied the Comparable Transactions Multiple Method for the valuation of the SPV.

Net Asset Value (NAV) Method

The asset-based valuation technique is based on the value of the underlying net assets of the business either on a book value basis or realisable value basis or replacement cost basis. The cost approach assumes that a prudent investor would pay no more for an entity than the amount for which he could replace or re-create it or an asset with similar utility. Under a going-concern premise, the cost approach usually is best suited for use in valuing asset-intensive companies, such as investment or real estate holding companies, or companies with unstable or unpredictable earnings.

In the present case of valuing the SPV, we have not considered this method as the underlying earnings are fairly stable, and a going concern business plan has been provided by the Management.

Discounted Cash Flows (DCF) Method

Under the DCF method, the projected free cash flows to the firm are discounted at the weighted average cost of capital. The sum of the discounted value of such free cash flows is the value of the firm.

Using the DCF analysis involves determining the following:

Estimating future free cash flows:

Free cash flows are the cash flows expected to be generated by the company that is available to all providers of the company's capital — both debt and equity.

Appropriate discount rate to be applied to cash flows, i.e., the cost of capital:

This discount rate, which is applied to the free cash flows, should reflect the opportunity cost to all the capital providers (namely shareholders and creditors), weighted by their relative contribution to the total capital of the company. The opportunity cost to the capital provider equals the rate of return the capital provider expects to earn on other investments of equivalent risk.

The value so computed by discounting the cash flows to the firm is adjusted for net borrowings, surplus asset including investments, minority interests, equity instruments granted as part of the share-based payment, and other matters to arrive at an aggregate equity value of the company.

In the present case, we have been provided with the financial projections of the SPV. As such, we have considered this method for valuing the SPV.

9. Valuation Analysis

Discounted Cash Flow Method (Free Cash Flows to Firm)

Using the DCF analysis involves determining the following:

Estimating future free cash flows:
Free cash flows are the cash flows expected to be generated by the SPV and available to the capital providers in SPV has been estimated based on projected financial information provided by the Management. Projections provided by the Management are only the best estimates of SPV's growth and sustainability of profitability margins. Although we have reviewed the financial forecast provided

by the Management for consistency and reasonableness, we have not specifically validated these financial projections and have relied on the estimates provided by the Management.

Appropriate discount rate to be applied to cash flows i.e., the cost of capital:
This discount rate, which is applied to the free cash flows, should reflect the opportunity cost to all the capital providers (namely shareholders and creditors), weighted by their relative contribution to the total capital of SPV. The opportunity cost to the capital provider equals the rate of return the capital provider expects to earn on other investments of equivalent risk.

Arriving at equity value from enterprise value:
The fair value basis of equity of the SPV for this purpose has been determined after taking into consideration all the factors and methodologies mentioned hereinabove. As explained above, we have given 100% weightage to the DCF methodology to arrive at the equity value of the SPV.

The key assumptions under the DCF Method

For the DCF analysis, we have relied on the projected financials of the SPV provided by the Management based on their best estimates on the growth and sustainability of profitability margins of the SPV. Please note that though we have reviewed the financial forecast provided by the Management for consistency and reasonableness based on data available in public domain and traffic consultant reports provided by the Management of SPV, we have not independently investigated or otherwise verified the data and key inputs estimated by the Management for SPV. Nothing has come to our attention to indicate that the information provided by the Management had material mis-statements or would not afford reasonable grounds upon which to base our Report. The Free Cash Flows to Firm ("FCFF") have been calculated for SPV as on the Valuation Date based on the Financial Projections.

The key assumptions and the basis for the valuation are explained in detail below:

<u>Discounting Factor</u>
The discount rate considered for arriving at the present value of the free cash flows to the firm is the Weighted Average Cost of Capital ("WACC"). The WACC for the SPV as on the Valuation Date is derived as follows:

WACC= (ke x we) + (kd x (1 – t) x wd)
where,
we = weight of equity in the capital structure

wd = weight of debt in the capital structure

ke = cost of equity

kd = cost of debt, and

t = effective tax rate

<u>Cost of Equity ("ke")</u>

The cost of equity is computed using the Capital Asset Pricing Model (CAPM) as shown below:

ke = rf + β (rm-rf) where

ke = Cost of Equity,

rf = Risk Free Return,

β = Beta, a measure of Market Risk

rm = Market Return

Cost of Equity is estimated using the following factors:

- Risk Free Return (rf) – The risk free rate (rf) is the return on an investment with zero risk where actual returns are equal to the expected return. Rf at 6.80% has been considered for SPV based on the 10 Year normalized Wholesale Debt Market Zero Coupon Bond Yield as of the Valuation Date

- Beta (β) – Beta has been computed by re-levering the average asset beta of companies in the construction and engineering segment and having more than 50% revenues from the road infrastructure. Beta has been considered based on 2 year weekly trailing Beta of comparable companies, relevered for the SPV specific debt to equity ratio and effective taxes. Refer Appendix X for a list of comparable companies

- Debt to Equity Ratio (DER) – The DER of peers displays significant variation owing to difference in the stage of operations and maturity. Accordingly, DER was concluded based on management input for debt-to-equity ratio of SPV over the projected period.

- Income Tax – Effective tax rate has been applied after considering 80IA and 35AD benefits and applicable MAT credit (if any) in the projected period as represented to us by the Management for SPV.

- Equity Risk Premium (ERP) – ERP is considered at 7.5% for SPV.

- Alpha - Alpha premium for the SPV is based on the valuer's assessment of idiosyncratic risks. Idiosyncratic risks considered are combination of operational parameters like construction phase and credit parameters like credit rating.

<u>Cost of Debt ("kd")</u>

Marginal cost of raising debt for the SPV is considered based on Management input. Management has represented that the debt can be refinanced at in the range of 7.25%-7.5% p.a.

Other notes

- Mid-year convention in arriving at the present value of free cash flows is considered appropriate
- Management has represented that the probability of devolvement of contingent liabilities is insignificant and accordingly no adjustment was required to be carried out in the valuation of the SPV.

10. Valuation of the SPV

10.1 PDTPL

Key Inputs in Projections:
The key inputs of the projections provided by the Management supported by independent traffic as follows:

a) Revenue

Revenue is expected to grow at an average rate of 8%-9% in the steady state forecasted period based on financial plan provided by management which is based on traffic study.

b) Traffic Volume

Traffic volume as received from the Management supported by traffic study report carried out by Steer date September 2021 are considered.

c) Toll rates

- Toll rates has been estimated as per the recent MoRTH notification and Schedule R of contract agreement. Factor of inflation / growth has been incorporated as per Schedule R. WPI are available up to 2018-19. A moderate growth in Wholesale Price Index (WPI) has been assumed after that.

- WPI has been projected to grow by 4% for the projected period.

d) Periodic Maintenance & Routine Maintenance Costs

Estimates for projected Periodic Maintenance & Routine Maintenance cost from the Management are considered

DCF Method:

- The key assumptions and other key inputs, mentioned on the previous paragraphs, as provided by the Management are considered in the projections.

- The projections provided by the Management, based on Independent traffic, are only the best estimates of growth and sustainability of profitability margins. The financial forecast provided by the Management were reviewed for consistency and reasonableness and have relied on them.

- The explicit period has been considered from 01 January 2022 to 01 December 2038

- The tax has been calculated as per the provisions of the Income Tax Act, 1961. The interest expense is adjusted in the same for arriving at the tax computation under FCFF.

- The assumptions for Weighted average cost of capital is as follows:

WACC calculation		
		Basis
Risk free rate of return	*6.8%*	10yrs ZCYC as at 31 December 2021
India risk premium	*7.5%*	Incwert Analysis
Beta	0.9	Peer median of 2 yr weekly beta
Alpha	*1.0%*	Valuer judgement
Cost of Equity	***14.4%***	
Cost of Debt	*7.5%*	Management input
Tax Rate	*17.5%*	Rates as per IT Act as applicable here
After Tax Cost of Debt	***6.2%***	
Debt/Equity	1.50	Management input
Debt to Capital %	*60.0%*	
Equity to Capital %	*40.0%*	
Weighted Average Cost of Capital	***9.5%***	
Marginal tax rate	*17.5%*	MAT rates as per IT applicable here

- The Business/ Enterprise Value of PDTPL as on 31 December 2021 is arrived at INR 439.6 crores

Discounted cash flow											
	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030	FY2031	FY2032
INR crores	3months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months	12 months
Net Revenue	-	197.0	206.7	317.2	363.8	355.2	386.7	418.6	454.0	488.9	527.5
yoy growth	*n/a*	*n/a*	*4.9%*	*53.5%*	*13.3%*	*10.7%*	*10.1%*	*9.5%*	*9.7%*	*9.0%*	*9.2%*
EBITDA	**-**	**175.0**	**163.0**	**269.7**	**313.6**	**302.2**	**330.7**	**323.8**	**349.7**	**384.9**	**458.4**
EBITDA margin	*n/a*	*89%*	*79%*	*85%*	*86%*	*85%*	*86%*	*77%*	*77%*	*79%*	*87%*
Depreciation	-	52.1	54.7	83.9	95.1	105.3	115.9	126.9	139.2	151.7	165.6
EBIT	-	122.9	108.4	185.8	218.5	196.9	214.7	196.9	210.4	233.2	292.8
EBIT margin	*n/a*	*62%*	*52%*	*59%*	*60%*	*55%*	*56%*	*47%*	*46%*	*48%*	*56%*
Less: tax on EBIT	-	(21.5)	(18.9)	(32.5)	(38.2)	(34.4)	(37.5)	(34.4)	(36.8)	(40.8)	(51.2)
Change in working capital	25.0	(156.3)	92.5	(46.2)	85.0	-	-	-	-	-	-
Capex	(25.0)	(962.0)	(931.0)	(400.0)	-	-	-	-	-	-	-
Free cash flows to the Firm	**-**	**(964.8)**	**(694.4)**	**(209.0)**	**360.4**	**267.8**	**293.1**	**289.4**	**312.9**	**344.2**	**407.3**
Continuing value											
Discounting period (mid-period)	0.12	0.75	1.75	2.75	3.75	4.75	5.75	6.75	7.75	8.75	9.75
Discount factor	0.99	0.93	0.85	0.78	0.71	0.65	0.59	0.54	0.50	0.45	0.41
Present value of cash flows as at 31 December 2021	**-**	**(901.7)**	**(592.9)**	**(163.0)**	**256.7**	**174.3**	**174.3**	**157.1**	**155.2**	**156.0**	**168.6**

Discounted cash flow							
	FY2033	**FY2034**	**FY2035**	**FY2036**	**FY2037**	**FY2038**	**FY 2039**
INR crores	12 months	12 months	12 months	12 months	12 months	12 months	8months
Net Revenue	564.5	604.3	645.2	688.3	726.6	516.4	-
yoy growth	*8.3%*	*8.3%*	*8.1%*	*8.0%*	*6.9%*	*-28.0%*	*n/m*
EBITDA	**491.9**	**527.8**	**564.8**	**552.9**	**597.1**	**419.5**	**-**
EBITDA margin	*87%*	*87%*	*88%*	*80%*	*82%*	*81%*	*n/a*
Depreciation	179.4	194.3	210.0	226.9	242.5	174.5	-
EBIT	312.6	333.5	354.7	326.0	354.6	245.0	-
EBIT margin	*55%*	*55%*	*55%*	*47%*	*49%*	*47%*	*n/a*
Less: tax on EBIT	(54.6)	(58.3)	(62.0)	(57.0)	(62.0)	(42.8)	-
Change in working capital	-	-	-	-	-	-	-
Capex	-	-	-	-	-	-	-
Free cash flows to the Firm	**437.3**	**469.6**	**502.8**	**495.9**	**535.1**	**376.7**	**-**
Continuing value							
Discounting period (mid-period)	10.75	11.75	12.75	13.75	14.75	15.75	16.75
Discount factor	0.38	0.35	0.32	0.29	0.26	0.24	0.22
Present value of cash flows as at 31 December 2021	**165.3**	**162.2**	**158.6**	**142.9**	**140.9**	**90.6**	**-**

Valuation Conclusion	
Present value of cash flows	445.0
Present value of terminal value	-
Release of WC at the end of concession period	(5.5)
Enterprise value	**439.6**
Less: Debt	0.0
Less: Debt like items	(2.3)
Add: Cash & cash equivalents	0.01
Add: Investments & other surplus assets	0.0
Value of 100% interest in equity	**437.2**

Note: Debt like items includes: Interest free unsecured loan from IRB

This section is intentionally left blank

11. CONCLUSION

11.1.1 Based on the foregoing, and on a consideration of all the relevant factors and circumstances as discussed and outlined hereinabove, we have computed the following value:

- Fair market value of 100% interest in equity of Palsit Dhankuni Tollway Private Limited as of 31 December 2021 is determined to be **INR 437.2 crores** and each credited and fully paid-up equity share in Palsit Dhankuni Tollway Private Limited as of 31 December 2021 is determined to be **INR 87,447.23/- (Indian Rupees Eighty-Seven Thousand Four Hundered and Forty-Seven Point Two-Three Only) (face value per unit: INR 10/-).**

Valuation summary of Palsit Dankuni Tollway Private Limited

Approach	Method	Equity value (INR crores)	Value per share	Weights	Weighted average Equity value (INR crores)
Income approach	Discounted cash flow	437.2		100%	437.2
Market approach	Comparable company multiple	n/a	n/a	n/a	n/a
Market approach	Comparable transaction multiple	n/a	n/a	n/a	n/a
Cost approach	NAV	n/a	n/a	n/a	n/a
Value of 100% interest in equity					**437.2**
Total number of equity shares outstanding					50000.0
Value per equity share (INR)					**87,447.23**

Note: n/a = Not applicable
Source - Management information; Publicly available information; proprietary databases and Valuer analysis.

11.1.2 Accordingly, the value of each credited and fully paid-up equity shares of Palsit Dhankuni Tollway Private Limited as of 31 December 2021 to be be INR 87,447.23/- (Indian Rupees Eighty-Seven Thousand Four Hundered and Forty-Seven Point Two-Three Only) (face value per unit: INR 10/-).

Respectfully submitted,

Sunit Khandelwal
Registered Valuer under Companies (Registered Valuers and Valuation) Rules, 2017
IBBI Registration No. IBBI/RV/05/2018/10426
Asset class: Securities or Financial Assets
Date: 03 April 2022
Place: Gurgaon

12. Annexures

Additional procedures to be complied with in accordance with SEBI InvIT Regulations List of Disclosures

Additional procedures to be complied with in accordance with SEBI InvIT regulations as per Schedule V of the SEBI InvIT Regulations:

a) List of one-time sanctions/approvals which are obtained or pending along with up to date/overdue periodic clearances

As given by the Management, the list of one-time sanctions/approvals which are obtained or pending along with up to date/overdue periodic clearances of the SPV are included in earlier sections in the Report and details are mentioned in Annexures.

b) Statement of assets

Management has represented that all assets and liabilities of the SPV till the date of transfer of assets to InvIT has been taken over by the Trust.

c) Estimates of already carried as well as proposed major repairs & improvements

Past major repairs and improvements as on the Valuation Date

Management has represented that major repairs have not been carried out in the past as the SPV being transferred have been recently operationalized or are being constructed.

Future estimate of major repairs and improvements as on the Valuation Date

Future estimates of major repairs and improvements as on the Valuation Date (Amt in INR crores)

	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030	FY2031	FY2032	FY2033	FY2034	FY2035	FY2036	FY2037	FY2038
	12mths	12mths	12mths	12mths	12mths	12mths	12mths	12mths	12mths	12mths	12mths	12mths	12mths	12mths	12mths	12mths	12mths
Name of SPV	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast
PDTPL	0.0	0.0	0.2	0.0	0.0	0.0	0.0	35.9	42.2	38.6	0.0	0.0	0.0	0.0	50.5	40.3	33.8

d) Revenue pendencies including local authority taxes associated with InvIT asset & compounding charges

Management has represented that there are no revenue pendencies including local authority taxes pending to be payable to the Government authorities with respect to SPV.

e) On-going material litigations including tax disputes in relation to the assets

As represented by the Management, the list of the ongoing material litigations of the SPV, have been included In Annexures II

f) Vulnerability to natural to induced hazards that may not have been covered in town planning/building control

Management has represented that there are no such natural or induced hazards which have been not considered in town planning/building control with respect to the SPV.

g) Site Visit Photographs

Site visit of the SPV was conducted. Photographs taken during the site visit have been included in earlier sections in the Report.

Caveat to Disclosures in Annexures:

The Valuer has not independently verified the documents related to the disclosures mentioned in the Annexures and have relied on the representation by the Management for the same.

12.1 Annexure I PDTPL – Table 1: List of one-time sanctions/approvals

Sl.No	Description	Remarks
A	Permission of the State Government for extraction of boulder from quarry.	Applied
B	Permission of Village Panchayat and Pollution Control Board for installation of crusher;	Received
C	License for use of explosives	Received
D	Permission of state government for drawing water from river/reservoir	Not Required.
E	License from the inspector of factories or other competent authority for setting up Batching plant.	Applied
F	Clearance of Pollution Control Board for setting up Batching Plant;	Received
G	Clearance of Village Panchayats and Pollution Control Board for Asphalt Plant	CTE Received & Applied for CTO
H	Permission of Village Panchayat and State Government for borrow areas	Received
I	Permission of State Government for cutting of trees	Received
J	Any other permits or clearances required under Applicable Laws	Labour License taken.

12.2 Annexure II PDTPL – Table 2 List of ongoing material litigations or litigations where financial implication cannot be ascertained

Nil

12.3 Annexure III – Comparable companies' description

List of comparable companies
Sadbhav Engineering Limited
MEP Infrastructure Developers Limited
IRB Infrastructure Developers Limited
Ashoka Buildcon Limited

12.4 Annexure IV – Parties to the InvIT

- IRB Infrastructure Trust ("the Trust")
- IRB Infrastructure Developers Limited (in its capacity as "Sponsor" of the Trust)
- MMK Toll Road Private Limited (in its capacity as "Investment Manager" of the Trust) &
- IDBI Trusteeship Services Limited (as the "Trustee" of the Trust)

**********END OF REPORT**********