



July 2, 2026

Corporate Relationship Department, BSE Limited Phiroze Jeejeebhoy Towers Dalal Street, Mumbai 400 001	Listing Department, National Stock Exchange of India Limited Exchange Plaza, C-1 Block G Bandra Kurla Complex, Bandra (E), Mumbai 400 051
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Dear Sir / Madam,

Ref.: Scrip Code: 540526, Symbol: IRBINVIT

Sub.: Disclosure of Valuation Report, Traffic Due Diligence Reports and O&M Cost Projection Reports for Acquisition of Assets from IRB Infrastructure Trust

In continuation of our earlier announcement dated July 2, 2026, regarding the acquisition of assets from IRB Infrastructure Trust, please find enclosed the Valuation Report issued by Grant Thornton Valuation Advisors Private Limited (GTVAPL), a Registered Valuer with IBBI (Registration No. IBBI/RV-E/05/2020/134; RV No. IBBI/RV/05/2018/10428) ("Valuation Report"), along with the Traffic Revenue Assessment/Traffic Due Diligence Report(s) issued by Steer Davies Gleave India Private Limited, Independent Traffic Consultant, and the O&M Cost Projection Report issued by LEA Associates South Asia Pvt. Ltd., for Target SPVs namely Solapur Yedeshi Tollway Limited ("SYTL") and CG Tollway Limited ("CGTL").

You are requested to take note of the same.

Thanking you.

Yours faithfully,

**For IRB Infrastructure Private Limited
(Investment Manager to IRB InvIT Fund)**

Swapna
Nikhil Arya

Digitally signed by
Swapna Nikhil Arya
Date: 2026.07.02
22:20:31 +05'30'

**Swapna Arya
Company Secretary and Compliance Officer**

CC:

IDBI Trusteeship Services Limited

Ground Floor, Universal Insurance Bldg,
Sir Phirozshah Mehta Rd., Fort
Mumbai 400 001

IRB InvIT Fund

Report on Valuation of Target Assets of IRB Infrastructure Trust

July 2026

IRB InvIT Fund

IRB Complex, Chandivali Farm,
Chandivali Village, Andheri East
Mumbai – 400 072

02 July 2026

For the kind attention of Mr. Rushabh Gandhi, Director and CFO for IRB InvIT Fund

Dear Sir,

Valuation Services

We refer to our Engagement Letter dated 22 June 2026 confirming our appointment by IRB InvIT Fund (“IRB InvIT” or the “Fund” or the “Client”) to carry out the fair valuation of Solapur Yedeshi Tollway Limited (“SYTL”) and CG Tollway Limited (“CGTL”) (collectively referred to as the “Target Assets”) as on 31 March 2026 (the “Valuation Date”) in connection with a Proposed Transaction (as defined later in the Report) in accordance with Securities Exchange Board of India (Infrastructure Investment Trusts) Regulations, 2014 (“SEBI InvIT Regulations”).

As per the terms of the engagement, we are enclosing our valuation report along with this letter. The report has been prepared exclusively for the management of IRB InvIT Fund (the “Management”) for internal evaluation purposes and hence should not be used for any other purpose, whether in whole or in part without our prior written consent, which will only be given after full consideration of the circumstances at the time. Our valuation of the Target Assets is purely based on the information provided by the Management.

Please note that Grant Thornton Valuation Advisors Private Limited, (“Grant Thornton” or the “Company”) does not have any responsibility or liability towards IRB InvIT’s advisors, consultants, auditors, shareholders or any other third party with respect to this report. Our analysis and report are invalid if used for any purpose other than that stated herein. We owe responsibility only to IRB InvIT as per the terms of our Engagement Letter.

In addition, Grant Thornton Valuation Advisors Private Limited will not provide consent to be named expert in any filings, including, without limitation, any filings with the Securities and Exchange Board of India.

Please note that all comments in our report must be read in conjunction with the Caveats to the report, which are contained in Section 5.

Limitation of liability

We draw your attention to the limitation of liability clauses mentioned in paragraphs 8 (i) to 8 (vi) in Appendix 3, Terms of Business, of our Engagement Letter.

Forms of report

For your convenience, this report may have been made available to you in electronic copy format, multiple copies and versions of this report may therefore exist in different media and in the case of any discrepancy the final signed hard copy should be regarded as definitive.

Please feel free to contact us if you need any further information / clarifications.

Yours sincerely,

GRANT THORNTON VALUATION ADVISORS PRIVATE LIMITED

Registered Valuer Entity – Securities and Financial Assets

IBBI Registration Number: IBBI/RV-E/05/2020/134

**Manish Saxena**

Director

Register Valuer – Securities and Financial Assets

IBBI Registration Number: BBI/RV/05/2018/10428

Contents

Contents	1
Glossary	2
Section 1: Executive Summary	3
Section 2: Overview & Scope	6
Section 3: Industry Overview	9
Section 4: Valuation Summary	11
Section 5: Valuation of Target Assets	15
Section 6: Caveats	22
Section 7: Appendix	25

Glossary

COE	-	Cost of Equity
β	-	Beta
CAGR	-	Compound Annual Growth Rate
Capex	-	Capital Expenditure
CAPM	-	Capital Asset Pricing Model
Cr	-	Crores
DBFOT	-	Design, Build, Finance, Operate, and Transfer
DCF	-	Discounted Cash Flow
EBT	-	Earnings before Tax
EBIT	-	Earnings before Interest and Tax
EBITDA	-	Earnings before Interest, Tax, Depreciation and Amortization
ERP	-	Equity Risk Premium
FCFF	-	Free Cash Flows to Firm
FY	-	Financial Year ending 31 March
INR	-	Indian Rupees
Ke	-	Cost of Equity
MAT	-	Minimum Alternate Tax
NCWC	-	Non – Cash Working Capital
NHAI	-	National Highways Authority of India
PAT	-	Profit after Tax
PBT	-	Profit before Tax
SPV	-	Special Purpose Vehicle
USD	-	United States Dollar
WACC	-	Weighted Average Cost of Capital

Section 1: Executive Summary

Please note that this section is a summary and does not include all our findings on the valuation of Target Assets of IRB InvIT Fund which may be important to you. Accordingly, this report must be read in full to understand the basis of our conclusion, the assumptions used and other relevant aspects with respect to our valuation approach.

1.1 Background & Scope

- IRB InvIT is a Trust registered under SEBI's Infrastructure Investment Trusts Regulations 2014. IRB InvIT is backed by IRB Infrastructure Developers Ltd, as a sponsor and project manager. IRB InvIT has been formed to invest in infrastructure assets primarily being in the road sector in India.
- IRB Infrastructure Trust ("IRB Infra") is a Private Trust, registered under the Indian Trusts Act 1882 and SEBI's Infrastructure Investment Trusts Regulations 2014. The Trust has 15 highways assets in the States of Maharashtra, Rajasthan, Goa, Karnataka, Haryana, Uttar Pradesh, West Bengal, Telangana, and Madhya Pradesh, which are being managed in pursuant to the Concessions granted by the respective Nodal Agencies. The projects include Solapur Yedeshi Tollway Limited ("SYTL") and CG Tollway Limited ("CGTL") (SYTL & CGTL herein collectively referred to as the "Target Assets").
- SYTL was engaged for four laning the existing two-lane highway on a DBFOT basis. The project stretch is 98.7 kms long involving the Solapur to Yedeshi section of NH-211 from 0.00 kms to 100 kms in the state of Maharashtra with 2 toll plazas.
- CGTL was engaged for six laning the existing four lane highway on Design, Build, Finance, Operate, Transfer ("DBFOT") basis. The project stretch is 124.87 Kms long involving the Kishangarh Udaipur Ahmedabad section from 90 kms (near Gulabpura) to 214.87 kms (end of Chittorgarh Bypass) of NH-79 in Rajasthan with 2 toll plazas.
- We understand from the Management, that IRB InvIT ("Management") has received an offer to acquire two projects from IRB Infra i.e. SYTL and CGTL (herein referred to as "Proposed Transaction").
- Hence, the Management has approached Grant Thornton Valuation Advisors Private Limited ("GTVAPL" or the "Company") to assist them in carrying out the fair valuation of SYTL and CGTL in connection with the above-mentioned Proposed Transaction in accordance with Securities Exchange Board of India (Infrastructure Investment Trusts) Regulations, 2014 ("SEBI InvIT Regulations").

1.2 Our Approach to Engagement

In connection with this exercise following valuation procedures have been performed:

- Discussions with the Management to:
 - Understand the business and fundamental factors that affect Target Asset's income-generating capability including strengths, weaknesses, opportunity and threats analysis, other specific circumstances, and historical financial performance.
 - Enquire about business plan and future performance estimates of the Target Assets.
 - Gain understanding of the key operating metrics, customers and performance drivers for the business.
- Undertook industry analysis:

- To gain understanding on the performance parameters of the subject industry
- Research on the publicly listed comparable companies.
- Carried out research with respect to publicly available market data that may have an impact on the valuation.
- Selection of appropriate internationally accepted valuation methodology/(ies) after deliberations and determination of the value of the Target Assets.
- Preparation of report summarizing valuation methodology adopted, scope, analysis, key business assumptions and conclusion

1.3 Valuation Date and Approach

- The date of valuation is 31 March 2026 (“Valuation Date”).
- The Fair Value of SYTL and CGTL as on the Valuation Date has been arrived using the Discounted Cash Flow (“DCF”) Method of valuation under Income Approach.

1.4 Valuation Analysis

Discounted Cash Flow Method:

- For the DCF analysis, we have considered financial projections as provided by the Management. The projections considered are commencing from 01 April 2026 to 22 June 2046 for SYTL and commencing from 01 April 2026 to 31 January 2042 for CGTL.
- We have considered the Free Cash Flows to Firm (“FCFF”) under the DCF Method to arrive at the fair valuation of the Target Assets as on the Valuation Date.
- Free Cash Flows for the Projection Period are discounted using the Weighted Average Cost of Capital (“WACC”) of 9.4% for the Target Assets to arrive at the Enterprise Value (“EV”) as on the Valuation Date.
- The total Enterprise Value of the Target Assets under this method is arrived at INR 4,625.6 Cr.

1.5 Conclusion of Value

- Based on our analysis and subject to the assumptions and limitations described in this report and our Engagement Letter, we estimate the fair values to be the following as on the Valuation Date:

Particulars	Value (INR Cr)
Enterprise Value of SYTL	2,396.3
Enterprise Value of CGTL	2,229.4
Total Enterprise Value of Target Assets	4,625.6
Net Debt	1,814.8*
Total Equity Value of Target Assets	2,810.8

**Please note that the Management has provided us with the audited balance sheet of SYTL & CGTL as on 31 March 2026. Additionally, the Management has provided us with the balance sheet of SYTL & CGTL representing the asset and liabilities proposed to be transferred as part of the Proposed Transaction. Accordingly, as confirmed to us by the Management, we have considered the balance sheet that will be transferred as part of the Proposed Transaction, for the purpose of net debt calculation for both SYTL & CGTL. We have not independently verified the underlying balances. Accordingly, the net debt considered in this valuation reflects the estimated financial position of the Target Assets on a transaction basis.*

- Further, the Management has requested for an illustrative roll forward of the valuation of March 2026 to September 2026 based on the expected cash flow and unchanged discount rate.

Particulars	Value (INR Cr)
Enterprise Value of SYTL	2,441.6
Enterprise Value of CGTL	2,282.8
Total Enterprise Value of Target Assets	4,724.4
Net Debt	1,778.5*
Total Equity Value of Target Assets	2,945.9**

**Please note that the Management has provided us with the projected balance sheet of SYTL & CGTL as on 30 September 2026. Accordingly, as confirmed to us by the Management, we have considered the above balance sheet for the purpose of net debt calculation for both SYTL & CGTL.*

*** Kindly note that the value is subject to change basis the discount rate as on 30 September 2026 and the actual Balance Sheet of SYTL & CGTL as on 30 September 2026*

- The above valuations is critically dependent on the Target Asset's ability to successfully implement/ execute the business plans which we have used as our basis for valuation. Any significant variation would have an impact on the valuation.

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Section 2: Overview & Scope

2.1 IRB InvIT Fund

IRB InvIT is a Trust registered under SEBI's Infrastructure Investment Trusts Regulations 2014. IRB InvIT is backed by IRB Infrastructure Developers Ltd, as a sponsor and project manager. IRB InvIT has been formed to invest in infrastructure assets primarily being in the road sector in India.

2.2 IRB Infrastructure Trust

IRB Infra is a Private Trust, registered under the Indian Trusts Act 1882 and SEBI's Infrastructure Investment Trusts Regulations 2014. The Trust has 15 highways assets in the States of Maharashtra, Rajasthan, Goa, Karnataka, Haryana, Uttar Pradesh, West Bengal, Telangana, and Madhya Pradesh, which are being managed in pursuant to the Concessions granted by the respective Nodal Agencies including SYTL, and CGTL.

2.3 Target Assets

2.3.1 SYTL

SYTL was engaged for four laning the existing two-lane highway on a DBFOT basis. The project stretch is 98.7 kms long involving the Solapur to Yedeshi section of NH-211 from 0.00 kms to 100 kms in the state of Maharashtra with 2 toll plazas.

2.3.2 CGTL

CGTL was engaged for six laning the existing four lane highway on Design, Build, Finance, Operate, Transfer ("DBFOT") basis. The project stretch is 124.87 Kms long involving the Kishangarh Udaipur Ahmedabad section from 90 kms (near Gulabpura) to 214.87 kms (end of Chittorgarh Bypass) of NH-79 in Rajasthan with 2 toll plazas.

2.4 Scope of Work

Based on discussion with the Management, we understand that IRB InvIT has received an offer to acquire two projects from IRB Infra i.e. SYTL and CGTL (herein referred to as "Proposed Transaction", refer chart 2.1 for Summary of Proposed Transaction)

Hence, the Management has approached Grant Thornton Valuation Advisors Private Limited ("GTVAPL" or the "Company") to assist them in carrying out the fair valuation of SYTL and CGTL in connection with the above-mentioned Proposed Transaction in accordance with Securities Exchange Board of India (Infrastructure Investment Trusts) Regulations, 2014 ("SEBI InvIT Regulations").

2.5 Valuation Date

The Management has requested us to carry out the fair valuation of SYTL and CGTL as on 31 March 2026 (hereinafter referred to as the "Valuation Date").

Please note that though the report is being issued as on 02 July 2026, the concluded value represents the value as on 31 March 2026. Our analysis does not take into account any events, information or circumstances which may have occurred after the Valuation Date and may have an impact on the valuation.

2.6 About the Valuer

GT Valuation Advisors Private Limited is a Registered Valuer entity under Insolvency and Bankruptcy Board of India (IBBI) having Registration No IBBI/RV-E/05/2020/134. GTVAPL holds certificate of practice with RVO ICAI to value Securities and Financial Assets and Plant and Machinery.

Manish Saxena is a Director in GTVAPL and is a registered valuer with IBBI. The valuer registered with Insolvency and Bankruptcy Board of India (IBBI) to undertake valuation under asset class and holds certificate of practice as a valuer.

Brief Profile of the Director – Qualification, Experience

Manish Saxena is an MBA from MDI (Gurgaon) and a Bachelor of Engineering (Mechanical). He is also a CFA (CFA institute, USA) and FRM (GARP, USA). He has over 20 years of professional experience in transaction advisory, equity research and valuations. He has been involved in offering valuation and transaction advisory services to some of the large and reputed Indian and global companies in various sectors including Infrastructure, IT, Healthcare, manufacturing, Telecom etc.

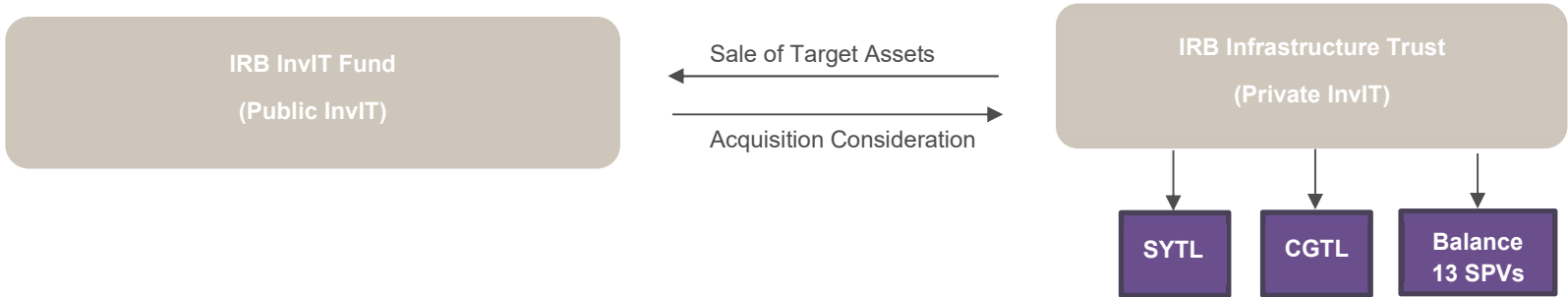
2.7 Disclosure of the Registered Valuer's Interest or Conflict, if any and other affirmative statements

We do not have any financial interest in the Client, nor do we have any conflict of interest in carrying out this valuation, as of the date of the engagement letter till the Report Date.

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Chart 2.1: Summary of the Proposed Transaction

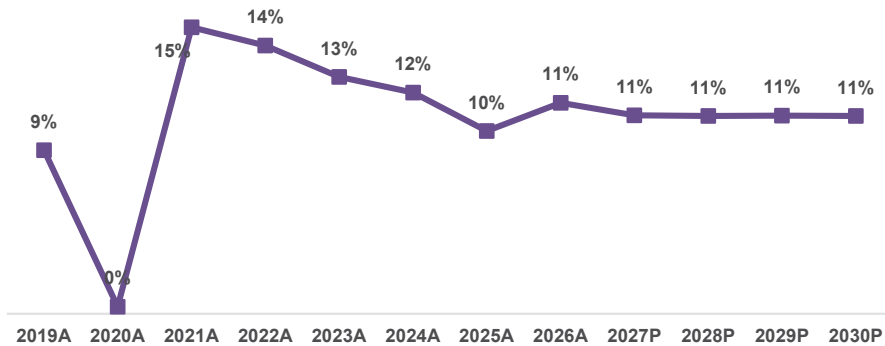


Section 3: Industry Overview

3.1 Indian Economy Outlook

Following sustained economic recovery post the COVID-19 pandemic, India has continued to strengthen its position as one of the world’s largest and fastest-growing economies. According to the IMF World Economic Outlook (April 2026), India continues to be among the fastest growing major economies globally despite a relatively subdued global growth outlook.

Chart 3.1: Nominal GDP Growth Rate



Source: World Economic Outlook, IMF (April 2026)

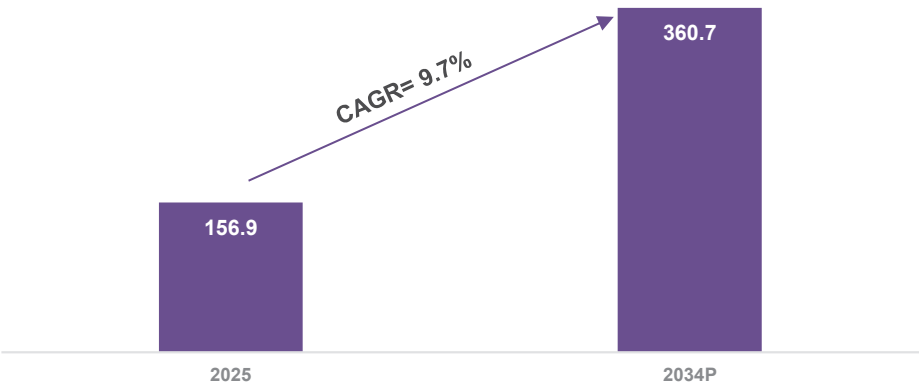
3.2 Infra Sector

For India to become a USD 26 trillion economy by 2047, infrastructure is expected to be a key enabler. Under the Union Budget 2026-2027, the government has allocated INR 3.1 Trillion to the Ministry of Road Transport and Highways, reflecting an increase of 7.9% compared to FY26.

Capital investment outlay for infrastructure has been increased to INR 12.2 Trillion in the FY2027 budget estimate (BE) as compared to INR 11.0 Trillion in the FY2026 revised estimate (RE), marking a 11.5% growth year-on-year; which would be 4.4% of the GDP.

The Indian road construction market is expected to grow at a CAGR of 9.7% from USD 156.9 Bn in 2025 to USD 360.7 Bn in 2034. The growth in the forecast period can be attributed to government-supported infrastructure programs, increased private sector participation, and additional emphasis placed on rural and border connectivity.

Chart 3.2: Projected Growth of Indian Road Construction Market (USD Billion)



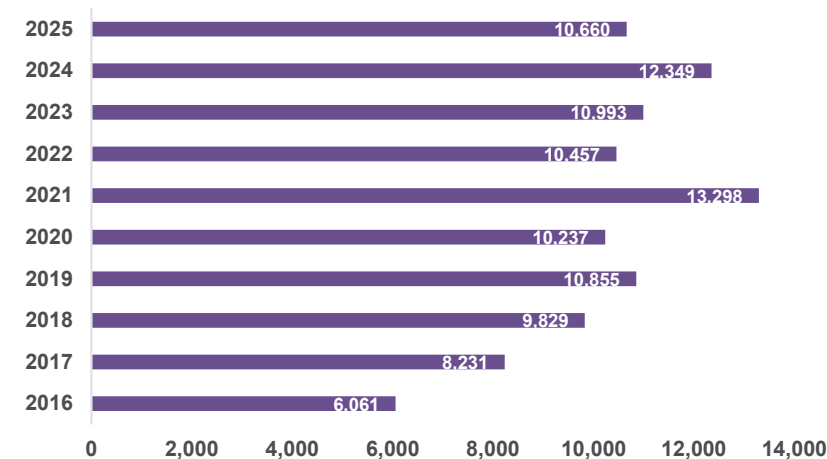
Source: IMARC

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3.3 Road Transport and Highways

National highway construction in India increased at 4.5% CAGR between FY16-FY25. Chart 3.3 outlines the National Highway Construction in India for the period FY 2016 to FY 2026.

Chart 3.3: National Highway Construction in India (In Km)



Source: IBEF

3.4 Key Parameters

Toll operations have witnessed an increase in efficiency on account of adoption and growth of FASTag. As of 31 December 2025, 11.9 Crore FASTags have been issued.

Further, the following key parameters in relation to the industry are summarized below:



Toll collected in FY 26 was INR 82,900.16 Cr, an increase of ~14% from FY 25. Toll collection is estimated to be INR 1.3 Lakh Cr by FY 30

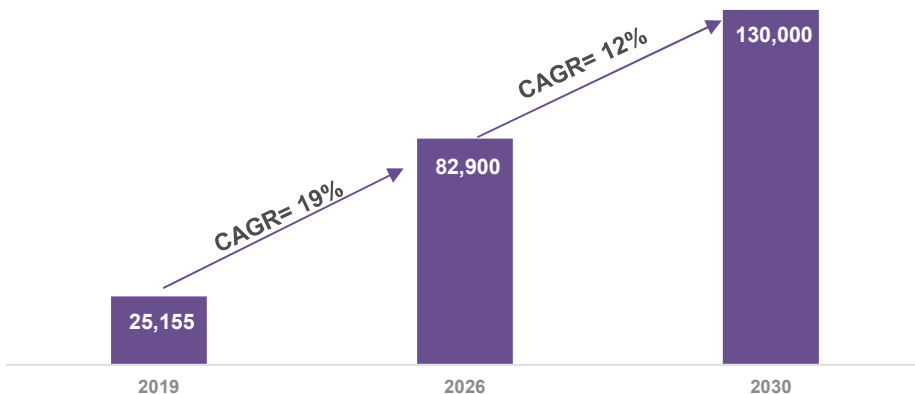


Highway Construction Target of 10,000 KM by 2027



Target of building 100kms of Highway per day by FY 28

Chart 3.4: Toll Collection over the period (INR Crore)



Section 4: Valuation Summary

4.1 Valuation Procedures & Methodology

4.1.1 Valuation Procedures

In connection with this exercise, we have used information provided by the Management as well as information sought through licensed data bases and available in public domain. The procedure adopted for valuation exercise is outlined hereunder.

- Consideration of the key terms provided by the Management from the concession agreements
- Consideration of the key inputs provided by the Management from the traffic study reports prepared by the independent consultant.
- Conducted site visits of the Target Assets in June 2026 to assess the operating condition of the projects under the Target Assets.
- Discussions with the Management:
 - To understand the business and fundamental factors that affect its income-generating capability, products and services offered by the Target Assets.
 - Historical financial performance of the Target Assets and key factors that influenced performance in the past.
 - Understand the challenges and circumstances under which the business operates as on the Valuation Date.
 - Understand basis of assumptions used in business plans for estimating future performance.
- Review of internationally accepted valuation methodologies and selection of appropriate methodology/(ies) based on scope of work and applicability.

4.1.2 Valuation Parameters

Valuation Base: *Valuation base* means the indication of the type of value being used in an engagement. Different Valuation bases may lead to different conclusions of value.

Valuation base can be Fair Value, Participant Specific Value or Liquidation Value, depending upon the intended purpose of the valuation exercise.

Considering the nature of this exercise, we have considered Fair Value as the Valuation base. *Fair Value* is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between willing buyer and willing seller at the Valuation Date.

Premise of Value: *Premise of Value* refers to the conditions and circumstances how an asset is deployed. Since the Management intends to carry on the business, we have considered Going Concern Value as the Premise of Value.

Intended Users: This report is intended for internal consumption of the Management.

Valuation Standards: The valuation analysis is performed as per International Valuations Standards.

4.1.3 Valuation Methodology

Valuation of an enterprise / business or its shares is not an exact science and ultimately depends upon what it is worth to a serious investor or buyer. This exercise may be carried out using various methodologies, the relative emphasis of each often varying with the factors such as:

- Specific nature of the business
- Whether the entity is listed on a stock exchange
- Industry to which the Target Assets/ business belongs
- Past track record of the business and the ease with which the growth rate in cash flows to perpetuity can be estimated
- Extent to which industry and comparable company information is available.

The results of this exercise could vary significantly depending upon the basis used, the specific circumstances and the professional judgment of the valuer. In respect of going concerns, certain valuation techniques have evolved over time and are commonly in vogue.

Valuation results could fluctuate with lapse of time, changes in prevailing market conditions and prospects, industry performance and general business and economic conditions, financial and otherwise, and other factors which generally influence the valuation of companies.

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 choice of methodology of valuation has been arrived at using usual and conventional methodologies adopted for transactions of a similar nature, regulatory guidelines and our reasonable judgement, in an independent and bona fide manner based on our previous experience of assignments of similar nature.

The internationally accepted valuation methodologies can be broadly categorized as follows:

Cash Flow (Earnings) based Method

Discounted Cash Flow Method (“DCF”)

The DCF method uses the future free cash flows of the firm / equity holders discounted by the cost of capital/equity to arrive at the present value. In general, the DCF method is a strong and widely accepted valuation tool, as it concentrates on cash generation potential of a business. Considering that this method is based on future potential and is widely accepted, we have used DCF for the valuation of the Target Assets.

Market Based

Comparable Company Multiple Method

Under this methodology, market multiples of comparable listed companies are computed and applied to the business being valued in order to arrive at a multiple based valuation. This is based on the premise that the market multiples of comparable listed companies are a good benchmark to derive the value of the company being valued. This method applies the most appropriate and reasonable multiple to the relevant operating performance metrics of the company being valued to estimate its fair value. The difficulty here is in the selection

of a comparable company since it is rare to find two or more companies with the same product/service portfolio, size, business strategy and accounting practices.

We carried out research on comparable companies for the Target Assets. However, considering the different stages of operation, development, revenue mix, leasing period etc., we were not able to identify companies which could be considered as closely comparable to Target Assets. Hence, we have not considered the Market Multiple Method for valuation of the Target Assets.

Asset Based

Net Asset Value Method (“NAV”)

The value arrived at under this approach is based on the latest available audited/provisional financial statements of the business and may be defined as Shareholders' Funds or Net Assets owned by the business. Under this method, the net assets as per the financial statements are adjusted for market value of surplus/non-operating assets, potential and contingent liabilities if any.

The Net Asset Value is generally used as the minimum break-up value for any business since this methodology ignores the future return the assets can produce and is calculated using historical accounting data that does not reflect how much the business is worth to someone who may buy or invest in the business as a going concern. This method is usually used in case where the asset base dominates earnings capability. Hence, we have not considered the NAV Method for valuation of the Target Assets.

4.2 Valuation of the Target Assets

4.2.1 Discounted Cash Flow Method

As discussed above, we have considered the DCF Method to arrive at the value of the Target Assets.

The projections considered are commencing from 01 April 2026 to 22 June 2046 ("Concession Period of SYTL") for SYTL and commencing from 01 April 2026 to 31 January 2042 ("Concession Period of CGTL") for CGTL.

Please note that we have relied on explanations, financial projections and information provided by the Management. Kindly note that due to the finite life of the concession period of the Target Assets, we have not computed a terminal value for the valuation of the Target Assets. The projections and assumptions are only the best estimates for the Target Assets' growth and sustainability of the profitability margins. Although we have reviewed the projections for accuracy and reasonableness, we have not independently investigated or otherwise verified the data provided. The key assumptions and the basis for the valuation are explained below:

Discounting Factor

The DCF method requires the application of an appropriate discount rate that reflects the risks involved in achieving projected cash flows, risks associated with the overall business and the industry. The discount rate considered for arriving at the present value of the Free Cash Flows is the Weighted Average Cost of Capital ("WACC"), which is derived alongside.

Cost of Equity ("ke")

The ke is calculated using the Capital Asset Pricing Model (CAPM) derived with the formula

$$ke = rf + \beta (ERP);$$

Where,

rf = Risk Free Return

β = Beta, a measure of Market Risk

ERP = Equity Risk Premium

The ke is estimated as follows:

- **Risk Free Return (rf)** – rf of 7.2% is based on 10 Year Zero Coupon Government - Bond yield as of Valuation Date. (Source: CCIL India Website)

- **Beta (β)** – Beta is considered at 0.93 computed by re-levering the unlevered beta as at Valuation Date of broadly comparable listed companies, using the comparable debt-equity ratio and the effective tax rate of the Target Assets.
- **Equity Risk Premium (ERP)** – We have considered the ERP at 6.8% based on analysis of long-term equity risk premium in the Indian Stock Markets and current market conditions existing as of the Valuation Date. (Source: GT Study)

The Cost of Equity for the Target Assets as estimated using the above parameters is presented in Table 4.1

Table 4.1: Cost of Equity

Particulars	Values
Risk - free rate	7.2%
Re - levered beta	0.93
Equity Risk Premium	6.8%
Base Cost of Equity	13.4%

Cost of Debt ("kd")

The pre-tax cost of debt of 8.05% has been considered as confirmed to us by the Management.

Please note that, in the absence of a publicly available credit rating for the Target Assets, the cost of debt has been broadly benchmarked using the publicly available credit rating of the Acquirer i.e., IRB InvIT, as a reference point. The credit spread has been adjusted for factors specific to Target Assets like prevailing risk-free rate commensurate with the remaining Concession Period of the Target Assets, illiquidity/size risk etc.

WACC

WACC is applied to the free cash flows to firm from business operations and should reflect the opportunity cost to stakeholders.

We have considered a debt-to-equity ratio of 120.7% based on the average debt-to-equity ratio of the broadly listed comparable companies operating in the similar nature of business as that of the Target Assets assuming the same to be long term sustainable debt to equity ratio of the Target Assets.

$$WACC = (k_e \times W_e) + (k_d (1-t) \times W_d)$$

Where,

- W_d = Debt to Total Capital
- W_e = Equity to Total Capital
- k_e = Cost of Equity
- k_d = Cost of Debt
- t = applicable tax rate

The Weighted Average Cost of Capital for Target Assets estimated using the above parameters is presented in Table 4.2 below.

Table 4.2 – Weighted Average Cost of Capital for Target Assets

Particulars	Weights	Cost of Capital	Values
Debt	54.7%	6.0%	3.3%
Equity	45.3%	13.4%	6.1%
WACC			9.4%

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Section 5: Valuation of the Target Assets

5.1 Valuation of Solapur Yedeshi Tollway Limited

5.1.1 Project Details

SYTL was engaged for four laning the existing two-lane highway on a DBFOT basis. The project stretch is 98.7 kms long involving the Solapur to Yedeshi section of NH-211 from 0.00 kms to 100 kms in the state of Maharashtra with 2 toll plazas.

5.1.2 Concession period

SYTL is required to construct; operate and maintain and modify, repair or otherwise make improvements to the project highway in accordance with the concession agreement dated 3rd March 2014, for a period of 29 years commencing from the appointed date i.e. 21st January 2015.

Further, as per Clause 29.2 of the concession agreement between NHA and SYTL, "In the event actual average traffic shall have fallen short of the target traffic, then for every 1% shortfall as compared to the target traffic, the Concession Period of SYTL shall, subject to payment of concession fee in accordance with this agreement, be increased by 1.5% thereof; provided such increase in concession period shall not in any case exceed 20% of the concession period".

Based on discussions with the Management and as per the Traffic Study report (*as provided to us by the Management*), the original Concession Period of SYTL of 29 years is estimated to be extended by ~2.2 years (*in accordance with article 29 of the concession agreement*) on account of shortfall in target traffic. Additionally, the Concession Period is extended by 90 days on account of covid-19.

Please refer Table 5.1 for revised Concession Period end date, as considered by us for our valuation exercise.

Table 5.1: Highlights of the Project

Particulars	Details
State	Maharashtra

Concessionaire	SYTL
Highway & Lane configuration	NH52, four-lane (divided)
Number of toll plazas	2
Tollable Length (kms)	• Tamalwadi: 49.00 km, 45.563 km (tollable), • Yedeshi: 49.71 km, 47.581 km (tollable),
Concession Agreement Date	03-March-14
Appointed Date	21-Jan-15
Four laning completion certificate date	15-Oct-19
Scheduled Concession Period end date (as per concession agreement)	21-Jan-44
Revised Concession Period end date	22-June-46

Source: Management

As discussed in section 5.1.2 above, the Management has confirmed to us to consider revised Concession Period end date till 22 June 2046. Hence, the explicit period for the current valuation analysis exercise has been considered from 1 April 2026 to 22 June 2046.

5.1.3 Key Assumptions

Revenue

Revenue for SYTL is derived from Toll collections for the Concession Period of SYTL. Management has provided Traffic volume, toll rates and toll revenue for the forecast period based on the Traffic Study report prepared by independent consultant in June 2026.

As stated in the Traffic Study Report of SYTL, the elasticity model of growth projection has been considered for traffic forecast. While estimating traffic volume, consultant has considered factors such as GDP growth rate of India, GSDP of Maharashtra, developments along the project road, elasticity value of different vehicle type for computing the traffic growth rate.

While estimating traffic volume, consultant has considered factors such as the historical traffic data, GDP growth rate of India, GSDP of Maharashtra, developments along the

project road and elasticity value of different vehicle type for computing the traffic growth rate.

Annual revision of toll rate for the forecast period shall be in accordance with National Highway Fee (Determination of Rates and Collection) Rules, 2008 and amendment thereto.

Additionally, as confirmed to us by the Management and the as per the terms of the concession agreement dated 3 March 2014 & the Traffic Study report as on June 2026, the applicable base rate shall be revised annually on April 1 to reflect 3% fixed increase plus increase in wholesale price index ("WPI") but such revision shall be restricted to 40% of the increase in WPI on overall basis during the concession period.

Please refer to the traffic report for detailed study on forecast traffic growth rates, toll rates and toll revenue.

Periodic maintenance & routine maintenance costs

Operational expenditure includes base operating expenditure, admin expenses, insurance, project management fees and various other expenses. These are broadly categorized as routine maintenance expenses, periodic maintenance expenses and other operating expenses.

Periodic maintenance expenses, also referred to as major maintenance costs, are incurred to restore the road asset to its original condition or to sustain its current operating performance. The Management has confirmed that there is a subcontractor who handles the project of the Target Assets over the entirety of its life including construction and all periodic and routine capital expenditure. Further, the Management has confirmed that the same is a fixed price contract based on expectations throughout the period and that if there is any additional expenditure, then the contractor will bear the same. The same has been accordingly factored in the projections provided by the Management.

Depreciation & Amortization

Forecasted depreciation on assets has been provided by the Management. Management has forecasted the depreciation to increase in line with the increase in revenue.

Tax

Management represented that the Target Assets will pay tax under the new regime of income tax and the forecast tax outflows has been calculated considering the available carried forward business losses and unabsorbed depreciation.

Capex

The Management is not expecting any capital expenditure since the construction for the road has been completed.

Working capital

Working capital for FY 2026 comprises of other financial assets, other current assets, current tax assets, provision, trade payables, other financial liabilities and other current liabilities etc basis the balance sheet to be transferred, as provided to us by the Management.

The change in working capital for FY27 is considered as the difference between the GST claim on operations & maintenance expenses of FY26 which shall be due in FY27 and the working capital of FY26. From FY28 onwards, management has considered working capital to remain constant except for:

- The Management has represented that the GST rate for the current subcontract for the operations and maintenance of the tollway has increased from 12% to 18%. Accordingly, the Management can claim the difference in tax rate from NHAI on account of Change in Law provision of NHAI provided that there is a minimum increase of INR 1 Crore on account of the increase in the tax rate. Hence, the Management would receive the claim on the differential amount.

5.1.4 Discounted Cash Flows

The Discounted Cash Flows basis the above analysis have been presented below.

Discounted Cash Flow Analysis (a)	31-Mar-27 12 months	31-Mar-28 12 months	31-Mar-29 12 months	31-Mar-30 12 months	31-Mar-31 12 months	31-Mar-32 12 months	31-Mar-33 12 months	31-Mar-34 12 months	31-Mar-35 12 months
Revenue, net of payment to NHAI	170.5	187.9	196.0	220.0	248.2	270.8	285.8	313.3	343.9
Annual Revenue Growth	na	10.2%	4.4%	12.2%	12.8%	9.1%	5.5%	9.6%	9.8%
EBITDA	127.2	164.9	171.9	194.7	221.6	242.8	192.1	214.9	240.8
EBITDA Margins	74.6%	87.8%	87.7%	88.5%	89.3%	89.7%	67.2%	68.6%	70.0%
Less: Depreciation and Amortisation	22.8	25.1	26.2	29.4	33.2	36.2	38.2	41.9	46.0
As a percentage of Revenue	13%	13%	13%	13%	13%	13%	13%	13%	13%
Less: CSR Expense	-	-	-	-	-	-	-	-	-
EBIT	104.4	139.8	145.7	165.3	188.5	206.6	153.9	173.0	194.8
EBIT Margins	61%	74%	74%	75%	76%	76%	54%	55%	57%
Less: Income Tax Expense (b)	-	-	-	-	-	20.0	36.4	42.1	48.6
	0.0%	0.0%	0.0%	0.0%	0.0%	7.4%	12.7%	13.4%	14.1%
Cash Flows from Operations	104.4	139.8	145.7	165.3	188.5	186.6	117.6	130.9	146.2
Add: Depreciation and Amortisation	22.8	25.1	26.2	29.4	33.2	36.2	38.2	41.9	46.0
Less: Capital Expenditure	-	-	-	-	-	-	-	-	-
Less/(Add): Increase/(Decrease) in Working Capital	14.7	(2.0)	(1.0)	(1.1)	(1.1)	(1.2)	(1.3)	(4.2)	(4.5)
Net Cash Flows	112.6	166.8	173.0	195.8	222.8	224.0	157.0	177.0	196.6
Future Net Free Cash Flows Available to Equity	112.6	166.8	173.0	195.8	222.8	224.0	157.0	177.0	196.6
Discount period	0.50	1.50	2.50	3.50	4.50	5.50	6.50	7.50	8.50
Present Value Factors (c)	0.96	0.87	0.80	0.73	0.67	0.61	0.56	0.51	0.47
Discounted Net Free Cash Flows	107.6	145.8	138.2	143.0	148.8	136.8	87.6	90.3	91.7

Discounted Net Free Cash Flows	2,396.3
Gross Enterprise Value	2,396.3
Add: Cash & Cash Equivalents (d)	3.3
Add: DSRA (d)	14.3
Less: Borrowings (d)	591.0
Fair Equity Value as on Valuation Date	1,822.8

31-Mar-36 12 months	31-Mar-37 12 months	31-Mar-38 12 months	31-Mar-39 12 months	31-Mar-40 12 months	31-Mar-41 12 months	31-Mar-42 12 months	31-Mar-43 12 months	31-Mar-44 12 months	31-Mar-45 12 months	31-Mar-46 12 months	22-Jun-46 2.8 Months
380.3 10.6%	416.4 9.5%	456.8 9.7%	504.2 10.4%	554.4 10.0%	609.5 9.9%	671.0 10.1%	734.4 9.4%	810.2 10.3%	888.3 9.6%	976.9 10.0%	244.8 na
346.4 91.1%	380.9 91.5%	419.6 91.8%	465.0 92.2%	513.3 92.6%	566.4 92.9%	581.3 86.6%	640.3 87.2%	711.2 87.8%	835.9 94.1%	921.9 94.4%	231.4 94.5%
50.8 13% -	55.6 13% 1.1	61.0 13% 2.4	67.4 13% 3.8	74.1 13% 4.9	81.4 13% 6.1	89.7 13% 7.4	98.1 13% 8.5	108.3 13% 9.8	118.7 13% 11.3	130.5 13% 13.8	32.7 13% 3.6
295.6 78%	324.2 78%	356.1 78%	393.8 78%	434.3 78%	478.8 79%	484.3 72%	533.7 73%	593.1 73%	705.9 79%	777.6 80%	195.1 80%
75.2 19.8%	83.6 20.1%	93.0 20.4%	104.1 20.6%	116.0 20.9%	129.0 21.2%	132.5 19.7%	147.0 20.0%	164.5 20.3%	195.5 22.0%	216.7 22.2%	54.7 22.3%
220.4	240.6	263.1	289.7	318.3	349.8	351.8	386.6	428.6	510.3	560.9	140.4
50.8 - (4.7)	55.6 - (1.5)	61.0 - (1.6)	67.4 - (1.7)	74.1 - (1.8)	81.4 - (1.9)	89.7 - (1.9)	98.1 - (4.1)	108.3 - (4.3)	118.7 - (4.5)	130.5 - (2.4)	32.7 - (3.1)
275.9	297.7	325.7	358.8	394.2	433.1	443.4	488.8	541.1	633.5	693.8	176.2
275.9	297.7	325.7	358.8	394.2	433.1	443.4	488.8	541.1	633.5	693.8	176.2
9.50 0.43	10.50 0.39	11.50 0.36	12.50 0.33	13.50 0.30	14.50 0.27	15.50 0.25	16.50 0.23	17.50 0.21	18.50 0.19	19.50 0.17	20.11 0.16
117.6	116.1	116.1	116.9	117.4	117.9	110.4	111.2	112.6	120.5	120.6	29.0

5.2 Valuation of CG Tollway Limited

5.2.1 Project Details

CGTL was engaged for six laning the existing four lane highway on Design, Build, Finance, Operate, Transfer ("DBFOT") basis. The project stretch is 124.87 Kms long involving the Kishangarh Udaipur Ahmedabad section from 90 kms (near Gulabpura) to 214.87 kms (end of Chittorgarh Bypass) of NH-79 in Rajasthan with 2 toll plazas.

5.2.2 Concession period

CGTL is required to construct; operate and maintain and modify, repair or otherwise make improvements to the project highway in accordance with the concession agreement dated 9th December 2016, for a period of 20 years commencing from the appointed date i.e. 4 November 2017.

As per Clause 29.2 of the concession agreement between NHAI and CGTL, "In the event actual average traffic shall have fallen short of the target traffic, then for every 1% shortfall as compared to the target traffic, the Concession Period of CGTL shall, subject to payment of concession fee in accordance with this agreement, be increased by 1.5% thereof; provided such increase in concession period shall not in any case exceed 20% of the concession period".

Based on discussions with the Management and as per the traffic study report (as provided to us by the Management), the original Concession Period of CGTL of 20 years is estimated to be extended by ~4.0 years (in accordance with article 29 of the concession agreement) on account of shortfall in target traffic. Additionally, the Concession Period is extended by 90 days on account of covid-19.

Please refer Table 5.2 for revised Concession Period end date, as considered by us for our valuation exercise.

Table 5.2: Highlights of the Project

Particulars	Details
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State	Rajasthan
Concessionaire	CGTL
Lane configuration	NH48, six-lane (divided)
Toll plazas	2
Tollable Length (kms)	• Lambiyar Kalan: 67.16 km • Jojaro Ka Kheda: 69.65 km
Concession Agreement Date	09-Dec-16
Appointed Date	04-Nov-17
Six laning completion certificate date	15-Aug-21
Scheduled Concession Period end date (as per concession agreement)	03-Nov-37
Revised Concession Period end date	31-Jan-42

Source: Management

As discussed in section 5.2.2 above, the Management has confirmed to us to consider revised Concession Period end date till 31 January 2042. Hence, the explicit period for the current valuation analysis exercise has been considered from 1 April 2026 to 31 January 2042.

5.2.3 Premium

As per the terms of concession agreement dated 9 December 2016 and as confirmed to us by the Management, CGTL was engaged on payment of premium of INR 228.6 Cr to NHAI immediately after the 3rd anniversary year of COD (later of appointed date or financial year end date, i.e. 31 March 2018) 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 10th 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.

5.2.4 Key Assumptions

Revenue

Revenue for CGTL is derived from Toll collections for the Concession Period of CGTL. Management has provided Traffic volume, toll rates and toll revenue for the forecast period based on the traffic report prepared by independent consultant in June 2026.

As stated in the Traffic Study Report of CGTL, elasticity model of growth projection has been considered for traffic forecast. While estimating traffic volume, consultant has considered factors such as the historical traffic data, GDP growth rate of India, GSDP of Rajasthan, developments along the project road and elasticity value of different vehicle type for computing the traffic growth rate.

Annual revision of toll rate for the forecast period shall be in accordance with National Highway Fee (Determination of Rates and Collection) Rules, 2008 and amendment thereto.

Additionally, as confirmed to us by the Management and the as per the terms of the concession agreement dated 9 December 2016 & the Traffic Study report as on June 2026, the applicable base rate shall be revised annually on April 1 to reflect 3% fixed increase plus increase in wholesale price index ("WPI") but such revision shall be restricted to 40% of the increase in WPI on overall basis during the concession period.

Please refer to the traffic report for detailed study on forecast traffic growth rates, toll rates and toll revenue.

Periodic maintenance & routine maintenance costs

Operational expenditure includes base operating expenditure, admin expenses, insurance, project management fees and various other expenses. These are broadly categorized as routine maintenance expenses and other operating expenses.

Periodic maintenance expenses, also referred to as major maintenance costs, are incurred to restore the road asset to its original condition or to sustain its current operating performance. The Management has confirmed that there is a subcontractor who handles the project of the Target Assets over the entirety of its life including construction and all periodic and routine capital expenditure. Further, the Management has confirmed that the same is a fixed price contract based on expectations throughout the period and that if there is any additional expenditure, then the contractor will bear the same. The same has been accordingly factored in the projections provided by the Management.

Depreciation & Amortization

Forecasted depreciation on assets has been provided by the Management. Management has forecasted the depreciation to increase in line with the increase in revenue.

Tax

Management has represented that CGTL carries an unabsorbed depreciation balance and therefore intends to continue under the existing tax regime to avail the benefit of lower taxes under MAT, till such depreciation balance is fully utilised. Accordingly, the Company is expected to remain under the old regime until the unabsorbed depreciation is exhausted. This position has been incorporated in the forecast tax outflows, along with the utilisation of available MAT credit.

Capex

Since the Target Assets is already operational, there is no capex to be incurred in the remainder of the concession period.

Working capital

Working capital for FY 2026 comprises of other financial assets, other current assets, current tax assets, provision, trade payables, other financial liabilities and other current liabilities etc basis the balance sheet to be transferred, as provided to us by the Management.

The change in working capital for FY27 is considered as the difference between the GST claim on operations & maintenance expenses of FY26 which shall be due in FY27 and the working capital of FY26. From FY28 onwards, management has considered working capital to remain constant except for:

- The Management has represented that the GST rate for the current subcontract for the operations and maintenance of the tollway has increased from 12% to 18%. Accordingly, the Management can claim the difference in tax rate from NHAI on account of Change in Law provision of NHAI provided that there is a minimum increase of INR 1 Crore on account of the increase in the tax rate. Hence, the Management would receive the claim on the differential amount.

5.2.5 Discounted Cash Flows

The Discounted Cash Flows basis the above analysis have been presented below.

Discounted Cash Flow Analysis (a)	31-Mar-27 12 months	31-Mar-28 12 months	31-Mar-29 12 months	31-Mar-30 12 months	31-Mar-31 12 months	31-Mar-32 12 months	31-Mar-33 12 months
Revenue, net of payment to NHAI	179.1	227.0	247.7	283.1	304.7	331.0	370.7
Annual Revenue Growth	na	26.7%	9.1%	14.3%	7.6%	8.6%	12.0%
EBITDA	105.6	182.8	201.3	234.5	162.9	181.6	214.6
EBITDA Margins	58.9%	80.5%	81.3%	82.8%	53.4%	54.9%	57.9%
Less: Depreciation and Amortisation	50.1	56.5	61.2	67.9	73.2	79.4	87.1
As a percentage of Revenue	28%	25%	25%	24%	24%	24%	24%
Less: CSR Expense	-	-	-	-	-	-	-
EBIT	55.4	126.3	140.1	166.6	89.6	102.2	127.5
EBIT Margins	31%	56%	57%	59%	29%	31%	34%
Less: Income Tax Expense (b)	9.0	20.6	22.8	27.2	14.6	16.7	20.8
	16.3%	16.3%	16.3%	16.3%	16.3%	16.3%	16.3%
Cash Flows from Operations	46.4	105.7	117.2	139.4	75.0	85.5	106.7
Add: Depreciation and Amortisation	50.1	56.5	61.2	67.9	73.2	79.4	87.1
Less: Capital Expenditure	-	-	-	-	-	-	-
Less/(Add): Increase/(Decrease) in Working Capital	13.3	(3.3)	(2.0)	(2.1)	(2.2)	(6.4)	(6.8)
Net Cash Flows	83.2	165.5	180.5	209.4	150.4	171.3	200.6
Future Net Free Cash Flows Available to Equity	83.2	165.5	180.5	209.4	150.4	171.3	200.6
Discount period	0.50	1.50	2.50	3.50	4.50	5.50	6.50
Present Value Factors (c)	9.4%	0.96	0.87	0.80	0.73	0.67	0.56
Discounted Net Free Cash Flows	79.6	144.7	144.2	153.0	100.5	104.6	112.0

Discounted Net Free Cash Flows	2,229.4
Gross Enterprise Value	2,229.4
Add: Investments (d)	5.1
Add: Cash & Cash Equivalents (d)	9.3
Add: DSRA (d)	50.0
Add: Interest accrued on FD (d)	0.4
Less: Borrowings (d)	1,306.0
Fair Equity Value as on Valuation Date	988.0

31-Mar-34 12 months	31-Mar-35 12 months	31-Mar-36 12 months	31-Mar-37 12 months	31-Mar-38 12 months	31-Mar-39 12 months	31-Mar-40 12 months	31-Mar-41 12 months	31-Jan-42 10 months
419.6 13.2%	467.7 11.5%	528.7 13.0%	589.6 11.5%	659.3 11.8%	738.7 12.0%	827.8 12.1%	921.4 11.3%	863.5 na
360.5 85.9%	396.4 84.7%	414.7 78.4%	470.5 79.8%	534.1 81.0%	663.5 89.8%	748.7 90.4%	740.9 80.4%	710.2 82.2%
96.3 23% -	105.6 23% -	116.9 22% 1.4	128.2 22% 2.9	141.0 21% 3.8	155.2 21% 4.9	171.3 21% 6.7	187.8 20% 8.7	173.4 20% 10.8
264.2 63%	290.8 62%	296.4 56%	339.4 58%	389.4 59%	503.4 68%	570.7 69%	544.4 59%	526.0 61%
43.1 16.3%	47.4 16.3%	58.4 19.7%	88.3 26.0%	125.1 32.1%	165.8 32.9%	186.7 32.7%	184.3 33.9%	176.0 33.5%
221.1	243.3	238.0	251.2	264.3	337.6	384.0	360.1	350.0
96.3 - (7.1)	105.6 - (2.7)	116.9 - (3.2)	128.2 - (5.1)	141.0 - (5.4)	155.2 - (5.7)	171.3 - (3.4)	187.8 - (3.6)	173.4 - (8.7)
324.5	351.6	358.1	384.5	410.6	498.5	558.6	551.5	532.1
324.5	351.6	358.1	384.5	410.6	498.5	558.6	551.5	532.1
7.50 0.51	8.50 0.47	9.50 0.43	10.50 0.39	11.50 0.36	12.50 0.33	13.50 0.30	14.50 0.27	15.42 0.25
165.6	164.0	152.7	149.9	146.3	162.4	166.4	150.2	133.4

5.3 Valuation Conclusion

Table 5.3 summarizes the fair value of Target Assets as on the Valuation date.

Table 5.3: Valuation Conclusion

Particulars	Value (INR Cr)
Enterprise Value of SYTL	2,396.3
Enterprise Value of CGTL	2,229.4
Total Enterprise Value of Target Assets	4,625.6
Net Debt	1,814.8*
Total Equity Value of Target Assets	2,810.8

**Please note that the Management has provided us with the audited balance sheet of SYTL & CGTL as on 31 March 2026. Additionally, the Management has provided us with the balance sheet of SYTL & CGTL representing the asset and liabilities proposed to be transferred as part of the Proposed Transaction. Accordingly, as confirmed to us by the Management, we have considered the balance sheet that will be transferred as part of the Proposed Transaction, for the purpose of net debt calculation for both SYTL & CGTL. We have not independently verified the underlying balances. Accordingly, the net debt considered in this valuation reflects the estimated financial position of the Target Assets on a transaction basis.*

We therefore estimate the fair equity value of the Target Assets at **INR 2,810.8 Crores**, as on 31 March 2026, based on the methodologies described in this report and subject to the limitations stated in this report and our engagement letter. Further, please note that our scope does not involve assessing any contingent liabilities, unusual contractual obligations or substantial commitments and we have relied on management representation for the same.

5.4 Additional Analysis - Valuation as on 30th September 2026

Further, the Management has requested for an illustrative roll forward of the valuation of March 2026 to September 2026 based on the expected cash flow and unchanged discount rate.

Based on above analysis, the value of Target Assets as on 30 September 2026 is summarized in Table 5.4 below:

Table 5.4: Valuation Conclusion as on 30 September 2026

Particulars	Value (INR Cr)
Enterprise Value of SYTL	2,441.6
Enterprise Value of CGTL	2,282.8
Total Enterprise Value of Target Assets	4,724.4
Net Debt	1,778.5*
Total Equity Value of Target Assets	2,945.9**

**Please note that the Management has provided us with the projected balance sheet of SYTL & CGTL as on 30 September 2026. Accordingly, as confirmed to us by the Management, we have considered the above balance sheet for the purpose of net debt calculation for both SYTL & CGTL.*

*** Kindly note that the value is subject to change basis the discount rate as on 30 September 2026 and the actual Balance Sheet of SYTL & CGTL as on 30 September 2026*

Section 6: Caveats

6.1 General

Provision of valuation recommendations and considerations of the issues described herein are areas of our regular advisory services. The services do not represent accounting, audit, financial due diligence review, consulting, transfer pricing or domestic / international tax-related services that may otherwise be provided by GTVAPL or its affiliates.

The recommendation contained herein is not intended to represent value at any time other than the Valuation Date. Also, it may not be valid if done on behalf of any other entity.

This Report, its contents and the results herein are specific to:

- a. the purpose of valuation agreed as per the terms of our engagement;
- b. the Valuation Date, and
- c. are based on the data detailed in the section – Sources of Information for the Target Assets.

Events occurring after the date hereof may affect this Report and the assumptions used in preparing it, and we do not assume any obligation to update, revise or reaffirm this Report.

It should be understood that the valuation of any entity or its assets is inherently subjective and is subject to uncertainties and contingencies, all of which are difficult to predict and are beyond our control. This valuation could fluctuate with lapse of time and there will always be several factors, for e.g., management capability, present and prospective competition, yield on comparable securities, market sentiment, industry and economic conditions etc. which may not be apparent from the face of the Balance Sheet but could strongly influence the value.

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 judgement. There is, therefore, no single undisputed value for the Target Assets. While we have provided our valuation recommendation based on the information available to us and within the scope of our engagement, others may have a different opinion.

It may be noted that valuation is not an exact science and ultimately depends upon what the business is worth to a serious investor or buyer who may be prepared to pay a substantial goodwill. The valuation exercise for the Target Assets is carried out as on the

Valuation Date mentioned in the report and using the guidance provided in the IPEV Guidelines, the relative emphasis of each often varying based on several specific factors. The results of this exercise could vary significantly depending upon the basis used, the specific circumstances and professional judgment of the Valuer. The actual market price achieved may be higher or lower than our estimate of value depending upon the circumstances of the transaction (for example the purchaser's perception of potential synergies), the nature of the business (for example the competitive bidding environment), and such other factors.

No investigation / inspection of the Target Assets claims to title of assets, matters of regulatory nature, tax nature, legal nature, litigation and other contingent liabilities has been made for the purpose of this Report and the Target Assets claims to such rights has 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. The Report assumes that the Target Assets, their subsidiaries, associates, and Joint Ventures ("JVs"), if any, comply fully with relevant laws and regulations applicable in all their areas of operations.

The Management has represented to us that the business activities have been carried out in the normal and ordinary course between Valuation Date and the date of this Report for its Target Assets and that no material adverse change has occurred in their respective operations and financial position between the respective afore-mentioned dates.

The Management has indicated to us that they have understood that any omissions, inaccuracies or misstatements may materially affect our valuation analysis/results. However, nothing has come to our attention to indicate that the information provided was materially mis-stated/ incorrect or would not afford reasonable grounds upon which to base the Report.

As per our Engagement Letter and in accordance with the customary approach adopted, our analysis and review of the historical financial statements of the Target Assets, does not constitute an audit in accordance with Auditing Standards.

We have relied on explanations and information provided by the Management and accepted the information provided to us as consistent and accurate on an "as is" basis. Nothing has

come to our attention to indicate that the information provided has material misstatements or would not afford reasonable grounds upon which to base the Report.

Our conclusion of valuation assumes that the assets and liabilities of the Target Assets, their subsidiaries, associates and JVs, reflected in their respective latest balance sheets remain intact as of the Report Date. We have assumed that the liabilities are only those which were made available to us in the key items of the audited/ provisional financial statements provided to us and that there are no other contingent liabilities, unusual contractual obligations, substantial commitments or claims against all the Target Assets which would materially affect the financial statements and have an impact on the value unless specifically stated by the Management.

Our report is not, nor should it be construed as our opining or certifying the compliance of the Target Assets with the provisions of any law including companies, taxation or as regards any legal implications or issues arising thereon.

We have relied on data from external / public sources. These sources, although considered to be reliable, are external and hence, we assume no liability for the accuracy of the data.

We have assumed that the business continues normally without any disruptions due to statutory or other external/ internal occurrences.

Our valuation is primarily from a business perspective and has not taken into account various legal and other corporate structures beyond the limited information made available to us. Hence, our opinion should not be construed as legal advice or a legal opinion.

The recommendation rendered in this Report only represents our recommendation based upon the financial information of the Target Assets till the Valuation Date and other relevant information till date, furnished by the Management (or its representatives) and other sources. Our valuation analysis should not be construed as investment advice; specifically, we do not express any opinion on the suitability or otherwise of entering into any transaction with the Target Assets. Any person / party intending to provide finance / invest in the shares / business of the Target Assets / their holding companies / subsidiaries / associates / investee companies / other group companies, if any, shall do so after seeking their own professional advice and after carrying out their own due diligence procedures to ensure that they are making an informed decision.

We have no present or planned future interest in the Target Assets and the fee for this report is not contingent upon the values or results reported herein.

Our scope does not include review/audit of the transaction documents including shareholders' agreement, share subscription agreement.

Under no circumstances whatsoever, are we to be held liable for any loss, damages, costs or expenses arising in any manner or form, from acts of fraud, misrepresentation, misstatement, provision of incorrect information or withholding of information from us on part of the Target Assets, their directors, employees or agents. We will not be liable for any losses, claims, damages or liabilities arising out of the actions taken, omissions of or advice given by any other advisor to the Target Assets or the Management.

The scope of work has been limited both in terms of the areas of the business and operations which we have reviewed and the extent to which we have reviewed them. There may be matters, other than those noted in this report, which might be relevant in the context of the valuation of Target Assets and which a wider scope might uncover. Our assistance/ this report should not be considered any advice for financial reporting purposes.

Any discrepancies in any table / annexure between the total and the sums of the amounts listed are due to rounding-off.

The valuation worksheets prepared for the exercise are proprietary to GTVAPL and cannot be shared. Any clarifications on the workings will be provided on request, prior to finalizing the report, as per the terms of our engagement.

This Report is subject to the laws of India.

6.2 Use and Distribution of Report

Our appointment was formalized via engagement letter dated 22 June 2026, however, the work had started earlier based on verbal confirmation. Further, the information provided by the Management have been appropriately reviewed in carrying out the valuation. Sufficient time and information were provided to us to carry out the valuation.

Neither this Report nor its contents may be referred to or quoted in any registration statement, prospectus, offering memorandum, annual report, loan agreement or other

agreement or document given to third parties, without our prior written consent except for disclosures to be made to relevant regulatory authorities or as required under applicable law. It is hereby notified that usage, reproduction, distribution, circulation, copying or otherwise quoting of this report or any part thereof, except for the purpose as set out earlier in this report, without our prior written consent, is not permitted, unless there is a statutory or a regulatory requirement to do so.

This Report and the information contained in it is absolutely confidential and intended only for the sole use and information of the Management and only in connection with the valuation of the Target Assets for the purpose as indicated in the Report, for which we have been appointed. Without limiting the foregoing, we understand that the Client may be required to share this Report with regulatory or judicial authorities in connection with the applicable laws. We hereby give consent to such disclosure of this Report, on the basis that the Valuer owes responsibility only to the Client that has engaged us, under the terms of the engagement, and no other person; and that, to the fullest extent permitted by law, the Valuer accepts no responsibility or liability to any other party, in connection with this Report.

We do not accept any liability to any third party in relation to the issue of this Report. This Report is not a substitute for the third party's own due diligence/ appraisal/ enquiries/ independent advice that the third party should undertake for his purpose. If any person / party (other than the Client) chooses to place reliance upon any matters included in the report, they shall do so at their own risk and without recourse to the Valuer.

We understand that a copy of the Valuation Report prepared under this engagement is required to be shared with the statutory auditors of the Client for informational purposes only.

- a) We would like to emphasize that the statutory auditors of the Client shall keep the Valuation Report confidential and shall not make any claim on GTVAPL for matters arising out of or consequent upon issue of our report to it.
- b) We do not owe any duty of care and accept no responsibility or liability towards the statutory auditors, investors, and shareholders, with regard to our report.

Our analysis is invalid, if used for any other purpose other than stated herein. The Client shall indemnify and hold harmless GTVAPL and its personnel against all claims by third

parties, including its Auditors arising directly or indirectly as a result of the Report being shared with third parties.

6.3 Sources of Information

We have relied on the following sources of information provided by the Management:

- Information on business and profile provided by the Management;
- Audited Balance Sheet of the Target Assets for the year ended 31 March 2026.
- Balance sheet proposed to be transferred as part of Proposed Transaction for both SYTL & CGTL.
- Projected Balance sheet as on 30 September 2026.
- Management certified consolidated financial projections (income statement and key balance sheet items) commencing from 01 April 2026 to 22 June 2046 for SYTL and commencing from 01 April 2026 to 31 January 2042 for CGTL;
- Management certified consolidated financial projections (income statement and key balance sheet items) commencing from 01 October 2026 to 22 June 2046 for SYTL and commencing from 01 October 2026 to 31 January 2042 for CGTL
- Concession Agreements dated 9 December 2016 of CGTL and 3 March 2014 of SYTL,
- Operations & maintenance expense agreements dated 31 January 2020 for both SYTL & CGTL and Traffic Study Reports dated June 2026 for both SYTL & CGTL.
- Discussion with Management and Information provided by the Management under the Management Representation Letter.
- Other relevant information available in the public domain and internet sources; and
- International Databases

Section 7: Appendices

Appendix 1: Additional Disclosures as required by SEBI InvIT Regulations

The following disclosures are as on 31 March 2026 for the Target Assets

- **List of one-time sanctions/approvals which are obtained or pending/ List of up to date/overdue periodic clearances:** Not applicable in the case of Target Assets
- **Estimates of already carried as well as proposed major repairs and improvements along with estimated time of completion:** Refer appendix 1.1 for the aforementioned information.
- **Purchase price of the project by the InvIT:** Refer appendix 1.2 for the aforementioned information.
- **On-going and closed material litigations including tax disputes in relation to the assets, if any:** Refer appendix 1.3 and 1.4 for the aforementioned information for SYTL and CGTL.
- **Statement of assets:** Refer appendix 1.5 for the aforementioned information.
- **Revenue pendencies including local authority taxes associated with InvIT asset and compounding charges, if any:** Management represented that there are no revenue pendencies including local authority taxes and compounding charges with respect to the Target Assets.
- **Vulnerability to natural or induced hazards that may not have been covered in town planning/ building control:** Management represented that there are no such natural or induced hazards which have been not considered in town planning/building control with respect to the Target Assets.
- **Latest pictures of the Target Assets:** Refer Appendix 2 for the aforementioned information
- **Date of site inspection:** During the month of June 2026.
- **In term of the SEBI InvIT Regulations, we hereby confirm that:**
 - We are competent to undertake the valuation.
 - We are independent and have prepared this Report on fair and unbiased basis.

- The Valuation has been performed as per internationally accepted valuation methodologies and in cognizance of international valuation standards and ICAI Valuation Standards 2018 issued by the Institute of Chartered Accountants of India.
- GTVAPL is not affiliated to the Client in any manner whatsoever. Further GTVAPL does not have a prospective interest in the Targets which is the subject of this Valuation and GTVAPL's fee is not contingent on an action or event resulting from the analysis, opinions or conclusions in the Valuation

- **Valuer Profile:** Refer Section 2.6

Caveat to disclosures: GTVAPL has not independently verified the documents related to disclosures mentioned in the annexures and have relied on Management representation for the same.

Appendix 1.1: Estimates of already carried out as well as proposed routine and major repairs and improvements along with estimated time of completion

Particulars	FY 26	FY 27	FY 28	FY 29	FY 30	FY 31	FY 32	FY 33	FY 34	FY 35	FY 36
Solapur Yedeshi Tollway Limited	41.1	43.1	22.8	23.9	25.1	26.4	27.8	93.4	98.2	102.9	33.7
CG Tollway Limited	69.7	73.1	43.7	45.9	48.1	141.3	148.8	155.4	58.5	70.7	113.4

Particulars	FY37	FY 38	FY 39	FY 40	FY 41	FY 42	FY 43	FY 44	FY 45	FY 46	June'46
Solapur Yedeshi Tollway Limited	35.2	37.0	38.9	40.9	42.8	89.4	93.7	98.7	52.1	54.7	13.1
CG Tollway Limited	118.5	124.4	74.4	78.4	179.7	152.5	-	-	-	-	

Appendix 1.2: Purchase price of the project by IRB InfraT

Particulars	No. of equity shares transferred to the trust	No. of units of trust issued to the Sponsor	% Stake in Target
Solapur Yedeshi Tollway Limited	98,250,000	98,250,000	100.00%
CG Tollway Limited	203,500,000	203,500,000	100.00%

Appendix 1.3: Pending litigations – SYTL

Sr. No.	Complainant/Applicant/Plaintiff	Respondents	Name and Address of the court and case number	Brief Description of the case	Status as on 31 st March 2026	Financial Implications
1	Raosaheb Chadre	Modern Makers Pvt. Ltd	Road Civil Judge, Senior Division, Osmanabad (Special suit number 73/2018)	The plaintiffs have prayed that due to mining work by the defendant, the levelling of the ground has been disturbed and there have been huge holes in the ground which should be filled by the defendants and that the plaintiffs should pay Rs. 82,41,800/- towards the extraction cost.	The matter is pending.	The company had undertaken the work with the consent of the plaintiff after obtaining necessary permissions. The claim of the plaintiff is false. The company has denied all the allegations. Considering the merits of the matter, there are no financial implications in this matter.
2	Bhagwan Rambhau Jadhwar	SolapurYedeshi Tollway Pvt. Ltd. and others	Civil Judge, Junior Division, Kallam (regular civil suit number 1139/2018)	The plaintiff has filed suit claiming that due to the negligence of the defendants, in construction of drainage adjoining the road, the water from the drainage had entered in field of the plaintiff and has caused loss to the tune of Rs. 2,00,000/-, which should be made good by the respondents.	The matter is pending	The company has taken all the necessary safety measures while construction of the road and denied any negligence on its part. Considering the merits of the matter, there are no financial implications in this matter
3	Solapur Tollway Ltd.	Yedeshi NHAI	Arbitration	SYTL (Claimant) had submitted claims to NHAI for compensation as per Clause 35.2 and Clause 35.3 of the Concession Agreement on account of delays attributable to NHAI. The claim for cost stands at Rs. 571.36 Crore in terms of Clause 35.2 and extension of Concession Period for 539.20 days in terms of Clause 35.3 of the Concession Agreement. Since there was no response received from NHAI, SYTL crystallised the matter as contractual dispute on 09.03.2022 and requested for amicable settlement through Conciliation as per Clause 44.2 of the Concession Agreement.	Arbitration proceedings are in progress. Next hearing is on 15.07.2026	Rs. 790.54 Cr + interest & extension of extension of 647.43 days

Appendix 1.4: Pending litigations – CGTL

Sr. No.	Complainant/Applicant/Plaintiff	Respondents	Name and Address of the court and case number	Brief Description of the case	Status as on 31 st March 2026	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 disposed by the court. Hence, this matter is closed.	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.
2	CG Tollway Ltd	NHAI	Arbitration	Claimants filed Statement of Claim including the claim on account of compensation of Force Majeure Cost and extension in Concession Period on account of COVID 19) , Claim for compensation under Clause 35.2 & 35.3 along with a prayer that Premium is applicable after 6 months of Actual completion.	Arbitration proceedings are in progress. In view of the demise of Sri Justice V.K. Gupta, the NHAI has substituted Sri B.S. Bhullar, Retired IAS as their arbitrator. The Section 16 order of the Tribunal has been challenged by NHAI before the Hon'ble Delhi High Court, and the matter is currently pending adjudication.	Commencement of Premium after 6 months of actual completion Claim: Rs. 502.12 + + interest & extension of 241.37 days

Appendix 1.5: Statement of assets as on 31 March 2026 (INR crore)

Statement of Assets	Net tangible assets	Intangible assets	Other non-current assets	Total Non-current assets	Current assets
Name of the Target Assets					
Solapur Yedeshi Tollway Limited	-	1,263.5	-	1,263.5	24.6
CG Tollway Limited	0.2	1,966.4	18.3	1,985.0	86.7

Appendix 2 (a): Site Visit - CGTL – Jojaro Ka Kheda Toll Plaza



1032

NATIONAL HIGHWAYS OF INDIA SHOP - Jajaro Ka Kheda Toll Plaza
TOLLWAY LIMITED
Toll Plaza, Jojaro Ka Kheda, Dist. Gandhinagar, Gujarat - 382001
Toll Plaza No. 1032 (Dist. Gandhinagar)

USPK FEES From F. 01/04/2026

VEHICLE TYPE	For Paying Traffic (Single Journey)	
	Paid Through FASTAG (Rs.)	Paid Through UPI (Rs.)
GOVT. VAN / LIGHT MOTOR VEHICLE (2-3 AXLES)	≤ 140.00	≤ 175.00
LGV / LGV / MINI BUS (2-3 AXLES)	≤ 175.00	≤ 218.75
TRUCK / TRUCK (2-3 AXLES)	≤ 365.00	≤ 456.25
COMB. TRUCK / TRUCK (3-4 AXLES)	≤ 450.00	≤ 562.50
TRUCK / TRUCK (4-5 AXLES)	≤ 575.00	≤ 718.75
OVERSIZE VEHICLE / OVER MORE AXLES (7-8 AXLES)	≤ 700.00	≤ 875.00

COMPLAINT BOOK AVAILABLE HERE

Appendix 2 (b): Site Visit - CGTL – Lambiyan Kalan Toll Plaza



Appendix 2 (c): Site Visit - SYTL – Yedeshi Toll Plaza



Appendix 2 (d) : Site Visit - SYTL – Tamalwadi Toll Plaza



Project Zenith 2.0: Solapur-Yedeshi Tollway Limited



Project Zenith 2.0: Solapur-Yedeshi

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Client ref: Project Zenith

Our ref: 25068107

Table of Contents

Disclaimer	i
Glossary Items	i
1 Introduction	1
The assignment	1
Our approach	2
Contents of this Report	3
2 The Assets	4
Introduction	4
Asset Context	4
Strategic network	5
Concession and tolling details	7
Key economic and tourism influence on the Assets	9
3 Traffic description	11
Introduction	11
Historical trends	11
Toll Frequencies	16
Data Collection exercise	19
Key findings of the TVC data analysis	20
WADT estimates	20
TVC (Total Volume Count) v/s TMS (Traffic Management System)	21
Key findings of origin-destination (OD) analysis	22
Overview	22
Sample rates	22
Zone Categories	23
Zonal influence	24
Trip length analysis	30
Conclusions	32
4 Socio Economic Context	34
Introduction	34
Population growth	34
National level	34
State level	35
Economic Indicators	35
Industrial Production	35
Vehicle ownership	36
Per Capita Income (PCI)	37
Economic growth	38
India's Performance	38

	GDP and GSDP Growth	40
5	Traffic growth analysis	41
	Introduction	41
	Estimation of background elasticities	42
	Overview	42
	Forecasts for growth drivers	44
	National GDP	44
	State GSDP	44
6	Forecasts: Base year AADT and Impacts	46
	Introduction	46
	Seasonal Correction Factors	46
	Base year (FY27) traffic	47
	Analysis of potential impacts	48
	Summary of alternate routes and planned changes	48
	Summary of impact assessments	49
	Revenue forecasting assumptions	62
	Trip factors	62
	Toll segmentation	63
	Toll evolution	66
	Revenue reconciliation	67
	Traffic and Revenue forecasts	67
	PCU factor assumption for forecasts	67
	Tamalwadi	67
	Yedeshi	69

Figures

Figure 2.1: Asset context	4
Figure 2.2: Asset location in the regional network context	6
Figure 2.3: Typical cross-sections and toll plazas on the Asset	8
Figure 3.1 Recent developments leading to network shifts	13
Figure 3.2 Category wise vehicle shares (%) and AADT at SY: Tamalwadi	14
Figure 3.3 Category wise vehicle shares (%) and AADT at Yedeshi	15
Figure 3.4: CJV toll segmentation - Tamalwadi	18
Figure 3.5: MAV toll segmentation - Tamalwadi	18
Figure 3.6: CJV toll segmentation -Yedeshi	19
Figure 3.7: MAV toll segmentation - Yedeshi	19
Figure 3.8: Vehicle share comparison: Tamalwadi	21
Figure 3.9: Vehicle share comparison: Yedeshi	21
Figure 3.10: Zonal distribution - Tamalwadi	25

Figure 3.11: Zonal distribution - Yedeshi	25
Figure 3.12: Zonal influence - Tamalwadi	26
Figure 3.13: Zonal influence - Yedeshi	26
Figure 3.14: Commodity distribution - Tamalwadi	28
Figure 3.15: Commodity distribution - Yedeshi	29
Figure 3.16: Trip length distribution - Tamalwadi	31
Figure 3.17: Trip length distribution - Yedeshi	31
Figure 4.1: Annual growth – Index of Industrial Production (FY16-FY26YTD)	36
Figure 4.2: Total number of registered motor vehicles in India (per 1000 population)	37
Figure 4.3: Per Capita Income	37
Figure 4.4: YoY growth in expenditure components of GDP	38
Figure 4.5: Month on Month IIP performance	39
Figure 4.6: Industrial components of GVA	39
Figure 4.7: Evolution of Maharashtra's state GDP and National GDP	40
Figure 5.1: FY24-46 GDP forecast	44
Figure 5.2: Forecasts for Maharashtra GSDP	45
Figure 6.1: Assets route shown against the regional network context	49
Figure 6.2 Route Choices after the completion of the Shirdi Ahilyanagar 4 laning	52
Figure 6.3 Route Choice during construction of Malegaon Shirdi	55
Figure 6.4 Route Choice Post Construction of the Alternative	56
Figure 6.5 Route Choice Between Alternate via the Expressway and the Asset	58
Figure 6.6: Route choice between alternative and Autram Ghat Tunnel	60
Figure 6.7: CJV toll segmentation evolution – SY Tamalwadi	63
Figure 6.8: MAV toll segmentation evolution – SY Tamalwadi	64
Figure 6.9: CJV toll segmentation evolution – SY Yedeshi	65
Figure 6.10: MAV toll segmentation evolution – SY Yedeshi	65
Figure 6.11: WPI growth forecast assumptions	66

Tables

Table 1.1: Scope of work and sources of data	1
Table 1.1.2: Data collection schedule	3
Table 2.1: Summary of concession	7
Table 2.2: Single toll rates on the Assets (INR), applicable April 2026 to March 2027	8
Table 3.1: Historical evolution in AADT by vehicle class: Tamalwadi	11
Table 3.2: Historical growth in AADT by Vehicle Class: Tamalwadi	12
Table 3.3: Historical evolution in AADT by vehicle class: Yedeshi	14
Table 3.4: Historical growth in AADT by vehicle class: Yedeshi	14
Table 3.5: Historical evolution in revenue by vehicle class (INR crores): Tamalwadi	15
Table 3.6: Historical evolution in revenue by vehicle class (INR crores): Yedeshi	15
Table 3.7: Data collection schedule	20

Table 3.8: WADT at Assets	20
Table 3.9: Sample rates for OD data	23
Table 3.10: Zone aggregations for zonal influence analysis	23
Table 3.11: Aggregate commodity categories	27
Table 3.12: Direction wise commodity distribution – Tamalwadi	28
Table 3.13: Direction wise commodity distribution – SY Yedeshi	29
Table 3.14: Average trip lengths	30
Table 4.1: CAGR of population in India	34
Table 4.2: Population Growth in India (2012 – 2025)	35
Table 5.1: Identified growth drivers to model traffic growth	42
Table 5.2: Elasticity recommendations for Tamalwadi (TP1) and Yedeshi (TP2)	43
Table 6.1: Key intermediate and final outputs in the forecast	46
Table 6.2: Adopted SCF: SY TP1 Tamalwadi	47
Table 6.3: Adopted SCF: SY TP2 Yedeshi	47
Table 6.4: Base Traffic FY27 Tamalwadi TP	48
Table 6.5: Base Traffic FY27 Yedeshi TP	48
Table 6.6: Summary of impact	49
Table 6.7: Impact of 4 laning construction commencement of NH561A (FY27 Onwards)	50
Table 6.8: Impact of Solapur Vijayapura and Solapur Bypass Upgrade (FY28 Onwards)	51
Table 6.9: Ahmednagar Tembhurni construction Impact (FY29 Onwards)	53
Table 6.10: Jalna Nanded Expressway Impact (FY29 onwards)	54
Table 6.11: Commencement of completion of 4 laning of the Shirdi Malegaon section of NH 160	56
Table 6.12: Summary of impacts Nashik Akkalkot Expressway (FY33 onwards)	57
Table 6.13 Summary of Impact from the Completion of the Autram Tunnel Project	59
Table 6.14 Network Shifts from Nashik Akkalkot Expressway	61
Table 6.15 Diversion of traffic from NH48 and NH53 route	62
Table 6.16: Trip factors for the forecast years – SY Tamalwadi	62
Table 6.17: Trip factors for the forecast years – SY Yedeshi	63
Table 6.18: Toll segmentation – SY Tamalwadi for FY27	64
Table 6.19: Toll segmentation for FY21 – SY Yedeshi for FY27	65
Table 6.20: Tolling lengths for toll evolution – SY & YA	66
Table 6.21: Revenue reconciliation summary	67
Table 6.22: PCU factors	67
Table 6.23: Traffic forecast (with impacts) for Tamalwadi	67
Table 6.24: Traffic CAGR (%) for Tamalwadi	68
Table 6.25: Revenue forecast (with impacts) for Tamalwadi in INR crores	68
Table 6.26: Traffic forecast (with impacts) for Yedeshi	69
Table 6.27: Traffic CAGR (%) for Yedeshi	69
Table 6.28: Revenue forecast (with impacts) for Yedeshi in INR crores	69
Table 6.29: Traffic Projections for TP: Yedeshi	76
Table 6.30: Traffic Growth Rates for TP: Yedeshi	77

Appendices

A	Top 10 OD Pairs	74
B	Detailed forecasts	75
C	Data collection exercise	82
D	Vehicle Classification Chart	88

Disclaimer

This report has been produced for the sole benefit of IRB Infrastructure Private Limited (Investment Manager to IRB InvIT Fund) (“The Client”). The report may only be relied upon by Approved Addressees in accordance with the terms of our engagement letter. This Report (the “Report”) is confidential and disclosed only for information purposes, and it may not be relied upon by any party other than the Client or a Party to a Reliance Letter, and Steer: a) makes no warranty, expressed or implied, with respect to the use of any information or methods disclosed in this Report; and b) assumes no liability with respect to the use of any information or methods disclosed in this document. Any such party by its acceptance or use of this Report releases Steer from any liability for direct, indirect, consequential, or special loss or damage whether arising in contract, warranty, express or implied, tort or otherwise.

The Report is based on standard professional efforts, and information available to us at the time the review took place and is subject to time and budget constraints of the Report’s scope of work. This Report, information and statements contained herein, are all based on third party data provided to us, or sourced by us, and Steer has not sought to establish the reliability of the data, except as specifically stated in the Report. Steer bears no responsibility for the results of any actions taken on the basis of third-party data.

Certain forward-looking statements in the Report are estimates based on interpretations or assessments of information available at the time of writing. The Report is thus to be viewed as an assessment that is time-relevant, specifically referring to conditions at the time of the review. Steer undertakes no obligation to update the Report for any reason.

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 March 2026. This report does not consider variations in traffic performance due to changing macro and force majeure events such (but not limited to) as global wars, economic uncertainty (high inflation, global recession), and changes in the regulatory environment. The situation remains dynamic and is subject to significant change in the short and medium term. In this challenging context, Traffic Consultant has produced base forecasts with a view on a possible scenario for the traffic forecasts. 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 such macro-economic/force majeure events. 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 scenario, Traffic Consultant advises that all readers of the

Report consider the Report in the context of their own assessment of the impact of such events.

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
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

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 Private Limited (Investment Manager to IRB InvIT Fund) (the “Client”) has commissioned Steer Davies Gleave India Private Limited (“Steer”) for a traffic due diligence to be carried out on Solapur-Yedeshi Toll Road (the “Asset”). The Asset consists of the Solapur-Yedeshi (SY) section which form a part of NH52 north south Corridor. Solapur-Yedeshi (SY) is 98.717 km long section.
- 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 for the period between Apr'18 and Mar '26
- 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 Traffic Volume Counts (TVC) counts - Validation of Revenue reported in FY26	- 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 (OD) surveys undertaken by a survey agency appointed by Steer. The latest surveys were undertaken in June 2026.
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

Scope of work	Data source
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 forecast published by Consensus and RBI
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. Client-provided TMS data starting from April 2018 up till March 2026.
- 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 2 toll plazas including Tamalwadi and Yedeshi as per schedule presented in Table 1.1.2: below.
- 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 FY27 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

Table 1.1.2: Data collection schedule

Toll Plaza	TMS data	7-day videography-based TVC			1-day OD survey	
		Start date	End date	Time (hrs)	Start date	End date
Tamalwadi	March 2018 - March 2026	1 st June 2026	7 th June 2026	00:00-23:59	4 th June 2026	5 th June 2026
Yedeshi	March 2018 - March 2026	1 st June 2026	7 th June 2026	00:00-23:59	2 nd June 2026	3 rd June 2026

Contents of this Report

1.6 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

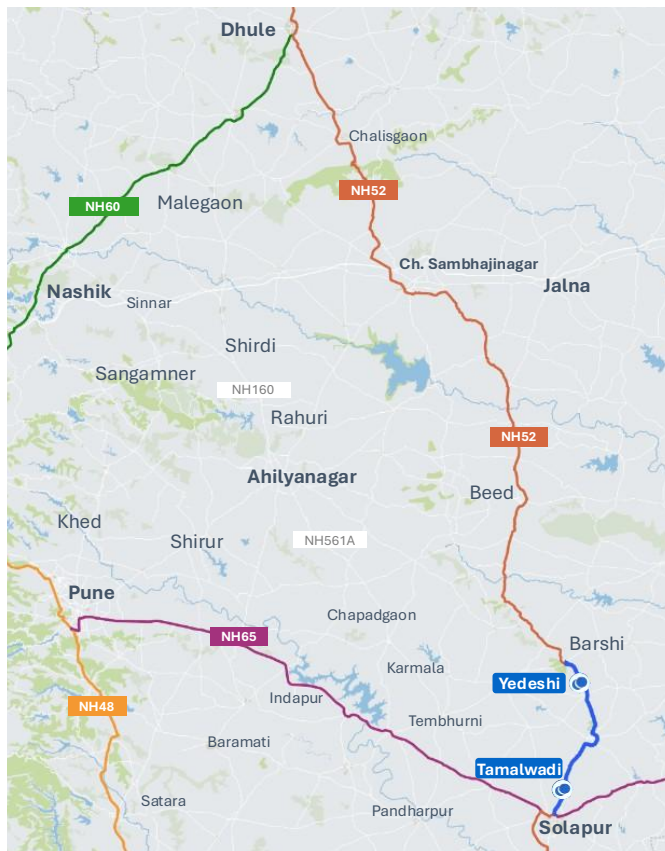
- 2.1 This chapter provides a description of the Assets, based on primary data (from site visits), our understanding of the network surrounding the Assets. We cover the strategic network context, followed by key economic activities and network developments around the Assets.

Asset Context

- 2.2 The Assets consists of the Solapur-Yedeshi section, which form a part of NH52 north south Corridor. The asset is a 98.717 km long section and have four-lane configuration with a total of two toll plazas as shown below in the figure.

- Tamalwadi toll plaza
- Yedeshi toll plaza

Figure 2.1: Asset context



Source: Steer Cartography using OpenStreetMap data

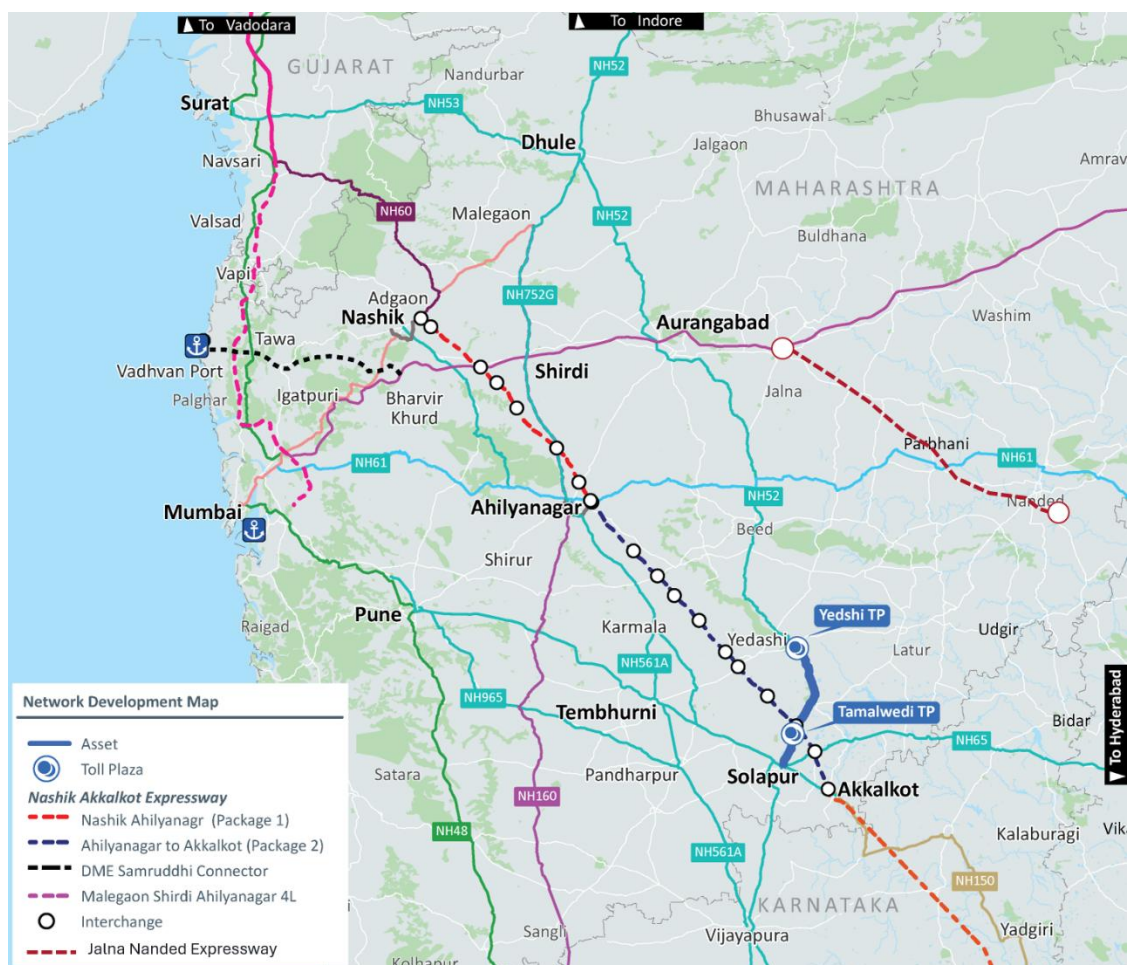
- 2.3 The Assets had 2 lanes configurations between Aurangabad and Solapur until 2015. The Asset was commissioned for upgradation to 4 lane configurations under the National Highways Development Program (NHDP) Phase – IVB with 910 days of construction period. SY achieved PCOD in March 2018 and tolling started respectively. The Asset have achieved COD as of March 2020.

Strategic network

- 2.4 The asset comprises a 99 km four-lane highway section on NH-52, forming an integral part of the Solapur–Aurangabad corridor in Maharashtra. The corridor provides direct and efficient connectivity to key economic and logistics centres, including Indore, Dhule, and Ahmedabad. It also facilitates seamless access to major southern cities such as Hyderabad, Bengaluru, and Chennai.
- 2.5 The asset forms part of NH-52 in Maharashtra, which functions as a key north–south corridor, facilitating long-distance traffic movement between northern regions and major southern cities, while also connecting important regional and industrial centres such as Solapur and Aurangabad. Solapur is known for its sugar and cotton production, whereas Aurangabad is a major industrial hub with key industries including cotton and silk manufacturing, seed processing, pharmaceuticals, and automotive components, supported by the presence of the Skoda Auto manufacturing plant.
- 2.6 The corridor has emerged as a key connectivity route, facilitating traffic movement between Gujarat, Madhya Pradesh, and the northern regions of Maharashtra to major southern destinations such as Hyderabad/Telangana and Chennai.
- 2.7 As of the current timeline, multiple route options (including asset) are available for users traveling between Delhi/Northern regions and Solapur/Southern regions. These are:
- Asset (NH52): Delhi-Agra-Gwalior-Indore-Dhule-Solapur-Chitradurga-Bengaluru
 - NH48 (GQ): Delhi-Jaipur-Udaipur-Ahmedabad-Surat-Mumbai-PuneDharwad-Chitradurga-Bengaluru
 - NH44/7: Delhi-Agra-Gwalior-Jhansi-Sagar-Nagpur-NizamabadHyderabad-Anantpur-Bengaluru
- 2.8 Additionally, the Autram Ghat section on NH-52, which has historically experienced congestion and operational constraints for heavy commercial vehicles, is proposed to be bypassed through a 14.9 km greenfield realignment comprising a 5.5 km tunnel and a 3.3 km viaduct. As per the latest information available in the public domain, NHAI has initiated surveys and geotechnical investigations and has applied for the necessary forest clearances. Upon completion, the project is expected to improve travel reliability and enhance the attractiveness of the NH-52 corridor for long-distance commercial traffic.
- 2.9 The proposed Nashik–Akkalkot Greenfield Expressway is a key component of the broader north–south connectivity strategy being pursued by NHAI. Earlier plans envisaged the development of a longer Surat–Nashik–Akkalkot–Chennai corridor; however, the Surat–Nashik section has not progressed and the current focus remains on the 374 km, six-lane access-controlled Nashik–Solapur–Akkalkot Greenfield Corridor, which has received Cabinet approval and is progressing through the implementation and bidding stages. Upon completion, the corridor is expected to significantly improve connectivity between northern Maharashtra, Solapur and southern India while reducing travel times for long-distance passenger and freight traffic.

- 2.10 South of the Asset, the Akkalkot–Kurnool Greenfield Expressway is currently under construction and will form an important extension of the north–south expressway network towards Telangana, Andhra Pradesh and southern India. In addition, a separate greenfield connector has been proposed between the upcoming Vadhavan Port and the Samruddhi Mahamarg near Nashik, with planned interchanges at NH-48 and the Delhi–Mumbai Expressway. Collectively, these projects have the potential to create an integrated logistics corridor linking western ports, the Delhi–Mumbai Expressway, Samruddhi Mahamarg and the proposed Nashik–Akkalkot Expressway, thereby strengthening long-distance freight connectivity across western, northern and southern India.
- 2.11 The proposed Jalna–Nanded Expressway is a 180 km, six-lane access-controlled greenfield expressway being developed by MSRDC to connect the Marathwada region with the Samruddhi Mahamarg. The corridor will traverse through Jalna, Parbhani and Nanded districts and is expected to reduce travel times while improving connectivity between central and eastern Maharashtra. The project has progressed through land acquisition and contractor procurement stages, with multiple civil packages having been bid out and awarded. Upon completion, the expressway is expected to strengthen regional connectivity, improve freight movement efficiencies and support economic development across the Marathwada region.

Figure 2.2: Asset location in the regional network context



Source: Steer Cartography using OpenStreetMap data

- 2.12 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 Asset 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.

Concession and tolling details

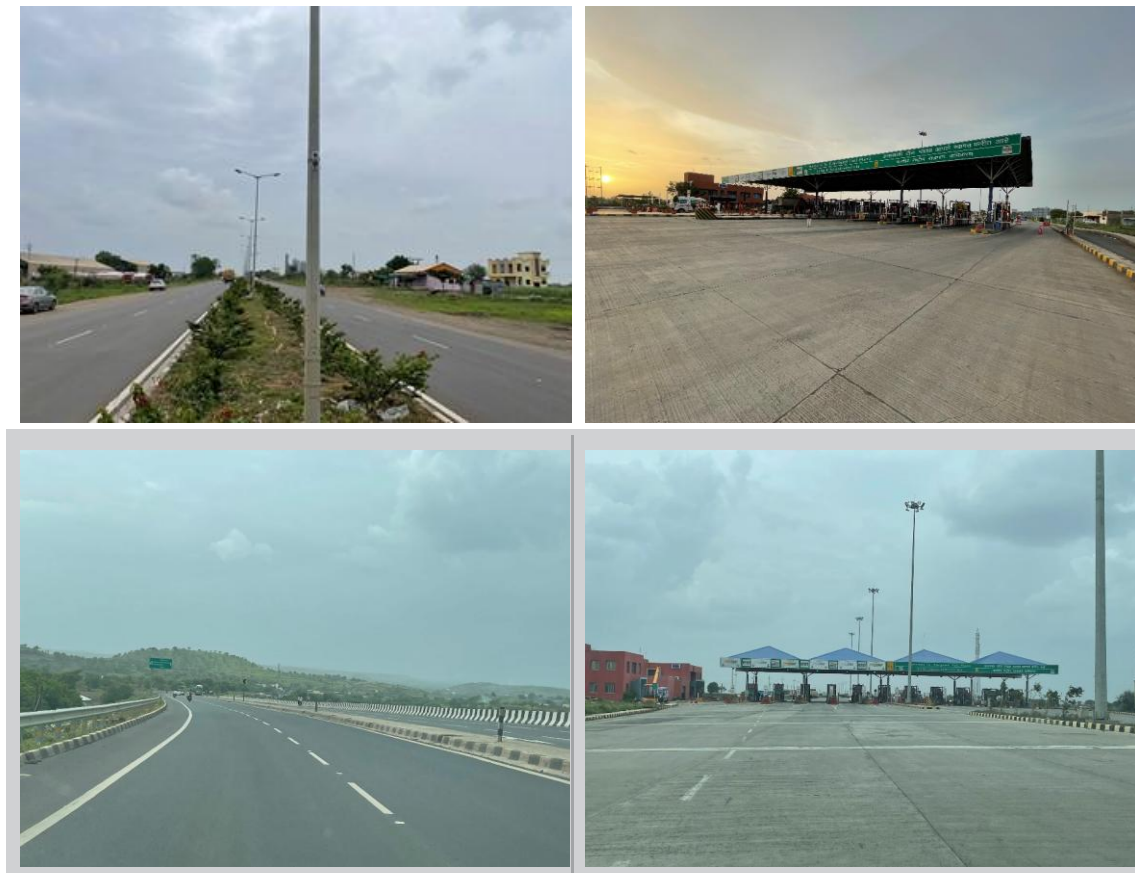
Table 2.1: Summary of concession

	Particulars
State	Maharashtra
Highway & lane configuration	NH52, four-laned (divided)
Toll plazas	• Tamalwadi at KM 19+500 • Yedeshi at KM 78+390
Length (km) as per concession agreement	• Tamalwadi: 49.00 km, 45.563 km (tollable), • Yedeshi: 49.71 km, 47.581 km (tollable),
Commencement of operations	• PCOD/FCOD: 25th Nov'19/31st Mar'20
Operated by Client since	• March 2018
Concession period	• 30 years
Last year of concession	• 22nd June 2046

Source: Client data

- 2.13 Steer had conducted a site visit on Assets 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 Asset



Source: Steer site visit

Toll plazas and toll rates

- 2.14 As discussed in the earlier section, the Asset has 2 toll plazas in total including Yedeshi and Tamalwadi. All toll plazas on the Asset 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.
- 2.15 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 2026 to March 2027

Type of Vehicle	Tamalwadi	Yedeshi
CJV	75	75
LCV	125	125
Bus/Truck	260	260

Type of Vehicle	Tamalwadi	Yedeshi
3A	285	285
MAV/ HCM/EME	410	410
OSV	500	500

Source: NHAI Revision of User fee Rate w.e.f. 01.04.2026

- 2.16 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

- 2.17 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.
- 2.18 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.
- 2.19 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.
- 2.20 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.
- 2.21 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

- 2.22 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.
- 2.23 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.
- 2.24 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

- 2.25 As discussed, the Asset completed four laning in March 2019 with completion of SY 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 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 revenue on the Asset, as well as Steer's analysis of origin-destination (OD) data as also traffic count data. This covers data which was collected as a part of this study and data that was 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, and 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 Monthly Average Daily Traffic (MADT) is established. This data is typically provided by the Client and independently analysed and validated by us using Traffic Volume Count (TVC) information.

The below sections present historical traffic and revenue information up to March 2026. This is to present the latest available traffic and revenue information at the time of submission of report.

Historical trends

- 3.4 The Asset started operating in March FY18 and FY19 was the first full year in terms of traffic operations.
- 3.5 The following tables and figures indicate the historical variation in traffic volume at Tamalwadi in terms of vehicle shares and total AADT and PCU.

Table 3.1: Historical evolution in AADT by vehicle class: Tamalwadi

Vehicle Class	FY22	FY23	FY24	FY25	FY26
CJV	6,278	8,771	9,491	10,062	11,383
LCV	413	441	406	424	494
Bus	389	759	827	902	1,025
2A	924	1,249	1,252	1,299	1,470
3A	766	951	871	871	976
MAV	1,224	1,995	1,798	1,564	1,919
Total	9,993	14,166	14,645	15,121	17,267
PCU	18,640	27,287	27,040	26,949	31,172

Source: Steer Analysis of the client data

Table 3.2: Historical growth in AADT by Vehicle Class: Tamalwadi

Vehicle Class	FY23	FY24	FY25	FY26
CJV	39.7%	8.2%	6.0%	13.1%
LCV	6.7%	(7.8%)	4.3%	16.6%
Bus	95.4%	8.9%	9.1%	13.6%
2A	35.2%	0.2%	3.8%	13.2%
3A	24.3%	(8.4%)	(0.1%)	12.1%
MAV	63.0%	(9.9%)	(13.0%)	22.7%
Total	41.8%	3.4%	3.3%	14.2%
PCU	46.4%	(0.9%)	(0.3%)	15.7%

Source: Steer Analysis of the client data

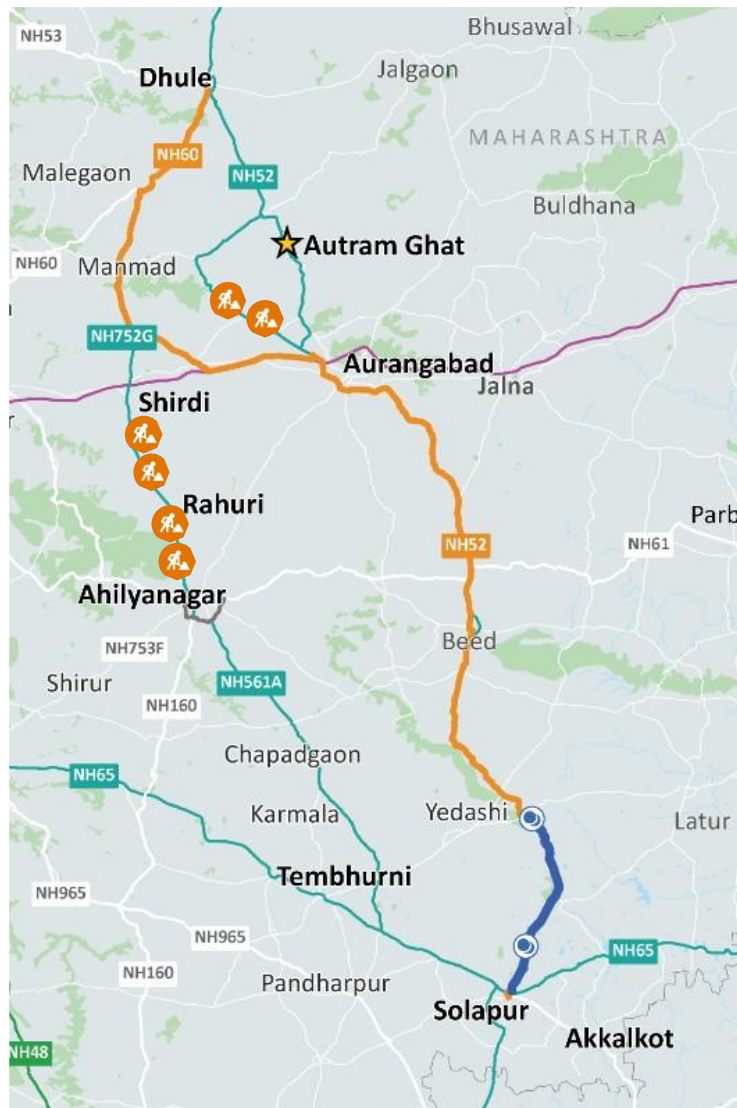
- 3.6 Between FY23 and FY25, the corridor experienced temporary traffic volatility due to the completion and upgrading of competing road infrastructure, including the four-laning of NH-561A, commissioning of the Solapur–Bijapur section in Q4 FY23, and development of the Solapur Bypass. These improvements provided alternative routes for long-distance freight movement, resulting in a short-term diversion of commercial traffic and a corresponding decline in commercial vehicle volumes at the asset.
- 3.7 A key disruptive event during FY23-FY26 was the closure of Kannad Ghat for commercial traffic on the Dhule–Chalisgaon stretch in Aug’23. This restriction triggered a significant redistribution of North–South freight, with traffic diverting to alternative routes.
- 3.8 In FY26, traffic performance showed signs of a healthy increase of traffic volumes, particularly for MAV category, experiencing a growth of around 21.8% on Tamalwadi and 21.2% on Yedeshi toll plaza. The commencement of construction for the 4 laning of the Shirdi–Ahilyanagar ¹section of NH160 on the alternative stretch and upgradation of Shivoor -Aurangabad ² stretch on NH 752H has altered regional traffic patterns, leading to diversion of traffic to NH-52 and supporting this healthy growth of commercial vehicle volumes on the project corridor. Following map shows a diversion travel route due to the construction of the alternative route, which heavy trucks are currently using to arrive at the Asset that is NH 52.
- 3.9 Prior to the four-laning of the Shirdi–Ahilyanagar section, long-distance traffic travelling between North India/Gujarat–Rajasthan and destinations in Solapur and Southern India primarily used the route Dhule–Malegaon–Yeola–Ahilyanagar–Tembhurni–Mohol–Solapur. However, due to ongoing construction activities as mentioned above and associated traffic disruptions on this corridor, a significant proportion of commercial traffic has been diverted to the alternative route via Dhule–Malegaon–Yeola–Vaijapur–Samruddhi Expressway–Karodi–Beed–Tuljapur–Solapur. Consequently, freight operators have

¹ <https://indiainvestmentgrid.gov.in/opportunities/project/618766>

² https://sansad.in/getFile/loksabhaquestions/annex/184/AU2335_34nrFX.pdf?source=pqals

increasingly adopted this route for movements between North India/Gujarat–Rajasthan and destinations in Solapur and Southern India.

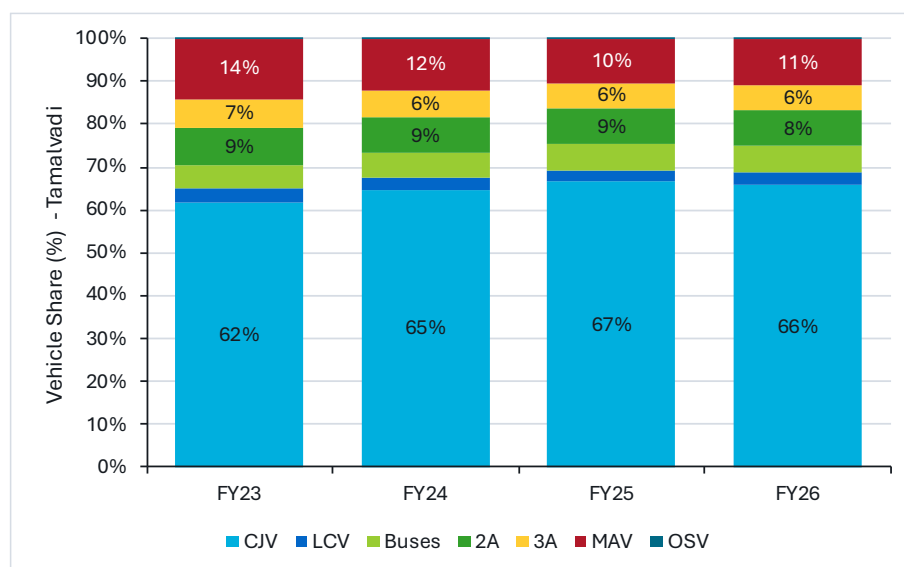
Figure 3.1 Recent developments leading to network shifts



Source: Steer Research

- 3.10 The toll plaza recorded an AADT of 17,251 vehicles in FY26, with the traffic composition comprising 66% of CJVs, 3% of Light Commercial Vehicles (LCVs), 6% of 3-Axle (3As), and 11% of Multi-Axle Vehicles (MAVs). The CAGR between FY22 and FY26 is 14.7% at AADT level and 13.7% at PCU level which can be attributed to strong growth in MAV and 2A vehicle categories.

Figure 3.2 Category wise vehicle shares (%) and AADT at SY: Tamalwadi



Source: Steer Analysis of the client data

3.11 The following tables and figures indicate the historical variation in traffic volume at Yedeshi in terms of vehicle shares and total AADT and PCU.

Table 3.3: Historical evolution in AADT by vehicle class: Yedeshi

Vehicle Class	FY22	FY23	FY24	FY25	FY26
CJV	3,603	4,450	4,787	5,436	6,459
LCV	303	275	262	278	355
Bus	132	258	261	276	320
2A	803	1,054	1,036	1,039	1,205
3A	828	996	833	816	938
MAV	1,545	2,258	1,853	1,479	1,793
Total	7,215	9,294	9,042	9,335	11,081
PCU	16,304	21,947	19,906	18,905	22,444

Source: Steer Analysis of the client data

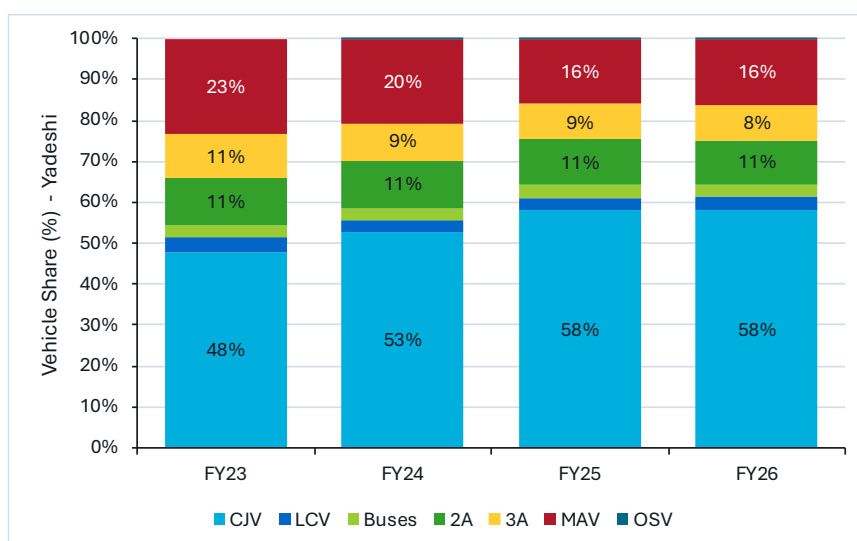
Table 3.4: Historical growth in AADT by vehicle class: Yedeshi

Vehicle Class	FY23	FY24	FY25	FY26
CJV	23.5%	7.6%	13.6%	18.8%
LCV	(9.0%)	(4.9%)	6.2%	27.5%
Bus	95.7%	1.1%	6.1%	15.6%
2A	31.2%	(1.7%)	0.3%	15.9%
3A	20.3%	(16.4%)	(2.0%)	15.0%
MAV	46.1%	(17.9%)	(20.2%)	21.2%
Total	28.8%	(2.7%)	3.2%	18.7%
PCU	34.6%	(9.3%)	(5.0%)	18.7%

Source: Steer Analysis of the client data

- 3.12 The toll plaza is observing 11,081 AADT in FY26 where the traffic mix is made up of 58% CJVs, 3% LCVs, 9% 3As, and 16% MAVs.
- 3.13 In FY26, similarly to Tamalwadi toll plaza, the analysis indicates that commercial traffic volumes have shown a healthy growth across the corridor. This is again due to the construction on Shirdi-Ahilyanagar stretch, leading to traffic diversion on NH52.
- 3.14 The CAGR between FY22 and FY26 is 11% at AADT level and 8.3% at PCU level which can be attributed to strong growth in MAV and 2A vehicle categories.

Figure 3.3 Category wise vehicle shares (%) and AADT at Yedeshi



Source: Steer Analysis of the client data

- 3.15 The table below presents the revenue collection as reported by the Asset. The key revenue contributors on Solapur Yedeshi are CJVs+MAVs which combinedly account for 61% of the revenues from the SY Asset followed by 15.7% from 2A trucks.

Table 3.5: Historical evolution in revenue by vehicle class (INR crores): Tamalwadi

Vehicle Class	FY22	FY23	FY24	FY25	FY26
CJV	12.8	18.9	21.0	22.1	21.9
LCV	1.3	1.5	1.5	1.6	1.9
Bus	2.3	4.9	5.6	6.1	7.1
2A	6.5	9.8	10.3	10.9	12.8
3A	6.0	8.3	7.9	8.0	9.4
MAV	14.7	26.1	24.6	21.7	27.8
Total	43.7	69.7	71.2	70.6	81.3
Growth (%)		59.4%	2.2%	(0.9%)	15.1%

Source: Steer Analysis of the client data

Table 3.6: Historical evolution in revenue by vehicle class (INR crores): Yedeshi

Vehicle Class	FY22	FY23	FY24	FY25	FY26
CJV	6.8	9.1	10.0	11.0	13.0
LCV	0.9	1.0	1.0	1.0	1.3

Vehicle Class	FY22	FY23	FY24	FY25	FY26
Bus	0.9	1.8	1.9	2.0	2.3
2A	5.8	8.7	8.9	9.0	10.9
3A	6.9	9.2	8.1	8.0	9.5
MAV	18.8	30.0	25.9	21.0	26.5
Total	40.2	59.8	56.0	52.3	63.9
Growth (%)		49.1%	(6.3%)	(6.6%)	22.1%

Source: Steer Analysis of the client data

- 3.16 Revenue growth on the Asset from FY25 to FY26 also mimics the traffic growth on both the toll plazas, with 15% growth of revenue on Tamalwadi and 22% growth of revenue on Yedeshi, due to diversion of traffic from the Alternate route.

Toll Frequencies

- 3.17 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.
- 3.18 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.
- 3.19 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.

Introduction of Annual pass for CJVs

- 3.20 The National Highway Authority of India launched the “The FASTag Annual Pass” on August 15, 2025, a prepaid facility that allows private CJVs to travel across designated

National Highway and National Expressway toll plazas. The annual pass is worth INR 3,000. The pass is valid for one year or 200 trips, whichever occurs first and is applicable only to private, non-commercial vehicles (Car/Jeep/Vans).

Since this pass has been introduced by NHAI, it is not valid on

- State governed toll plazas on highways
- State governed toll plazas expressways
- Parking areas or other non-NHAI tolling locations

- 3.21 The pass can be activated via the RajmargYatra app or the NHAI website, and links directly to an existing FASTag.

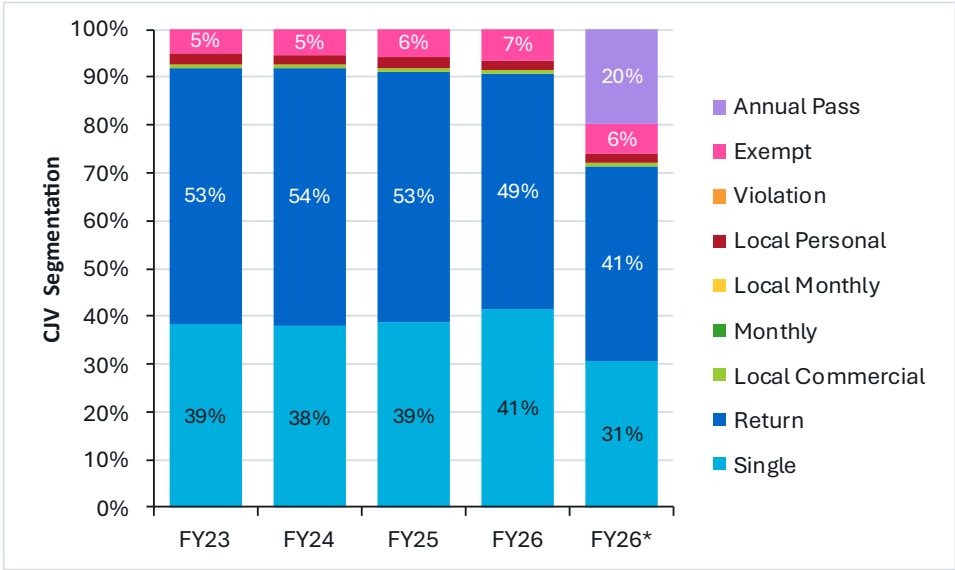
The Annual Pass aims to:

- Promote cashless and seamless travel on national highways.
- Reduce congestion and improve traffic flow at tolls
- Provide cost-effective travel for frequent users of NH/NE toll roads

Toll plaza wise evolution of Segmentation

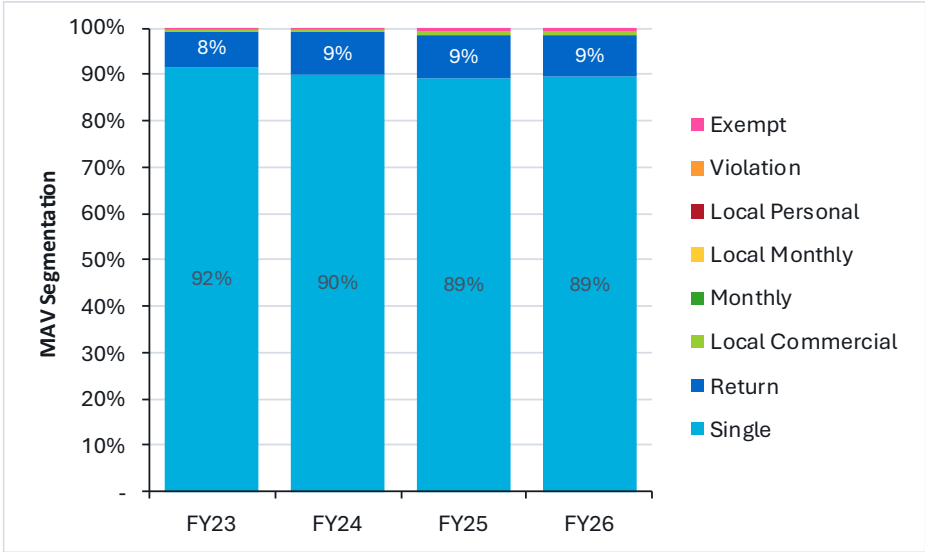
- 3.22 Following figures indicate the classification of the total toll tickets by ticket type i.e. single, return, local personal, local commercial, monthly and exempt for CJV and MAV vehicles.
- 3.23 Historically, for CJVs on the Asset, the single ticket trips at both the plazas have been consistent at around 40% on an average at Tamalwadi and 42% on Yedeshi. Tamalwadi has a higher share of return trips in comparison to Yedeshi, it is due to the proximity of Tamalwadi to urban centers such as Solapur while Yedeshi caters to higher share of long-distance trips additionally towards Hyderabad and Andhra Pradesh.
- 3.24 The introduction of annual passes for private CJVs from 15 August 2025 has impacted the ticket segmentation of CJVs considerably. While exemptions and local personal trips have remained at the same levels as FY25, it can be observed that the share of single and return trips have reduced. The share of annual pass on an average is around 20% on Tamalwadi having a more urban nature and 17% on Yedeshi, Annual pass share in the segmentation for March 2026, on both Tamalwadi and Yedeshi is around 28% and 23% respectively, which shall be used to estimate the segmentation of future years.
- 3.25 In FY26 for MAVs, the share of single tickets on Tamalwadi are 89% and Yedeshi has 96%. Which can be attributed to the long-distance traffic on the corridor and can be established using the Origin destination data collected on both the toll plazas.

Figure 3.4: CJV toll segmentation - Tamalwadi



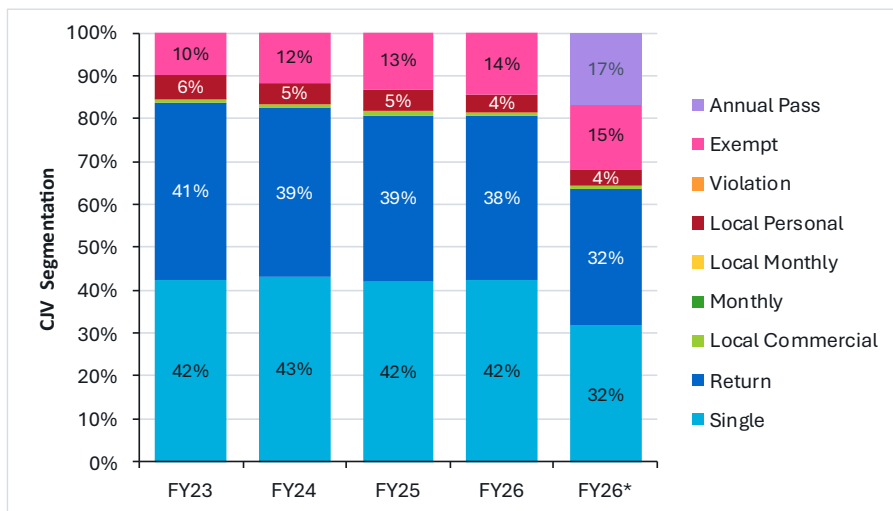
Source: Steer analysis of the Client data, FY26 segmentation is from Apr 2025 to Jul 2025, FY26* segmentation is from August 2025 to Mar 2026

Figure 3.5: MAV toll segmentation - Tamalwadi



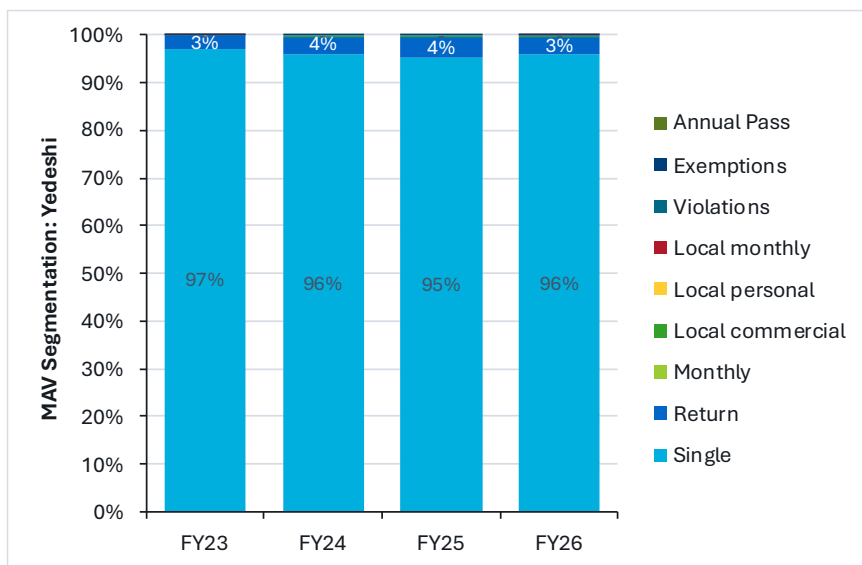
Source: Steer analysis of the Client data

Figure 3.6: CJV toll segmentation -Yedeshi



Source: Steer analysis of the Client data, FY26 segmentation is from Apr 2025 to Jul 2025, FY26* segmentation is from August 2025 to Mar 2026

Figure 3.7: MAV toll segmentation - Yedeshi



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 3.7: Data collection schedule

Toll Plaza	7-day videography-based TVC			1-day OD survey	
	Start date	End date	Time (hrs)	Start date	End date
Tamalwadi	1 st June 2026	7 th June 2026	00:00-23:59	4 th June 2026	5 th June 2026
Yedeshi	1 st June 2026	7 th June 2026	00:00-23:59	2 nd June 2026	3 rd June 2026

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.

Table 3.8: WADT at Assets

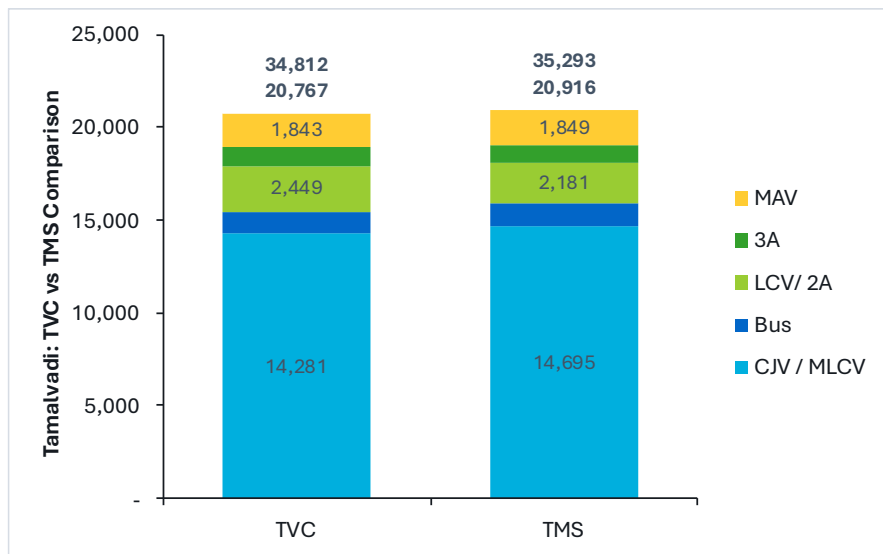
Toll Plaza	CJV / MLCV	Bus	LCV/ 2A	3A	MAV	Total	PCU
Tamalwadi	14,281	1,193	2,449	986	1,843	20,767	34,812
Yedeshi	7,918	344	1,963	922	1,766	12,924	24,275

Source: Steer analysis of TVC data

TVC (Total Volume Count) v/s TMS (Traffic Management System)

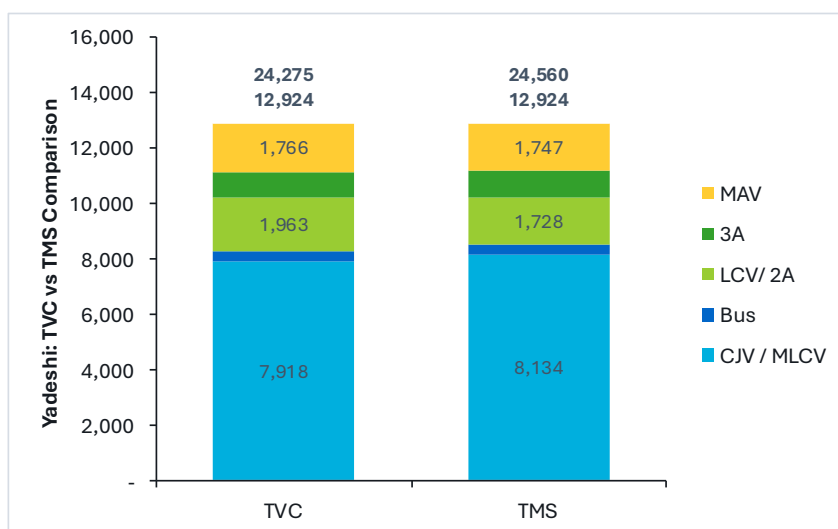
- 3.31 The below analysis compares the two sources of data:
- 7-day video-based counts (TVC)
 - Toll Plaza data (TMS)
- 3.32 This analysis is undertaken to verify independently the data being reported by toll plaza. It is a key step in our analysis to validate the traffic that the toll plaza is recording 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.
- 3.33 The figures below show the comparison between the daily traffic observed by TVC and TMS for the toll plazas.

Figure 3.8: Vehicle share comparison: Tamalwadi



Source: Steer analysis of the Client data

Figure 3.9: Vehicle share comparison: Yedeshi



Source: Steer analysis of the Client data

- 3.34 WADT from TVC and TMS shows a variance of less than 0.7% at both plazas at the total traffic level. For MAVs, TVC is 1.1% higher than TMS at Yadeshi TP, while it is 0.3% lower at Tamalvadi TP.
- 3.35 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

- 3.36 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.
- 3.37 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.
- 3.38 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 include 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.
- 3.39 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
- 3.40 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

- 3.41 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 3.9: Sample rates for OD data

Vehicle Type	Yadeshi	Tamalvadi
CJV	29%	30%
MLCV	14%	11%
LCV	32%	33%
2 Axle	61%	45%
3 Axle	91%	47%
MAV	77%	66%

Source: Steer analysis of OD data

Zone Categories

- 3.42 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 3.10: 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)
Gujarat	Gujarat
Delhi NCR	Delhi NCR
Madhya Pradesh	Madhya Pradesh
Rajasthan	Rajasthan
Karnataka	Karnataka
Andhra Pradesh	Andhra Pradesh
Telangana	Telangana
North India	Haryana, Punjab, Himachal Pradesh, Uttarakhand, Jammu and Kashmir, Agra, Eastern UP, Western UP
South India	Keralam, Goa, Chennai, Salem, Madurai, Rest of Tamil Nadu, Puducherry
East India	West Bengal, Arunachal Pradesh, Assam, Bihar, Jharkhand, Manipur, Meghalaya, Mizoram, Nagaland, Odisha, Tripura, Sikkim, Chhattisgarh
Outside India	Nepal, Bangladesh, Bhutan

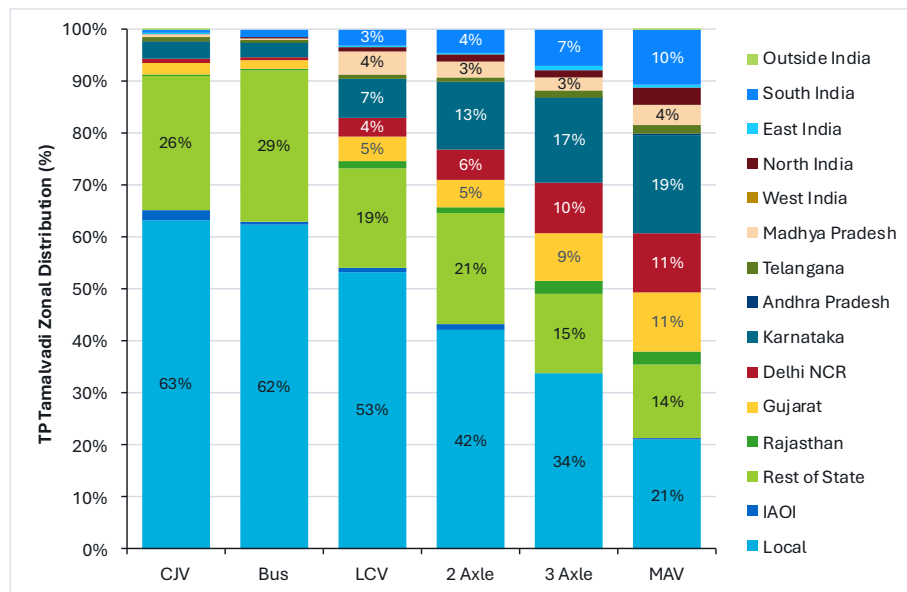
Source: Steer analysis

Zonal influence

- 3.43 The zonal influence is the contribution of the zone or the zonal aggregation to trips by a vehicle type. This section presents the zonal influence³ 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.
- 3.44 In FY26, the trend of zonal influence across the Asset is similar where CJVs and Buses primarily ply along the Asset as the influence of local area is 63% and 62% for CJVs and Buses respectively on Tamalwadi and on Yedeshi 68% and 65% respectively. This indicates that most of the movement of CJVs and Buses is along the Asset. Second biggest zonal influence is Rest of State which is ranging between 26%-18% on both plazas. Through this data, it can be concluded that most of CJV and Bus trips are either originating or destined within the state.
- 3.45 Though LCVs also have similar trend but the concentration of trips to the local area is comparatively lesser. In this case, other zones that have an influence on the trips include Karnataka (~3%). The zonal influence of Rest of State is similar to the trend observed for CJVs and buses lying between the range of 13-19%. Therefore, zonal influence of local has been reduced with other nearby zones.
- 3.46 For trucks, the zonal influence for Tamalwadi was different from Yedeshi toll plaza. One of the reasons 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.
- 3.47 For 2A, local area exhibits the largest segment of zonal influence, however the zonal influence of Local comes down to ~35% on Yedeshi and on Tamalwadi local influences about 42% of the total trips. On Yedeshi, 2A trucks have a mix of zonal influence with around 5% of trips to/from south India, 11% trips to/from Gujarat and 4% trips to Rajsathan. Among states, Karnataka was the biggest zonal influence with around 16% trips to/from the State. Tamalwadi had concentrated zonal influence with key focus area being rest of the state (21%), Karnataka (13%) and Gujarat (5%).
- 3.48 For 3A and MAV, the zonal influence on Tamalwadi for local (21% and 34%) rest of the state (15%-14%) forming a major share and Karnataka (10%-11%). For Yedeshi, local (26% and 31%) and rest of the state (12%-13%), while other key zones included Gujarat (~12%), Karnataka (13% and 15%), and South India (9% and 11%).

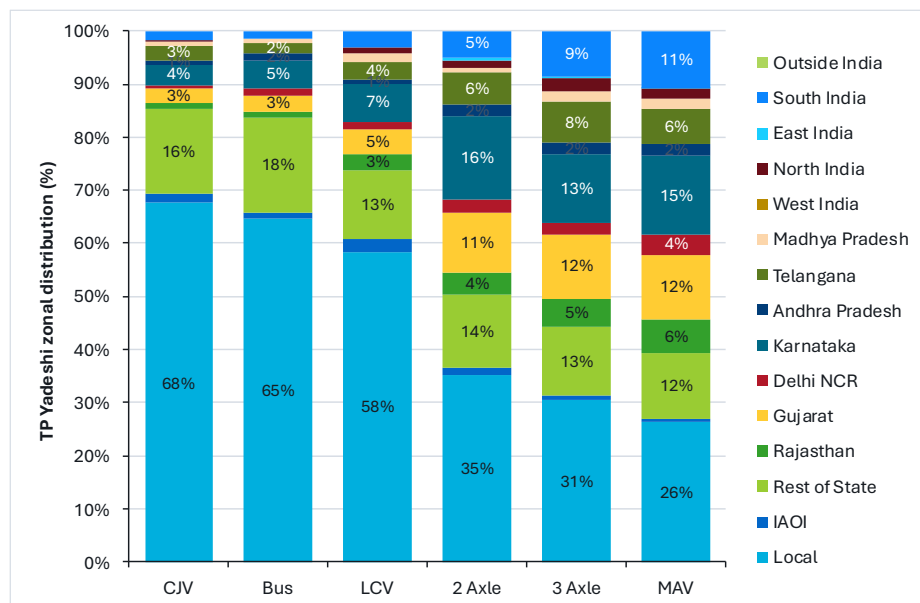
³ For example, if out of 100 trips at a toll plaza on an Asset, 10 trips are between Hyderabad and Delhi and 90 trips are between Hyderabad and Chennai, then zonal influence of Hyderabad would be 50% since one end of all trips are at Hyderabad. Likewise, zonal influence of Delhi and Chennai would be 5% and 45%, respectively.

Figure 3.10: Zonal distribution - Tamalwadi



Source: Steer analysis of the Client data

Figure 3.11: Zonal distribution - Yedeshi



Source: Steer analysis of the Client data

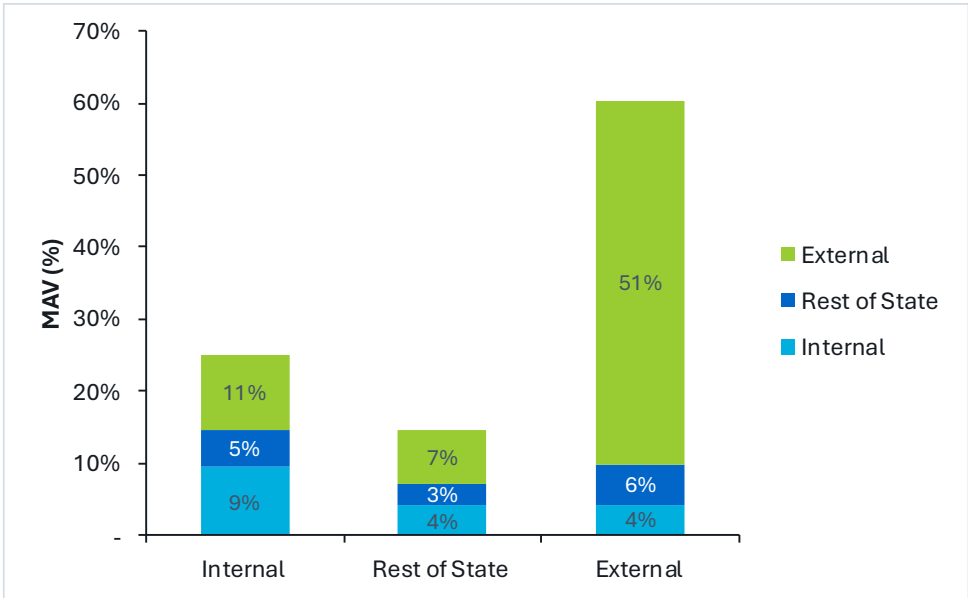
- 3.49 As discussed above, Yedeshi cater to the long-distance movement between Surat/north and Hyderabad/south. Due to this movement, the plaza observe considerable zonal influence of zones in West India (Gujarat, Western Rajasthan), south India (Andhra Pradesh, Kerala, Tamil Nadu, Telangana), and Karnataka.

Internal External analysis

- 3.50 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 IAOL. 'Internal' zones are those that were analysed as 'local' and 'IAOL' in the zonal influence analysis, i.e. lying on the Assets, while 'External' zones are areas lying outside the state.

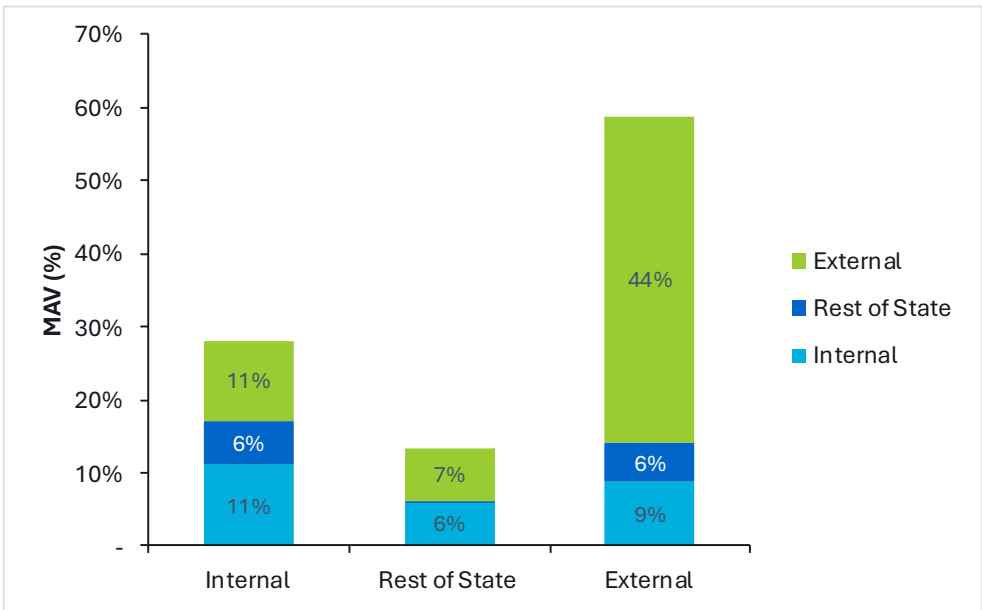
Figure 3.12: Zonal influence - Tamalwadi



Source: Steer analysis of the Client data

3.51 As discussed above, the caters to the long-distance movement between Surat/north and Hyderabad/south. Due to this movement, the plazas observes a considerable zonal influence of zones in West India (Gujarat, Western Rajasthan), south India (Andhra Pradesh, Kerala, Tamil Nadu, Telangana), and Karnataka. These high zonal shares of other states are the reason behind high External shares. The share of external trips is 79% and 77%, at Tamalvadi and Yadeshi, respectively.

Figure 3.13: Zonal influence - Yedeshi



Source: Steer analysis of the Client data

Commodity distribution

- 3.52 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.

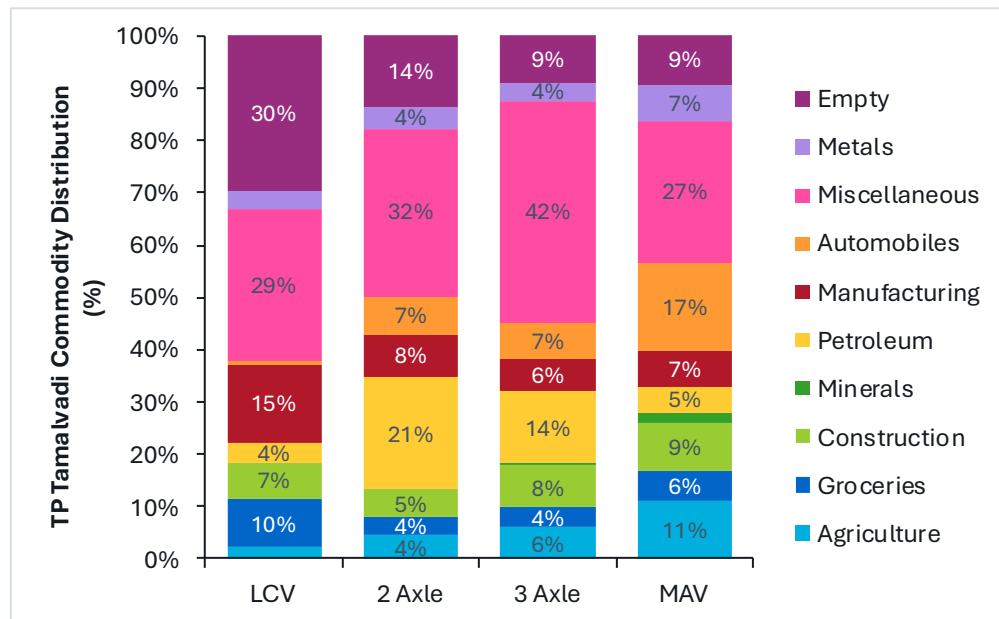
Table 3.11: Aggregate commodity categories

Commodity Description	Code	Combined codes used for charts
Agriculture Products / Cash crops (Wheat, Rice, Sugar cane, Maize etc.)	AGR	AGR
Perishable Items (Fruits, Vegetables)	PER	
Cattle Food / Live Stock (sheep, goat, cow, cattle food etc)	LIV	
Automobiles (Finished products, Auto parts, Car/bike manufacturing)	AUT	AUT
Chemicals / Fertilizers (Acids, Fertilizers etc.)	CHM	CHM
Building Material / Construction (Cement, Lime, Brick, Fly Ash, Aggregate Stone etc)	CNS	CNS
Sand/Clay	SND	
Stone (Kota stone, Marble, Granite, etc.)	STN	
Empty	EMT	EMPT
Animal Products/Dairy/Eggs/Fish/Meat/Animals	DFM	GRO
Groceries / Food items (Soap, Salt, Sugar, Pulses, Spices, Biscuits, bread, cool drinks, beer etc.)	GRO	
Ceramic Products (Tiles / Sanitary Products)	CRM	MAN
Electrical/Manufacturing items (Electronic items, Medicine, Wine, Rubber/ Tyre, Plastics, Cloth, Paper etc.)	MAN	
Textile & Leather Products (Yarn, Clothes, Garments etc.)	TXT	
Machinery / Spare parts	MAC	
Raw Wood, Cork & Wood Products, Furn	WUD	
Basic / Fabricated Metals (Iron, Steel / Metal)	MET	MET
Mining Minerals (Coal, Gypsum, Cobalt etc.)	MIN	MIN
Miscellaneous (House hold items, any other commodities different then mentioned in list etc.)	MSC	MSC
Container	CTR	
Passengers	PAS	
Scrap	SCR	
Parcel and Courier including Delhivery, Amzon, flipkart etc	PAR	PAR
Petroleum Products (Oil, LPG, CNG, etc.)	PET	PET

Source: Steer Analysis

3.53 The following figures present the commodity distribution for goods vehicles at the plaza level.

Figure 3.14: Commodity distribution - Tamalwadi



Source: Steer analysis of the Client data

3.54 At Tamalwadi, a high share of agricultural goods (11%) is observed which originate from/ destined to areas like Bengaluru, Pune, Latur, Solapur, among others. The Miscellaneous goods hold a significant share and 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.

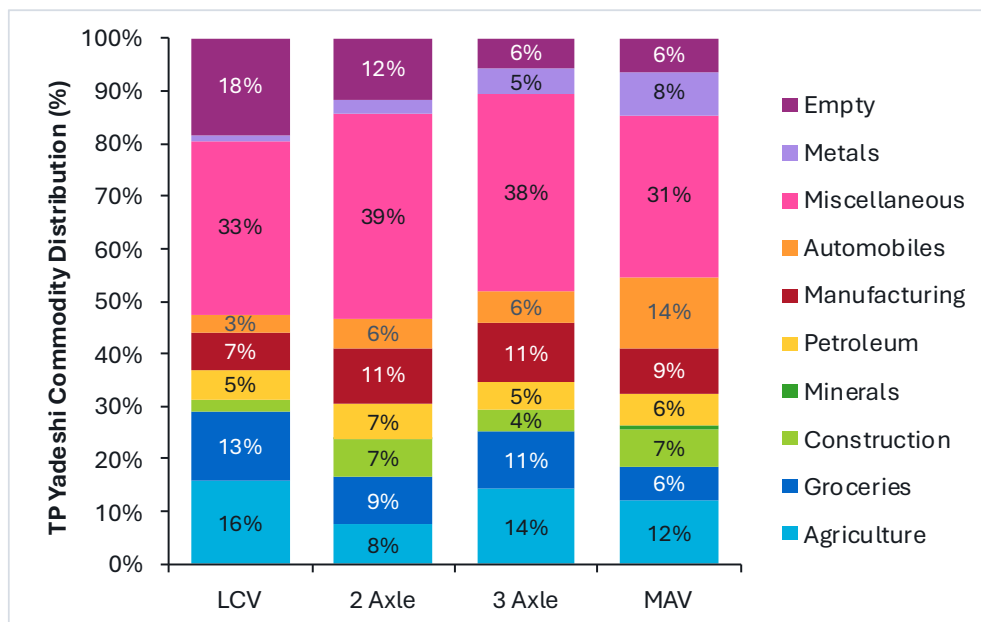
Table 3.12: Direction wise commodity distribution – Tamalwadi

Yadeshi to Solapur				Commodity	Solapur to Yadeshi			
LCV	2 Axle	3 Axle	MAV		LCV	2 Axle	3 Axle	MAV
2%	1%	1%	5%	Agriculture	2%	7%	11%	16%
5%	1%	2%	2%	Groceries	12%	5%	5%	9%
1%	2%	6%	9%	Construction	10%	7%	10%	10%
-	-	1%	3%	Minerals	-	-	0%	1%
2%	20%	16%	5%	Petroleum	4%	22%	12%	5%
15%	7%	8%	9%	Manufacturing	15%	9%	5%	5%
1%	11%	9%	20%	Automobiles	1%	5%	5%	14%
35%	34%	41%	29%	Miscellaneous	26%	31%	43%	26%
2%	2%	1%	6%	Metals	4%	6%	6%	8%

Yadeshi to Solapur				Commodity	Solapur to Yadeshi			
37%	23%	15%	12%	Empty	26%	7%	3%	7%

Source: Steer Analysis of OD data

Figure 3.15: Commodity distribution - Yedeshi



Source: Steer analysis of the Client data

- 3.55 At Yedeshi, the agricultural items on the toll plaza constitute 12% of MAVs and 14% of 3A. They originate from/ destined to areas like Bengaluru, Pune, Latur, Solapur, among others. 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 3.13: Direction wise commodity distribution – SY Yedeshi

Yadeshi to Solapur				Commodity	Solapur to Yadeshi			
LCV	2 Axle	3 Axle	MAV		LCV	2 Axle	3 Axle	MAV
16%	11%	21%	16%	Agriculture	16%	4%	11%	8%
14%	8%	10%	6%	Groceries	13%	10%	11%	7%
2%	6%	3%	7%	Construction	2%	8%	5%	8%
-	0%	-	1%	Minerals	-	-	-	1%
3%	4%	3%	6%	Petroleum	7%	9%	6%	6%
4%	14%	13%	9%	Manufacturing	9%	8%	11%	8%
4%	6%	3%	16%	Automobiles	3%	5%	8%	11%
40%	42%	37%	25%	Miscellaneous	29%	36%	38%	36%

Yadeshi to Solapur				Commodity	Solapur to Yadeshi			
-	3%	6%	11%	Metals	2%	2%	4%	5%
17%	6%	4%	3%	Empty	19%	17%	7%	10%

Source: Steer Analysis of OD data

Trip length analysis

- 3.56 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.⁴
- 3.57 The following table states the average trip lengths of traffic plying on the Assets across the three toll plazas.

Table 3.14: Average trip lengths

	CJV	MLCV	LCV	2 Axle	3 Axle	MAV
Tamalwadi	292	255	705	769	1,040	1,272
Yadeshi	372	454	605	883	1,013	1,112

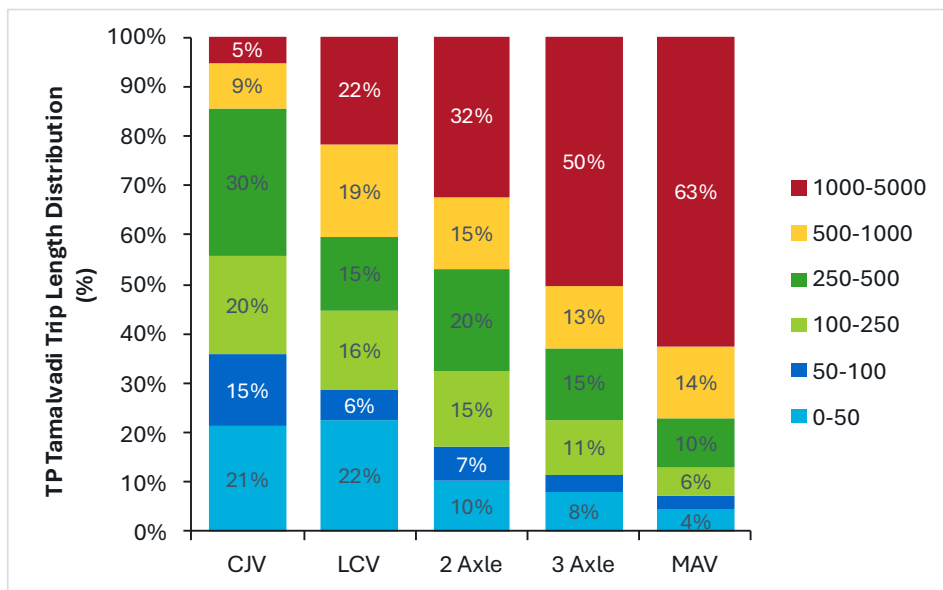
Source: Steer analysis of OD data

- 3.58 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 80% 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.
- 3.59 Trip length distribution for each of the plazas are presented below:

⁴ 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.

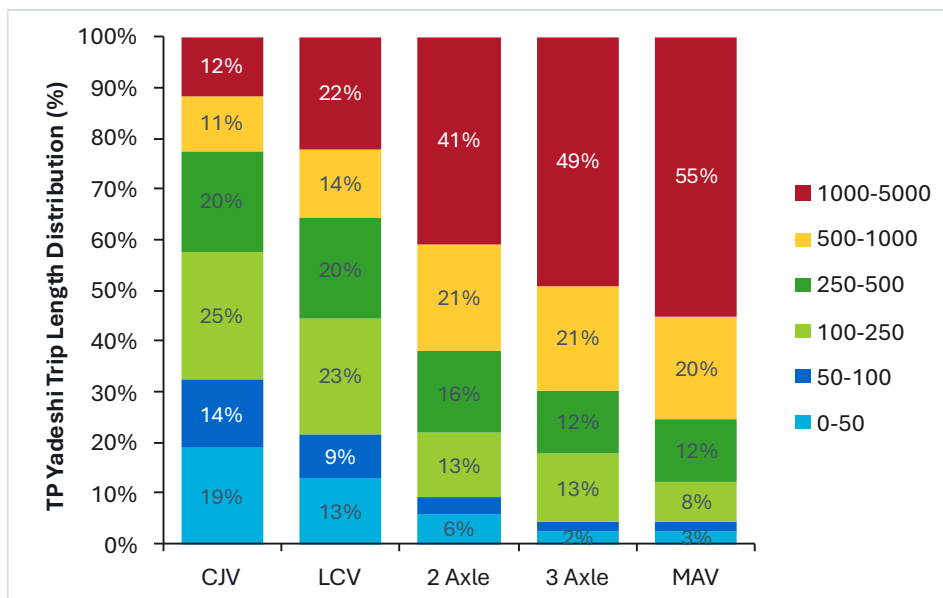
Figure 3.16: Trip length distribution - Tamalwadi



Source: Steer analysis of the Client data

- 3.60 On the assets, the trips less than 250-kilometer ply between Solapur/Aurangabad and the nearby Rest of State zones comprising of Beed, Osmanabad, Tuljapur, Latur etc.
- 3.61 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 3.17: Trip length distribution - Yedeshi



Source: Steer analysis of the Client data

- 3.62 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 Yedeshi as the traffic between Hyderabad/south and

Surat/north appears on the plaza. The trips covering 500-1000 kilometres are generally between Aurangabad-Solapur and Gujarat/Madhya Pradesh.

- 3.63 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. In MAVs, it comprises 63% of the total trips.
- 3.64 On Yedeshi, 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. In MAVs, it comprises 55% of the total trips.

Conclusions

- 3.65 The traffic trends on the asset were shaped by a combination of service improvements, macroeconomic slowdown, competing corridor upgrades, and network disruptions including diversion of freight due to Kannad Ghat closure. It resulted in initial growth (FY18–FY19), decline in FY20–FY22, volatility during FY23–FY25, and eventual stabilisation in FY26 with AADT reaching 17,251 and a CAGR between FY22 and FY26 of 14.7% at AADT level and 13.7% at PCU level at Tamalwadi. On Yedeshi, in FY26 AADT reached 11,081 with a CAGR between FY22 and FY26 of 11.3% at AADT level and 8.3% at PCU level.
- 3.66 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.
- 3.67 Reassuringly, the TVC shows minimal variation on the TMS, especially at the total levels only showing differences of within 1%. 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.
- 3.68 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 Asset caters 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.
- 3.69 In the I-E analysis the share of External trips for 3A/MAVs dominates the distribution as these plazas cater to the long-distance north – south movement. Yedeshi caters 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.
- 3.70 The key commodities across these plazas are agriculture, 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.

- 3.71 The average trip length for 2A, 3A, and MAV is similar between the two plazas, with the difference between them being within ~100 km.
- 3.72 Overall, the Assets have shown robust historical performance, the presence of a wide variety of local industries 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 roads are in attracting that traffic (traffic capture). Background travel demand is driven by the socio-economic conditions in the region where the Asset is located and the country. 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 Asset.
- 4.2 In turn, the change in the relative competitive position of the Asset (and thus of the traffic capture they can achieve) derives from how the relative offer for the roads changes, i.e. the service offered, and the tolls charged on the project roads, in comparison to that on competing roads; and whether any competing road facilities are planned.
- 4.3 In this chapter, we have assessed the trends of the above growth drivers, as indicators of the socio-economic conditions in the regions surrounding the Asset.

Population growth

- 4.4 We have analysed the key socioeconomic drivers of the background traffic demand in the Maharashtra state, where the Asset is located.

National level

- 4.5 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 Table 4.1 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.

State level

- 4.6 The following table shows the evolution of population in Maharashtra compared to that of the country. Overall, as can be seen, the trend observed at the country level is also noticeable at the state level, namely, a move towards urban agglomeration with the growth in rural population being slower than that of urban population. Further, the population of Maharashtra has grown at a marginally lower rate than the country average between 2012-2025.

Table 4.2: Population Growth in India (2012 – 2025)

State	2012 Population (m)	2025 Population (m)	CAGR (2012 – 2025)
Maharashtra	113.1	127.9	1.0%
India	1,220	1,408	1.1%

Source: Ministry of Statistics and Program Implementation estimates

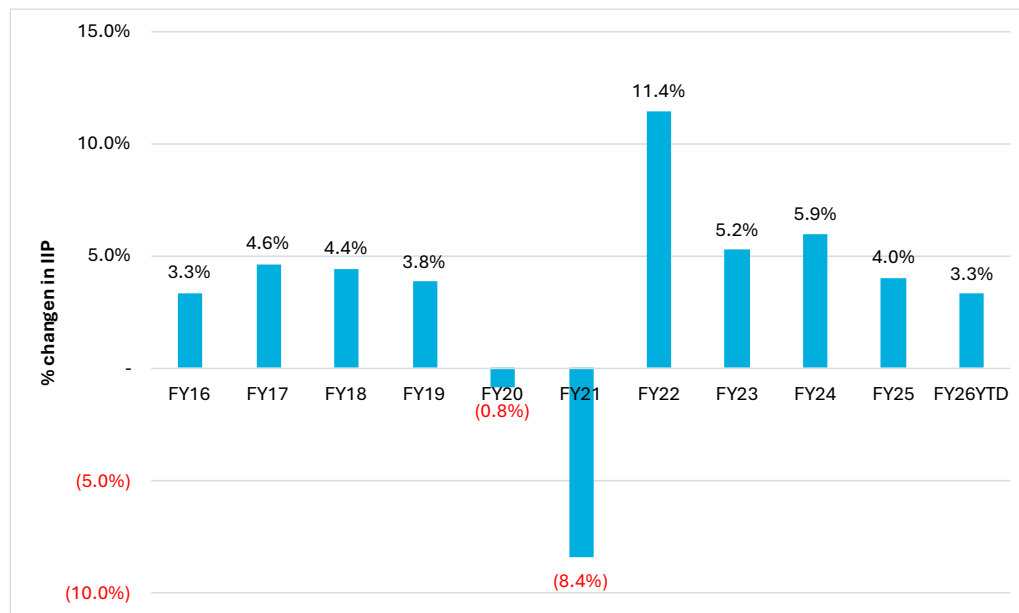
- 4.7 Due to the complexities of the patterns in which urbanisation takes place, and the very dynamic nature of local population migration (which are very difficult to forecast with accuracy), we do not use population growth as a proxy for understanding future travel demand growth on the Asset. It has been included in this section simply to provide a socio-economic context of the trend in the region in which the Asset is 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 The figure below shows that at an annual level, national IIP was growing at an average of 4% per year over the period FY15-19, before the country underwent a liquidity crisis and experienced an overall economic slowdown in FY20. In the aftermath, IIP shrank by over 8% in FY21 due to a decline in economic activity in the wake of global lockdowns introduced to curb the Covid-19 pandemic. Post the immediate recovery in FY22, IIP growth has since stabilised, with FY25 recording 4%, and FY26YTD (till February 2026) recording 3.3% growth over FY25

Figure 4.1: Annual growth – Index of Industrial Production (FY16-FY26YTD)



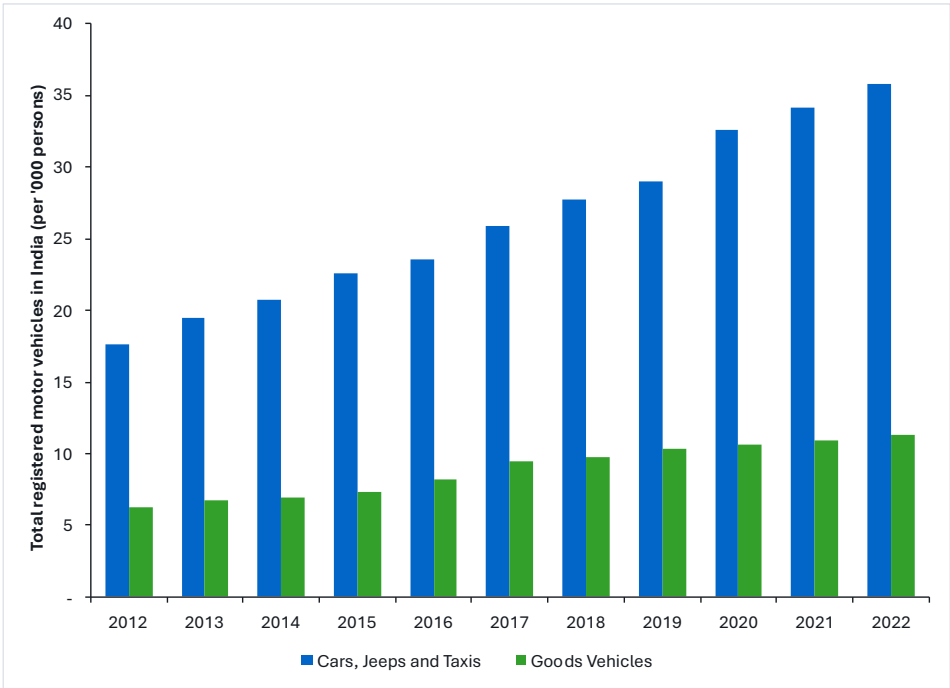
Source: Ministry of Statistics and Program Implementation (MoSPI). FY26YTD represents data till Feb'26

- 4.10 Since state-level IIP data is not as readily available as national-level IIP, we have presented national IIP here to indicate nationwide activity in key industrial sectors like power, manufacturing, and mining, all of which influence long-distance commercial movements across the nation, and not unique to this asset. We however, do not use it to forecast future travel demand growth since long-term forecast for IIP is not available through official sources such as MoSPI, RBI or through multilateral organisations like WB, or the IMF.

Vehicle ownership

- 4.1 The gap in car ownership between India and developed nations remains substantial – with 36 cars/jeeps/taxis and 11 commercial vehicles per thousand people, as of FY22 (the latest year for which official data is available). However, with increasing per capita income levels, a booming economy and the subsequent increase in demand for mobility, the number of registered vehicles has been on a gradual upward trend
- 4.2 Overall, India still stands at a very nascent stage in the vehicle saturation curve, offering huge potential for growth going forward. Between FY12 and FY22, the CAGR for CJV and goods' vehicles registered in India was 8.6% and 7.3% respectively

Figure 4.2: Total number of registered motor vehicles in India (per 1000 population)

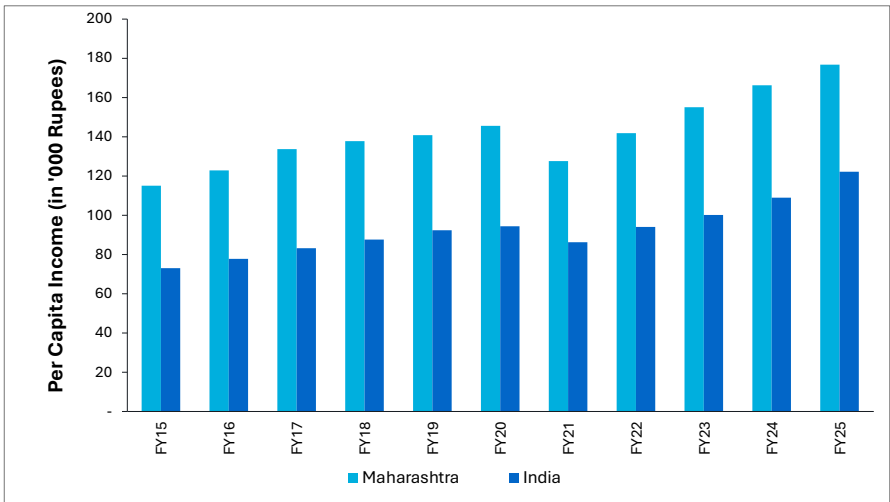


Source: Ministry of Road Transport and Highways (MoRTH)

Per Capita Income (PCI)

- 4.3 The per capita income of the state where the Asset lies, i.e., Maharashtra is higher compared to the national average. Going forward, we expect the state to continue to grow in line with national GDP, thereby resulting in the gap between the state's PCI and national PCI to sustain.

Figure 4.3: Per Capita Income



Source: Ministry of Statistics and Program Implementation (MoSPI)

- 4.4 Given the difficulty in obtaining granular district level PCI data, it is not advisable to use this as a growth driver in our forecasts. Additionally, long-term forecasts for PCI are not

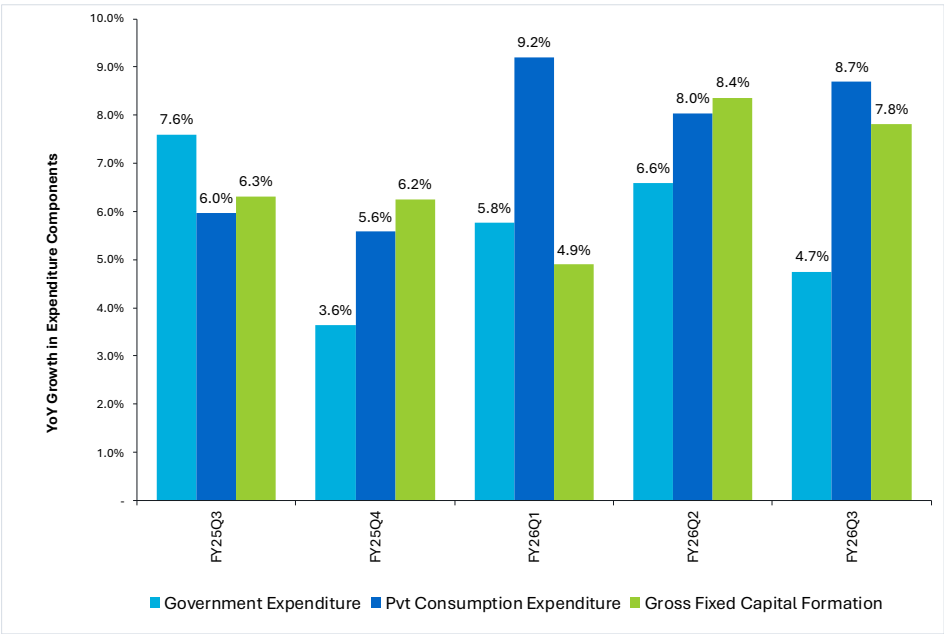
available from official sources and we therefore refrain from using it to forecast traffic growth.

Economic growth

India's Performance

- 4.5 Despite a slowdown in the economy during H1FY25, the Indian economy has observed strong growth each quarter since FY25Q2, with the latest published estimates for FY26Q3 GDP at 7.8% over FY25Q3. This performance has been driven by strong growth in investment and consumption expenditures and higher consumer optimism for the year ahead⁵.
- 4.6 The figure below, we present quarterly Y-o-Y growth in three major components of GDP – government expenditures, consumption expenditures, and business investment (gross fixed capital expenditure) over the past year (FY25Q3-FY26Q3).

Figure 4.4: YoY growth in expenditure components of GDP



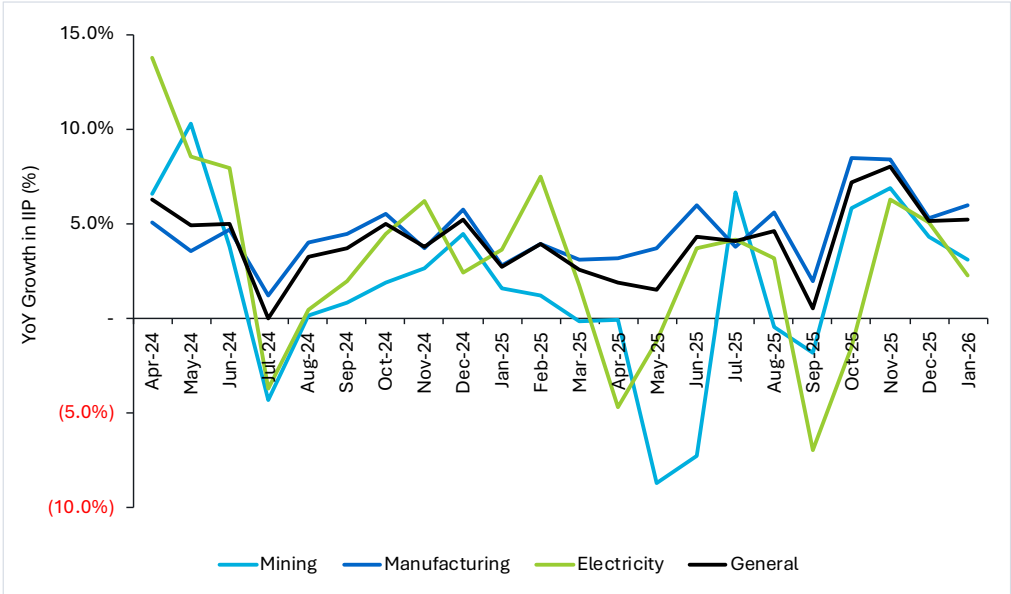
Source: Steer Analysis of MOSPI Data

- 4.7 While consumption and investment expenditures have continued to show consistent growth over the past two quarters, government expenditures observed a marginal decline in FY25Q4. In FY26Q1, government expenditures rebounded, recording 5.8% growth over FY25Q1 levels.
- 4.8 Performance across different types of industrial activities (such as Mining, Manufacturing, and Power Generation) directly impact freight movement and commercial traffic volume growth across the country, including on the Asset. In the figure below, we present growth trends in IIP – a measure that tracks the performance of the economy across these activities. As of FY26YTD (Apr'25-Feb '26), the Manufacturing sector continues to perform

⁵ Government of India PIB Release (27th February 2026)

strongly, recording positive y-o-y growth since FY25Q3. While industrial activity across the two other sectors (i.e., Power Generation and Mining) dropped between May and Jun/Jul '25, they have since rebounded and show signs of continued growth going forward.

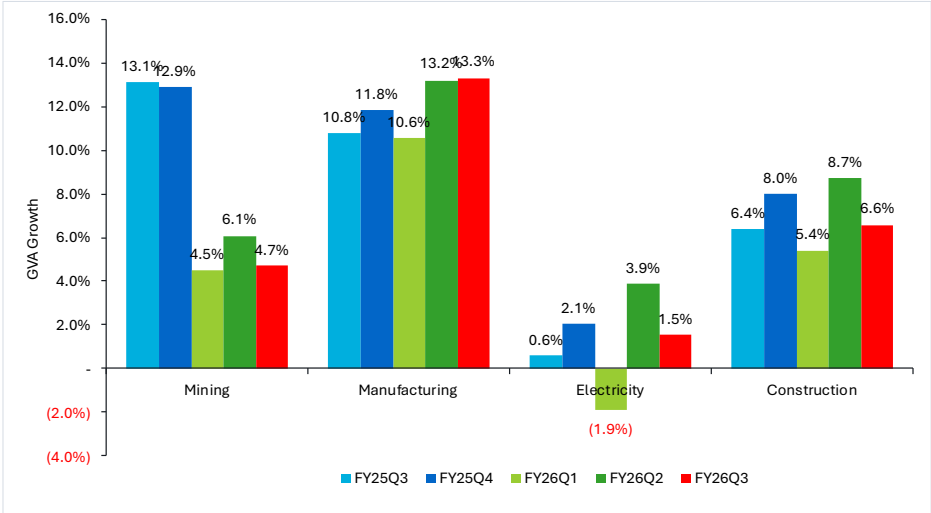
Figure 4.5: Month on Month IIP performance



Source: Steer Analysis of MOSPI Data

4.9 In addition to monthly trends in IIP, the figure below presents y-o-y growth of quarterly GVA in four industrial sectors - Mining (& Quarrying), Manufacturing, Electricity (and other Utilities), and Construction. While the Mining and Power sectors observed decline and muted growth in FY26Q1, the Manufacturing and Construction sectors experienced strong growth. While overall economic growth has remained resilient as of FY26YTD, performance across industries have varied, impacting economic growth across different regions and on the Asset as well.

Figure 4.6: Industrial components of GVA

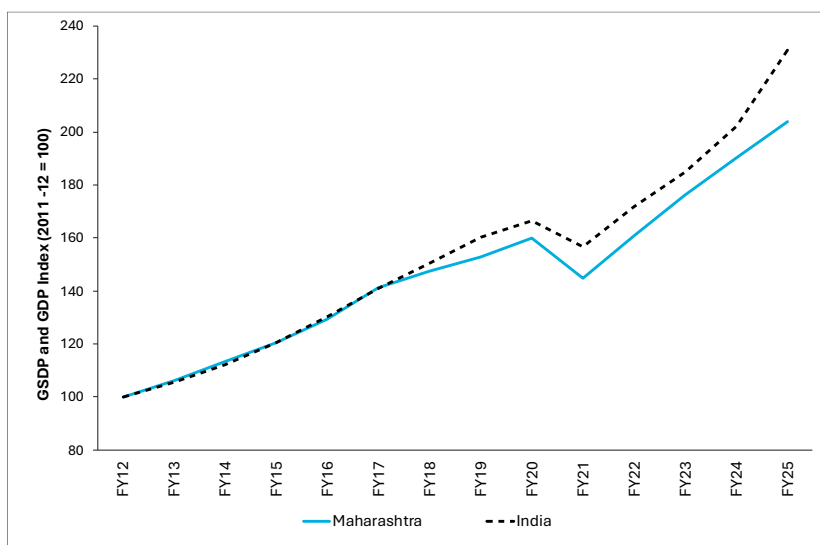


Source: Steer Analysis of MOSPI Data

GDP and GSDP Growth

- 4.10 Over the period FY12-FY25, the Indian economic has grown at a CAGR of approx. 6.7% aided by growth in the tertiary sector which grew at a CAGR of approx. 6.9% over the same period. The economic performance of Maharashtra has been weaker than the country during the same period. Maharashtra's GSDP CAGR was 5.6% between FY12-26. Maharashtra approximately contributes 17% to the India's GDP. Between FY12 and FY25, Bihar's GSDP grew steadily, nearly doubling in real terms.
- 4.11 Maharashtra's service sector formed approximately 60% of the state's GSVA in 2025. In addition, it has a large agrarian economy, with it being one of the largest producers of onion, sugarcane, soy bean, and cotton in the country.
- 4.12 The figure below illustrates the evolution of Maharashtra's GSDP during FY12-FY25.

Figure 4.7: Evolution of Maharashtra's state GDP and National GDP



Source: Ministry of Statistics and Program Implementation (MoSPI)

- 4.13 The official historical GDP and GSDP data for India are released by the Ministry of Statistics and Program Implementation (MoSPI). To derive state GSDP forecasts, we rely on past trends of the relationship between GDP and GSDP and develop GSDP forecasts as a function of our assumed GDP forecasts⁶.

For any indicator to be used as a growth driver to forecast traffic, a reliable source of historical and forecast data availability for that indicator is the key requirement. Of the key socioeconomic indicators discussed above, GDP was assessed 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 use GDP/GSDP as our key growth drivers.

⁶ Assuming that the historical long-term relationship between GSDP and GDP sustains over the short-term, we project future growth in GSDP as a function of our GDP growth forecast. We taper the relationship of GSDP growth to converge to GDP growth gradually over the long-term.

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 We undertook a benchmarking analysis 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, commodity profiles, travel patterns, trip lengths etc. which give us reasonable confidence the relationships proposed. These assets have been selected based on their representativeness in terms of corridor type, user profile, and data continuity — providing a strong foundation for triangulating elasticity assumptions and understanding historical traffic response patterns. This triangulation helps ensure that our forward-looking assumptions remain grounded in real-world behaviour across similar network contexts.
- 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 is 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		100%
MLCV		100%
LCV		100%
Bus		100%
2A	100%	
3A	100%	
MAV	100%	
OSV	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 Tamalwadi (TP1) and Yedeshi (TP2)

Vehicle Category	Proposed	Growth Driver	Comments
CJV	TP1: 1.1 TP2: 1.2	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. It is tapered to 1 at TP1 and 1.1 at TP2
MLCV	TP1: 0.6 TP2: 0.5	GSDP Maharashtra	MLCVs primarily cater to local freight demand and are used for transporting small consignments such as agricultural produce, FMCG goods, retail supplies and other daily-use commodities. The category largely serves short-distance movements between villages and nearby urban centres. Growth in local economic activity and consumption is expected to support traffic growth in this category; however, given its predominantly local nature and limited exposure to long-distance freight movements, a moderate elasticity of 0.6 for TP1 and 0.5 for TP2 is considered appropriate.
Buses	TP1: 0.6 TP2: 0.5	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: 0.8 TP2: 0.8	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 0.8 is considered reasonable for this category.
3A	TP1: 0.3 TP2: 0.3	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.
MAV	TP1: 0.9 TP2: 0.9	GDP	Moreover, an average trip length of around 710 and 899 km 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. 3A elasticities are tapered to 0.1 at both the plazas
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Source: Steer analysis

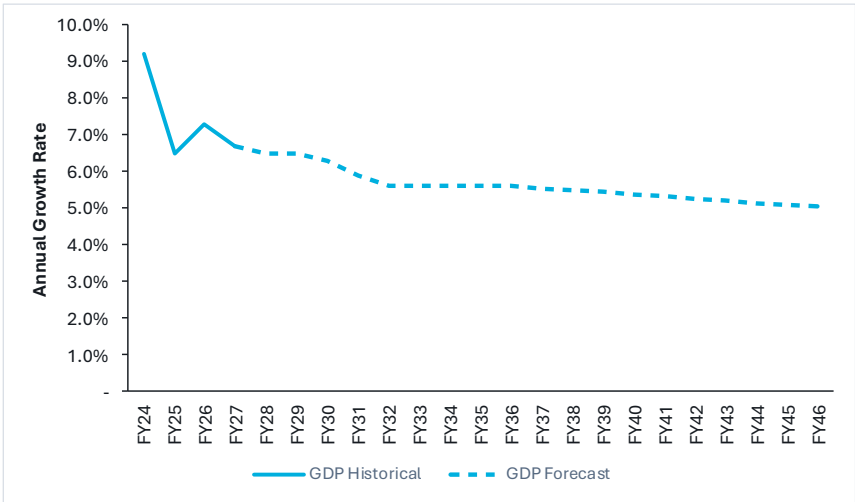
Forecasts for growth drivers

5.12 Following the discussion in Chapter 4 regarding the economic profile and growth prospects of Maharashtra, this section outlines the assumptions adopted for forecasting the key macroeconomic drivers of traffic growth. The traffic growth forecasts have been based on projections of Gross Domestic Product (GDP) and Gross State Domestic Product (GSDP) obtained from an independent and widely recognized source, namely Consensus Economics. These forecasts provide a robust basis for assessing the long-term economic growth expected to influence traffic demand on the Asset.

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 The forecast projects the Indian GDP to grow at on an average of 6.5% between FY27-FY30 which is gradually tapered down to 5.0% by FY46. The India GDP growth forecast is broadly in line with other independent forecasts available from reliable sources such as IMF, World Bank and RBI in the short term.

Figure 5.1: FY24-46 GDP forecast



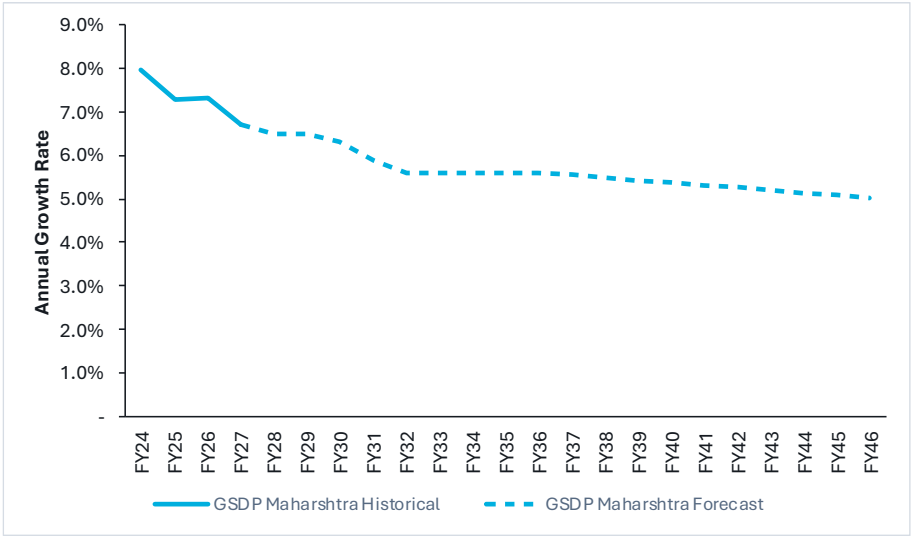
Source: Consensus Economics

State GSDP

5.15 By comparing historical 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.

5.16 The Maharashtra GSDP is expected to grow in line with National GDP as observed historically. The chart below shows the forecast growth lines for Maharashtra GSDP.

Figure 5.2: Forecasts for 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 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	1.00	0.85	0.98	1.17	1.13	1.29	1.08	0.87	0.86	0.97	0.94	1.07
LCV	0.93	0.95	1.03	1.14	1.18	1.23	1.21	0.98	0.91	0.94	0.85	0.86
Bus	1.02	0.93	0.97	1.00	1.08	1.15	1.04	0.95	0.98	0.97	0.97	1.00
2A	0.98	1.08	1.12	1.12	1.13	1.03	1.09	0.95	0.97	0.95	0.86	0.84
3A	1.02	1.01	1.01	1.03	1.08	1.05	1.10	1.01	0.95	0.94	0.94	0.96
MAV	1.12	1.13	1.12	1.07	1.05	0.94	1.19	0.97	0.93	0.89	0.88	0.90

Source: Steer analysis of various sources

Table 6.3: Adopted SCF: SY TP2 Yedeshi

Vehicle Cat	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
CJV	0.91	0.85	0.98	1.12	1.10	1.22	0.99	0.94	0.93	1.01	0.99	1.10
LCV	0.93	0.95	1.01	1.06	1.09	1.06	1.14	1.02	0.97	1.01	0.93	0.93
Bus	0.91	0.92	0.98	1.05	1.05	1.15	0.98	1.03	1.00	1.00	0.99	1.02
2A	1.04	1.10	1.12	1.08	1.09	0.98	1.09	0.95	0.94	0.94	0.88	0.89
3A	1.08	1.09	1.07	1.03	1.04	0.95	1.10	0.96	0.96	0.93	0.91	0.96
MAV	1.17	1.17	1.14	1.01	1.06	0.92	1.11	0.93	0.91	0.90	0.92	0.94

Source: Steer analysis of various sources

Base year (FY27) traffic

6.6 The base traffic for FY27 has been estimated utilizing the actual 12 months of FY26. The weighted average of the actual FY26 traffic (April to March) was taken to arrive at annual FY26 AADT. Using elasticity-based growth assumptions GSDP or GDP we arrived at estimated FY27 (FY27E).

6.7 The resulting FY27E AADT was further adjusted using the monthly traffic profile observed during the most recent six-month period of FY26 (October 2025 to March 2026) to ensure that prevailing traffic trends were appropriately reflected in the forecast. The FY27 traffic estimates are based on established historical traffic patterns and take into consideration

ongoing and planned developments in the surrounding highway network. Accordingly, stable and sustainable traffic growth has been assumed at both Yedeshi and Tamalwadi Toll Plazas, with the continuation of the four-laning works on NH-561A throughout FY27 expected to maintain the current traffic diversion benefits on the Asset.

Table 6.4: Base Traffic FY27 Tamalwadi TP

Vehicle Category	FY26	FY27*	Growth FY26-27
CJV	11,389	12,320	8.2%
LCV	487	508	4.3%
Buses	1,027	1,052	2.5%
2A	1,453	1,530	5.3%
3A	978	1,000	2.3%
MAV	1,905	2,220	16.6%
Total	17,251	18,644	8.1%
PCU	31,121	33,880	8.9%

Source: Steer Analysis

Table 6.5: Base Traffic FY27 Yedeshi TP

Vehicle Category	FY26	FY27*	Growth FY26-27
CJV	6,459	6,988	8.2%
LCV	355	370	4.4%
Buses	320	332	3.8%
2A	1,205	1,265	5.0%
3A	938	960	2.3%
MAV	1,793	2,074	15.7%
Total	11,081	12,001	8.3%
PCU	22,444	24,545	9.4%

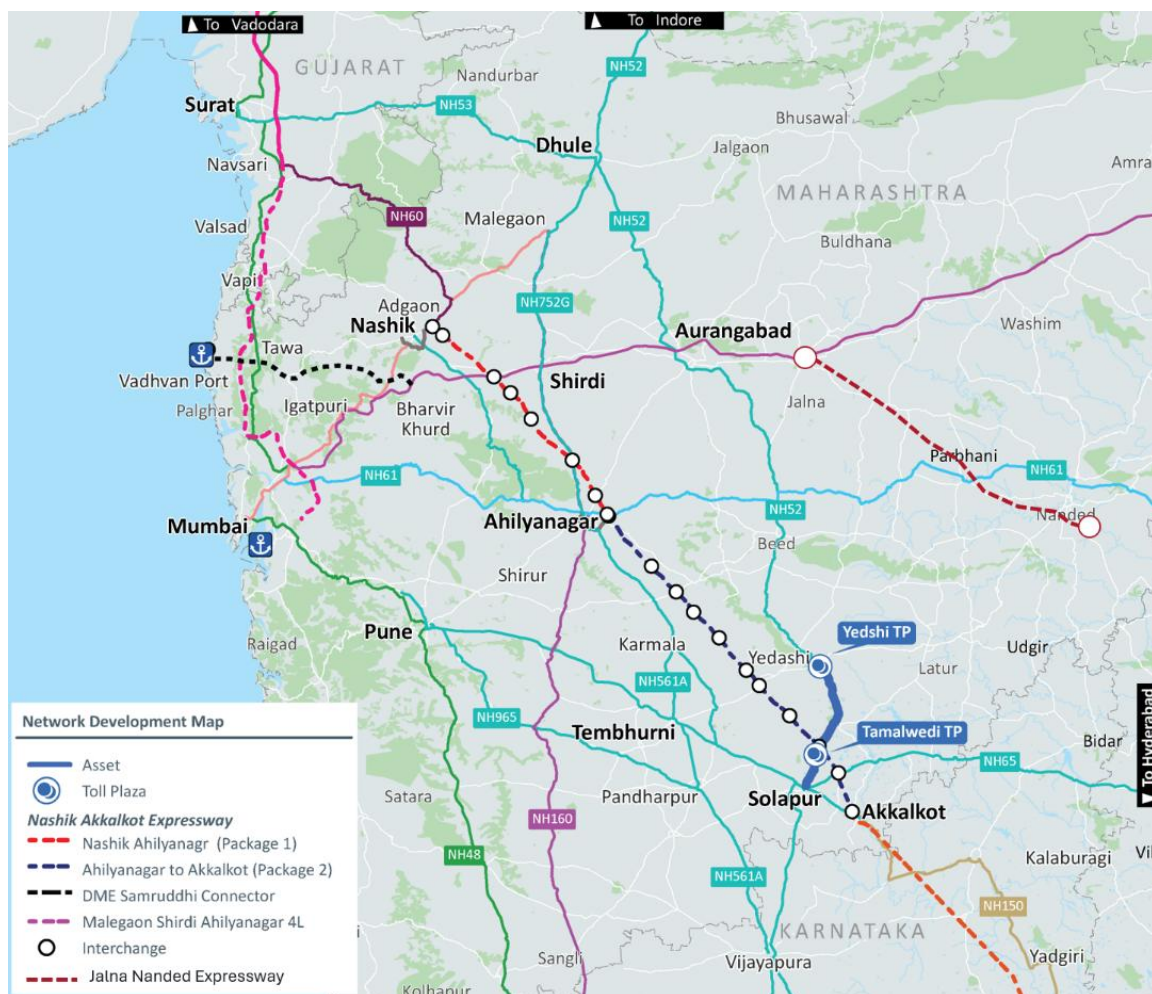
Source: Steer Analysis

Analysis of potential impacts

Summary of alternate routes and planned changes

- 6.8 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.
- 6.9 The map below shows the road network surrounding the Assets.

Figure 6.1: Assets route shown against the regional network context



Source: Steer analysis and cartography

Summary of impact assessments

6.10 The following table lists the impacts considered on the Assets.

Table 6.6: Summary of impact

Impact	Year of impact	Toll plaza	Impact (+/-)
Upgradation of Chapadgaon-Tembhurni 4 Laning NH561A	FY27 to FY29	Both toll plaza	+ve
Completion of 4L of Shirdi Ahilyanagar Section of NH160 and completion of Shivoor-Aurangabad upgradation to 2L+PS	FY28 Onwards	Both toll plaza	-ve
Completion of Chapadgaon-Tembhurni 4 Laning NH561A	FY29 Onwards	Both toll plaza	-ve
Jalna Nanded Expressway	FY29 onwards	Both toll plaza	-ve
Construction of Malegaon-Shirdi Section of NH160	FY30 to FY32	Both toll plaza	+ve

Impact	Year of impact	Toll plaza	Impact (+/-)
Completion of Construction of Malegaon Shirdi Section of NH160	FY32 onwards	Both toll plaza	-ve
Completion Nashik Akkalkot Greenfield Section	FY33 onwards	Both toll plaza	-ve
Opening of Autram Tunnel	FY33 onwards	Both toll plaza	+ve
Induced Demand and network shifts from expressway on Tamalwadi	FY33 onwards	Tamalwadi toll plaza	+ve
NH 53+NH48 Diversion	FY33 onwards	Tamalwadi toll plaza	+ve

- 6.11 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 FY27 AADT.

Impact of commencement of construction of the Chapadgaon-Tembhurni 4 Laning NH561A

- 6.12 As discussed in Chapter 2 and 3, the upgradation is planned on the package III of NH561A from Chapadgaon village to Tembhurni, south of Ahilyanagar which is the alternative route of the Asset route. We understand from different sources, that in May 2025, the contract was awarded for the 4 laning of this section on HAM mode, we believe the construction of this section shall commence in the second half of the FY27 and will further impact the traffic moving on the Alternative and shift the traffic to the Asset route, because of diversions. The in-scope traffic includes all the trips which is generated between Dhule, North (including Gujarat and Rajasthan) and Solapur and southern India. The following tables summarise the proportion of the base traffic forecasts that are impacted by the construction commencement of the alternative NH 561A

Table 6.7: Impact of 4 laning construction commencement of NH561A (FY27 Onwards)

Impact %	CJV	LCV	2A	3A	MAV
Impact % (SY-Tamalwadi)		2.3%	3.9%	6.2%	3.2%
Impact % (SY-Yedeshi)		3.2%	4.7%	6.5%	3.4%

Source: Steer analysis of OD data and comparison of improved Generalised journey costs

- 6.13 Following map depicts the route choices impacted by the construction commencement:

Source: Steer Cartography

Completion of 4L of Shirdi Ahilyanagar Section of NH160 and completion of Shivoor-Aurangabad upgradation to 2L+PS

- 6.14 As discussed in Chapter 3, a four-laning project is currently under construction on the Ahilyanagar–Shirdi section of NH-160, located north of the Ahilyanagar Bypass. Construction activities commenced in FY26 and have resulted in significant diversion of commercial traffic onto the Asset due to reduced operating speeds, temporary diversions and construction-related traffic management measures on the competing corridor. Consequently, a portion of long-distance freight traffic that would otherwise utilise the

Dhule–Malegaon–Shirdi–Ahilyanagar–Tembhurni–Solapur route has shifted to the Asset during the construction period.

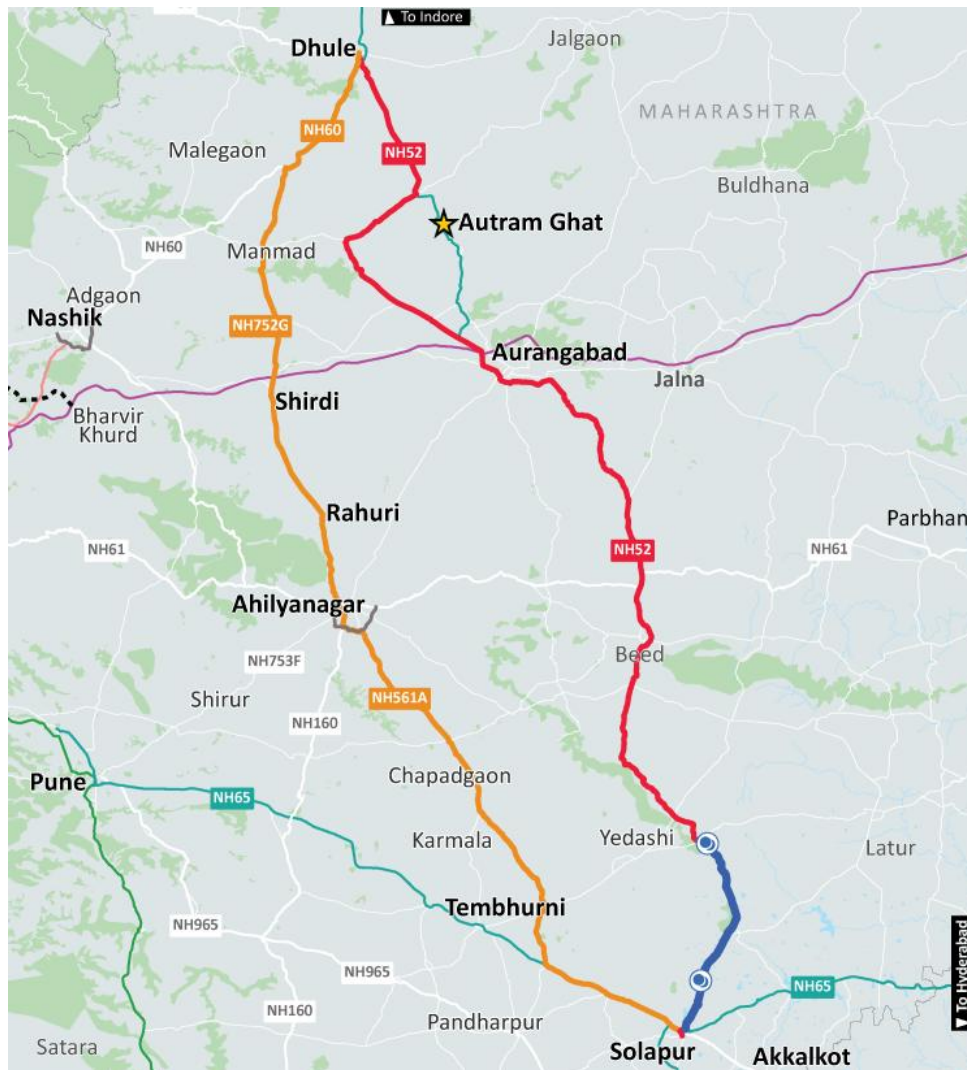
- 6.15 Based on site observations and information obtained from various sources, the Ahilyanagar Bypass–Shirdi four-laning works are expected to be completed by mid-FY28. In addition, the ongoing upgradation of the Shivoor–Aurangabad corridor to a two-lane configuration with paved shoulders (2L+PS) is also expected to be completed around the same period. Upon completion, both corridors are expected to offer improved travel conditions through the removal of construction-related constraints, higher operating speeds and enhanced levels of service for commercial traffic.
- 6.16 At present, traffic travelling between regions north of Dhule and destinations south of Solapur is favouring the Asset corridor due to the constraints on the alternative route. However, following completion of the planned improvements, the competing route options would broadly comprise:
- Asset Route: Dhule – Chalisgaon – Nandgaon – Shivoor – Aurangabad – Beed – Solapur
 - Alternative Route: Dhule – Malegaon – Shirdi – Ahilyanagar – Tembhorni – Solapur
- 6.17 The completion of the NH-160 four-laning works and the associated highway improvements is expected to improve the attractiveness of the alternative corridor by reducing travel times and improving operating conditions. As a result, a proportion of the commercial traffic currently diverted onto the Asset is expected to revert to the alternative route upon completion of these projects. Accordingly, the completion of the Ahilyanagar–Shirdi four-laning project and the Shivoor–Aurangabad upgradation represents a downside risk to traffic volumes on the Asset and has been explicitly considered in the traffic forecast from FY28 onwards.
- 6.18 The following tables summarise the proportion of base traffic forecasts expected to be impacted by the completion of these competing network improvements.

Table 6.8: Impact of Solapur Vijayapura and Solapur Bypass Upgrade (FY28 Onwards)

	LCV	2A	3A	MAV
Impact % (SY-Tamalwadi)	(3.4%)	(5.8%)	(9.2%)	(4.5%)
Impact % (SY-Yedeshi)	(4.7%)	(7.0%)	(9.6%)	(4.7%)

Source: Steer analysis of OD data and Generalised journey costs analysis

Figure 6.2 Route Choices after the completion of the Shirdi Ahilyanagar 4 laning



Completion of Chapadgaon-Tembhurni 4 Laning NH561A

- 6.19 As discussed in Paragraph 6.12, the four-laning of the Chapadgaon–Tembhurni section of NH-561A is expected to commence in the second half of FY27, resulting in construction-related disruptions on the alternative corridor and a temporary diversion of traffic onto the Asset. Based on information obtained from various sources, the project is expected to be completed by mid-FY29.
- 6.20 Upon completion, the Chapadgaon–Tembhurni section will offer improved road capacity, higher operating speeds and enhanced travel reliability, thereby improving the overall level of service on the alternative corridor between Ahilyanagar and Solapur. The removal of construction-related constraints and the provision of a four-lane facility are expected to make the alternative route more attractive for both passenger and commercial traffic.
- 6.21 The completion of the project is expected to particularly benefit long-distance traffic travelling between Dhule and regions further north (including Gujarat and Rajasthan) and destinations in Solapur and southern India. With improved travel conditions on NH-561A, a proportion of the traffic that had shifted to the Asset during the construction period is expected to revert to the alternative route.

- 6.22 Accordingly, the completion of the Chapadgaon–Tembhurni four-laning project represents a downside risk to traffic volumes on the Asset from mid-FY29 onwards. The impact is expected to be most pronounced for long-distance commercial traffic, which is generally more sensitive to travel time savings and operating efficiencies. The following tables summarise the proportion of the base traffic forecasts expected to be impacted by the completion of the NH-561A four-laning works.

Table 6.9: Ahmednagar Tembhorni construction Impact (FY29 Onwards)

Impact %	LCV	2A	3A	MAV
Impact % (SY-Tamalwadi)	(2.5%)	(4.1%)	(6.7%)	(2.9%)
Impact % (SY-Yedeshi)	(3.4%)	(5.0%)	(7.0%)	(3.1%)

Source: Steer analysis of OD data, and Generalised journey costs analysis

Jalna Nanded Expressway

- 6.23 The proposed Jalna–Nanded Expressway is a greenfield, access-controlled six-lane expressway being developed by MSRDC to improve connectivity across the Marathwada region of Maharashtra. The approximately 180 km corridor will connect Jalna, Parbhani, Hingoli and Nanded, while also providing direct connectivity to the Mumbai–Nagpur Samruddhi Mahamarg. The expressway is being designed for operating speeds of up to 120 kmph with a 100 m right-of-way, significantly reducing travel times and improving freight efficiency across the region. Upon completion, the corridor is expected to enhance regional connectivity, support industrial and agricultural growth, and influence route choice patterns for long-distance passenger and commercial traffic in Marathwada.
- 6.24 Based on recent project updates), construction activities are currently underway across multiple packages of the corridor. Civil works on the Parbhani–Nanded side have been progressing steadily, while construction activities have also commenced on the Jalna side. Recent updates further indicate that work has begun on the final package of the expressway, suggesting that all major construction packages are now under implementation.
- 6.25 The traffic likely to be influenced by the proposed Jalna–Nanded Expressway primarily comprises long-distance passenger and commercial vehicle movements generating from Telangana, particularly Hyderabad, and Andhra Pradesh and destined to the regions of Dhule and north/west India. The expressway is expected to provide a faster and more efficient route option for a portion of these trips, thereby influencing route choice patterns upon its completion. The impact is expected to be more pronounced at Yedeshi Toll Plaza, which carries a relatively higher share of long-distance through traffic originating from Telangana and Andhra Pradesh. In contrast, Tamalwadi Toll Plaza is expected to experience a comparatively lower impact, as a significant proportion of traffic travelling towards Hyderabad and other destinations in Telangana accesses NH-65 via the Naldurg route and therefore does not traverse the Tamalwadi section of the Asset. Consequently, the proportion of in-scope traffic susceptible to diversion is higher at Yedeshi than at Tamalwadi, resulting in a greater forecast impact at the former location.
- 6.26 The following tables summarise the proportion of the base traffic forecasts expected to be impacted by the commissioning of the Jalna–Nanded Expressway. Construction

activities are currently underway across multiple packages of the corridor, and based on available information, the expressway is expected to be completed by mid-FY29.

Table 6.10: Jalna Nanded Expressway Impact (FY29 onwards)

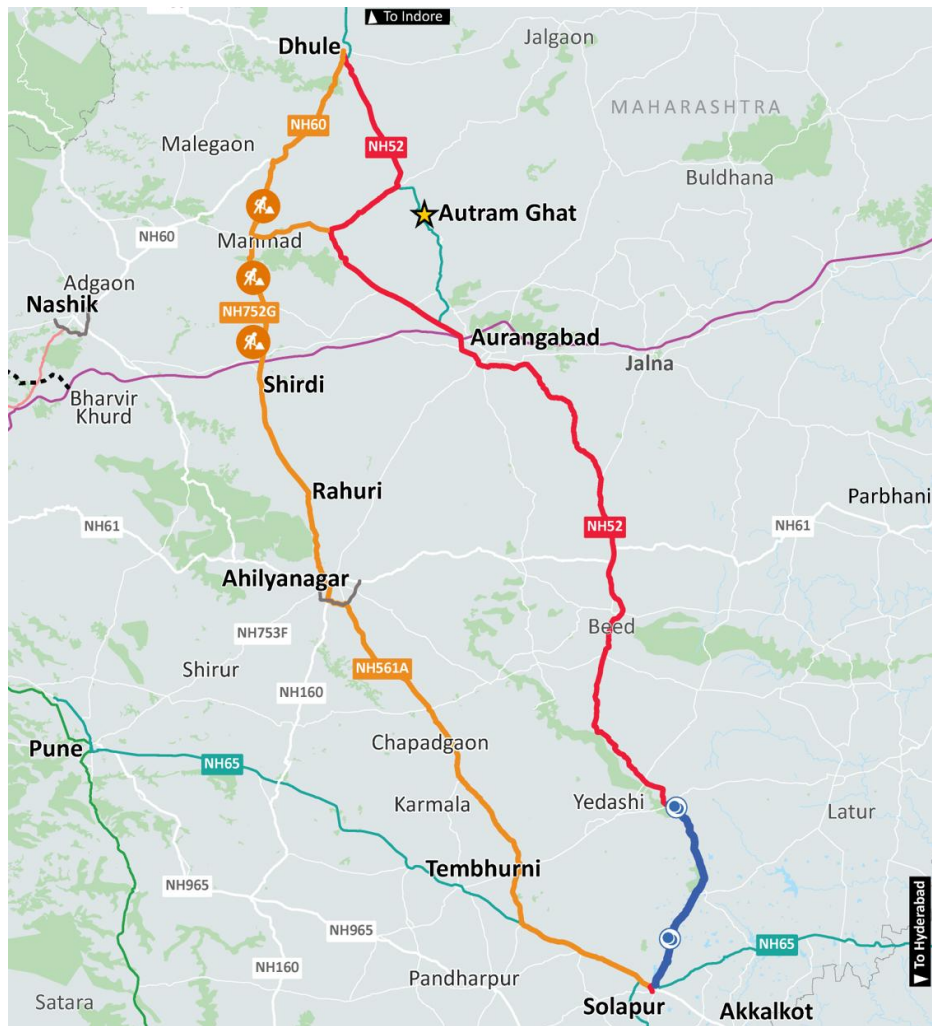
	LCV	2A	3A	MAV
Impact % (SY-Tamalwadi)	(1.1%)	(0.6%)	(0.4%)	(1.1%)
Impact % (SY-Yedeshi)	(2.2%)	(3.1%)	(3.2%)	(3.0%)

Source: Steer analysis of OD data, and Generalised journey costs analysis

Construction Commencement and completion of Malegaon-Shirdi Section of NH160

- 6.27 Based on information available from various sources, the proposed four-laning of the Malegaon–Shirdi section of NH-160 is currently at the DPR stage and is assumed to commence construction in FY30, with completion expected by FY32. The project forms a key component of the alternative corridor connecting Dhule, Malegaon, Shirdi, Ahilyanagar and Solapur and is expected to further enhance the competitiveness of this route upon completion.
- 6.28 During the construction phase, traffic on the alternative corridor is expected to experience disruptions arising from construction activities, temporary diversions, lane restrictions and reduced operating speeds. Consequently, a proportion of long-distance commercial traffic is expected to shift to the Asset in order to avoid construction-related delays. During this period, the competing route options would broadly comprise:
- **Asset Route:** Dhule – Chalisgaon – Nandgaon – Aurangabad – Beed – Solapur
 - **Alternative Route:** Dhule – Chalisgaon – Yeola – Shirdi – Ahilyanagar – Tembhurni – Solapur
- 6.29 Given the anticipated deterioration in operating conditions on the alternative corridor during construction, the Asset is expected to offer relatively better travel reliability and journey times for through traffic. Accordingly, the commencement of the Malegaon–Shirdi four-laning works is expected to result in a temporary diversion of commercial traffic onto the Asset, thereby representing an upside risk to traffic volumes between FY30 and FY32.
- 6.30 Upon completion in FY32, the project is expected to remove construction-related bottlenecks and significantly improve travel conditions on the alternative corridor through enhanced capacity, higher operating speeds and improved travel reliability. Furthermore, by this stage, the previously assumed improvements on the Shirdi–Ahilyanagar section of NH-160 and the Chapadgaon–Tembhurni section of NH-561A are also expected to be operational. As a result, the alternative corridor will provide a substantially improved route between Dhule and Solapur.

Figure 6.3 Route Choice during construction of Malegaon Shirdi



- 6.31 Following completion of the project, the competing route options would broadly comprise:
- **Asset Route:** Dhule – Chalisgaon – Nandgaon – Aurangabad – Beed – Solapur
 - **Alternative Route:** Dhule – Malegaon – Shirdi – Ahilyanagar – Tembhurni – Solapur
- 6.32 The improved level of service, reduced travel times and enhanced operating conditions on the alternative corridor are expected to increase its attractiveness for long-distance passenger and commercial traffic. Consequently, a proportion of the traffic that had shifted to the Asset during the construction period is expected to revert to the alternative route upon completion of the project.
- 6.33 It has also been assumed that, at the completion of the Malegaon–Shirdi four-laning project, the Nandgaon–Shivoor section on the Asset corridor will be upgraded to a two-lane configuration with paved shoulders (2L+PS). The completion of this improvement is expected to enhance travel conditions on the Asset by improving operating speeds and reducing delays on a key section of the route. Consequently, while the completion of the Malegaon–Shirdi four-laning project is expected to increase the attractiveness of the alternative corridor, the simultaneous improvement of the Nandgaon–Shivoor section is expected to partially offset this impact. Accordingly, the traffic diversion impact arising

from the completion of the alternative corridor is expected to be partially mitigated by the concurrent improvement of the Nandgaon–Shivoor section on the Asset corridor.

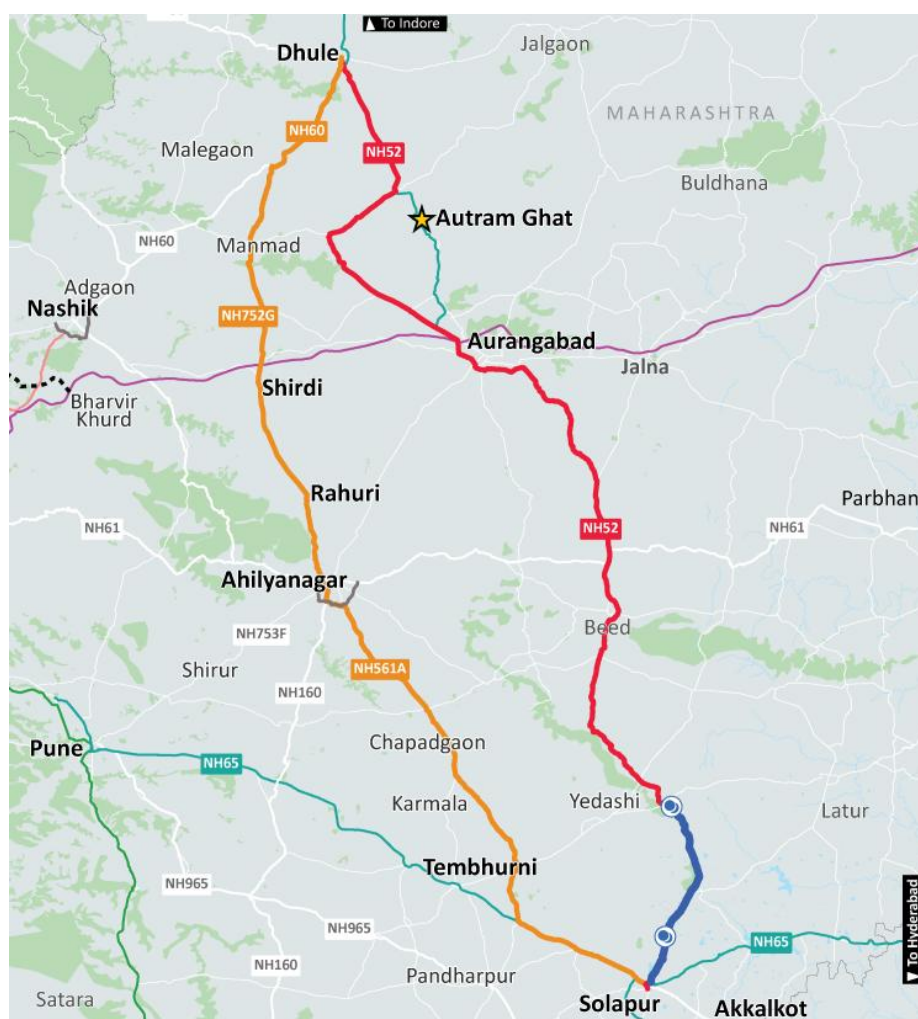
- 6.34 Accordingly, while the commencement of construction represents an upside risk to the Asset, the completion of the Malegaon–Shirdi four-laning project represents a downside risk to traffic volumes from FY32 onwards and has been explicitly considered in the traffic forecasts.

Table 6.11: Commencement of completion of 4 laning of the Shirdi Malegaon section of NH 160

	LCV	2A	3A	MAV
During Construction (FY30-32)				
Impact % (SY-Tamalwadi)	5.0%	8.3%	9.9%	7.6%
Impact % (SY-Yedeshi)	6.8%	10.0%	10.3%	8.1%
During Construction (FY32 onwards)				
Impact % (SY-Tamalwadi)	(2.0%)	(3.4%)	(5.2%)	(3.3%)
Impact % (SY-Yedeshi)	(2.8%)	(4.1%)	(5.4%)	(3.5%)

Source: Steer analysis of OD data, and Generalised journey costs analysis

Figure 6.4 Route Choice Post Construction of the Alternative



Completion Nashik Akkalkot Greenfield Section

- 6.35 The proposed Nashik–Akkalkot Greenfield Expressway is a part of the larger Nashik–Akkalkot–Chennai economic corridor being developed to strengthen north–south connectivity between western, central and southern India. The project comprises a greenfield access-controlled expressway of approximately 250 km length and is proposed to be developed as a six-lane facility. The corridor is envisaged to provide a high-speed alternative to the existing highway network, reducing travel times and improving freight efficiency between northern Maharashtra, Solapur and destinations further south including Karnataka, Telangana, Andhra Pradesh and Tamil Nadu.
- 6.36 The traffic likely to be influenced by the project primarily comprises long-distance passenger and freight traffic travelling between Gujarat, Rajasthan and other northern regions of India on one side and Solapur, Karnataka, Telangana, Andhra Pradesh and southern India on the other. At present, a significant proportion of this traffic utilises the existing highway network and traverses the Asset, particularly at Yedeshi and Tamalwadi Toll Plazas. Given the strategic location of the proposed expressway, a portion of this long-distance traffic is expected to shift to the new corridor upon its commissioning owing to the improved travel speeds, access-controlled operations and enhanced travel reliability.
- 6.37 The impact of the expressway is expected to be more pronounced at Yedeshi Toll Plaza than at Tamalwadi Toll Plaza. This is because the proposed interchange serving the Solapur region is located north of Tamalwadi Toll Plaza. Consequently, traffic destined for or originating from Solapur and regions further south is expected to access Solapur via the Tamalwadi section of the Asset before continuing towards southern destinations. As a result, a portion of the long-distance traffic associated with Solapur movements is expected to continue using the Tamalwadi section, thereby reducing the extent of traffic abstraction at Tamalwadi.
- 6.38 Upon completion, the Nashik–Akkalkot Greenfield Expressway is expected to offer a substantially improved level of service compared to the existing highway network through higher design speeds, uninterrupted travel and reduced journey times. Accordingly, a proportion of long-distance passenger and commercial traffic currently using the Asset is expected to shift to the expressway, particularly freight traffic that is sensitive to travel time savings and operating efficiencies. Therefore, the commissioning of the Nashik–Akkalkot Greenfield Expressway, which is assumed to be completed by mid-FY33, represents a downside risk to traffic volumes on the Asset and has been explicitly considered in the traffic forecasts. The following table summarise the proportion of the base traffic forecasts expected to be impacted by the completion of the Nashik–Akkalkot Greenfield Expressway.
- 6.39 Following completion of the project, the competing route options would broadly comprise:
- **Asset Route:** Dhule – Chalisgaon – Nandgaon – Aurangabad – Beed – Solapur
 - **Alternative Route:** Dhule – Malegaon – Shirdi – Expressway– Solapur

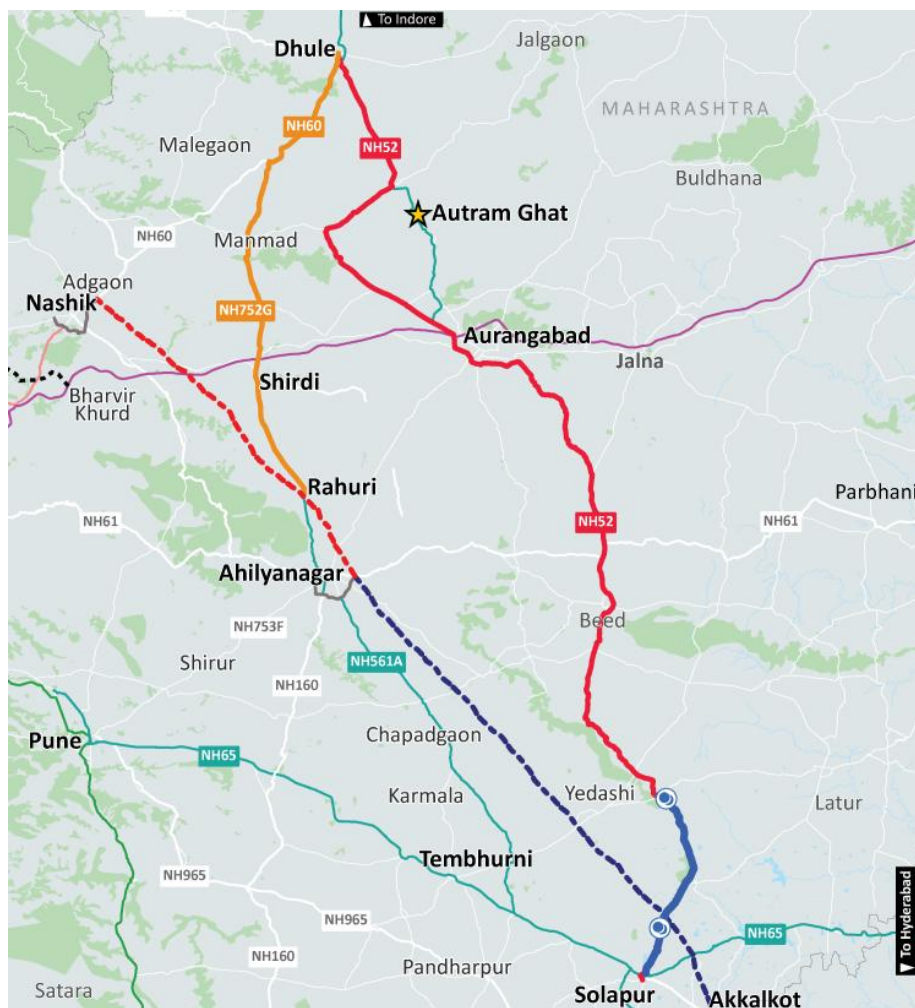
Table 6.12: Summary of impacts Nashik Akkalkot Expressway (FY33 onwards)

	CJV	LCV	2A	3A	MAV
Impact % (SY-Tamalwadi)	(1.2%)	(7.8%)	(13.1%)	(11.4%)	(17.4%)

	CJV	LCV	2A	3A	MAV
Impact % (SY-Yedeshi)	(3.9%)	(13.2%)	(19.5%)	(16.2%)	(23.5%)

Source: Steer analysis of OD data, and publicly available information

Figure 6.5 Route Choice Between Alternate via the Expressway and the Asset



Source: Steer Cartography

Opening of Autram Tunnel

- 6.40 The proposed Autram Ghat Tunnel project is being developed by NHAI on NH-52 between Chhatrapati Sambhajanagar and Dhule to address the longstanding operational constraints associated with the existing Autram Ghat (Kannad Ghat) section. Based on information available in the public domain, the project comprises a 14.89 km long four-lane access-controlled greenfield realignment, including a 5.5 km tunnel and a 3.28 km viaduct, bypassing the existing ghat section entirely. NHAI has initiated the statutory approval process for the project and has applied for forest clearance, while technical surveys, geological investigations and DPR-related activities are currently underway.
- 6.41 The project is particularly relevant to long-distance traffic travelling between Gujarat, Rajasthan and northern India on one side and Solapur, Karnataka, Telangana, Andhra Pradesh and southern India on the other. A significant proportion of this traffic currently

utilises the Asset corridor as part of its north-south movement. However, the existing Autram Ghat section on NH-52 acts as a major bottleneck due to steep gradients, sharp curves and operational restrictions on heavy commercial vehicles, resulting in longer travel times and reduced route attractiveness for freight traffic.

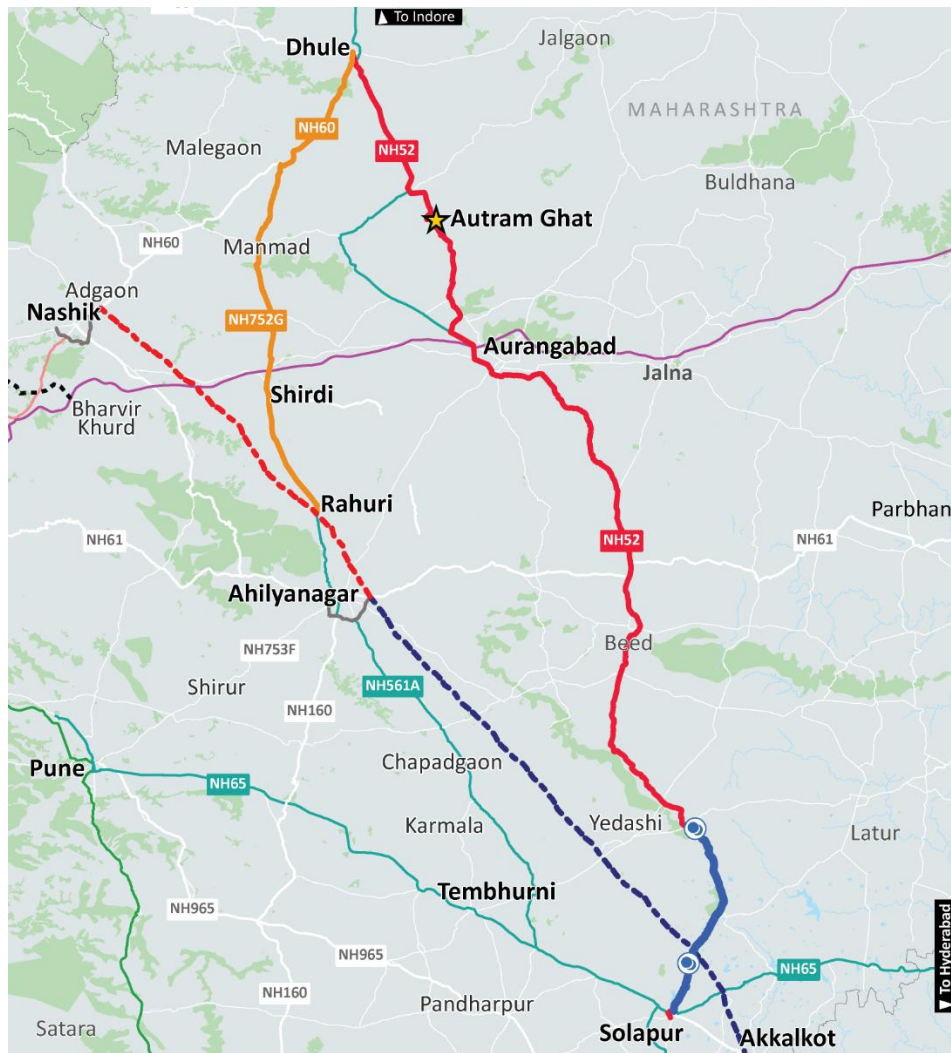
- 6.42 Upon completion, the Autram Ghat Tunnel is expected to substantially improve the level of service on the NH-52 corridor by eliminating the most significant bottleneck on the route. The project will provide uninterrupted movement through the ghat section, improve travel reliability and reduce travel times for long-distance passenger and commercial traffic. In particular, the removal of the current operational constraints on heavy vehicles is expected to enhance the competitiveness of the Asset route for freight movements between northern and southern India.
- 6.43 The completion timeline of the Autram Ghat Tunnel has been assumed to coincide with that of the Nashik–Akkalkot Greenfield Expressway, i.e., mid-FY33. While the commissioning of the Nashik–Akkalkot Expressway is expected to abstract a portion of long-distance traffic from the Asset, the simultaneous completion of the Autram Ghat Tunnel is expected to partially offset this impact by improving the attractiveness of the NH-52 corridor. Consequently, a proportion of long-distance traffic that may otherwise have shifted to the expressway is expected to continue utilising the Asset due to the improved operating conditions and removal of the Autram Ghat bottleneck.
- 6.44 Accordingly, the completion of the Autram Ghat Tunnel represents a positive risk to traffic volumes on the Asset and is expected to moderate the downside impact associated with the commissioning of the Nashik–Akkalkot Greenfield Expressway. The following tables summarise the proportion of the base traffic forecasts expected to benefit from the completion of the Autram Ghat Tunnel project.

Table 6.13 Summary of Impact from the Completion of the Autram Tunnel Project

	CJV	LCV	2A	3A	MAV
Impact % (SY-Tamalwadi)		6.1%	3.4%	3.5%	2.5%
Impact % (SY-Yedeshi)		9.4%	13.8%	12.3%	8.9%

Source: Steer analysis of OD data, and publicly available information

Figure 6.6: Route choice between alternative and Autram Ghat Tunnel



Source: Steer Cartography

Network shifts from NAK expressway on Tamalwadi

- 6.45 The commissioning of the Nashik–Akkalkot Greenfield Expressway is expected to alter route choice patterns for traffic currently using the alternative Dhule–Malegaon–Shirdi–Ahilyanagar–Tembhurni corridor (NH-160/NH-561A). A proportion of the long-distance passenger and commercial traffic travelling between Gujarat, Rajasthan and northern India on one side and Solapur, Vijayapura, Dharwad, Bengaluru and other southern regions on the other is expected to shift from the existing highway network to the expressway owing to the improved level of service, access-controlled operations and travel time savings offered by the new facility.
- 6.46 Similarly, regional traffic originating from the Ahilyanagar region and destined for Solapur and destinations further south is also expected to utilise the expressway in preference to the existing NH-561A corridor. As the expressway approaches Solapur from the north, these traffic movements are expected to access Solapur and continue towards southern destinations through the Tamalwadi section of the Asset.

- 6.47 Accordingly, while the Nashik–Akkalkot Greenfield Expressway is expected to attract a share of the long-distance traffic currently using the alternative corridor, it is also expected to channel a proportion of this demand onto the Asset in the vicinity of Tamalwadi Toll Plaza. This network reassignment effect is expected to generate additional traffic at Tamalwadi Toll Plaza, particularly from traffic travelling between Ahilyanagar, Solapur and destinations further south, and has therefore been considered as a positive impact in the traffic forecasts.

Table 6.14 Network Shifts from Nashik Akkalkot Expressway

	LCV	2A	3A	MAV
Impact % (SY-Tamalwadi)	3.8%	5.3%	4.8%	8.7%

- 6.48 Source: Steer Analysis

NH 53+NH48 Diversion

- 6.49 In addition to the direct traffic impacts associated with the Nashik–Akkalkot Greenfield Expressway, the project is also expected to influence broader route choice patterns across the national highway network. In particular, the expressway may attract a proportion of long-distance passenger and commercial traffic that currently utilises the traditional NH-48 corridor for movements between Gujarat, Rajasthan and northern India on one side and Bengaluru, Karnataka and other southern regions on the other.
- 6.50 The attractiveness of this route is expected to be further enhanced by the proposed greenfield connector linking the upcoming Vadhavan Port with the Samruddhi Mahamarg near Nashik. The proposed corridor is envisaged to provide connectivity between Vadhavan Port and the Samruddhi Expressway, with key interchanges at NH-48 and the Delhi–Mumbai Expressway. Together with the Nashik–Akkalkot Greenfield Expressway, this corridor has the potential to create an efficient north–south logistics route connecting western ports, northern India and southern India.
- 6.51 As a result, a proportion of long-distance freight traffic currently using NH-48 may find the Nashik–Akkalkot corridor to be a competitive alternative for accessing Solapur and destinations further south. Such traffic would be expected to access the Asset in the vicinity of Tamalwadi Toll Plaza before continuing towards Solapur, Karnataka, Telangana, Andhra Pradesh and other southern markets. Consequently, while the Nashik–Akkalkot Greenfield Expressway is expected to alter existing traffic patterns, it also has the potential to generate additional traffic movements on the Asset through wider network restructuring and improved connectivity between western ports, northern India and southern India. This impact has been considered as a potential positive factor in the traffic forecast for Tamalwadi Toll Plaza
- 6.52 A similar network reassignment effect is also expected from the NH-53 corridor. At present, a proportion of long-distance traffic travelling between Gujarat, Rajasthan and northern India on one side and Solapur, Karnataka and southern India on the other utilises the Dhule–Jalgaon–Bhusawal route (NH-53). Upon commissioning of the Nashik–Akkalkot Greenfield Expressway, a portion of this traffic may find it advantageous to access the expressway via the Malegaon–Shirdi corridor, particularly given the improved connectivity offered by the expressway network. Consequently, a share of the traffic currently using NH-53 is expected to shift towards the Dhule–Malegaon–Shirdi route, utilise the Nashik–Akkalkot Expressway, and subsequently access the Asset through Tamalwadi Toll Plaza

before continuing towards Solapur and destinations further south. Accordingly, this broader network restructuring is expected to generate additional traffic on the Asset, particularly at Tamalwadi Toll Plaza, partially offsetting the traffic redistribution associated with competing corridor developments.

Table 6.15 Diversion of traffic from NH48 and NH53 route

	2A	3A	MAV
Impact % (SY-Tamalwadi)	3.3%	2.5%	3.4%

Source: Steer Analysis

Revenue forecasting assumptions

- 6.53 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

- 6.54 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.
- 6.55 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).
- 6.56 The trip factors assumed based on the latest FY21 data available are listed in the table below.

Table 6.16: Trip factors for the forecast years – SY Tamalwadi

Ticket category	CJV	LCV	Bus	2A	3A	MAV
Single	1	1	1	1	1	1
Return	2	2	2	2	2	2
Monthly	50	50	45	50	50	50
Local Commercial	1	1	1	1	1	1
Local Personal	31	1	1	1	1	1
Local Monthly	30	5	45	30	30	30

Ticket category	CJV	LCV	Bus	2A	3A	MAV
Exemptions/ Violations	1	1	1	1	1	1

Source: Steer analysis of Client TMS data

Table 6.17: Trip factors for the forecast years – SY Yedeshi

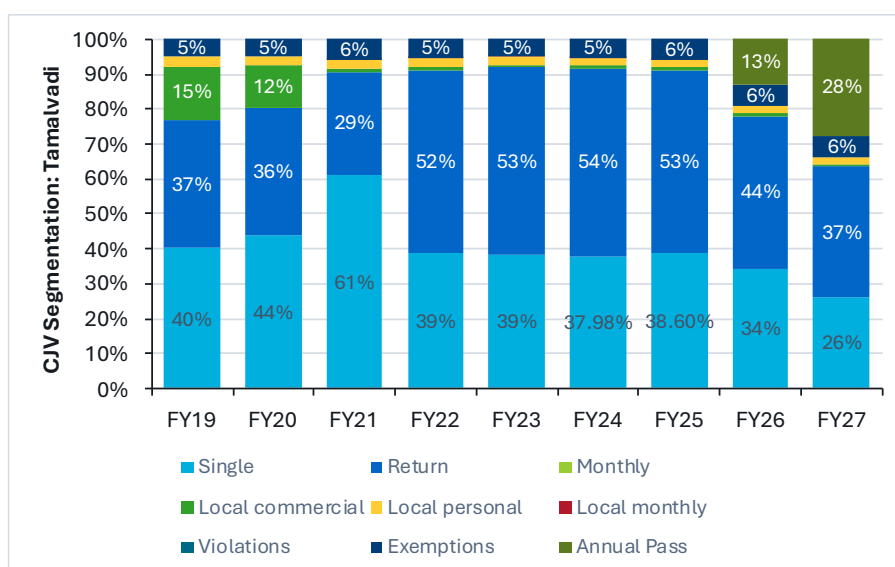
Ticket category	CJV	LCV	Bus	2A	3A	MAV
Single	1	1	1	1	1	1
Return	2	2	2	2	2	2
Monthly	48	50	45	20	20	20
Local Commercial	1	1	1	1	1	1
Local Personal	30	1	1	1	1	1
Local Monthly	10	10	45	40	30	30
Exemptions/ Violations	1	1	1	1	1	1

Source: Steer analysis of Client TMS data

Toll segmentation

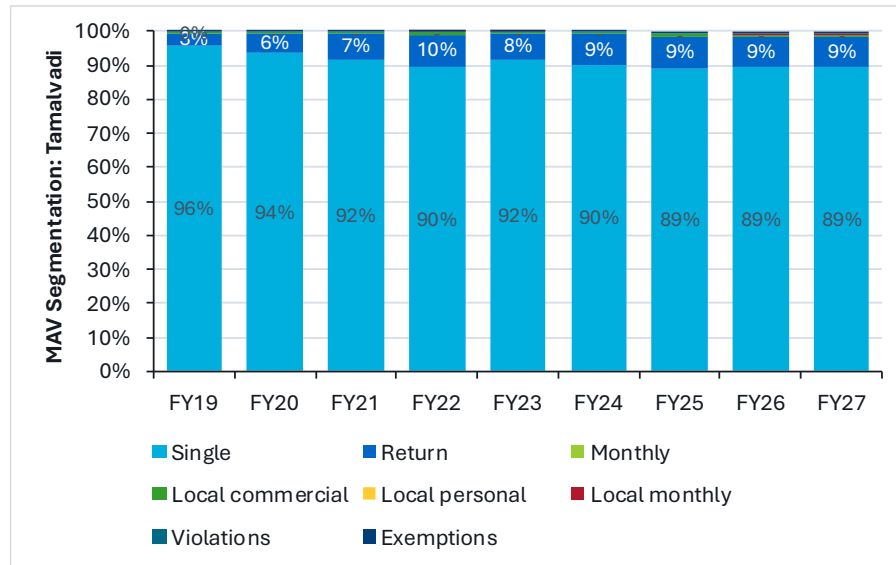
- 6.57 Toll segmentation on the Assets has been discussed in detail in chapter 3. The trends have largely been stabilising over the last few months post the mandatory implementation of fast tag 15th Feb 2021 onwards indicating a reduction in the share of exemptions and violations due to FASTag implementation 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.
- 6.58 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



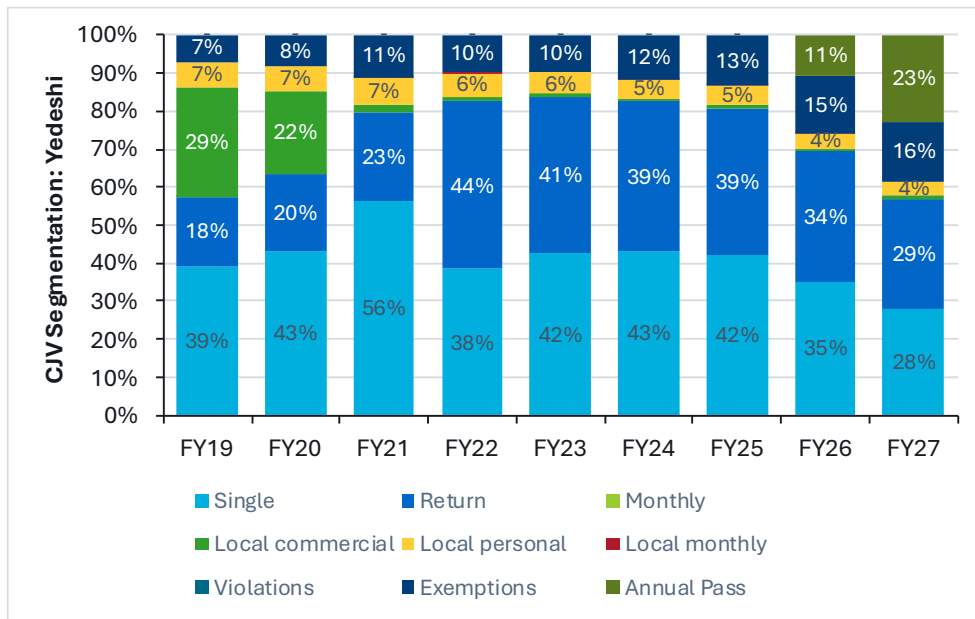
Source: Steer analysis

Table 6.18: Toll segmentation – SY Tamalwadi for FY27

Tamalwadi	CJV	Buses	LCV	2A	3A	MAV
Single	26.3%	11.6%	54.6%	71.1%	71.5%	89.4%
Return	37.2%	75.9%	33.8%	25.2%	25.9%	9.1%
Monthly	-	-	-	-	-	-
Local commercial	0.7%	8.3%	8.6%	3.1%	1.8%	0.7%
Local personal	1.9%	-	-	-	-	-
Local monthly	-	1.7%	0.7%	0.0%	0.1%	0.0%
Violations	-	-	-	-	-	-
Exemptions	6.2%	2.6%	2.3%	0.6%	0.7%	0.9%
Annual Pass	27.6%	-	-	-	-	-

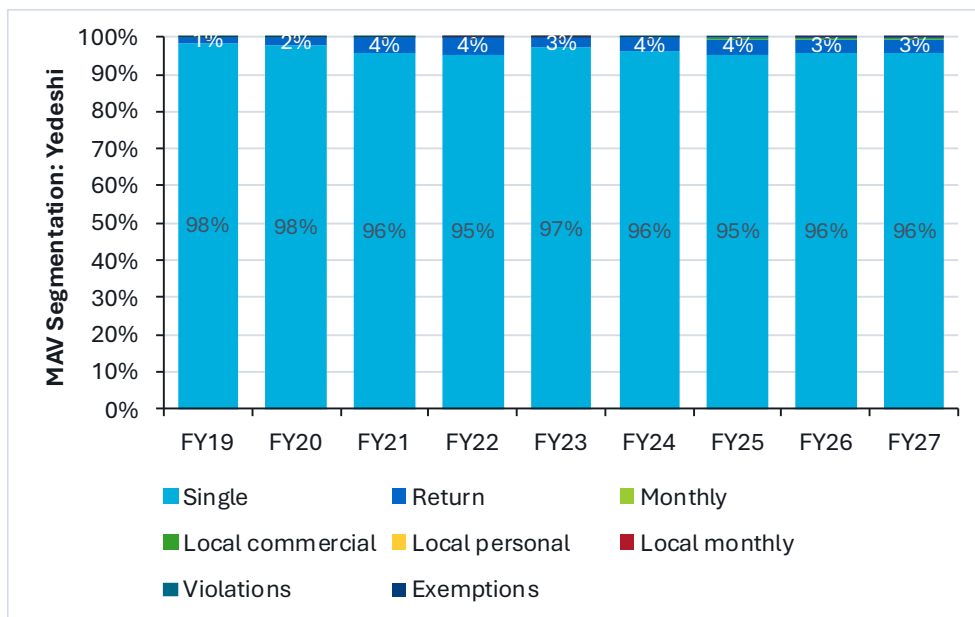
Source: Steer analysis of Client TMS data

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 6.19: Toll segmentation for FY21 – SY Yedeshi for FY27

Yedshi	CJV	Buses	LCV	2A	3A	MAV
Single	28.2%	21.7%	67.2%	86.8%	92.1%	96.0%
Return	28.9%	64.9%	16.8%	10.3%	6.2%	3.4%
Monthly	-	-	-	-	-	-
Local commercial	0.7%	12.8%	1.3%	1.2%	0.8%	0.4%
Local personal	3.7%	-	-	-	-	-

Yedshi	CJV	Buses	LCV	2A	3A	MAV
Local monthly	-	-	0.1%	0.1%	0.1%	0.0%
Violations	-	-	-	-	-	-
Exemptions	15.5%	0.5%	14.5%	1.6%	0.7%	0.2%
Annual Pass	23.1%	-	-	-	-	-

Source: Steer analysis of Client TMS data

Toll evolution

- 6.59 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:

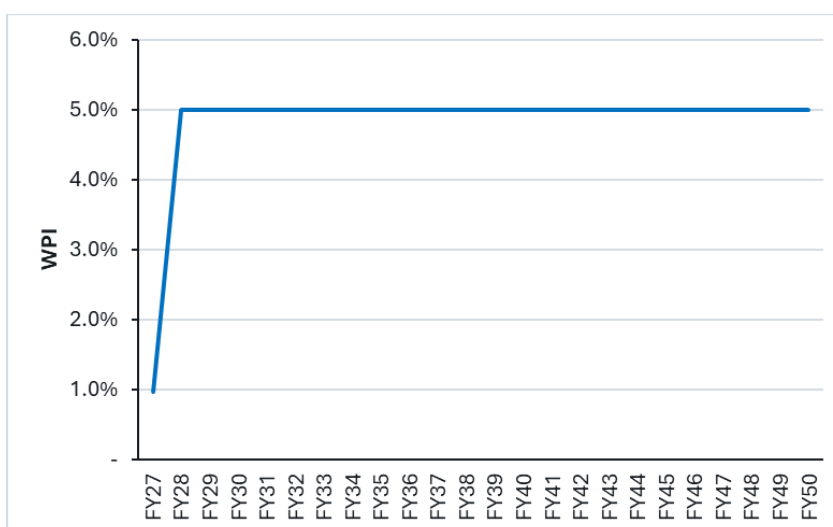
Table 6.20: Tolling lengths for toll evolution – SY & YA

Length (km)	Toll Lengths (FCOD)	
	Tamalwadi	Yedeshi
Road length excluding bypass	45.563	47.587
Structure on road	3.437	2.130
Converted length of structures	34.37	21.30
Net Tollable length	45.563	47.587

Source: Steer analysis of toll notifications and concession agreement (CA)

- 6.60 The Figure 6.12 shows client provided WPI projections for India. The forecasts expect the Indian WPI to grow at an average of 5.0% FY28 onwards. The WPI forecasts available from other independent forecasting agencies may vary from this assumption and could be lower or higher than that provided by the client.

Figure 6.11: WPI growth forecast assumptions



Source: Based on client input

Revenue reconciliation

- 6.61 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 FY26 for the Assets. To reconcile we have used the reported segmentation, and FY26 AADT (actual) and compared it with the reported revenue.
- 6.62 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

Assets	Steer modelled revenue (INR Cr)	Reported revenue (INR Cr)	Difference (%)
Yedeshi	64.0	63.4	0.9%
Tamalwadi	83.8	83.9	(0.0%)

Source: Steer comparison between modelled and reported revenue

Traffic and Revenue forecasts

PCU factor assumption for forecasts

- 6.63 The PCU factors considered are given in the table below and 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
OSV	4.5

Source: Steer analysis

- 6.64 Based on the traffic and revenue-related forecast assumptions discussed above, we have modelled the traffic and revenue forecasts for the concession length of the Asset. The table below presents the AADT/PCU and revenue forecast growth rates and CAGRs on this Asset. Further, Appendix B presents the AADT and revenues for the concession period.

Tamalwadi

Table 6.23: Traffic forecast (with impacts) for Tamalwadi

Vehicle Type	FY25	FY26	FY27	FY30	FY32	FY35	FY40	FY47
CJV	8,653	9,794	10,595	12,935	14,504	17,056	22,325	31,804

Vehicle Type	FY25	FY26	FY27	FY30	FY32	FY35	FY40	FY47
MLCV	1,409	1,594	1,725	1,932	2,068	2,284	2,685	3,321
Bus	902	1,027	1,052	1,179	1,262	1,393	1,638	2,026
LCV	424	487	514	547	590	649	743	888
2A	1,299	1,453	1,560	1,736	1,952	2,218	2,749	3,645
3A	871	978	1,031	979	1,017	1,006	1,034	1,072
MAV	1,564	1,905	2,255	2,592	2,943	3,440	4,377	6,008
AADT	15,121	17,238	18,733	21,899	24,335	28,046	35,551	48,764
PCU's	26,949	31,061	34,170	39,030	43,391	49,644	62,084	83,722

Source: Steer analysis

Table 6.24: Traffic CAGR (%) for Tamalwadi

Vehicle Type	FY26- FY27	FY27- FY30	FY30- FY32	FY32- FY35	FY35- FY40	FY40- FY47	FY26- FY47
CJV	8.2%	6.9%	5.9%	5.6%	5.5%	5.2%	5.8%
Mini LCV	8.2%	3.9%	3.4%	3.4%	3.3%	3.1%	3.6%
Bus	2.5%	3.9%	3.4%	3.4%	3.3%	3.1%	3.3%
LCV	5.6%	2.1%	3.9%	3.2%	2.7%	2.6%	2.9%
2A	7.3%	3.6%	6.1%	4.3%	4.4%	4.1%	4.5%
3A	5.5%	(1.7%)	1.9%	(0.3%)	0.5%	0.5%	0.4%
MAV	18.4%	4.7%	6.6%	5.3%	4.9%	4.6%	5.6%
AADT	8.7%	5.3%	5.4%	4.8%	4.9%	4.6%	5.1%
PCU's	10.0%	4.5%	5.4%	4.6%	4.6%	4.4%	4.8%

Source: Steer analysis

Table 6.25: Revenue forecast (with impacts) for Tamalwadi in INR crores

Vehicle Type	FY25	FY26	FY27	FY30	FY32	FY35	FY40	FY47
CJV	18.6	21.5	24.5	33.6	42.0	57.0	97.0	202.1
Mini LCV	0.0	3.4	3.9	4.9	5.9	7.5	11.5	20.7
Bus	6.1	7.1	7.5	9.7	11.6	14.7	22.5	40.0
LCV	1.6	1.9	2.1	2.6	3.1	3.9	5.8	10.0
2A	11.0	12.8	14.0	18.2	22.5	29.6	47.9	91.1
3A	8.1	9.5	10.2	11.3	13.0	14.9	19.7	29.3
MAV	21.9	27.8	33.8	44.8	56.3	76.6	125.9	248.3
Total Revenue	67.3	84.0	95.9	125.2	154.3	204.2	330.2	641.6

Source: Steer analysis

Yedeshi

Table 6.26: Traffic forecast (with impacts) for Yedeshi

Vehicle Type	FY25	FY26	FY27	FY30	FY32	FY35	FY40	FY47
CJV	4,675	5,554	6,009	7,426	8,431	9,661	12,949	19,034
MLCV	761	904	978	1,076	1,138	1,237	1,416	1,691
Bus	276	320	332	365	386	419	480	573
LCV	278	355	376	393	422	436	499	596
2A	1,039	1,205	1,295	1,397	1,564	1,650	2,046	2,713
3A	816	938	991	913	934	893	917	950
MAV	1,479	1,793	2,109	2,379	2,680	2,597	3,304	4,535
AADT	9,325	11,068	12,090	13,949	15,555	16,892	21,611	30,093
PCU's	18,905	22,444	24,896	27,820	30,913	32,123	40,311	54,738

Source: Steer analysis

Table 6.27: Traffic CAGR (%) for Yedeshi

Vehicle Type	FY26- FY27	FY27- FY30	FY30- FY32	FY32- FY35	FY35- FY40	FY40- FY47	FY26- FY47
CJV	8.2%	7.3%	6.6%	4.6%	6.0%	5.7%	6.0%
Mini LCV	8.2%	3.2%	2.9%	2.8%	2.7%	2.6%	3.0%
Bus	3.8%	3.2%	2.9%	2.8%	2.7%	2.6%	2.8%
LCV	6.1%	1.5%	3.7%	1.0%	2.7%	2.6%	2.5%
2A	7.5%	2.6%	5.8%	1.8%	4.4%	4.1%	3.9%
3A	5.7%	(2.7%)	1.1%	(1.5%)	0.5%	0.5%	0.1%
MAV	17.7%	4.1%	6.1%	(1.0%)	4.9%	4.6%	4.5%
AADT	9.2%	4.9%	5.6%	2.8%	5.1%	4.8%	4.9%
PCU's	10.9%	3.8%	5.4%	1.3%	4.6%	4.5%	4.3%

Source: Steer analysis

Table 6.28: Revenue forecast (with impacts) for Yedeshi in INR crores

Vehicle Type	FY25	FY26	FY27	FY30	FY32	FY35	FY40	FY47
CJV	9.2	11.0	12.5	17.4	22.0	30.0	51.1	109.1
Mini LCV	0.0	1.9	2.0	2.5	2.9	3.7	5.4	9.4
Bus	2.0	2.3	2.5	3.2	3.7	4.7	6.9	11.9
LCV	1.0	1.3	1.4	1.7	2.1	2.5	3.6	6.3

Vehicle Type	FY25	FY26	FY27	FY30	FY32	FY35	FY40	FY47
2A	9.1	11.0	12.3	15.2	18.7	23.2	37.1	70.5
3A	8.1	9.6	10.3	11.1	12.6	13.9	18.5	27.7
MAV	21.1	26.7	32.1	41.9	52.2	58.9	96.8	190.8
Total Revenue	50.6	63.8	73.2	93.0	114.2	136.8	219.5	425.7

Source: Steer analysis

Summary outlook

- 6.65 The Asset forms an important part of the north-south highway network (NH52) in Maharashtra, connecting Aurangabad, Beed, Dharashiv and Solapur while facilitating long-distance traffic movements between Gujarat, Rajasthan and northern India on one side and Karnataka, Telangana and southern India on the other. The corridor benefits from a balanced mix of local, regional and long-distance traffic demand. In addition to serving the consumption and industrial centres of Aurangabad, Beed and Solapur, the Asset also carries significant freight traffic associated with agricultural produce, FMCG products, construction materials, textiles and manufactured goods moving between northern and southern India.
- 6.66 The Asset derives substantial support from the economic activity generated within Maharashtra. Aurangabad continues to be one of the state's key industrial centres with established automotive, engineering, pharmaceutical and manufacturing industries, while Solapur remains an important regional hub for textiles, agriculture and trade. The corridor also benefits from tourism-related traffic generated by destinations such as Ajanta and Ellora Caves, Tuljapur, Shirdi and other religious and heritage centres located within the wider influence area. These economic and social drivers provide a stable source of captive traffic for both passenger and commercial vehicle categories.
- 6.67 The traffic profile of the Asset is further supported by its strategic position connecting northern Maharashtra with Solapur and southern India. The origin-destination analysis indicates that a significant proportion of commercial traffic is associated with movements between Gujarat, Rajasthan and northern India and destinations in Karnataka, Telangana, Andhra Pradesh and Tamil Nadu. This provides the Asset with exposure to broader economic growth trends beyond Maharashtra and allows it to benefit from the continued growth of freight demand across western and southern India.
- 6.68 We have undertaken a detailed assessment of the risks and opportunities surrounding the central case forecasts presented in this report. These risks primarily relate to assumptions regarding macroeconomic growth, competing corridor developments, route choice behaviour and the timing of planned infrastructure projects.
- Assumptions relating to GDP, GSDP and vehicle-specific elasticities remain key drivers of long-term traffic growth. Variations in economic growth, industrial production, agricultural output, commodity prices and consumption patterns may result in traffic growth differing from the central case forecasts.
 - WPI assumptions adopted for toll escalation forecasts may vary from actual outcomes. Inflation remains dependent on domestic economic conditions, monsoon cycles, energy prices and global economic developments, all of which may influence future toll revenue growth.

- The timing of major infrastructure projects considered in the forecast remains uncertain and may differ from the assumptions adopted in this report. Delays or acceleration in project implementation could influence the timing and magnitude of traffic impacts on the Asset.
- The magnitude of traffic redistribution associated with new route choices may vary from forecast assumptions depending on user preferences, relative travel costs, toll charges, operating conditions and freight routing decisions.

6.69 With regards to impacts, we see the following risks:

- The principal downside risks to the Asset arise from the continued development of competing corridors and route alternatives in the region. The completion of the Ahilyanagar–Shirdi four-laning project on NH-160, followed by the proposed Malegaon–Shirdi four-laning project, is expected to progressively improve the attractiveness of the alternative Dhule–Malegaon–Shirdi–Ahilyanagar–Solapur corridor for long-distance commercial traffic. In addition, the proposed Nashik–Akkalkot Greenfield Expressway is expected to provide a high-quality north-south route between northern India and southern India, attracting a proportion of long-distance traffic currently using both the Asset and the alternative corridor. The magnitude of these impacts will ultimately depend on user route choice behaviour, relative travel times and the timing of project implementation, adding further risk to our assumptions .
- The Asset is also expected to benefit from several positive developments which partially offset the above risks. During the forecast period, ongoing construction activities on competing corridors, including the Chapadgaon–Tembhurni four-laning project, are expected to generate temporary traffic diversions onto the Asset. The completion of the Autram Ghat Tunnel on NH-52 and the assumed upgradation of the Nandgaon–Shivoor section to 2L+PS standard are expected to improve the competitiveness of the Asset corridor for long-distance freight traffic. Furthermore, the Nashik–Akkalkot Expressway is expected to trigger network reassignment effects, generating additional traffic at Tamalwadi Toll Plaza from Ahilyanagar-originating demand as well as traffic shifting from NH-48 and NH-53 corridors. However, we recognize that expressway construction projects are often subject to delays due to various factors, which poses a risk to our assumptions.
- Longer-term strategic infrastructure developments, including the Jalna–Nanded Expressway, the Nashik–Akkalkot–Chennai corridor and proposed Vadhavan Port connectivity initiatives, are also expected to strengthen regional connectivity and support economic growth within the Asset's influence area.

6.70 In the above new route choices being made available to the user the magnitude of diversion can be both higher and lower which will be dependent on the choices made by the user.

6.71 In discussions with the client, we have presented a range of scenarios where such risks have been evaluated, and the results have been shared with the client.

6.72 Overall, we consider the Asset to have a robust and diversified traffic profile supported by strong regional economic fundamentals, a balanced mix of local and long-distance traffic demand and its strategic position within the north-south highway network. While competing corridor developments present downside risks to certain traffic segments, these are partially mitigated by capacity improvements on the Asset, construction-phase

diversion benefits, network reassignment effects and the continued growth of economic activity in the corridor influence area.

- 6.73 Under the base case forecast, traffic (PCUs) at Yedeshi Toll Plaza is projected to grow at a CAGR of **4.3%** and at Tamalwadi Toll Plaza, traffic (PCUs) is projected to grow at a CAGR of **4.2%** between FY26 and FY46.
- 6.74 Despite the risks associated with competing corridors and future route choice changes, we believe that the Asset benefits from strong underlying demand drivers, including industrial activity in Aurangabad and Solapur, agricultural and consumption demand across the influence area, tourism-related movements and long-distance freight traffic between northern and southern India. Accordingly, we believe that the underlying traffic growth drivers of the corridor remain strong and are capable of supporting sustained long-term traffic and revenue growth. The base case forecasts presented in this report appropriately balance the identified risks and opportunities and represent a reasonable assessment of the future performance of the Asset over the remainder of the concession period.

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 3As, MAVs and OSVs combined below.

Table A.1: 3A/MAV top 10 OD pair shares Tamalwadi

	OD Pair	Share
1.	Delhi-Bengaluru	9%
2.	Tuljapur-Solapur city	5%
3.	Rest of Gujarat-Bengaluru	4%
4.	Solapur city-Latur	3%
5.	Delhi-Chennai	2%
6.	Surat-Bengaluru	2%
7.	Ahmedabad-Bengaluru	2%
8.	Delhi-Rest of Karnataka	2%
9.	Bengaluru-Indore	2%
10.	Dharashiv-Solapur city	2%

Source: Steer analysis

Table A.2: 3A/ MAV and OSV top 10 OD pair shares Yedeshi

	OD Pair	Share
1.	Shevgaon-Tamalwadi	4%
2.	Bangladesh-North Telangana	3%
3.	Bellary-North Telangana	2%
4.	Bellary-South Telangana	2%
5.	Tamalwadi-Sangli	2%
6.	Bangladesh-South Telangana	2%
7.	Shevgaon-Bellary	1%
8.	Sangli -Gurugram/Manesar	1%
9.	Tamalwadi-South Telangana	1%
10.	Sangli -Bellary	1%

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

Tamalwadi

Table B.1: Forecasts for final (background + impacts) AADT – Tamalwadi

Vehicle Type	CJV	Mini LCV	Buses	LCV	2A	3A	MAV	Total	PCU
FY26	9,794	1,594	1,027	487	1,453	978	1,905	17,238	31,061
FY27	10,595	1,725	1,052	514	1,560	1,031	2,255	18,733	34,170
FY28	11,342	1,792	1,093	528	1,626	1,031	2,373	19,785	35,854
FY29	12,129	1,862	1,136	523	1,617	957	2,394	20,618	36,679
FY30	12,935	1,932	1,179	547	1,736	979	2,592	21,899	39,030
FY31	13,728	2,001	1,221	577	1,895	1,036	2,834	23,292	41,805
FY32	14,504	2,068	1,262	590	1,952	1,017	2,943	24,335	43,391
FY33	15,302	2,137	1,304	606	2,048	1,007	3,123	25,527	45,478
FY34	16,145	2,209	1,348	631	2,122	1,001	3,275	26,731	47,451
FY35	17,056	2,284	1,393	649	2,218	1,006	3,440	28,046	49,644
FY36	18,019	2,360	1,440	667	2,317	1,012	3,613	29,429	51,947
FY37	19,026	2,439	1,488	686	2,420	1,018	3,793	30,869	54,340
FY38	20,079	2,519	1,537	705	2,526	1,023	3,981	32,369	56,825
FY39	21,178	2,601	1,587	724	2,635	1,029	4,175	33,929	59,406
FY40	22,325	2,685	1,638	743	2,749	1,034	4,377	35,551	62,084
FY41	23,521	2,770	1,690	763	2,866	1,040	4,586	37,236	64,861
FY42	24,768	2,858	1,744	783	2,986	1,045	4,803	38,987	67,740
FY43	26,067	2,947	1,798	803	3,110	1,050	5,028	40,804	70,722
FY44	27,419	3,038	1,853	824	3,238	1,056	5,261	42,689	73,809
FY45	28,825	3,131	1,910	845	3,370	1,061	5,502	44,643	77,004
FY46	30,286	3,225	1,968	866	3,506	1,066	5,751	46,668	80,308
FY47	31,804	3,321	888	2,026	3,645	1,072	6,008	48,764	83,722

Source: Steer Analysis

Table B.2: Growth Rates – Tamalwadi

Vehicle Type	CJV	Mini LCV	Buses	LCV	2A	3A	MAV	Total	PCU
FY27	8.2%	8.2%	2.5%	5.6%	7.3%	5.5%	18.4%	8.7%	10.0%
FY28	7.1%	3.9%	3.9%	2.7%	4.2%	0.0%	5.2%	5.6%	4.9%
FY29	6.9%	3.9%	3.9%	(0.8%)	(0.5%)	(7.3%)	0.9%	4.2%	2.3%
FY30	6.6%	3.8%	3.8%	4.5%	7.3%	2.3%	8.2%	6.2%	6.4%
FY31	6.1%	3.5%	3.5%	5.6%	9.2%	5.8%	9.4%	6.4%	7.1%
FY32	5.7%	3.4%	3.4%	2.2%	3.0%	(1.9%)	3.8%	4.5%	3.8%
FY33	5.5%	3.4%	3.4%	2.6%	4.9%	(0.9%)	6.1%	4.9%	4.8%
FY34	5.5%	3.4%	3.4%	4.3%	3.6%	(0.6%)	4.9%	4.7%	4.3%
FY35	5.6%	3.4%	3.4%	2.8%	4.5%	0.6%	5.0%	4.9%	4.6%
FY36	5.6%	3.4%	3.4%	2.8%	4.5%	0.6%	5.0%	4.9%	4.6%
FY37	5.6%	3.3%	3.3%	2.8%	4.4%	0.5%	5.0%	4.9%	4.6%
FY38	5.5%	3.3%	3.3%	2.7%	4.4%	0.5%	4.9%	4.9%	4.6%
FY39	5.5%	3.3%	3.3%	2.7%	4.3%	0.5%	4.9%	4.8%	4.5%
FY40	5.4%	3.2%	3.2%	2.7%	4.3%	0.5%	4.8%	4.8%	4.5%
FY41	5.4%	3.2%	3.2%	2.7%	4.3%	0.5%	4.8%	4.7%	4.5%
FY42	5.3%	3.2%	3.2%	2.6%	4.2%	0.5%	4.7%	4.7%	4.4%
FY43	5.2%	3.1%	3.1%	2.6%	4.2%	0.5%	4.7%	4.7%	4.4%
FY44	5.2%	3.1%	3.1%	2.6%	4.1%	0.5%	4.6%	4.6%	4.4%
FY45	5.1%	3.1%	3.1%	2.5%	4.1%	0.5%	4.6%	4.6%	4.3%
FY46	5.1%	3.0%	3.0%	2.5%	4.0%	0.5%	4.5%	4.5%	4.3%
FY47	5.0%	3.0%	2.5%	3.0%	4.0%	0.5%	4.5%	4.5%	4.3%

Source: Steer Analysis

Yedeshi

Table 6.29: Traffic Projections for TP: Yedeshi

Vehicle Type	CJV	Mini LCV	Buses	LCV	2A	3A	MAV	Total	PCU
FY26	5,554	904	320	355	1,205	938	1,793	11,068	22,444
FY27	6,009	978	332	376	1,295	991	2,109	12,090	24,896
FY28	6,471	1,010	342	385	1,347	991	2,218	12,765	26,081
FY29	6,925	1,043	354	374	1,295	891	2,193	13,074	26,017
FY30	7,426	1,076	365	393	1,397	913	2,379	13,949	27,820
FY31	7,923	1,107	375	413	1,509	943	2,565	14,836	29,674
FY32	8,431	1,138	386	422	1,564	934	2,680	15,555	30,913
FY33	8,748	1,170	397	400	1,444	841	2,436	15,437	29,527

Vehicle Type	CJV	Mini LCV	Buses	LCV	2A	3A	MAV	Total	PCU
FY34	9,100	1,203	408	424	1,580	888	2,472	16,074	30,689
FY35	9,661	1,237	419	436	1,650	893	2,597	16,892	32,123
FY36	10,256	1,271	431	448	1,724	898	2,728	17,756	33,632
FY37	10,881	1,307	443	460	1,801	902	2,864	18,658	35,203
FY38	11,538	1,343	455	473	1,880	907	3,005	19,601	36,839
FY39	12,227	1,379	467	486	1,961	912	3,152	20,585	38,541
FY40	12,949	1,416	480	499	2,046	917	3,304	21,611	40,311
FY41	13,706	1,454	493	512	2,133	922	3,462	22,682	42,150
FY42	14,499	1,492	506	525	2,222	927	3,626	23,797	44,060
FY43	15,328	1,531	519	539	2,315	931	3,796	24,959	46,044
FY44	16,196	1,570	532	553	2,410	936	3,971	26,168	48,102
FY45	17,102	1,610	546	567	2,508	941	4,153	27,426	50,236
FY46	18,048	1,650	559	581	2,609	946	4,341	28,734	52,447
FY47	19,034	1,691	596	573	2,713	950	4,535	30,093	54,738

Table 6.30: Traffic Growth Rates for TP: Yedeshi

Vehicle Type	CJV	Mini LCV	Buses	LCV	2A	3A	MAV	Total	PCU
FY27	8.2%	8.2%	3.8%	6.1%	7.5%	5.7%	17.7%	9.2%	10.9%
FY28	7.7%	3.3%	3.3%	2.5%	4.0%	(0.1%)	5.2%	5.6%	4.8%
FY29	7.0%	3.3%	3.3%	(2.9%)	(3.9%)	(10.1%)	(1.1%)	2.4%	(0.2%)
FY30	7.2%	3.2%	3.2%	5.0%	7.9%	2.5%	8.4%	6.7%	6.9%
FY31	6.7%	3.0%	3.0%	5.1%	8.0%	3.3%	7.8%	6.4%	6.7%
FY32	6.4%	2.8%	2.8%	2.3%	3.6%	(1.0%)	4.5%	4.9%	4.2%
FY33	3.8%	2.8%	2.8%	(5.3%)	(7.7%)	(9.9%)	(9.1%)	(0.8%)	(4.5%)
FY34	4.0%	2.8%	2.8%	5.9%	9.4%	5.6%	1.5%	4.1%	3.9%
FY35	6.2%	2.8%	2.8%	2.8%	4.5%	0.6%	5.0%	5.1%	4.7%
FY36	6.2%	2.8%	2.8%	2.8%	4.5%	0.6%	5.0%	5.1%	4.7%
FY37	6.1%	2.8%	2.8%	2.8%	4.4%	0.5%	5.0%	5.1%	4.7%
FY38	6.0%	2.7%	2.7%	2.7%	4.4%	0.5%	4.9%	5.1%	4.6%
FY39	6.0%	2.7%	2.7%	2.7%	4.3%	0.5%	4.9%	5.0%	4.6%
FY40	5.9%	2.7%	2.7%	2.7%	4.3%	0.5%	4.8%	5.0%	4.6%
FY41	5.8%	2.7%	2.7%	2.7%	4.3%	0.5%	4.8%	5.0%	4.6%
FY42	5.8%	2.6%	2.6%	2.6%	4.2%	0.5%	4.7%	4.9%	4.5%
FY43	5.7%	2.6%	2.6%	2.6%	4.2%	0.5%	4.7%	4.9%	4.5%
FY44	5.7%	2.6%	2.6%	2.6%	4.1%	0.5%	4.6%	4.8%	4.5%
FY45	5.6%	2.5%	2.5%	2.5%	4.1%	0.5%	4.6%	4.8%	4.4%

Vehicle Type	CJV	Mini LCV	Buses	LCV	2A	3A	MAV	Total	PCU
FY46	5.5%	2.5%	2.5%	2.5%	4.0%	0.5%	4.5%	4.8%	4.4%
FY47	5.5%	2.5%	2.5%	2.5%	4.0%	0.5%	4.5%	4.7%	4.4%

Revenue forecasts

B.2 The following table presents the year-wise annual revenue forecasts for the forecast period until FY46.

B1.2 SY - Tamalwadi

Table B.3: Forecasts for final (background + impacts) revenue – SY Tamalwadi - ₹ Crores

Vehicle Type	CJV	Mini LCV	Buses	LCV	2A	3A	MAV	Total
FY26	22	3	2	7	13	9	28	84
FY27	24	4	2	7	14	10	34	96
FY28	28	4	2	8	15	11	37	106
FY29	30	5	2	9	16	10	39	111
FY30	34	5	3	10	18	11	45	125
FY31	38	5	3	11	21	12	52	142
FY32	42	6	3	12	23	13	56	154
FY33	47	6	3	13	25	13	63	170
FY34	52	7	4	14	27	14	69	187
FY35	57	8	4	15	30	15	77	204
FY36	65	8	4	16	33	16	85	227
FY37	71	9	5	17	36	17	93	248
FY38	79	10	5	19	40	18	103	272
FY39	88	11	5	21	43	19	114	300
FY40	97	11	6	22	48	20	126	330
FY41	109	13	6	24	52	21	138	363
FY42	121	14	7	27	57	22	152	400
FY43	132	15	7	29	63	23	168	438
FY44	147	16	8	31	69	25	186	483
FY45	163	17	9	34	76	26	205	529
FY46	180	19	9	37	83	28	225	581
FY47	202	21	10	40	91	29	248	642

Table B.4: Forecasts for final (background +impacts) revenue –SY Tamalwadi- ₹ Crores

Vehicle Type	CJV	Mini LCV	Buses	LCV	2A	3A	MAV	Total
FY27	13.8%	14.1%	9.6%	5.1%	9.6%	7.5%	21.3%	14.1%
FY28	13.2%	9.6%	7.2%	9.4%	10.3%	5.6%	10.5%	10.5%
FY29	8.2%	5.7%	3.1%	8.6%	4.4%	(3.1%)	5.3%	5.3%
FY30	12.1%	8.8%	11.2%	9.6%	13.0%	8.5%	14.1%	12.2%
FY31	12.7%	10.3%	10.3%	9.1%	14.6%	10.6%	15.0%	13.2%
FY32	10.8%	8.1%	8.1%	8.7%	8.1%	3.9%	9.2%	8.9%
FY33	11.1%	9.1%	6.0%	8.3%	10.6%	3.0%	11.7%	10.2%
FY34	11.1%	9.0%	10.4%	8.4%	9.2%	4.5%	10.4%	9.7%
FY35	9.9%	7.3%	8.5%	8.6%	8.9%	6.4%	10.3%	9.4%
FY36	14.0%	11.1%	8.5%	9.1%	11.1%	5.7%	10.4%	11.1%
FY37	10.1%	7.9%	7.6%	8.6%	9.3%	5.7%	10.3%	9.5%
FY38	10.1%	7.9%	7.6%	8.8%	10.2%	5.9%	10.3%	9.7%
FY39	12.3%	9.6%	9.3%	8.4%	9.0%	5.4%	10.6%	10.3%
FY40	9.8%	7.7%	7.4%	9.2%	10.9%	6.5%	10.6%	9.9%
FY41	12.1%	9.8%	8.5%	8.2%	9.1%	5.6%	9.7%	10.0%
FY42	11.1%	8.6%	7.0%	8.9%	10.0%	5.6%	10.3%	10.0%
FY43	9.5%	7.7%	8.6%	8.5%	9.6%	6.1%	10.5%	9.6%
FY44	11.5%	9.2%	8.0%	9.0%	9.7%	6.2%	10.5%	10.3%
FY45	10.5%	8.3%	8.7%	8.3%	9.5%	5.4%	10.1%	9.7%
FY46	10.4%	8.3%	7.9%	8.6%	9.5%	6.0%	10.0%	9.7%
FY47	12.4%	10.1%	8.1%	8.5%	9.8%	5.7%	10.2%	10.4%

Source: Steer analysis

Source: Steer analysis

B1.3 SY - Yedeshi

Table B.5: Forecasts for final (background +impacts) revenue –SY Yedeshi- INR Cr

Vehicle Type	CJV	Mini LCV	Buses	LCV	2A	3A	MAV	Total
FY26	11.0	1.9	1.3	2.3	11.0	9.6	26.7	63.8
FY27	12.5	2.0	1.4	2.5	12.3	10.3	32.1	73.2
FY28	14.3	2.2	1.5	2.7	13.3	10.9	35.5	80.4
FY29	15.4	2.3	1.6	2.9	13.4	10.2	37.0	82.9
FY30	17.4	2.5	1.7	3.2	15.2	11.1	41.9	93.0
FY31	19.7	2.7	1.9	3.4	17.2	12.0	47.4	104.5
FY32	22.0	2.9	2.1	3.7	18.7	12.6	52.2	114.2
FY33	24.1	3.1	2.0	4.0	18.2	11.9	49.9	113.3
FY34	26.3	3.4	2.3	4.3	21.1	13.2	53.3	124.0
FY35	30.0	3.7	2.5	4.7	23.2	13.9	58.9	136.8
FY36	33.4	4.0	2.7	5.1	25.5	14.7	65.0	150.3
FY37	36.9	4.3	2.9	5.5	27.8	15.6	71.7	164.6
FY38	40.8	4.6	3.1	5.9	30.7	16.5	79.0	180.5
FY39	46.0	5.0	3.4	6.4	33.7	17.4	87.5	199.4
FY40	51.1	5.4	3.6	6.9	37.1	18.5	96.8	219.5
FY41	57.1	5.9	4.0	7.5	40.4	19.5	106.7	241.2
FY42	64.2	6.4	4.2	8.1	44.5	20.6	117.7	265.8
FY43	70.1	6.8	4.6	8.7	48.8	21.9	129.4	290.3
FY44	78.5	7.4	5.0	9.5	53.9	23.3	143.0	320.5
FY45	87.1	8.0	5.4	10.2	58.6	24.5	157.4	351.2
FY46	98.3	8.7	5.8	11.0	64.5	26.0	173.2	387.6
FY47	109.1	9.4	6.3	11.9	70.5	27.7	190.8	425.7

Source: Steer analysis

Table B.6: Forecasts for final (background +impacts) revenue –SY Yedeshi

Vehicle Type	CJV	Mini LCV	Buses	LCV	2A	3A	MAV	Total
FY27	13.6%	6.6%	10.1%	6.9%	11.5%	7.6%	20.5%	14.7%
FY28	14.0%	9.1%	6.9%	8.2%	8.3%	5.4%	10.5%	9.8%
FY29	8.1%	4.8%	0.6%	9.0%	1.0%	(5.9%)	4.2%	3.1%
FY30	12.8%	8.3%	12.1%	7.9%	13.3%	8.8%	13.1%	12.2%
FY31	13.2%	9.5%	9.2%	8.4%	13.3%	7.9%	13.4%	12.3%
FY32	11.7%	7.7%	8.8%	8.0%	8.7%	4.8%	9.9%	9.3%

Vehicle Type	CJV	Mini LCV	Buses	LCV	2A	3A	MAV	Total
FY33	9.2%	8.4%	(2.2%)	7.9%	(2.6%)	(5.4%)	(4.3%)	(0.8%)
FY34	9.4%	8.3%	11.8%	8.5%	15.4%	10.9%	6.9%	9.4%
FY35	13.8%	9.4%	8.5%	7.6%	9.9%	5.4%	10.3%	10.3%
FY36	11.4%	8.0%	8.5%	8.8%	10.1%	5.5%	10.4%	9.9%
FY37	10.5%	7.2%	7.6%	7.4%	9.1%	5.8%	10.3%	9.5%
FY38	10.6%	7.3%	7.6%	8.2%	10.3%	5.8%	10.3%	9.7%
FY39	12.9%	9.2%	9.6%	8.1%	9.9%	5.5%	10.7%	10.4%
FY40	11.0%	8.1%	7.6%	8.4%	9.9%	6.5%	10.6%	10.0%
FY41	11.8%	8.2%	8.3%	7.7%	9.0%	5.6%	10.3%	9.9%
FY42	12.4%	9.0%	7.0%	8.3%	10.0%	5.6%	10.3%	10.2%
FY43	9.2%	6.1%	8.2%	8.0%	9.6%	6.2%	9.9%	9.2%
FY44	12.0%	8.7%	8.3%	8.6%	10.5%	6.2%	10.5%	10.4%
FY45	11.0%	7.8%	8.7%	7.6%	8.7%	5.3%	10.1%	9.6%
FY46	12.8%	9.2%	7.6%	8.2%	10.2%	6.0%	10.0%	10.4%
FY47	11.0%	8.1%	8.4%	7.8%	9.2%	6.4%	10.2%	9.8%

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 Tamalwadi

Date	CJV	Mini LCV	LCV	Bus	2 Axle	3 Axle	MAV	OSV	Total	PCU
01-Jun-26	12,187	1,286	1,115	1,183	1,298	1,014	1,712	13	19,808	33,393
02-Jun-26	12,479	1,445	1,097	1,175	1,246	924	1,875	5	20,246	34,065
03-Jun-26	10,716	1,211	1,093	1,149	1,310	949	1,835	12	18,275	32,102
04-Jun-26	11,673	1,294	1,157	1,198	1,328	1,055	1,879	5	19,589	33,924
05-Jun-26	13,173	1,331	1,148	1,208	1,376	1,015	1,955	26	21,232	35,938
06-Jun-26	14,527	1,232	1,268	1,228	1,434	1,077	1,815	17	22,598	37,122
07-Jun-26	16,309	1,104	1,223	1,212	1,050	870	1,832	23	23,623	36,991

Source: Steer analysis

Table C.2: 7-day TVC counts Yedeshi

Date	CJV	Mini LCV	LCV	Bus	2 Axle	3 Axle	MAV	OSV	Total	PCU
01-Jun-26	6,545	897	864	332	1,038	944	1,652	12	12,284	23,168
02-Jun-26	7,308	1,037	922	321	966	775	1,754	10	13,093	23,852
03-Jun-26	6,178	867	867	346	1,083	892	1,709	14	11,956	23,062
04-Jun-26	6,372	855	925	337	1,106	950	1,815	-	12,360	23,961
05-Jun-26	7,716	938	883	373	1,059	915	1,841	9	13,734	25,345
06-Jun-26	6,968	876	918	358	1,164	1,003	1,668	11	12,966	24,352
07-Jun-26	8,059	807	899	340	1,050	978	1,921	23	14,077	26,067

Source: Steer analysis

Table C.3: 7-WADT TVC vs TMS

Date	Source	CJV / MLCV	Bus	LCV/ 2A	3A	MAV	Total	PCU
Tamalwadi	TVC	14,281	1,193	2,449	986	1,843	20,767	34,812
	TMS	14,695	1,189	2,181	979	1,849	20,916	35,293
Yedeshi	TVC	7,918	344	1,963	922	1,766	12,924	24,275
	TMS	8,134	359	1,728	935	1,747	12,924	24,560

Source: Steer analysis

Zone list

Table C.4: Zone list used for OD analysis

Zone No	Zone name	Description/State
1	Chhatrapati Sambhajinagar City	Local
2	Chalisgaon	IAOI
3	Malegaon	IAOI
4	Kannad	IAOI
5	Sillod	IAOI
6	Daulatabad, Khuldabad, Maliwada	IAOI
7	Chittegaon	IAOI
8	Adul	IAOI
9	Dabhrul	IAOI
10	Adagaon	IAOI
11	Bakshachiwadi	IAOI
12	Bhokarwadi, Maliwadi	Local
13	Pachod	IAOI
14	Dongaon	Rest of State
15	Wadigodri	IAOI
16	Mahakala	IAOI
17	Shahgadh	IAOI
18	Bagmipalgaon	Rest of State
19	Georai	Local
20	Talewadi	Rest of State
21	Malajgaon	IAOI
22	Shevgaon	IAOI
23	Tisgaon, Kharwandi, Pathardi	IAOI
24	Padalsinghi	Local
25	Paithan	IAOI
26	Beed	Local

27	Wadwani, Telgaon	IAOI
28	Manjarsumbha	IAOI
29	Chousla	Rajasthan
30	Pargaon	Local
31	Tarkheda	IAOI
32	Yermala	Local
33	Barshi	IAOI
34	Tembhurni	IAOI
35	Kurduvadi	IAOI
36	Yedashi	Local
37	Murud	IAOI
38	Dharashiv	Local
39	Ausa	IAOI
40	Tuljapur	Local
41	Tamalwadi	Local
42	Solapur city	Local
43	Ahilyanagar	Rest of State
44	Akola	Rest of State
45	Amravati	Rest of State
46	Rest of Chhatrapati Sambhajnagar	Local
47	Beed	Rest of State
48	Bhandara	Rest of State
49	Buldhana	Rest of State
50	Chandrapur	Rest of State
51	Dhule	Rest of State
52	Gadchiroli	Rest of State
53	Gondia	Rest of State
54	Hingoli	Rest of State
55	Jalgaon	Rest of State
56	Jalna	Rest of State
57	Kolhapur	Rest of State
58	Latur	Rest of State
59	Mumbai City	Rest of State
60	Mumbai Suburban	Rest of State
61	Nagpur	Rest of State
62	Nanded	Rest of State
63	Nandurbar	Rest of State

64	Nashik	Rest of State
65	Dharashiv	Local
66	Palghar	Rest of State
67	Parbhani	Rest of State
68	Pune District	Rest of State
69	Raigad	Rest of State
70	Ratnagiri	Rest of State
71	Sangli	Rest of State
72	Satara	Rest of State
73	Sindhudurg	Rest of State
74	Solapur	Local
75	Thane	Rest of State
76	Wardha	Rest of State
77	Washim	Rest of State
78	Yavatmal	Rest of State
79	Ahmedabad	Gujarat
80	Surat	Gujarat
81	Rest of Gujarat	Gujarat
82	Porbandar Port	Gujarat
83	Kandala Port	Gujarat
84	Mundra Port	Gujarat
85	Delhi	Delhi NCR
86	Noida/Greater Noida	Delhi NCR
87	Faridabad	Delhi NCR
88	Gurugram/Manesar	North India
89	Haryana	North India
90	Punjab	North India
91	Himachal Pradesh	North India
92	Uttarakhand	North India
93	Jammu & Kashmir	North India
94	West Bengal	East India
95	Mysuru	Karnataka
96	Hubli-Dharwad	Karnataka
97	Belagavi	Karnataka
98	Bellary	Karnataka
99	Tumkur	Karnataka
100	Udupi	Karnataka

101	Davanagere	Karnataka
102	Mangaluru	Karnataka
103	Bengaluru	Karnataka
104	Rest of Karnataka	Karnataka
105	Keralam	South India
106	Arunanchal pradesh, Assam, Bihar, Jharkhand, Manipur, Meghalaya, Mizoram, Nagaland, Odisha, Tripura, Sikkim, Chhattisgarh	East India
107	Goa	South India
108	Nepal	Outside India
109	Bangladesh	Outside India
110	Bhutan	Outside India
111	Anantapur	Andhra Pradesh
112	Visakhapatnam	Andhra Pradesh
113	Vijayawada	Andhra Pradesh
114	South AP	Andhra Pradesh
115	North AP	Andhra Pradesh
116	Hyderabad	Telangana
117	North Telangana	Telangana
118	South Telangana	Telangana
119	Chennai	South India
120	Salem	South India
121	Madurai	South India
122	Rest of Tamil Nadu	South India
123	Puducherry	South India
124	Indore	Madhya Pradesh
125	Bhopal	Madhya Pradesh
126	Biaora	Madhya Pradesh
127	Jabalpur	Madhya Pradesh
128	Gwalior	Madhya Pradesh
129	Ratlam	Madhya Pradesh
130	Ujjain	Madhya Pradesh
131	Western MP	Madhya Pradesh
132	Rest of MP	Madhya Pradesh
133	Udaipur	Rajasthan
134	Ajmer	Rajasthan
135	Bikaner	Rajasthan
136	Jaipur	Rajasthan

137	Alwar	Rajasthan
138	Kota	Rajasthan
139	Beawar	Rajasthan
140	Dausa	Rajasthan
141	Pali	Rajasthan
142	Bhilwara	Rajasthan
143	Chittorgarh	Rajasthan
144	Rest of Rajasthan	Rajasthan
145	Agra	North India
146	Eastern UP	North India
147	Western UP	North India
148	Dadar & Nagar Haveli,Daman	Dadar & Nagar Haveli

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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Table of Contents

Disclaimer	v
Glossary Items	vii
1 Introduction	1
The assignment	1
Our approach	2
Contents of this Report	3
2 The Asset	4
Introduction	4
Strategic network and Asset Context	4
Concession and tolling details	6
Key economic activities	8
3 Traffic description	10
Introduction	10
Historical trends	10
Key findings of the TVC data analysis	18
Key findings of origin-destination analysis	20
Conclusions	30
4 Socio Economic Context	32
Introduction	32
Population growth	32
Economic Indicators	33
Economic growth	36
5 Background growth relationships and forecasting assumptions	40
Introduction	40
Estimation of background elasticities	41
Forecasts for growth drivers	43
6 Forecasts: Base AADT, Impacts and Traffic and Revenue forecasts	45
Introduction	45
Seasonal Correction Factors	46
Base year (FY27) traffic	47
Analysis of potential impacts	47
Traffic and Revenue forecasts	59
Summary outlook	62

Figures

Figure 2.1: Asset location in the regional network context

5

Figure 2.2 Asset context: Chittorgarh - Gulabpura, Lambiyan Kalan and Jojro ka Kheda toll plaza	7
Figure 2.3: Typical cross-sections and toll plazas on the Assets	7
Figure 3.1: Vehicle share (%): Lambiya Kalan	11
Figure 3.2: Vehicle share (%): Jojro Ka Kheda	13
Figure 3.3 CJV toll segmentation: Lambiya Kalan	16
Figure 3.4 MAV toll segmentation: Lambiyan Kalan	16
Figure 3.5: CJV toll segmentation: Jojro Ka Kheda	17
Figure 3.6: MAV toll segmentation: Jojro Ka Kheda	17
Figure 3.7: Vehicle Share Comparison: Lambiya Kalan	19
Figure 3.8: Vehicle Share Comparison: Jojro ka Kheda	19
Figure 3.9: Zonal distribution: Lambiya Kalan	22
Figure 3.10: Zonal distribution: CG - Jojro Ka Kheda	22
Figure 3.11: Zonal influence: CG - Lambiya Kalan	23
Figure 3.12: Zonal influence: CG - Jojro Ka Kheda	24
Figure 3.13 Commodity distribution: Lambiya Kalan	26
Figure 3.14: Commodity distribution: Jojro Ka Kheda	27
Figure 3.15: Trip length distribution: Lambiya Kalan	29
Figure 3.16: Trip length distribution: Jojro Ka Kheda	30
Figure 4.1: Annual growth - Index of Industrial Production	34
Figure 4.2: : Car ownership in India per 1,000 population	35
Figure 4.3: Relative Per Capita Income (FY15-FY25)	35
Figure 4.4: YoY growth in expenditure components of GDP	36
Figure 4.5: Month on Month IIP performance	37
Figure 4.6: Industrial components of GVA	37
Figure 4.7: Evolution of Rajasthan's state GDP and national GDP, FY12-25	38
Figure 5.1: FY24-46 GDP forecast	43
Figure 5.2: FY24-46 GSDP Rajasthan Forecast	44
Figure 6.1: Asset route shown against the regional network context	48
Figure 6.2: CJV toll segmentation evolution - Jojaro Ka Kheda	55
Figure 6.3: MAV toll segmentation evolution - Jojaro Ka Kheda	56
Figure 6.4: CJV toll segmentation evolution - Lambiya Kalan	57
Figure 6.5: MAV toll segmentation evolution - Lambiya Kalan	57
Figure 6.6: WPI growth forecast assumptions	58

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	6
Table 2.2: Single toll rates on the Asset (INR)	8
Table 3.1: Historical evolution in AADT by vehicle class: Lambiya Kalan	10

Table 3.2: Historical growth in AADT by Vehicle Class: Lambiya Kalan	11
Table 3.3: Historical evolution in AADT by vehicle class: Jojro ka Kheda	12
Table 3.4: Historical growth in AADT by Vehicle Class: Jojro ka Kheda	12
Table 3.5: Historical evolution in revenue by vehicle class (INR crores): Lambiya Kalan	13
Table 3.6: Historical evolution in revenue by vehicle class (INR crores): Jojro ka Kheda	13
Table 3.7: Typical ticket types sold at NHAI plazas	14
Table 3.8: Data Collection Schedule	18
Table 3.9: WADT at Asset	18
Table 3.10: Zone aggregations for zonal influence analysis	21
Table 3.11: Aggregate commodity categories	24
Table 3.12: Directional commodity distribution: Lambiyan Kalan	27
Table 3.13: Directional commodity distribution: Jojro ka Kheda	28
Table 3.14: Average trip lengths for each vehicle type	28
Table 4.1: CAGR of population in India	32
Table 4.2: Population Growth in Rajasthan and India (2012-2024)	33
Table 5.1: Identified growth drivers to model traffic growth	41
Table 5.2: Elasticity recommendations for Lambiyan Kalan (TP1) and Jojro ka Kheda (TP2)	42
Table 6.1: Key intermediate and final outputs in the forecast	45
Table 6.2: Adopted SCF: Lambiyan Kalan	46
Table 6.3: Adopted SCF: Jojro ka Kheda	46
Table 6.4: Base Traffic FY27 Lambiya Kalan TP	47
Table 6.5: Base Traffic FY27 Jojro ka Kheda	47
Table 6.6: Summary of impact	48
Table 6.7: Impact of Delhi Mumbai Expressway and Spur (%)	50
Table 6.8: Impact of Completion of Gangrar Bridge (%)	50
Table 6.9: Jaipur Ring Road Construction (%)	50
Table 6.10: ATE in combination with AJE (%)	51
Table 6.12: Impact Map of DMIC	52
Table 6.11: DMIC node (%)	53
Table 6.13: Trip factors for the forecast years - Jojro Ka Kheda	54
Table 6.14: Trip factors for the forecast years - Lambiya Kalan	55
Table 6.15: Toll segmentation FY27 onwards - Jojro Ka Kheda	56
Table 6.16: Toll segmentation FY27 onwards - Lambiya Kalan	57
Table 6.17: Tolling lengths for toll evolution	58
Table 6.18: Revenue reconciliation summary for	59
Table 6.19: PCU factors	59
Table 6.20: Traffic forecast (with impact) for Jojro Ka Kheda	59
Table 6.21: Traffic CAGR (%) for Jojro ka Kheda	60
Table 6.22: Revenue forecast (with impacts) for Jojro Ka Kheda	60
Table 6.24: Traffic forecast (with impacts) for Lambiya Kalan	61
Table 6.25: Traffic CAGR (%) for Lambiya Kalan	61

Table 6.26: Revenue forecast (with impacts) for Lambiya Kalan	61
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Appendices

A	Top 10 OD Pairs	66
B	Detailed forecasts	67
C	Data collection exercise	74
D	Vehicle Classification Chart	81

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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 March 2026. This report does not consider variations in traffic performance due to changing macro and force majeure events such (but not limited to) as global wars, economic uncertainty (high inflation, global recession), and changes in the regulatory environment. The situation remains dynamic and is subject to significant change in the short and medium term. In this challenging context, Traffic Consultant has produced base forecasts with a view on a possible scenario for the traffic forecasts. 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 such macro-economic/force majeure events. 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 scenario, Traffic Consultant advises that all readers of the

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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

Acronym	Meaning
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 Private Limited (Investment Manager to IRB InvIT Fund) (the “Client”) has commissioned Steer Davies Gleave India Private Limited (“Steer”) for a traffic due diligence to be carried out on the section Chittorgarh - Gulabpura referred to as the “Asset” in the report.
- 1.2 The Asset Chittorgarh-Gulabpura consists of two toll plazas.
- Lambiya Kalan
 - Jojro ka Kheda
- 1.3 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 for the period between Apr’18 to Mar’26
• 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 FY26	• 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

Scope of work	Data source
- 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
Review of historical Traffic Management System (TMS) data, Origin-Destination (OD) data, Vendor reports and documents	Provided by client

1.4 This report presents our draft T&R forecasts.

Our approach

1.5 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.

1.6 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 TMS data starting from April 2018 up till March 2026.
- 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.

1.7 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 FY27 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.

Table 1.2: Data collection schedule

Toll Plaza	7-day TVC		1-day OD survey	
	Start date	End date	Start date	End Date
Lambiya Kalan	3 rd Jun'26	9 th Jun'26	31 st May'26	1 st June'26
Jojro ka Kheda	3 rd Jun'26	9 th Jun'26	2 nd June'26	3 rd June'26

Contents of this Report

1.8 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 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 and Asset Context

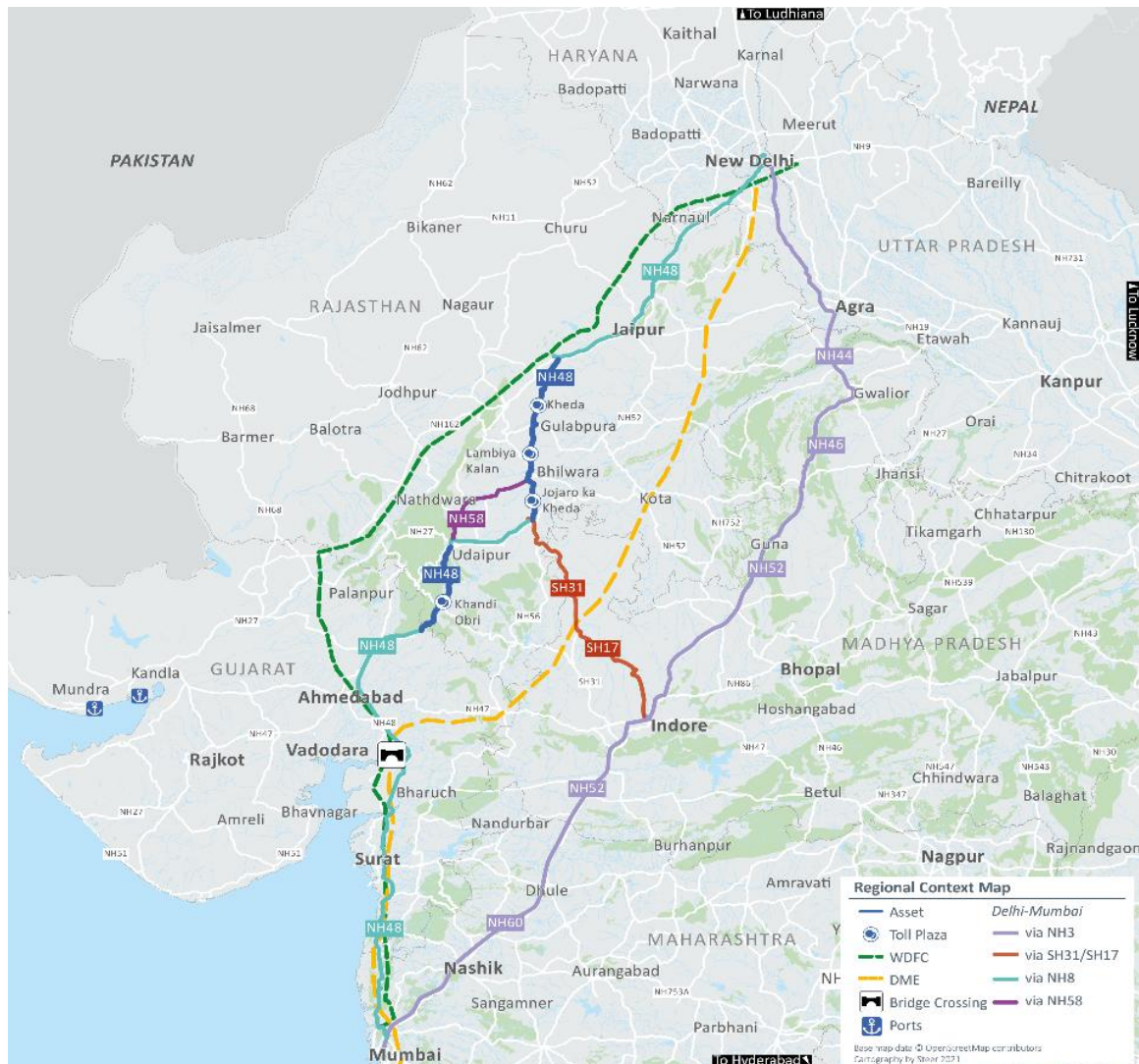
- 2.2 The Asset is a 124.87 km six lane tolled corridor located in the state of Rajasthan and forms an integral part of the Delhi-Mumbai arm of the Golden Quadrilateral. The corridor continues to function as a strategic north-south connector, providing a direct and efficient linkage between Kishangarh, Bhilwara, and Chittorgarh.
- 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 Kolkata¹. 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, and Chittorgarh drive religious tourism, contributing to passenger vehicle volumes across the Asset.
- 2.6 The Asset benefit from heavy industrial movement from industries in the vicinity as well. Industrial towns such as Kishangarh, Bhilwara, Chittorgarh, Rajsamand, and Udaipur, among others host 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 (DME). Key routes include:
- Via Asset/NH48: Delhi-Jaipur-Chittorgarh-Udaipur-Ahmedabad-Mumbai

¹ <https://www.livemint.com/Opinion/EePbsp19MAyct3cBcOxbQI/Build-it-and-they-will-come.html>

- Via Asset/ NH48/SH31/17: Delhi-Jaipur-Chittorgarh-Indore (via SH31/17) - Nashik - Mumbai
- Via Asset/NH48/NH58: Delhi-Jaipur-Bhilwara-Rajsamand-Udaipur-Ahmedabad-Mumbai
- Via NH2/19-NH52: Delhi-Agra-Indore-Nashik-Mumbai

The national network in which these Asset exist is presented in the map below.

Figure 2.1: Asset location in the regional network context



Source: Steer cartography using OpenStreetMap data

- 2.8 Other than the routes mentioned above, two major national level infrastructure developments, namely Western Dedicated Freight Corridor (WDFC) and DME, have reached advanced stages of development and commissioning as of FY25-FY26. These projects are expected to redistribute long haul freight movement, particularly rail compatible bulk commodities and time sensitive cargo and improve travel efficiency on parallel expressway alignments, particularly for end-to-end passenger traffic.
- 2.9 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 Ajmer, Vijay Nagar, Bhilwara,

and Chittorgarh. 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.
- **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.

2.10 The Assets consists of a total of 2 toll plazas. These are

- Lambiyan Kalan
- Jojaro Ka Kheda

2.11 The toll 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

2.12 The concession and tolling details for both the -toll plaza are provided below in the table.

Table 2.1: Summary of concession

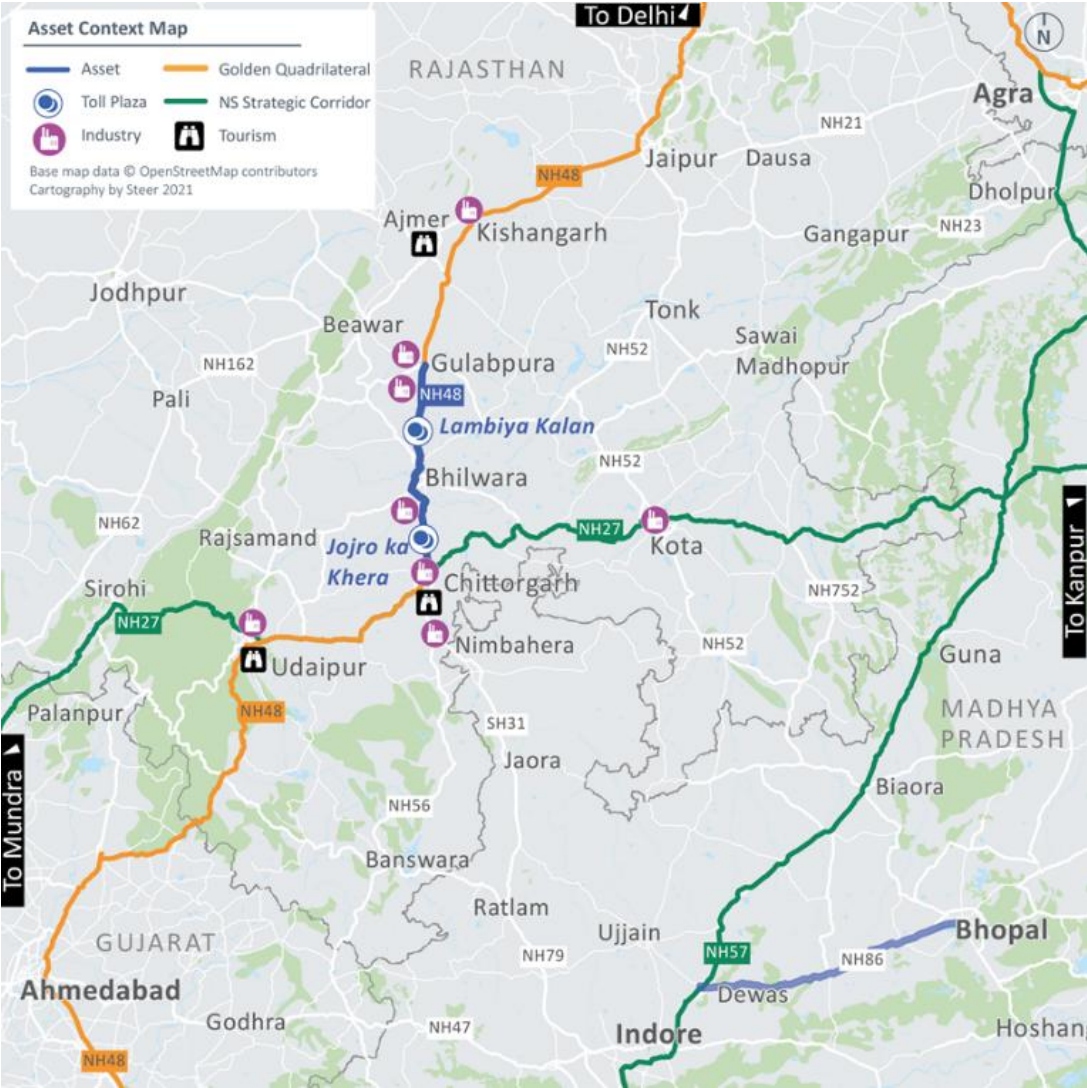
	Particulars
State	Rajasthan
Highway and lane configuration	NH48, six-laned (divided)
Toll plazas	• Lambiyan Kalan at KM 121+020 • Jojro Ka Kheda at KM 184+020
Length (km) as per concession agreement, applicable	• Lambiyan Kalan: 67.16 km • Jojro Ka Kheda: 69.65 km
Commencement of operations	PCOD/FCOD - 4th Nov'17/ 15 th Aug'21
Operated since	Nov FY18
Concession period	23 years
Last year of concession	31st January 2042

Source: Client data, as per the Concession Agreement

2.13 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 2021². The Asset map is presented in the figure below.

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 2.2 Asset context: Chittorgarh - Gulabpura, Lambiyan Kalan and Jojro ka Kheda toll plaza



Source: Steer cartography using OpenStreetMap data

2.14 Figure below shows a typical cross-section of the Asset and its toll plazas.

Figure 2.3: Typical cross-sections and toll plazas on the Assets





Source: Steer site visit

Table 2.2: Single toll rates on the Asset (INR)

Type of Vehicle	Lambiyan Kalan	Jojro Ka Kheda
CJV	105	110
LCV	170	175
Bus/Truck	355	365
3A	385	400
MAV	555	575
OSV	675	700

Source: NHAI Revision of User fee Rate w.e.f 01.04.2026

Key economic activities

- 2.15 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*³

- 2.16 Bhilwara is a prominent industrial town and occupies an important place on the mineral map of Rajasthan. Bhilwara is widely known across India for its textile industry and has emerged as one of the country's largest manufacturers of fabrics. It is one of the largest textile centres in Rajasthan, producing cotton yarn, polyester/viscose blended yarn and fabrics, denim, and various other textile products. The city is a fully modernized weaving hub with approximately 18,000 looms and is recognized as the world's largest centre for P/V blended suiting manufacturing.
- 2.17 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

³ http://dcmsme.gov.in/old/dips/DIPR_Bhilwara.pdf

extensively used in Ceramic manufacturing and are feeding into the demand generated by Morbi⁴.

- 2.18 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 World⁵.

Chittorgarh

- 2.19 Chittorgarh, one of the major trip influencers on the Asset, 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.
- 2.20 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

- 2.21 Udaipur 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

- 2.22 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 Asset and attract pilgrims from all over the country. These circuits along with Indore and Udaipur as hubs, establish local and regional tourism circuit in the influence region. Rajasthan is a well-established tourism state for different segments of society and gets visitors from across the country.
- 2.23 Kishangarh, Rajsamand and Nathdwara 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.

⁴ <https://industries.rajasthan.gov.in/content/dam/industries/CI/pdf/2017-2018/IPS%20BHILWARA.pdf>

⁵ <https://www.hzindia.com/bussiness/operations/mines/rampura-agucha/>

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 on the asset, in terms of vehicle shares and total AADT and PCU.
- 3.5 The traffic composition on the Asset is largely dominated by CJVs and MAVs, which together account for a 65% and 75% share of the total traffic at Lambiya Kalan and Jojro ka Kheda toll plaza, respectively. These two categories remain the key contributors to toll revenues highlighting the Asset's strong urban and economic relevance.

Table 3.1: Historical evolution in AADT by vehicle class: Lambiya Kalan

Vehicle Class	FY22	FY23	FY24	FY25	FY26
CJV	5,441	7,292	7,785	8,307	10,377
LCV	614	804	756	774	885
Bus	372	467	451	440	525
2A	1,770	2,458	2,398	2,300	2,485
3A	1,784	2,003	1,754	1,592	1,742
MAV	4,556	5,090	4,912	4,880	5,265
Total	14,545	18,122	18,065	18,299	21,283
PCU	38,672	46,222	44,872	44,450	49,675

Source: Steer analysis of the Client data

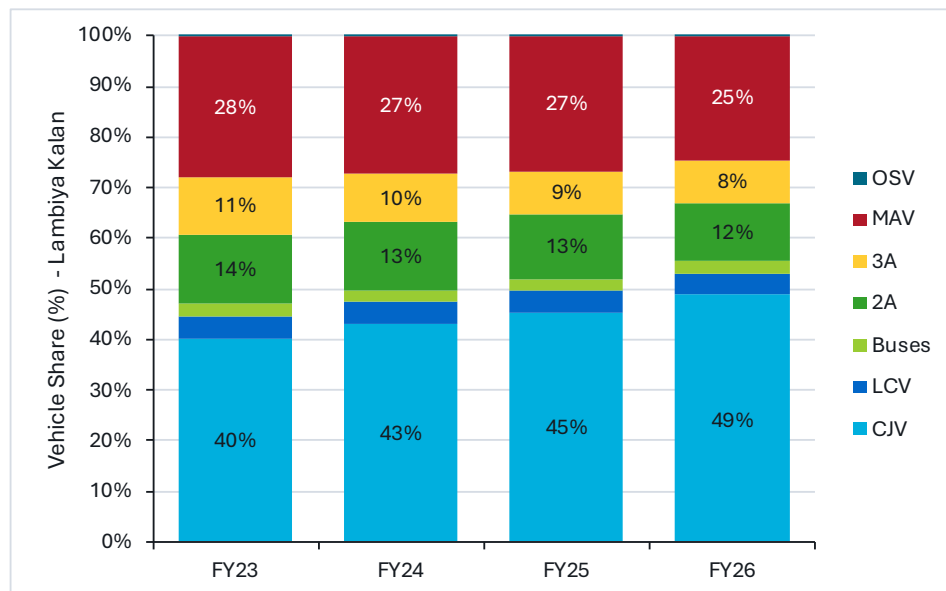
Table 3.2: Historical growth in AADT by Vehicle Class: Lambiya Kalan

Vehicle Class	FY23	FY24	FY25	FY26	FY22-FY26
CJV	34.0%	6.8%	6.7%	24.9%	17.5%
LCV	30.9%	(6.0%)	2.4%	14.4%	9.6%
Bus	25.3%	(3.3%)	(2.4%)	19.3%	9.0%
2A	38.9%	(2.4%)	(4.1%)	8.0%	8.9%
3A	12.3%	(12.4%)	(9.2%)	9.4%	(0.6%)
MAV	11.7%	(3.5%)	(0.7%)	7.9%	3.7%
Total	24.6%	(0.3%)	1.3%	16.3%	10.0%
PCU	19.5%	(2.9%)	(0.9%)	11.8%	6.5%

Source: Steer analysis of the Client data

- 3.6 The CAGR between FY22 and FY26 is 6.5% at PCU level which can be attributed to strong growth across categories especially in CJV and 2A/Bus vehicle categories.
- 3.7 During FY22 and FY23, the completion of key infrastructure improvements along the NH48 corridor, including the Udaipur bypass, led to a gradual strengthening of connectivity between Jaipur and Ahmedabad. We believe this, coupled with favourable economic conditions, supported a recovery in traffic on the Asset. However, from February 2023 onwards, the commissioning of certain sections of the DME resulted in partial diversion of traffic away from the Asset, a trend that continued into FY25.
- 3.8 Simultaneously, the ongoing construction of the Bhim Flyover on the alternative Ajmer-Gomti section (NH58) has resulted in traffic diversion onto the Asset (Lambiya Kalan toll plaza) for traffic patterns such as Udaipur to Ajmer.

Figure 3.1: Vehicle share (%): Lambiya Kalan



Source: Steer analysis of Client data

- 3.9 In contrast, the construction of the Gangarar bridge to the south of the Jojro ka Kheda toll plaza on the Asset has influenced travel patterns, leading to a diversion of commercial traffic to alternate affecting the Jojro ka Kheda toll plaza.
- 3.10 In FY26, the Asset experienced an improvement in traffic performance, supported by favourable economic conditions, local developments, and a temporary stabilization in diversion patterns as the remaining sections of the Delhi-Mumbai Expressway were yet to be fully operational. Passenger vehicle traffic, particularly CJVs, observed notable growth driven by increased tourism activity, supportive fiscal measures such as income tax reductions, and initiatives such as the introduction of annual passes. These factors collectively contributed to a robust recovery in traffic levels on the Asset.
- 3.11 The CAGR between FY22 and FY26 is 10.8% at AADT level and 8.2% at PCU level which can be attributed to strong growth in CJV and 2A vehicle categories.

Table 3.3: Historical evolution in AADT by vehicle class: Jojro ka Kheda

Vehicle Class	FY22	FY23	FY24	FY25	FY26
CJV	5,164	6,712	7,334	8,377	9,653
LCV	573	733	779	831	878
Bus	334	413	413	401	451
2A	1,618	2,308	2,542	2,599	2,597
3A	1,790	2,084	2,084	2,001	1,977
MAV	5,048	5,745	6,081	6,229	6,375
OSV	8	11	9	6	5
Total	14,534	18,006	19,242	20,444	21,937
PCU	39,999	48,128	51,023	52,683	54,759

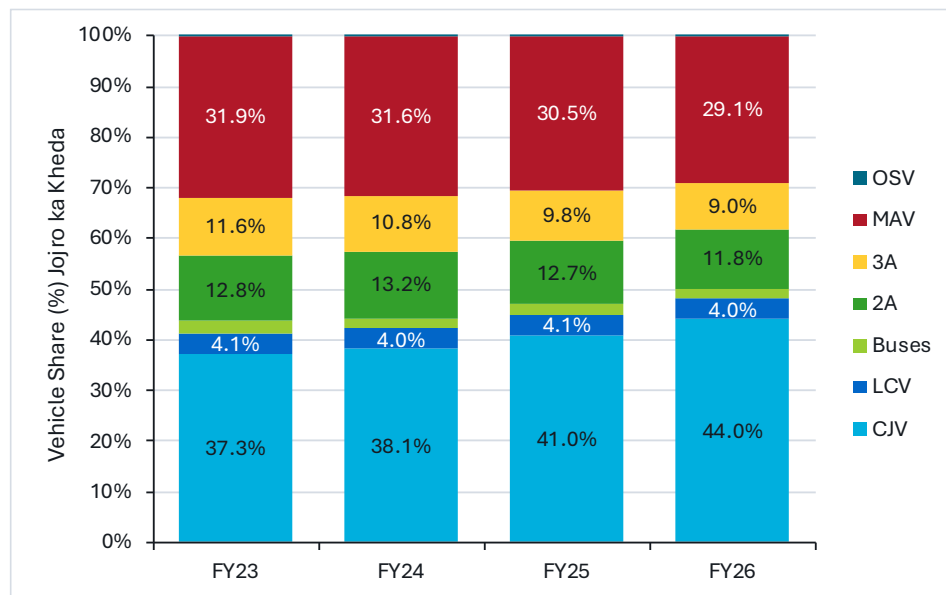
Source: Steer analysis of the Client data

Table 3.4: Historical growth in AADT by Vehicle Class: Jojro ka Kheda

Vehicle Class	FY22	FY23	FY24	FY25	FY26	FY22-FY26
CJV	37.2%	30.0%	9.3%	14.2%	15.2%	16.9%
LCV	(37.0%)	27.9%	6.2%	6.7%	5.7%	11.3%
Bus	26.7%	23.8%	0.1%	(2.9%)	12.3%	7.8%
2A	37.8%	42.6%	10.1%	2.2%	(0.1%)	12.6%
3A	19.4%	16.4%	(0.0%)	(4.0%)	(1.2%)	2.5%
MAV	15.7%	13.8%	5.8%	2.4%	2.4%	6.0%
Total	21.2%	23.9%	6.9%	6.3%	7.3%	10.8%
PCU	18.8%	20.3%	6.0%	3.3%	3.9%	8.2%

Source: Steer analysis of the Client data

Figure 3.2: Vehicle share (%): Jojro Ka Kheda



Source: Steer analysis of Client data

3.12 The table below presents the revenue collection on the Lambiya Kalan Toll Plaza.

Table 3.5: Historical evolution in revenue by vehicle class (INR crores): Lambiya Kalan

Vehicle Class	FY22	FY23	FY24	FY25	FY26	FY22-FY26
CJV	11.6	19.0	21.4	23.3	30.0	26.8%
LCV	2.3	4.1	4.1	4.4	5.0	21.4%
Bus	2.9	5.1	5.3	4.6	5.4	16.8%
2A	15.5	26.7	27.5	27.4	30.8	18.7%
3A	17.1	24.9	22.9	20.9	23.6	8.4%
MAV	62.3	88.0	89.8	90.6	100.3	12.6%
OSV	0.1	0.3	0.2	0.1	0.1	-
Total	112.1	168.4	171.4	171.7	195.5	14.9%

Source: Steer Analysis of the client data

3.13 The asset's financial performance has also shown consistent improvement, with annual revenue witnessing positive year-on-year growth from FY22 onwards. In FY26, the asset recorded a revenue of approximately INR 195 Cr, supported by an Average Annual Daily Collection (AADC) of around 53 lakh.

3.14 The table below presents the revenue collection on the Jojro ka Kheda Toll Plaza.

Table 3.6: Historical evolution in revenue by vehicle class (INR crores): Jojro ka Kheda

Vehicle Class	FY22	FY23	FY24	FY25	FY26	FY22-FY26
CJV	11.0	17.7	20.1	23.1	28.7	27.1%
LCV	2.2	3.8	4.3	4.7	5.1	23.4%
Bus	2.7	4.7	5.4	4.7	4.9	16.1%

Vehicle Class	FY22	FY23	FY24	FY25	FY26	FY22-FY26
2A	14.8	26.2	30.4	32.3	33.9	23.0%
3A	16.6	24.7	26.9	26.4	27.1	13.0%
MAV	68.0	98.5	109.0	113.0	120.3	15.3%
OSV	0.1	0.2	0.2	0.1	0.1	-
Total	115.6	176.2	196.6	204.6	220.3	17.5%

Source: Steer Analysis of the client data

- 3.15 The asset's revenue performance has remained robust, with annual revenues witnessing a consistent year-on-year increase from FY22 onwards. In FY26, the asset recorded a revenue of approximately INR 220 Cr, supported by an AADC of around INR 60 lakh, reflecting sustained improvement in both traffic volumes and toll realisation levels.

Toll Frequencies

- 3.16 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.
- 3.17 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.
- 3.18 The following are the types of tickets being sold at the plazas of the Asset.

Table 3.7: 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.

- 3.19 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.

Introduction of Annual pass for CJVs

- 3.20 The National Highway Authority of India launched the “The FASTag Annual Pass” on August 15, 2025, a prepaid facility that allows private CJVs to travel across designated National Highway and National Expressway toll plazas. The annual pass was launched at a price of INR 3,000, which was then revised to INR 3,075, as of April 1, 2026. The pass is valid for one year or 200 trips, whichever occurs first and is applicable only to private, non-commercial vehicles (Car/Jeep/Vans).

Since this pass has been introduced by NHAI, it is not valid on

- state governed toll plazas on highways
- state governed toll plazas expressways
- Parking areas or other non-NHAI tolling locations

- 3.21 The pass can be activated via the RajmargYatra app or the NHAI website, and links directly to an existing FASTag.

The Annual Pass aims to:

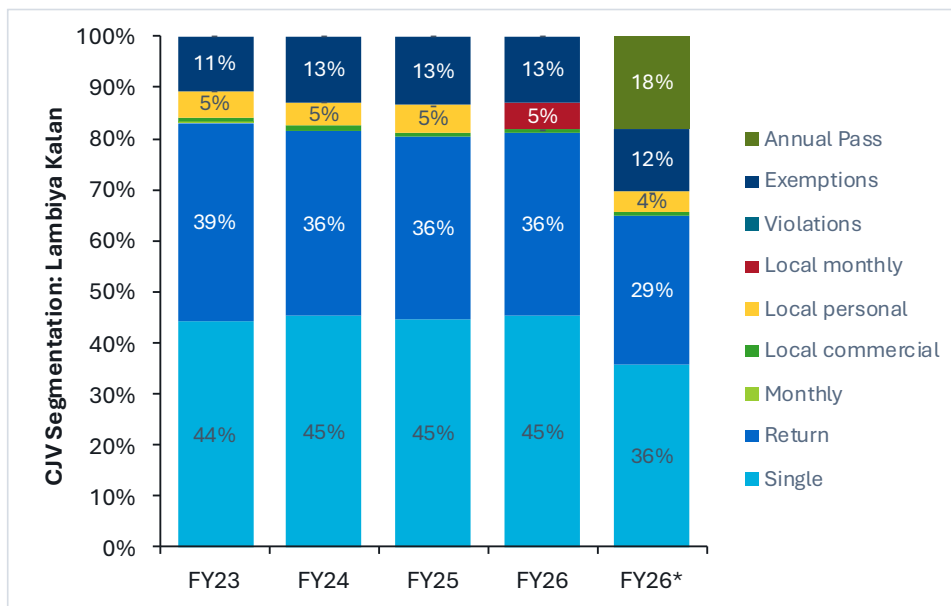
- Promote cashless and seamless travel on national highways.
- Reduce congestion and improve traffic flow at tolls
- Provide cost-effective travel for frequent users of NH/NE toll roads

- 3.22 The toll CJV and MAV segmentation for Lambiya Kalan toll plaza is presented below:

- 3.23 Following the introduction of annual passes in August 2025, the CJV segment has witnessed an estimated adoption rate of approximately 18%. This has led to a noticeable shift in user behaviour, with a gradual transition away from single and return ticket usage within this category, indicating increasing preference for pass-based travel among frequent users.

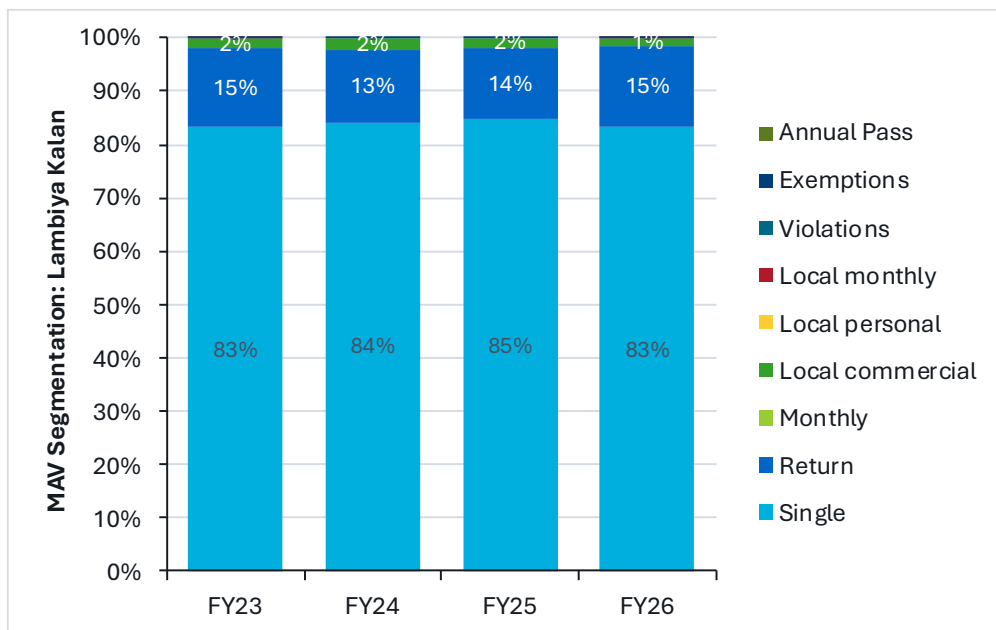
- 3.24 MAV traffic continues to remain predominantly single ticket driven. During FY26, single-trip tickets accounted for approximately 83% of MAV traffic.

Figure 3.3 CJV toll segmentation: Lambiya Kalan



Source: Steer analysis of the Client data, FY26 segmentation is from Apr 2025 to Jul 2025, FY26* segmentation is from August 2025 to Mar 2026

Figure 3.4 MAV toll segmentation: Lambiya Kalan

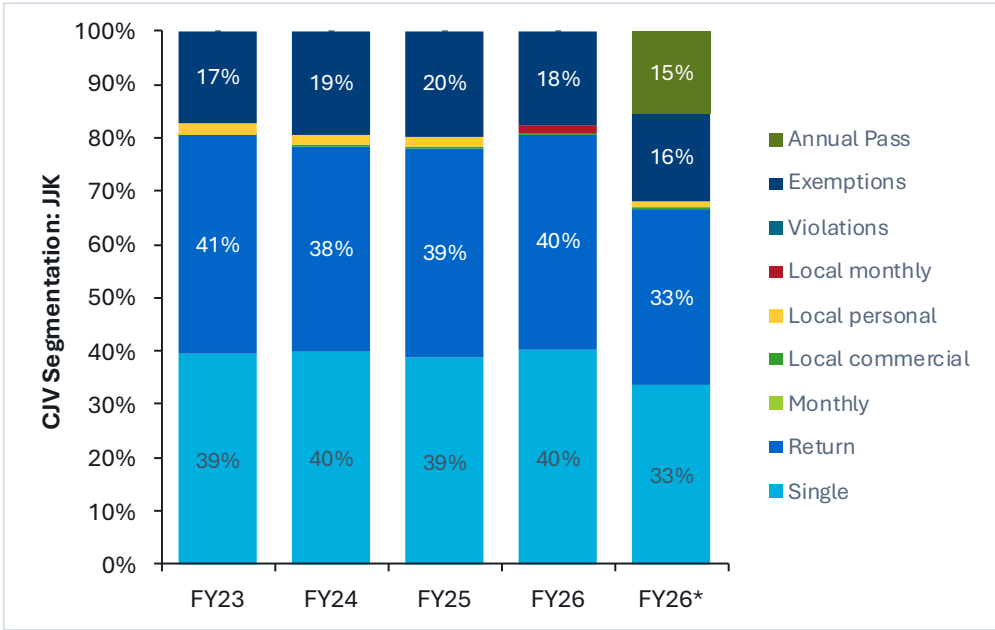


Source: Steer analysis of Client data

- 3.25 CJV and MAV segmentation for JJK plaza is presented below:
- 3.26 The roll-out of annual passes in August 2025 has resulted in an estimated adoption rate of approximately 15% within the CJV segment. This has correspondingly led to a decline in the share of single and return ticket usage in this category, reflecting a gradual shift in travel behaviour of frequent users towards pass-based options.
- 3.27 In contrast to the Lambiya Kalan toll plaza, the share of single tickets is lower at 77% at the Jojro ka Kheda toll plaza. This variance is likely driven by the regional industrial

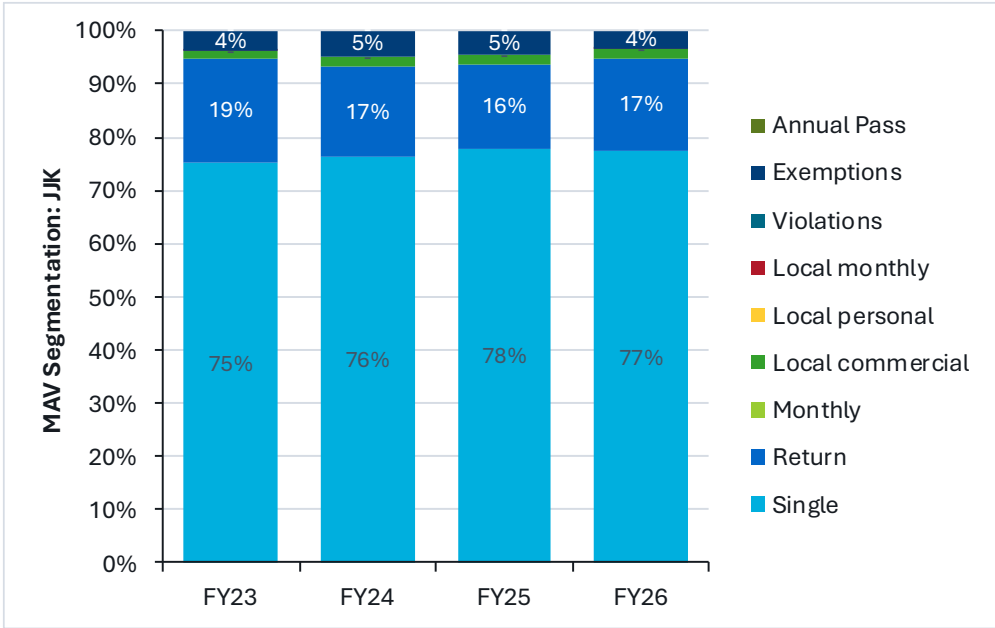
influence of Chittorgarh, which results in a 17% share of return tickets at the Jojro ka Kheda plaza.

Figure 3.5: CJV toll segmentation: Jojro Ka Kheda



Source: Steer analysis of the Client data, FY26 segmentation is from Apr 2025 to Jul 2025, FY26* segmentation is from August 2025 to Mar 2026

Figure 3.6: MAV toll segmentation: Jojro Ka Kheda



Source: Steer analysis of Client data

Data Collection exercise

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 3.8: Data Collection Schedule

Toll Plaza	7-day TVC		1-day OD survey	
	Start date	End date	Start date	End Date
Lambiyan Kalan	3 rd Jun'26	9 th Jun'26	1 st Jun'26	2 nd Jun'26
Jojro ka Kheda	3 rd Jun'26	9 th Jun'26	2 nd Jun'26	3 rd Jun'26

Source: Steer

- 3.28 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

- 3.29 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.
- 3.30 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.
- 3.31 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.
- 3.32 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 3.9: WADT at Asset

Toll Plaza	CJV / MLCV	Bus	LCV/ 2A	3A	MAV	Total	PCU
Lambiyan Kalan	10,342	625	3,533	1,680	5,193	21,375	48,667

Toll Plaza	CJV / MLCV	Bus	LCV/ 2A	3A	MAV	Total	PCU
Jojro ka Kheda	9,683	596	3,540	1,867	6,269	21,959	53,385

Source: Steer analysis of TVC data

TVC (Total Volume Count) v/s TMS (Traffic Management System)

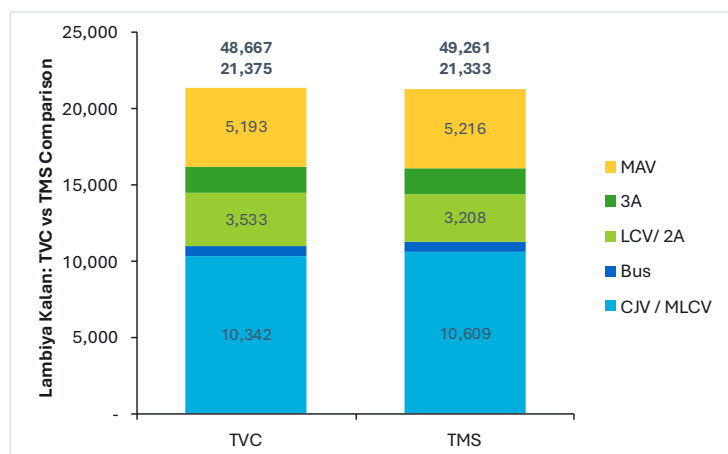
3.34 The below analysis compares the two sources of data:

- 7-day video-based counts (TVC)
- Toll Plaza data (TMS)

3.35 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.

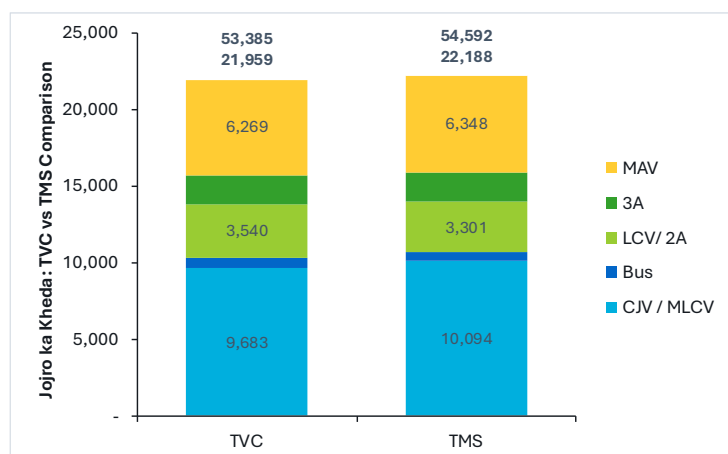
3.36 The figure below compares the vehicle wise shares as recorded by TVC and TMS

Figure 3.7: Vehicle Share Comparison: Lambiya Kalan



Source: Steer analysis of TVC and TMS data

Figure 3.8: Vehicle Share Comparison: Jojro ka Kheda



Source: Steer analysis of TVC and TMS data

- 3.37 WADT from TVC is approximately 1.0% lower than TMS at Jojro ka Kheda TP, while it is 0.2% higher at Lambiya Kalan TP at the total traffic level. The variation between the two sources is marginal at both plazas. For MAVs, TVC is 1.2% lower than TMS at Jojro ka Kheda TP and 0.4% lower at Lambiya Kalan TP.
- 3.38 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

- 3.39 Origin-Destination (OD) surveys were conducted at the toll plaza locations across both plazas. The surveys involved 24-hour interviews at each toll location, typically commencing at 8 AM and concluding at the same time on the following day. Each toll lane was staffed with an interviewer responsible for recording OD data, with supervisors monitoring the process to minimise errors and ensure data reliability. 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.
- 3.40 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.
- 3.41 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.
- 3.42 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
- 3.43 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.

Zone Categories

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 3.10: 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)
Gujarat	Gujarat
Delhi NCR	Delhi NCR
Madhya Pradesh	Madhya Pradesh
Rajasthan	Rajasthan
Karnataka	Karnataka
Andhra Pradesh	Andhra Pradesh
Telangana	Telangana
North India	Haryana, Punjab, Himachal Pradesh, Uttarakhand, Jammu and Kashmir, Agra, Eastern UP, Western UP
South India	Keralam, Goa, Chennai, Salem, Madurai, Rest of Tamil Nadu, Puducherry
East India	West Bengal, Arunachal Pradesh, Assam, Bihar, Jharkhand, Manipur, Meghalaya, Mizoram, Nagaland, Odisha, Tripura, Sikkim, Chhattisgarh
Outside India	Nepal, Bangladesh, Bhutan

Source: Steer analysis

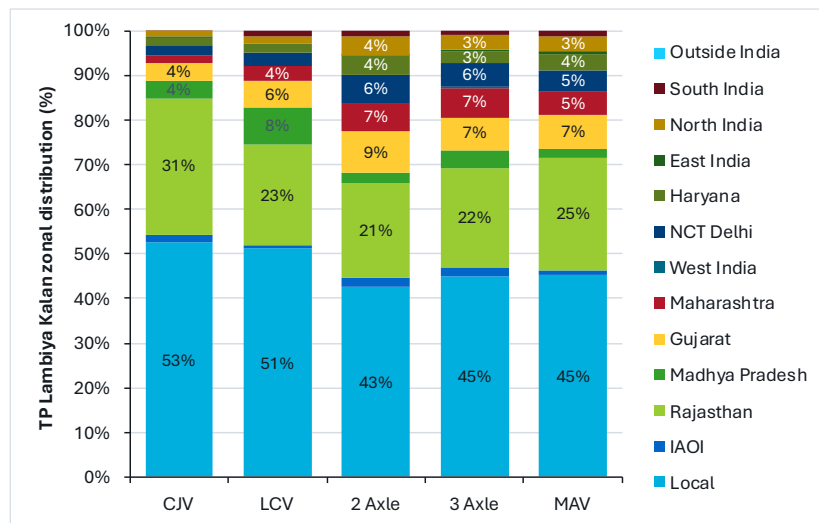
Zonal influence

3.44 The zonal influence is the contribution of the zone or the zonal aggregation to trips by a vehicle type. This section presents the zonal influence⁶ 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.

3.45 Zonal influence for Lambiya Kalna toll plaza is presented below:

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.

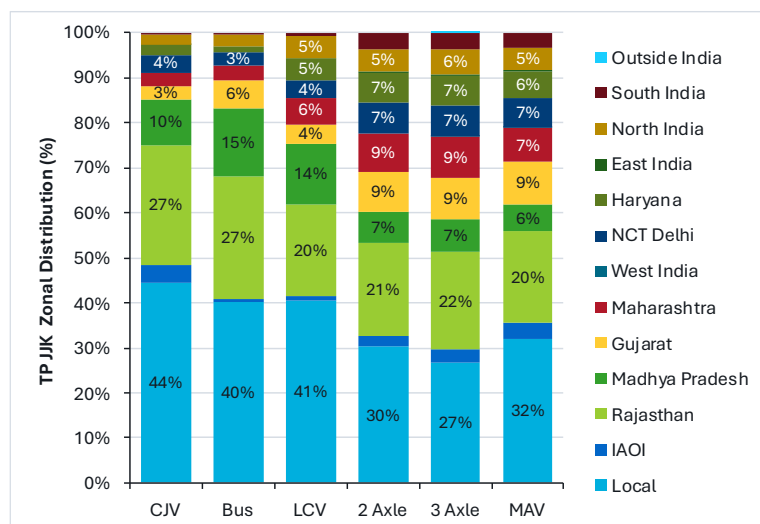
Figure 3.9: Zonal distribution: Lambiya Kalan



Source: Steer analysis of OD data

- 3.46 As the asset is located along NH48, Rajasthan, Gujarat, and Maharashtra zones together account for a dominant share of the overall commercial traffic, highlighting the corridor's importance in facilitating inter-state freight movement along this key national highway.
- 3.47 Given the asset's location on an industrially active corridor, approximately ~45% of 3-Axle and MAV trips cater to local demand. In addition, nearly 20-25% of trips are influenced by other parts of Rajasthan, as the asset serves as a strategic connector linking industrial clusters within the state to neighbouring regions, thereby supporting both intra- and inter-state freight flows.
- 3.48 Zonal influence for Jojro ka Kheda toll plaza is presented below:

Figure 3.10: Zonal distribution: CG - Jojro Ka Kheda



Source: Steer analysis of OD Data

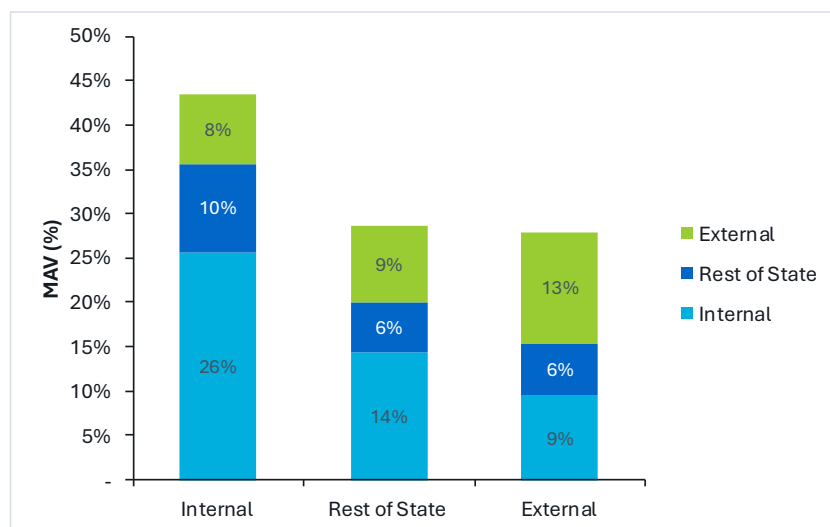
- 3.49 As the asset is located along NH48, Rajasthan, Gujarat, and Maharashtra zones account for a dominant share of the overall truck traffic, reflecting the corridor's importance as a key north-south freight artery supporting inter-state movement.

- 3.50 Given the asset's location on an industrially active corridor, approximately 50-55% of 3-Axle and MAV trips are generated from local demand and within Rajasthan. In addition, nearly ~22-25% of trips originate from neighbouring states such as Gujarat, Maharashtra, and Madhya Pradesh, highlighting the asset's strategic role in connecting industrial clusters in Rajasthan with adjacent regions and facilitating regional freight integration.

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-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.
- 3.52 Internal External Analysis for Lambiyan Kalan toll plaza is presented below:
- 3.53 The traffic composition further indicates that a significant proportion of 2-Axle, 3-Axle, and MAV traffic operates over long-distance routes, primarily along the north-south corridor. This pattern is corroborated by the Internal-External (I-E) analysis, which suggests that approximately 45% of MAV trips involve at least one external trip-end, reinforcing the asset's role in facilitating through traffic.

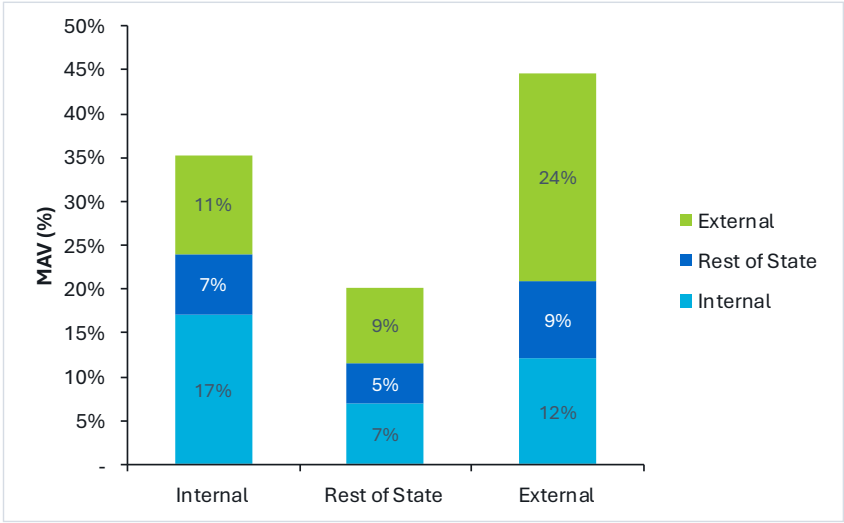
Figure 3.11: Zonal influence: CG - Lambiya Kalan



Source: Steer analysis of OD Data

- 3.54 Internal External Analysis for Jojro ka Kheda toll plaza is presented below:

Figure 3.12: Zonal influence: CG - Jojro Ka Kheda



Source: Steer analysis of OD Data

3.55 Commercial vehicle traffic on the asset predominantly operates over long-distance routes, primarily along the north-south axis. This trend is further supported by the Internal-External (I-E) analysis, which indicates that approximately 65% of MAV trips involve an external trip-end, reaffirming the corridor’s significance in through traffic movement.

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 3.11: Aggregate commodity categories

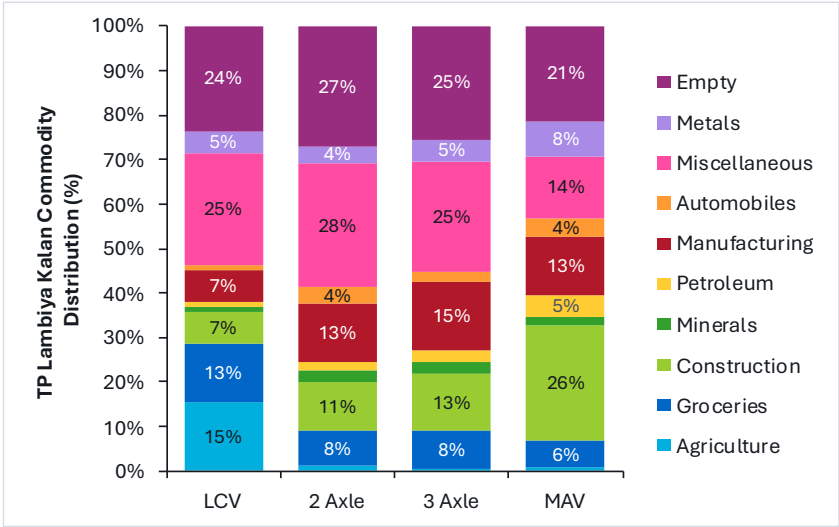
Commodity Description	Code	Combined codes used for charts
Agriculture Products / Cash crops (Wheat, Rice, Sugar cane, Maize etc.)	AGR	AGR
Perishable Items (Fruits, Vegetables)	PER	
Cattle Food / Live Stock (sheep, goat, cow,cattle food etc)	LIV	
Automobiles (Finished products, Auto parts, Car/bike manufacturing)	AUT	AUT
Chemicals / Fertilizers (Acids, Fertilizers etc.)	CHM	CHM
Building Material / Construction (Cement, Lime, Brick, Fly Ash, Aggregate Stone etc)	CNS	CNS
Sand/Clay	SND	
Stone (Kota stone, Marble, Granite, etc.)	STN	
Empty	EMT	EMPT

Commodity Description	Code	Combined codes used for charts
Animal Products/Dairy/Eggs/Fish/Meat/Animals	DFM	GRO
Groceries / Food items (Soap, Salt, Sugar, Pulses, Spices, Biscuits, bread, cool drinks, beer etc.)	GRO	
Ceramic Products (Tiles / Sanitary Products)	CRM	MAN
Electrical/Manufacturing items (Electronic items, Medicine, Wine, Rubber/ Tyre, Plastics, Cloth, Paper etc.)	MAN	
Textile & Leather Products (Yarn, Clothes, Garments etc.)	TXT	
Machinery / Spare parts	MAC	
Raw Wood, Cork & Wood Products, Furn	WUD	
Basic / Fabricated Metals (Iron, Steel / Metal)	MET	MET
Mining Minerals (Coal, Gypsum, Cobalt etc.)	MIN	MIN
Miscellaneous (House hold items, any other commodities different then mentioned in list etc.)	MSC	MSC
Container	CTR	
Passengers	PAS	
Scrap	SCR	
Parcel and Courier including Delhivery, Amazon, Flipkart etc	PAR	PAR
Petroleum Products (Oil, LPG, CNG, etc.)	PET	PET

Source: Steer Analysis

- 3.57 The vehicles operating along the asset carry a diverse mix of commodities, including construction materials, manufacturing goods, groceries, and other miscellaneous products, reflecting multiple demand drivers such as industrial activity and regional trade. Given the asset's location along the strategic NH48 corridor, a significant proportion of this traffic is associated with long-distance movement, highlighting its critical role in facilitating inter-state freight connectivity between major production and consumption centres. The following section present the commodity distribution for goods vehicles at the total level and split by direction at the toll plaza level.
- 3.58 The commodity mix for Lambiya Kalan toll plaza is presented below:

Figure 3.13 Commodity distribution: Lambiya Kalan



Source: Steer analysis of OD data

- 3.59 The asset exhibits a diversified commodity mix, with construction materials and miscellaneous goods forming a significant share of traffic across vehicle categories. This is primarily driven by inter-regional movements between northern markets, Maharashtra, Gujarat, and the industrial clusters of Bhilwara and Chittorgarh, highlighting the corridor’s role in supporting both regional and long-haul freight demand.
- 3.60 Construction materials, including cement, stone aggregates, and sand, constitute a key commodity group transported on the asset and are predominantly carried by MAVs. This trend is largely influenced by the asset’s proximity to the Chittorgarh district, a major cement-producing hub in Rajasthan. Additionally, the asset facilitates the movement of metal and mineral-based commodities, reflecting Bhilwara’s importance as a centre for mining of sandstone, soapstone, feldspar, quartz, mica, china clay, and granite.
- 3.61 Manufacturing and metals account for a notable share, approximately 20%, of the overall commodity mix. The commodity profile also indicates a significant proportion of empty vehicle movements.

Table 3.12: Directional commodity distribution: Lambiyan Kalan

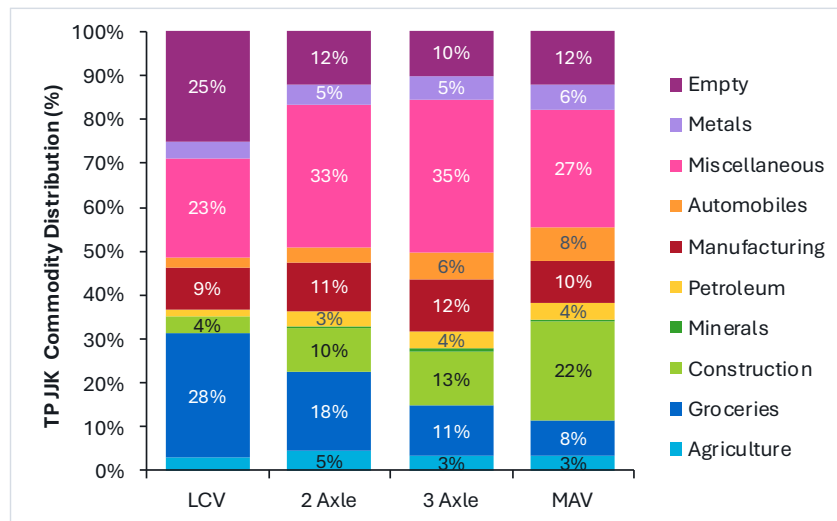
Gulabpura to Chhitorgarh				Commodity	Chhitorgarh to Gulabpura			
LCV	2 Axle	3 Axle	MAV		LCV	2 Axle	3 Axle	MAV
-	1%	0%	0%	Agriculture	17%	2%	1%	1%
25%	6%	8%	5%	Groceries	12%	13%	9%	7%
-	10%	14%	15%	Construction	8%	12%	11%	34%
-	4%	3%	2%	Minerals	1%	2%	2%	2%
-	2%	3%	3%	Petroleum	1%	1%	2%	7%
-	15%	17%	15%	Manufacturing	8%	9%	13%	12%
-	5%	4%	8%	Automobiles	1%	1%	1%	1%
13%	22%	15%	15%	Miscellaneous	26%	40%	37%	13%
13%	4%	5%	8%	Metals	4%	3%	5%	8%
50%	33%	31%	30%	Empty	21%	17%	19%	15%

Source: Steer analysis of OD data

3.62 The commodity mix for Jojro ka Kheda toll plaza is presented below:

3.63 The Jojro ka Kheda toll plaza exhibits a diversified commodity mix similar to Lambiya Kalan, with construction materials and miscellaneous goods forming approximately 50% share of overall traffic. This composition is primarily driven by inter-regional movements between northern markets, Maharashtra, Gujarat, and the industrial clusters of Bhilwara and Chittorgarh, reinforcing the corridor's importance in supporting both industrial freight and consumption-driven logistics.

Figure 3.14: Commodity distribution: Jojro Ka Kheda



Source: Steer analysis of OD data

Table 3.13: Directional commodity distribution: Jojro ka Kheda

Chhitorgarh to Gulabpura				Commodity	Gulabpura to Chhitorgarh			
LCV	2 Axle	3 Axle	MAV		LCV	2 Axle	3 Axle	MAV
5%	7%	6%	5%	Agriculture	-	3%	2%	2%
19%	23%	15%	10%	Groceries	44%	13%	9%	7%
6%	10%	14%	30%	Construction	-	10%	12%	17%
-	1%	1%	1%	Minerals	-	0%	0%	0%
3%	4%	6%	5%	Petroleum	-	3%	2%	3%
8%	10%	11%	10%	Manufacturing	13%	13%	12%	10%
-	0%	2%	2%	Automobiles	6%	6%	9%	11%
29%	33%	34%	23%	Miscellaneous	13%	32%	35%	29%
4%	2%	2%	4%	Metals	4%	7%	8%	7%
28%	10%	10%	10%	Empty	21%	14%	10%	14%

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.⁷

3.65 The average trip lengths across each of the vehicle types is presented below.

Table 3.14: Average trip lengths for each vehicle type

Toll Plaza	CJV	LCV	2 Axle	3 Axle	MAV
Lambiyan Kalan	341	190	513	568	528
Jojro ka Kheda	408	406	608	736	760

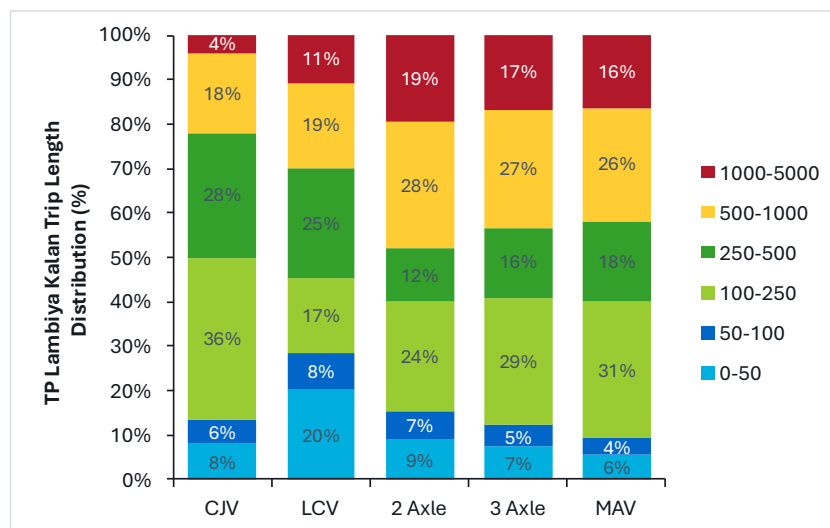
3.66 As we can see from the table above, the average trip lengths of 2A, 3A, and MAV category across both the toll plazas fall in the range of 500-750 km. Comparatively, lower average trip length on Lambiyan Kalan toll plaza in comparison with Jojro ka Kheda is line with Zonal distribution analysis where on average the share of local trips is 15% (percentage point) higher at Lambiya Kalan Toll Plaza.

3.67 Trip Length Analysis for Lambiya Kalan toll plaza is presented below:

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.

- 3.68 CJV trips at Lambiya Kalan are predominantly short- to medium-distance in nature, with a significant proportion of trips concentrated within the 0-250 km range (approximately 50%), reflecting strong local and regional usage of the corridor. However, a notable share of trips also extends beyond 500 km, indicating a mix of intra-city and inter-city travel demand.
- 3.69 LCV trip lengths show a wider spread across distance bands, with a substantial proportion of trips distributed across both medium- and long-distance categories. While over two-third of trips are within 500 km, a significant share (30%) extends beyond 500 km. This reflects the dual role of LCVs in catering to both regional distribution and long-haul movement.
- 3.70 As indicated in the commodity analysis, LCVs are also involved in carrying courier, parcel, and other high-value goods, which often require long-distance transportation. This leads to higher average trip lengths for LCVs, bringing them closer in line with higher tonnage vehicle categories such as 2-Axle and 3-Axle trucks.

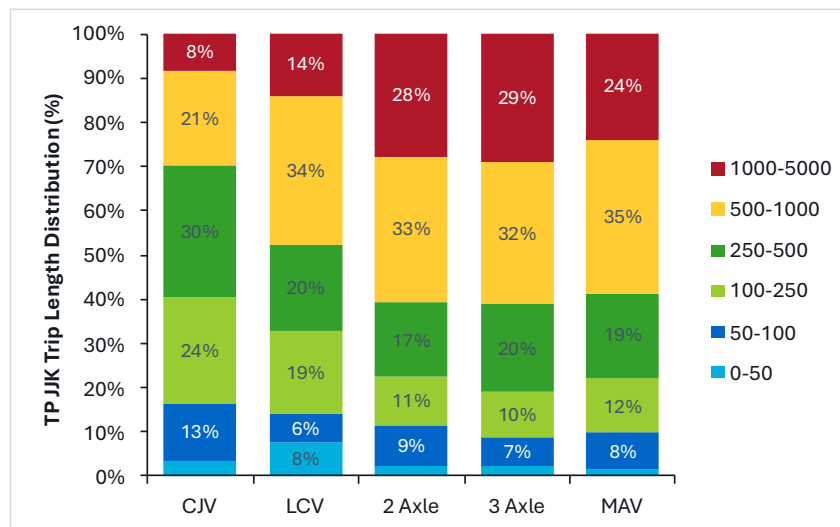
Figure 3.15: Trip length distribution: Lambiya Kalan



Source: Steer analysis of TVC counts, TMS data

- 3.71 Trip Length Analysis for Jojro ka Kheda toll plaza is presented below:
- 3.72 The trip length distribution for Jojro Ka Kheda indicates that a majority of 2A, 3A and MAV traffic is oriented towards long-distance movement, broadly consistent with observations across the asset. A significant share of these trips lies in the 500-1000 km and 1000-5000 km ranges, together accounting for over 60% of traffic in these categories, facilitating inter-state freight movement.
- 3.73 However, in addition to the strong long-haul component, there is also a noticeable proportion of comparatively shorter-distance traffic within the 100-250 km and 250-500 km bands, accounting for approximately 10-20% of 3-Axle and MAV movements. This can be attributed to regional freight movements, including trips between nearby industrial centres such as Bhilwara and Chittorgarh.

Figure 3.16: Trip length distribution: Jojro Ka Kheda



Source: Steer analysis of TVC counts, TMS data

Conclusions

- 3.74 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.
- 3.75 In addition to long distance movement, local industrial clusters of Bhilwara and Chittorgarh, add to the captive nature of traffic that currently use the Assets.
- 3.76 The tourism influence of Udaipur, Chittorgarh, and Nathdwara drives the passenger car and bus usage of the corridor.
- 3.77 The Asset's traffic is primarily freight-driven, with CJVs and MAVs forming the dominant share and underpinning toll revenues. Traffic in FY22-FY23 supported by improved connectivity and economic growth, albeit partially offset by diversion to the Delhi-Mumbai Expressway. In FY26, traffic recorded continued growth on account of stabilizing diversion patterns, favourable economic conditions, and growth in passenger vehicle movement driven by tourism and policy support.
- 3.78 WADT TMS is within 1% of TVS for both the toll plazas at total levels. 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.
- 3.79 The External trips are the long-distance trips plying between Gujarat, Maharashtra, Haryana, Delhi NCR, and northern states. This is the through traffic on the Assets connecting major industrial clusters and consumption centres.
- 3.80 The Lambiya Kalan toll plaza records that 45% of 3A/MAV trips cater to local demand, while 25% of trips are influenced by other parts of Rajasthan. Similarly, Jojro Ka Kheda records that around ~30% of 3A/MAV trips are generated from local, while 20% of trips are influenced by other parts of Rajasthan. Additionally, 15-20% of trips at both toll plazas originate from nearby states such as Gujarat, Maharashtra, and Madhya Pradesh. The

strategic location on NH-48 makes the asset a key connectivity point linking Rajasthan's industries with neighbouring states indicating relatively stronger regional linkage alongside sustained long-distance movement.

- 3.81 Commercial vehicle traffic across the asset is predominantly long-distance in nature, with around 65% and 45% of MAV trips at Jojro ka Kheda and Lambiya Kalan, respectively, involving at least one external trip-end, highlighting its strong role in facilitating through movement along the north-south corridor and connecting major inter-state economic centres.
- 3.82 Likewise, the asset exhibits a diversified commodity mix driven by construction materials, metals, manufacturing goods, and inter-regional trade flows along NH48, supporting both industrial supply chains and long-haul freight movement between Rajasthan, Gujarat, Maharashtra, and northern markets.
- 3.83 Trip length analysis across the asset indicates a strong dominance of long-distance freight movement, with over 40-60% of commercial vehicle trips exceeding 500 km and average trip lengths in the range of ~530-760 km, reaffirming its role as a key inter-state corridor along NH48.
- 3.84 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

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 We have analysed the key socioeconomic drivers of the background traffic demand in the state of Rajasthan where the Asset is located.

National Level

- 4.5 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 Table 4.1 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

State Level

- 4.6 As Table 4.2 shows, the populations of Rajasthan has grown at a faster pace compared to that of India, between FY12 and FY24. As of FY24, accounts for 5.8% f India’s population
- 4.7 Table 4.2 shows the evolution of population in the state of Rajasthan (containing the Asset), compared to that of the country.
- 4.8 As Table 4.2 shows, the populations of Rajasthan has grown at a faster pace compared to that of India, between FY12 and FY24. As of FY24, accounts for 5.8% f India’s population

Table 4.2: Population Growth in Rajasthan and India (2012-2024)

State	2012 Population (m)	2024 Population (m)	CAGR (2012 - 2024)
Rajasthan	69.1	82.4	1.4%
India	1,210	1,395	1.2%

Source: MoSPI estimates

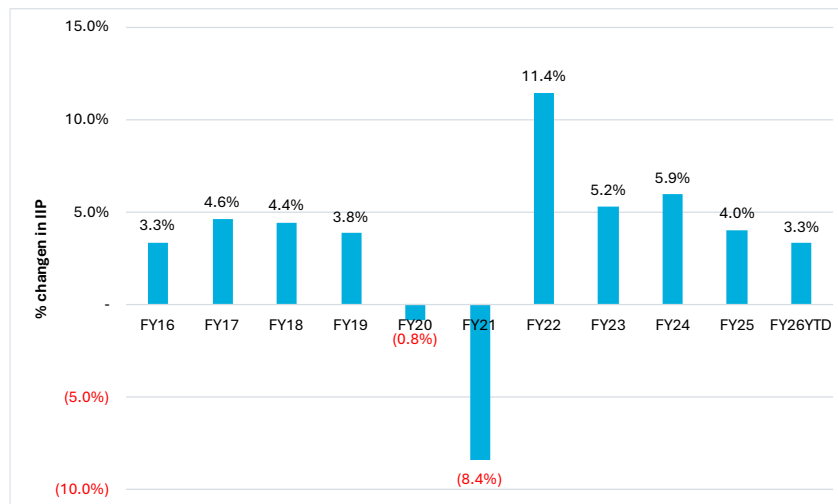
- 4.9 Due to the complexities of patterns of urbanisation, and the very dynamic nature of local population migration (which are very difficult to forecast with accuracy), we do not use population growth as a proxy for understanding future travel demand growth on the Asset. It has been included in this section simply to provide the underlying socio-economic context of the state/trends in the regions in which the Asset is located.

Economic Indicators

Industrial Production

- 4.10 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 constituting the IIP.
- 4.11 At an annual level, national IIP was growing at an average of 4% per year over the period FY15-19, before the country underwent a liquidity crisis and experienced an overall economic slowdown in FY20 (as presented in Figure 4.1 below). In the aftermath, IIP shrank by over 8% in FY21 due to a decline in economic activity in the wake of global lockdowns introduced to curb the Covid-19 pandemic. However, with the gradual opening up of economy post the pandemic, and recovery in consumption demand, industrial activity also recovered with time with IIP recording growth of 5% in FY23 and 6% in FY24.
- 4.12 The figure below shows that at an annual level, national IIP was growing at an average of 4% per year over the period FY15-19, before the country underwent a liquidity crisis and experienced an overall economic slowdown in FY20. In the aftermath, IIP shrank by over 8% in FY21 due to a decline in economic activity in the wake of global lockdowns introduced to curb the Covid-19 pandemic. Post the immediate recovery in FY22, IIP growth has since stabilised, with FY25 recording 4%, and FY26YTD (till February 2026) recording 3.3% growth over FY25.

Figure 4.1: Annual growth - Index of Industrial Production



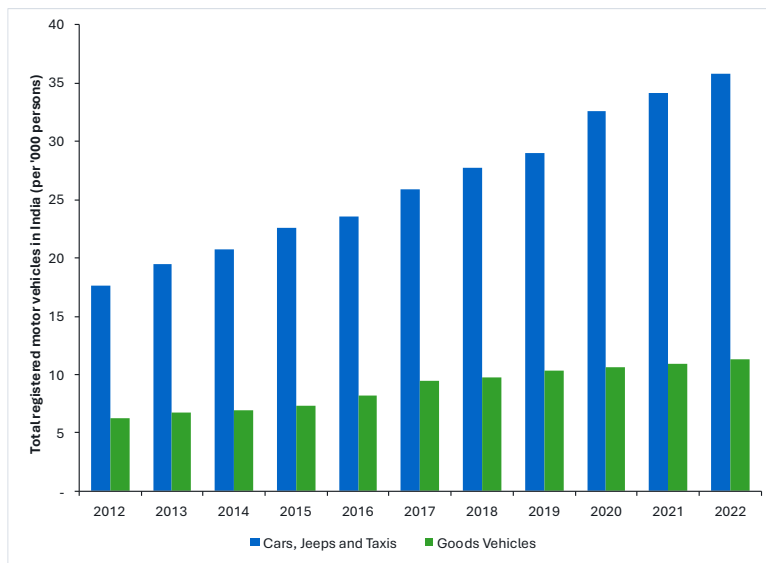
Source: Steer analysis of MoSPI data

- 4.13 Since state-level IIP data is not as readily available as national level IIP, we have presented national IIP here to indicate nationwide activity in key industrial sectors like power, manufacturing, and mining, all of which influence long-distance commercial movements across the nation, and not unique to this asset. We however, do not use it to forecast future travel demand growth since long-term forecast for IIP is not available through official sources such as MOSPI, RBI or through multilateral organisations like WB, or the IMF.

Vehicle Ownership

- 4.14 The gap in car ownership between India and developed nations remains substantial - with 36 cars/jeeps/taxis and 11 commercial vehicles per thousand people, as of FY22 (the latest year for which official data is available). However, with increasing per capita income levels, a booming economy and the subsequent increase in demand for mobility, the number of registered vehicles has been on a gradual upward trend.
- 4.15 Overall, India still stands at a very nascent stage in the vehicle saturation curve, offering huge potential for growth going forward. Between FY12 and FY22, the CAGR for CJV and goods' vehicles registered in India was 8.6% and 7.3% respectively.

Figure 4.2: : Car ownership in India per 1,000 population

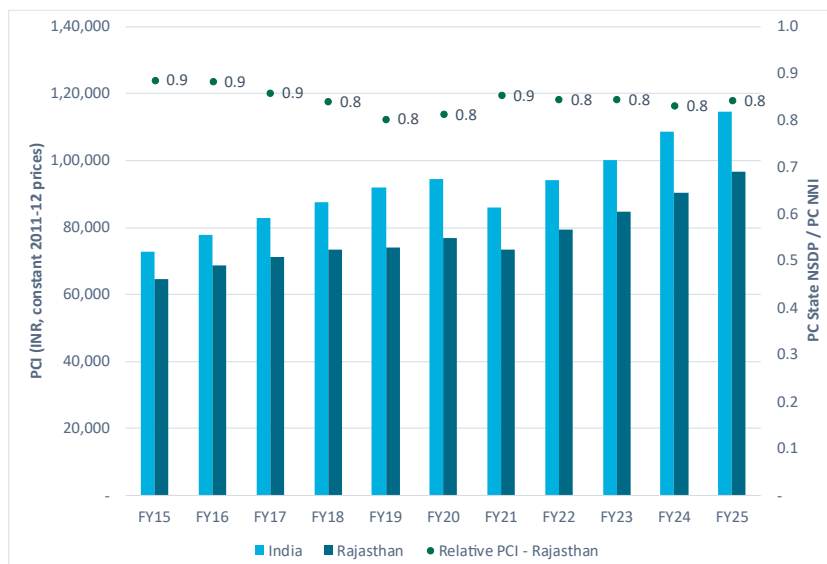


Source: International Energy Agency (IEA)

Per Capita Income (PCI)

- 4.16 The per capita income of the state where the Asset lies (i.e., Rajasthan) has historically varied slightly below the national average, trending at 80-90% of the national per capita income over the period FY15-FY25. While the statewide per capita income has remained below the national average, incomes near and around the Asset are higher given its proximity to Jaipur city (the state's capital). In recent years (FY22-FY25), Rajasthan recorded higher per capita income growth than observed pre-COVID (FY12-FY19) owing to strong consumption growth in the state. Going forward, we expect strong local consumption demand to drive growth in both passenger and commercial traffic.

Figure 4.3: Relative Per Capita Income (FY15-FY25)



Source: Steer analysis of MoSPI data

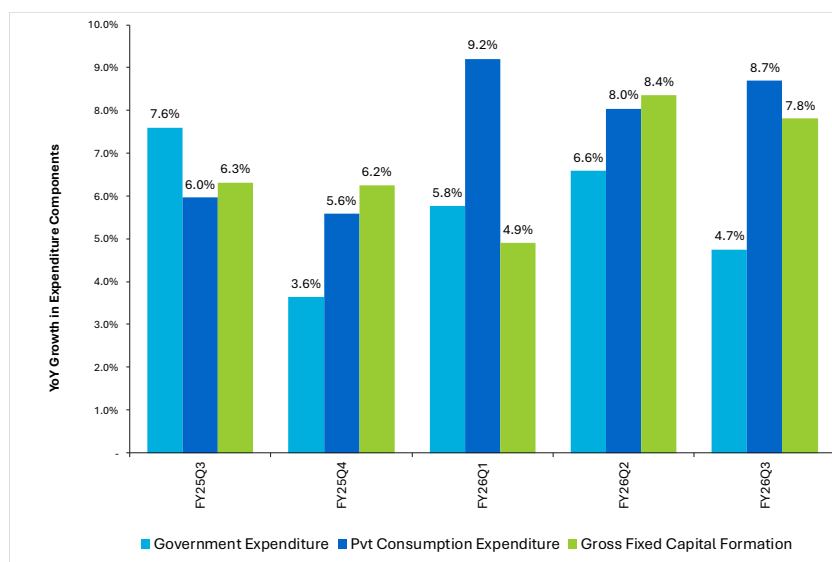
- 4.17 However, given the difficulty in obtaining granular district level PCI data it is not advisable to use this as a growth driver. Also, the long-term forecast for PCI is not available we therefore refrain from using it to forecast traffic.

Economic growth

India's Performance

- 4.18 Despite a slowdown in the economy during H1FY25, the Indian economy has observed strong growth each quarter since FY25Q2, with the latest published estimates for FY26Q3 GDP at 7.8% over FY25Q3. This performance has been driven by strong growth in investment and consumption expenditures and higher consumer optimism for the year ahead⁸.
- 4.19 The figure below, we present quarterly Y-o-Y growth in three major components of GDP - government expenditures, consumption expenditures, and business investment (gross fixed capital expenditure) over the past year (FY25Q3-FY26Q3).

Figure 4.4: YoY growth in expenditure components of GDP



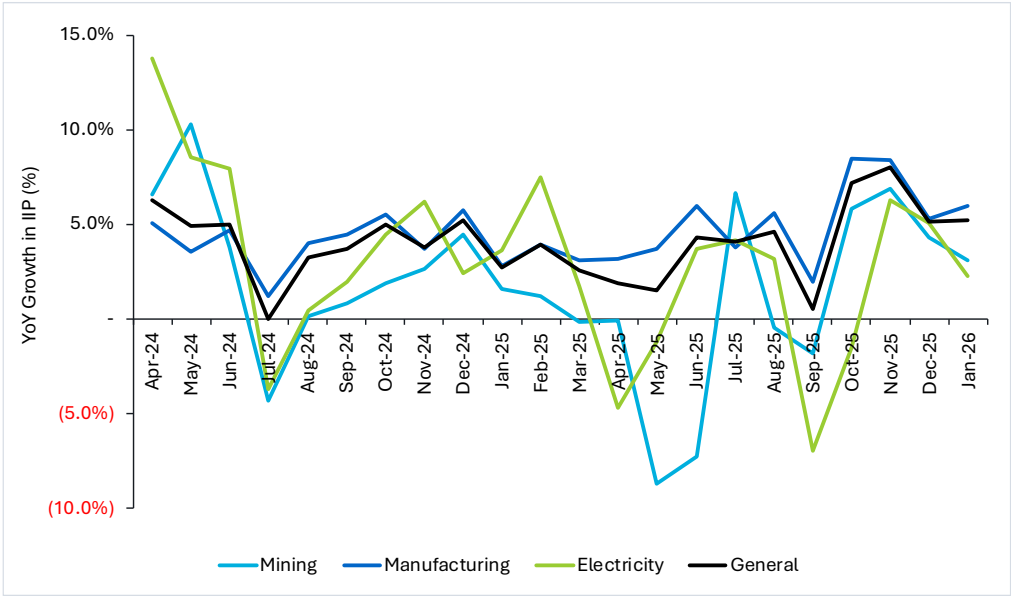
Source: Steer Analysis of MOSPI Data

- 4.20 While consumption and investment expenditures have continued to show consistent growth over the past two quarters, government expenditures observed a marginal decline in FY25Q4. In FY26Q1, government expenditures rebounded, recording 5.8% growth over FY25Q1 levels.
- 4.21 Performance across different types of industrial activities (such as Mining, Manufacturing, and Power Generation) directly impact freight movement and commercial traffic volume growth across the country, including on the Asset. In the figure below, we present growth trends in IIP - a measure that tracks the performance of the economy across these activities. As of FY26YTD (Apr'25-Feb '26), the Manufacturing sector continues to perform strongly, recording positive y-o-y growth since FY25Q3. While industrial activity across the

⁸ Government of India PIB Release (27th February 2026)

two other sectors (i.e., Power Generation and Mining) dropped between May and Jun/Jul '25, they have since rebounded and show signs of continued growth going forward

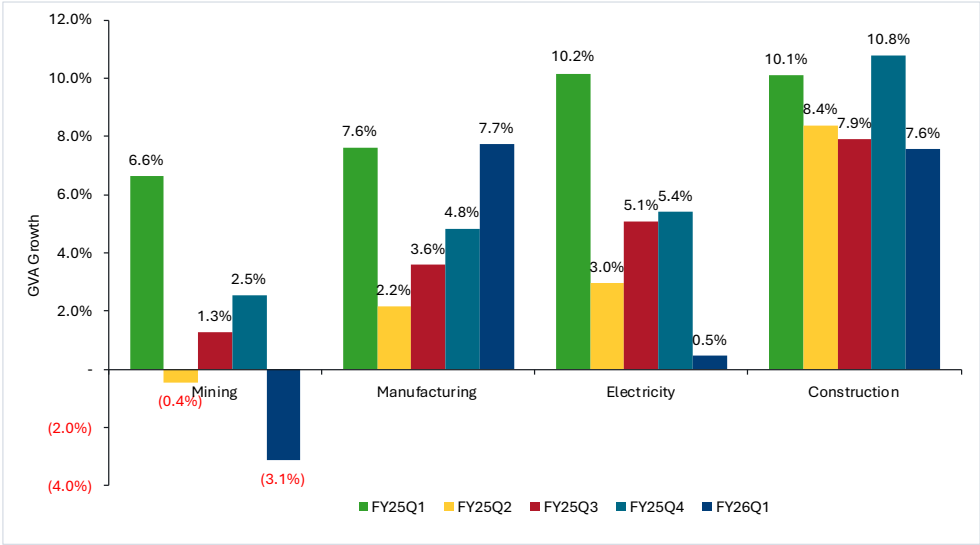
Figure 4.5: Month on Month IIP performance



Source: Steer Analysis of MOSPI Data

4.22 In addition to monthly trends in IIP, the figure below presents y-o-y growth of quarterly GVA in four industrial sectors - Mining (& Quarrying), Manufacturing, Electricity (and other Utilities), and Construction. While the Mining and Power sectors observed decline and muted growth in FY26Q1, the Manufacturing and Construction sectors experienced strong growth. While overall economic growth has remained resilient as of FY26YTD, performance across industries have varied, impacting economic growth across different regions and on the Asset as well.

Figure 4.6: Industrial components of GVA



Source: Steer Analysis of MOSPI Data

GDP and GSDP Growth

- 4.23 Over the period FY12-FY25, the Indian economic has grown at a CAGR of approx. 6% aided by growth in the tertiary sector which grew at a CAGR of approx. 6.9% over the same period. The economic growth of Rajasthan (state GSDP) has been somewhat slower than the country overall for the past 5 years but it seems to have caught up with the national rate since the COVID19 pandemic.⁹
- 4.24 The Asset lies in the state of Rajasthan. The state contributes approximately 5% to India's GDP. Figure 4.7 illustrates the evolution of India and Rajasthan GDP.

Figure 4.7: Evolution of Rajasthan's state GDP and national GDP, FY12-25



Source: Ministry of Statistics and Program Implementation (MoSPI)

Economic activity in the state

- 4.25 Rajasthan, the largest (area-wise) state in India, is in the north-western part of the country. In terms of sectoral contribution to the state GDP, tertiary sector has the highest share followed by primary and secondary, with the shares remaining stable during the last six years (i.e., 2019-2025).
- 4.26 The tourism and transport sector constitutes a major share of state's tertiary sector, accounting for roughly 15% of the state's economy as of 2024¹⁰. Rajasthan is considered a favoured tourist destination in India, with key tourist destinations being Jaipur, Jodhpur, Jaisalmer, Bharatpur and Udaipur. In 2018, the state attracted over 50 million domestic

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 [Rajasthan Tourism sector](#)

tourist arrivals in the country whereas, in terms of foreign tourist arrivals it holds fifth position in the country with over 1.7 million¹¹ tourist visiting state every year.

- 4.27 In terms of secondary sector, the state has key industrial areas in Kishangarh (marble); Manesar (automobile), Pali and Jodhpur (textiles), Chittorgarh -Neemuch (cement), Kota (stone). Rajasthan is one of the largest minerals producing state in India and is the sole producer of lead and zinc ores in India. The state has one of the largest limestone reserves, making it a hub for cement industries. In terms of agricultural produce, the state is largely known for its production of wheat, cotton, cereals and pulses.

¹¹<http://tourism.gov.in/sites/default/files/Other/India%20Tourism%20Statistics%20at%20a%20Glance%202019.pdf>

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 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 is 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 across all toll plazas.

Table 5.1: Identified growth drivers to model traffic growth

Vehicle type	GDP India	GSDP Rajasthan
Car		100%
MLCV		100%
LCV		100%
Bus		100%
2A	100%	
3A	100%	

Vehicle type	GDP India	GSDP Rajasthan
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 Lambiyan Kalan (TP1) and Jojro ka Kheda (TP2)

Vehicle Category	Proposed	Growth Driver	Comments
CJV	TP1: 1.3 TP2: 1.3	GSDP Rajasthan	Car traffic is largely driven by the local demand from Bhilwara, Kishangarh, Rajsamand, and Chittorgarh. CJVs are expected to grow with 1.3 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. Elasticities are tapered to 1.1 by FY33.
Buses	TP1: 0.5 TP2: 0.5	GSDP Rajasthan	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.
LCV	TP1: 0.5 TP2: 0.5	GSDP Rajasthan	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 upto 600-700KM 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 colors the performance of this category and hence a lower growth assumption on LCVs with a 0.5 with State GSDP and 2A with a 0.8 relationship to GDP has been assumed on forecasts.
2A	TP1: 0.8 TP2: 0.8	GDP	
3A	TP1: 0.1 TP2: 0.1	GDP	The corridor is part of the traditional Golden Quadrilateral with 3As and MAVs 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
MAV	TP1: 1.0 TP2: 1.0	GDP	

			corridor and in the vicinity. Moreover, an average trip length of about 700 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 1.0 to GDP has been assumed for the forecasts. These elasticities have been tapered to 0.9 by FY32.
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Source: Steer analysis

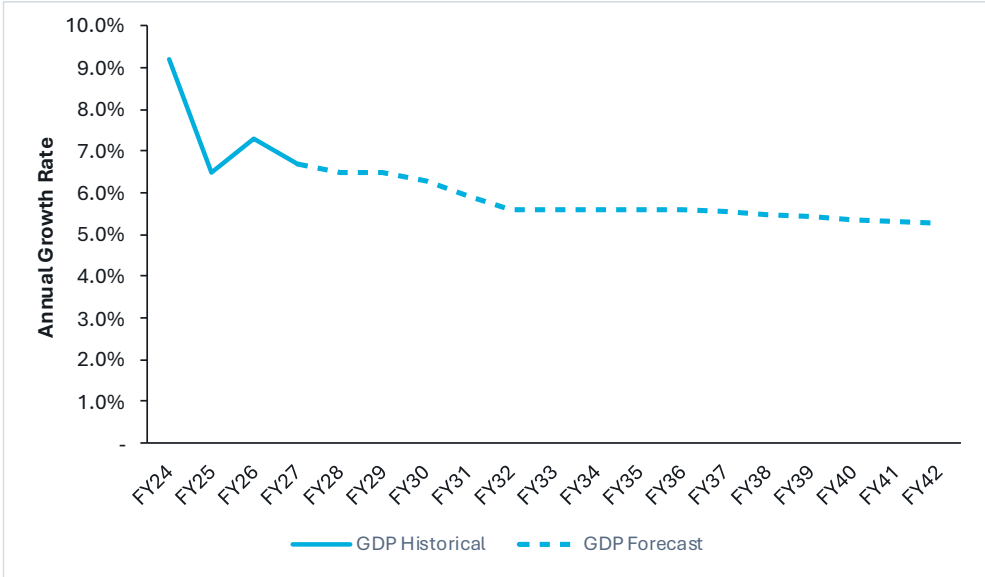
Forecasts for growth drivers

- 5.12 Following the discussion in Chapter 4 on the nature of economic activity in the state of Rajasthan, 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 by Consensus Economics.

National GDP

- 5.13 India's GDP and Rajasthan's GSDP are the primary macroeconomic variables that have been modelled to drive our traffic growth forecasts.
- 5.14 The forecast projects the Indian GDP to grow at on an average of 6.5% between FY27 - FY30 which is gradually tapered down to 5.3% by FY42. The India GDP growth forecast is broadly in line with other independent forecasts available from reliable sources such as IMF, World Bank and RBI in the short term.

Figure 5.1: FY24-46 GDP forecast

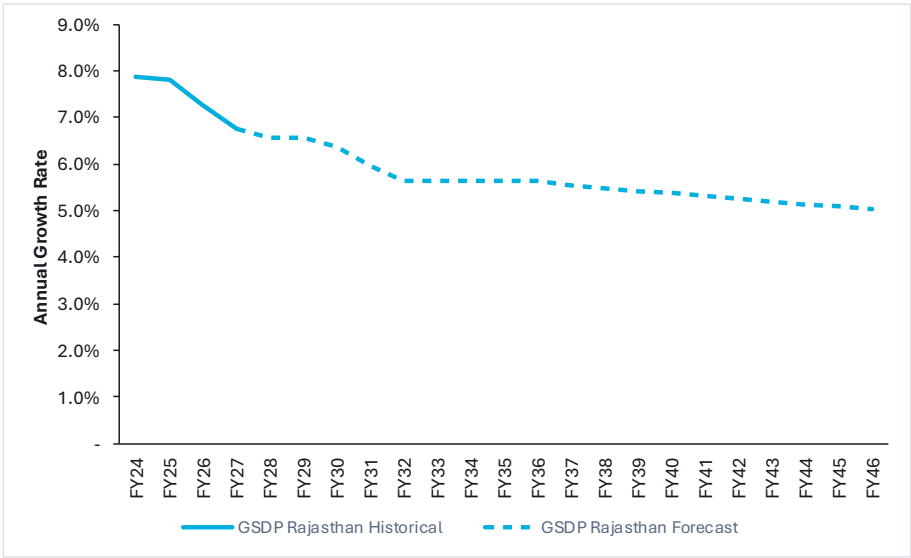


Source: Consensus Economics

State GSDP

- 5.15 The Rajasthan GSDP is expected to grow faster than the national GDP and is expected to start converging towards national average by 2037. The chart below shows the forecast growth lines for Rajasthan GSDP.

Figure 5.2: FY24-46 GSDP Rajasthan Forecast



Source: Consensus Economics; GSDP forecasts basis historical trends with respect to GDP

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
			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 April 2018 to March 2026. Therefore, to arrive at the SCF historical traffic on the asset has been analysed.
- 6.6 The below table presents the assumptions in SCF used to estimate the AADT:

Table 6.2: Adopted SCF: Lambiyan Kalan

Vehicle Class	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
CJV	1.14	1.11	1.06	1.06	0.97	1.11	1.04	0.94	0.89	0.89	0.89	1.01
LCV	1.02	1.03	1.00	1.04	1.07	1.02	1.03	1.00	0.96	0.99	0.91	0.95
Bus	1.04	1.04	1.06	1.07	1.04	1.04	1.02	0.97	0.93	0.95	0.92	0.97
2A	1.05	1.06	1.05	1.03	1.01	0.94	0.99	1.03	1.00	1.01	0.91	0.96
3A	1.00	1.05	1.04	1.07	1.06	0.98	1.01	1.00	0.98	0.97	0.91	0.96
MAV	1.03	1.03	1.04	1.09	1.11	1.01	1.02	0.99	0.94	0.96	0.90	0.93

Source: Steer analysis of various sources

Table 6.3: Adopted SCF: Jojro ka Kheda

Vehicle Class	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
CJV	1.04	1.03	1.01	1.05	1.00	1.11	1.08	1.00	0.92	0.92	0.91	0.99
LCV	0.99	1.03	1.00	1.05	1.07	1.03	1.02	1.02	0.96	1.00	0.92	0.94
Bus	0.99	0.98	1.00	1.05	1.03	1.06	1.01	1.00	0.95	0.99	0.97	0.99
2A	1.02	1.05	1.04	1.04	1.01	0.97	0.99	1.06	1.01	1.02	0.91	0.93
3A	0.98	1.02	1.00	1.06	1.03	0.99	1.02	1.05	0.99	1.01	0.92	0.96
MAV	1.00	1.01	1.01	1.07	1.08	1.03	1.02	1.04	0.96	0.98	0.91	0.93

Source: Steer analysis of various sources

Base year (FY27) traffic

FY27 AADT estimates are derived from established historical traffic trends and aligned with ongoing and planned network developments, indicating stable and sustainable growth across Plazas.

Table 6.4: Base Traffic FY27 Lambiya Kalan TP

Vehicle Category	FY26	FY27*	CAGR FY22-FY26	Growth FY25-26	Growth FY26-27
CJV	10,377	11,307	17.5%	24.9%	9.0%
LCV	885	912	9.6%	14.4%	3.0%
Buses	525	539	9.0%	19.3%	2.5%
2A	2,485	2,609	8.9%	8.0%	5.0%
3A	1,742	1,780	(0.6%)	9.4%	2.1%
MAV	5,265	5,606	3.7%	7.9%	6.5%
Total	21,283	22,757	10.0%	16.3%	6.9%
PCU	49,675	52,708	6.5%	11.8%	6.1%

Source: Steer Analysis

Table 6.5: Base Traffic FY27 Jojro ka Kheda

Vehicle Category	FY26	FY27*	CAGR FY22-FY26	Growth FY25-26	Growth FY26-27
CJV	9,653	10,510	16.9%	15.2%	8.9%
LCV	878	901	11.3%	5.7%	2.6%
Buses	451	474	7.8%	12.3%	5.2%
2A	2,597	2,728	12.6%	(0.1%)	5.0%
3A	1,977	2,040	2.5%	(1.2%)	3.1%
MAV	6,375	6,865	6.0%	2.4%	7.7%
Total	21,937	23,523	10.8%	7.3%	7.2%
PCU	54,759	58,505	8.2%	3.9%	6.8%

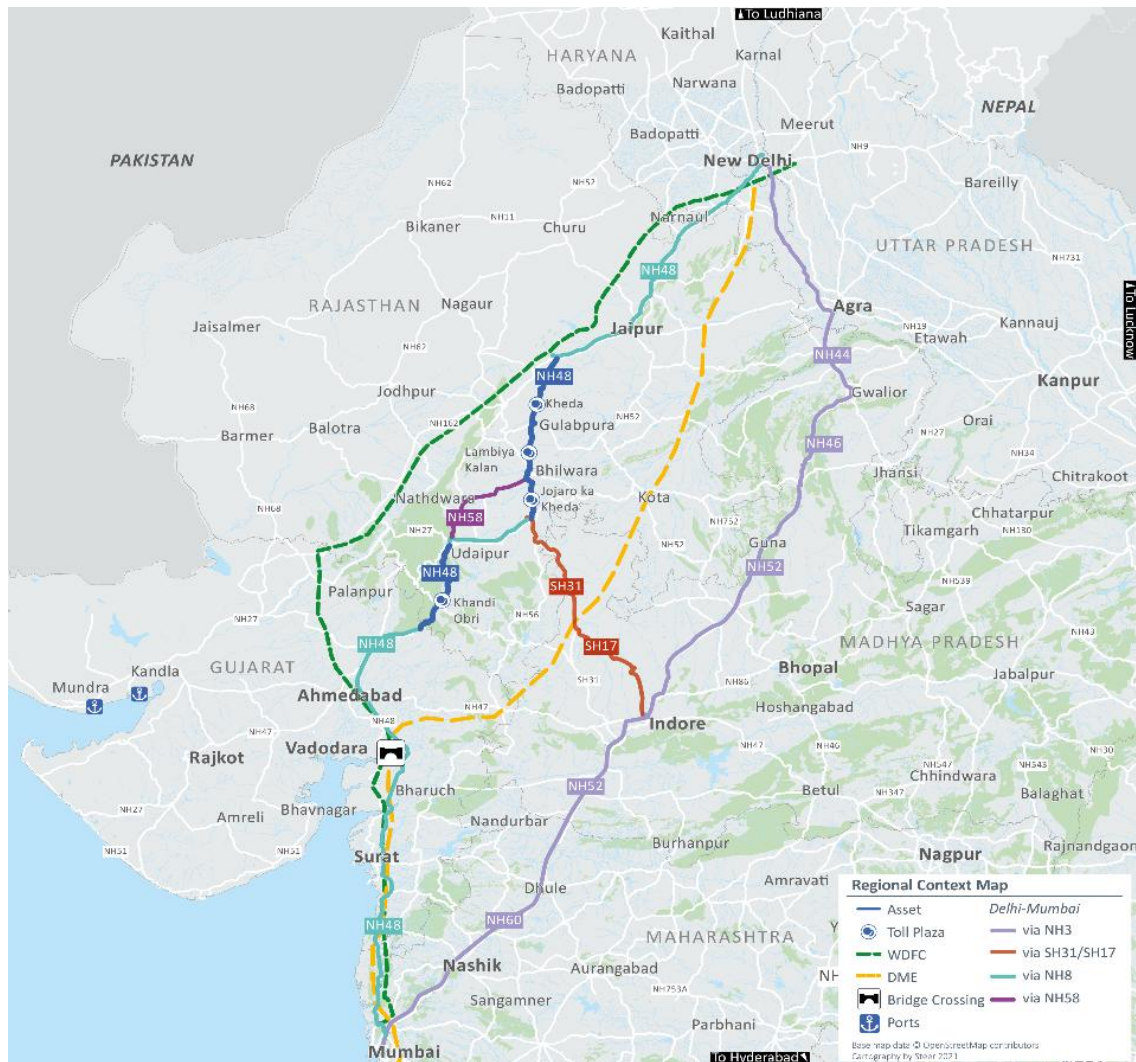
Source: Steer Analysis

Analysis of potential impacts

Summary of alternate routes and planned changes

- 6.7 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.

Figure 6.1: Asset route shown against the regional network context



Source: Steer analysis and cartography

Summary of impact assessments

6.8 The following table lists the impacts considered on the Asset.

Table 6.6: Summary of impact

Impact	Year of impact	Toll Plaza	Impact (+/-)
Delhi Mumbai Expressway Impact & Spur impact	FY27 onwards	Both toll plazas	-ve
Positive of Gangrar Bridge Opening	FY28 onwards	Jojro ka Kheda	+ve
Jaipur Ring Road Construction	FY28 to FY30	Both toll plazas	+ve
Ahmedabad Tharad Expressway in combination with Amritsar Jamnagar Exp	FY30 onwards	Both toll plazas	-ve

Impact	Year of impact	Toll Plaza	Impact (+/-)
Development of Bhilwara-Chittorgarh region as Delhi Mumbai Industrial Corridor node.	FY30 onwards	Both toll plazas	+ve
Completion of Bhim Flyover on the Bewaer Gomti Chauraha Stretch	FY36 onwards	Lambiya Kalan	-ve

Source: Steer analysis

- 6.9 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 FY26 AADT.

Delhi Mumbai Expressway Impact and Spur Impact

- 6.10 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 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 destined Vadodara and further south.
- 6.11 A few sections of the greenfield expressway have been made operational with Sohna - Dausa-Lalsot section (Feb'23), Madhya Pradesh section (Sep'23), Vadodara-Bharuch section (Feb'24), Lalsot-Sawai-Madhupur section (Feb'24) and the Kota-Bundi Section (Dec'24) already being operational. Subsequently, additional stretches in Gujarat - particularly between Bharuch and Navsari (Jan'26) and the wider Vadodara-Navsari corridors - have also been operational.
- 6.12 The project is currently suffering from construction delays, mainly on the Sawai-Madhupur and Mukundra stretch between Delhi and Kota and Gujarat stretch on the Delhi-Vadodara section. The timeline for completion of the expressway has been revised several times and is now expected to be completed by H1FY27.
- 6.13 Furthermore, the Government is developing Paniyala-Barodameo Expressway spur connecting the Trans-Haryana Expressway to the DME through a ~86 km, six-lane greenfield corridor. Upon completion, this corridor is expected to facilitate seamless connectivity for traffic originating from Haryana and destined towards south western India, thereby enhancing the overall attractiveness of the DME corridor.
- 6.14 The partial operational of DME has already resulted in a diversion of a portion of traffic that would have otherwise traversed the Asset. This diversion is expected to intensify with the completion of the remaining stretches of the DME as well as the commissioning of the Paniyala-Barodameo spur, which would provide an additional connectivity to DME for long-distance traffic.
- 6.15 The following phased negative impact has been considered to account for the traffic loss from the Asset due to the progressive development of the Delhi-Mumbai Expressway and the proposed spur. The impact has been assumed in three stages, with 40% of the total impact realised in FY27, increasing to 60% in FY28, and reaching full impact from FY30 onwards.

Table 6.7: Impact of Delhi Mumbai Expressway and Spur (%)

Toll Plaza	CJV	LCV	2A	3A	MAV
Lambiyar Kalan	-	(7.4%)	(6.7%)	(7.1%)	(5.6%)
Jojro Ka Kheda	-	(7.5%)	(6.4%)	(6.3%)	(4.6%)

Source: Steer Analysis

Gangrar Bridge Opening

- 6.16 NHAI is constructing a six-lane flyover at Gangrar, south of the Jojro ka Kheda toll plaza. While the construction is ongoing, localised congestion and traffic management measures are leading to temporary diversion of traffic at Gangrar, impacting traffic flow at the Jojro Ka Kheda toll plaza located north of Gangrar on the Asset stretch
- 6.17 Once operational, the upgraded bridge is expected to enable smoother and more reliable movement of commercial vehicles, particularly heavy traffic. This is likely to improve the attractiveness of NH-48 for long-haul freight movement, resulting in a slight increase in heavy commercial truck volumes and an overall improvement in the traffic mix on the Asset.
- 6.18 The positive impact on Jojro ka Kheda toll plaza is considered from FY28.

Table 6.8: Impact of Completion of Gangrar Bridge (%)

Toll Plaza	CJV	LCV	2A	3A	MAV
Jojro Ka Kheda	-	-	1.1%	0.5%	0.9%

Source: Steer Analysis

Jaipur Ring Road Construction

- 6.19 The Jaipur Ring Road, a 147-kilometer-long expressway encircling Jaipur, is being developed by the Jaipur Development Authority (JDA). Originally conceived by the PWD in December 2000 on a BOT basis, the project is being executed in three phases. Phase I involves the construction of a 47-kilometer stretch in the southern part of Jaipur, connecting Ajmer Road, Tonk Road, and Agra Road. Phase III will add a 97.75-kilometer segment in the northern part of Jaipur, linking Agra Road, Delhi Road, Sikar Road, and Ajmer Road.
- 6.20 We anticipate that the cement demand for this extensive construction will be catered by the Chittorgarh cement cluster, leading to a positive impact on the Asset. Given the scale of the project, we have factored in this impact over a three-year period from FY28 to FY30, during which we expect the construction to be completed.

Table 6.9: Jaipur Ring Road Construction (%)

Toll Plaza	CJV	LCV	2A	3A	MAV
Lambiyar Kalan	-	-	-	2.8%	2.7%
Jojro Ka Kheda	-	-	-	2.5%	2.3%

Source: Steer Analysis

Impact of Ahmedabad Tharad Expressway and Amritsar Jamnagar Expressway

- 6.21 The NHAI is constructing 1,257 km Amritsar-Jamnagar Expressway (NH-754A), a six-lane economic corridor originating at Tibba in Kapurthala district (Punjab) and terminating at Jamnagar (Gujarat). The alignment connects several key regional hubs, passing through Moga and Bathinda in Punjab, western Haryana (Sirsa district), a major section of Rajasthan including Hanumangarh, Bikaner, Jodhpur, and Jalore, and northern Gujarat through Banaskantha and Patan. A substantial portion of the corridor is already operational in Rajasthan from Hanumangarh to Jalore, which opened to traffic in July 2023. Sections currently under construction include the Amritsar-Bathinda greenfield link in Punjab and the remaining alignment connecting Santalpur to Jamnagar in Gujarat.
- 6.22 In addition, the Ahmedabad-Tharad Expressway, a ~214 km six-lane greenfield corridor, is proposed to connect Tharad in Banaskantha district to Ahmedabad via Patan, Mehsana and Gandhinagar. This corridor will provide a direct and high-speed link between northern Gujarat and the Ahmedabad urban region, further strengthening regional connectivity.
- 6.23 Once operational, these corridors together are expected to provide an alternative high-speed route for long-distance traffic originating from Himachal Pradesh, Jammu & Kashmir, and western Haryana and destined towards Ahmedabad and regions further south. A portion of this traffic, which would otherwise traverse NH-48, is likely to shift to these expressways, resulting in a potential traffic loss on the overall NH-48 corridor, including the Asset.
- 6.24 The negative impact on the Asset has been considered in a two-phase manner, with 20% of the impact assumed in FY31 and the full impact realised from FY32 onwards.

Table 6.10: ATE in combination with AJE (%)

Toll Plaza	CJV	LCV	2A	3A	MAV
Lambiyar Kalan	-	(2.3%)	(3.7%)	(3.6%)	(3.6%)
Jojro Ka Kheda	-	(2.4%)	(3.5%)	(3.2%)	(3.0%)

Source: Steer Analysis

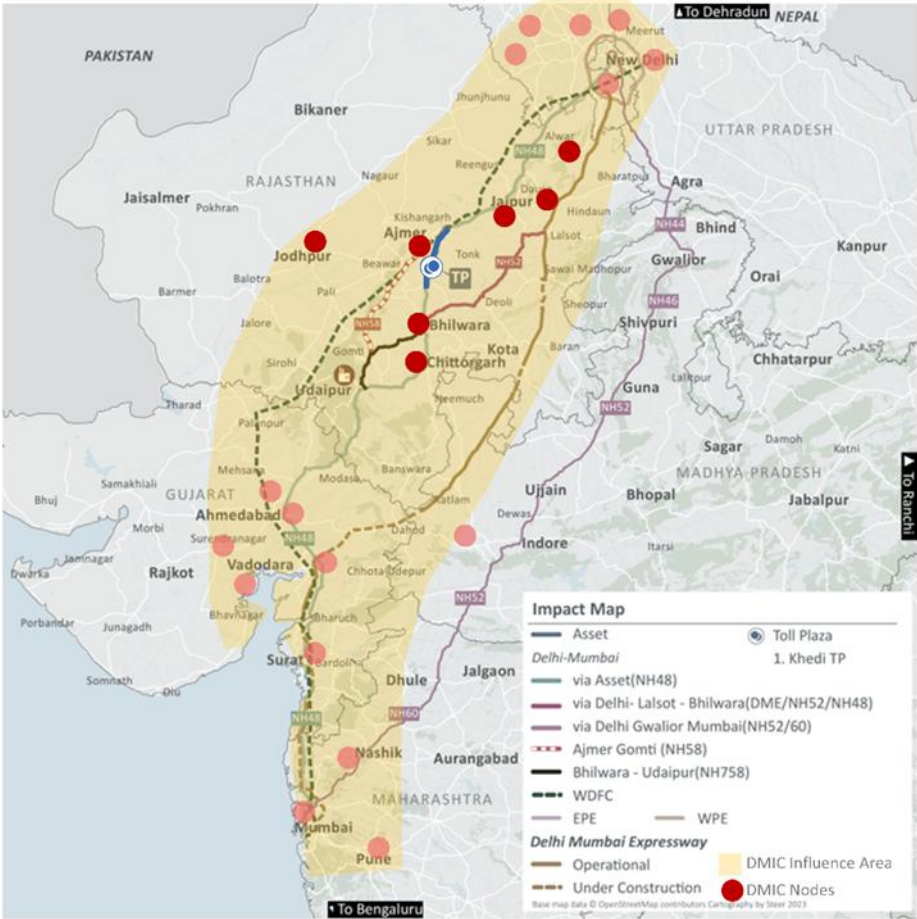
Development of Bhilwara-Chittorgarh region as Delhi Mumbai Industrial Corridor node

- 6.25 The Government of India is spearheading the development of the Delhi-Mumbai Industrial Corridor (DMIC), a landmark infrastructure initiative designed to bolster industrial growth and improve logistics efficiency across a strategically important region. Spanning approximately 1,504 kilometers, the corridor follows the Western Dedicated Freight Corridor (DFC) and traverses the states of Uttar Pradesh, Delhi NCR, Haryana, Rajasthan, Gujarat, and Maharashtra. It connects two critical economic hubs: Dadri in Delhi NCR and Jawaharlal Nehru Port (JNPT) near Mumbai, forming a robust freight and industrial backbone.
- 6.26 The DMIC project aims to establish smart, sustainable industrial cities with a focus on high-speed, high-capacity connectivity provided by the DFC. This initiative is expected to significantly reduce logistics costs and foster a favourable policy environment to attract investments and drive industrial growth. It represents a transformative step in enhancing

India’s manufacturing and export capabilities while positioning the region as a global manufacturing hub.

6.27 The map below shows the DMIC influence areas, and the industrial nodes present near the Asset.

Table 6.11: Impact Map of DMIC



Source: Steer Cartography

- 6.28 According to the Delhi-Mumbai Industrial Corridor Development Corporation (DMICDC), several industrial nodes and supporting infrastructure projects are planned within the influence area of the corridor. Key developments, including dry ports, inland container depots (ICDs), and logistics hubs, are expected to emerge near strategic locations such as Bhilwara, Chittorgarh, and Jodhpur.
- 6.29 These initiatives are likely to stimulate industrial activity and boost freight movement, contributing to increased traffic on the surrounding road and rail networks. The integration of these industrial nodes with the DMIC is anticipated to transform the economic landscape of the region, positioning it as a critical engine for India's future growth.
- 6.30 The positive impact of DMIC is considered FY30 onwards in a phased manner and reaching full impact FY34 onwards.

Table 6.12: DMIC node (%)

Toll Plaza	CJV	LCV	2A	3A	MAV
Lambiyan Kalan	-	-	1.9%	1.4%	1.3%
Jojro Ka Kheda	-	-	1.0%	-	1.5%

Source: Steer Analysis

Completion of Bhim Flyover on the Bewaer Gomti Chauraha Stretch

- 6.31 NH-52 serves as an alternative route to the Asset (NH-48) along the stretch from Kishangarh to Udaipur. The authorities are currently developing a flyover near Bhim on the Beawar–Gomti Chauraha stretch along NH-52.
- 6.32 Upon completion, the flyover is expected to improve the level of service on this corridor by easing congestion and enabling smoother traffic movement, particularly for commercial vehicles. This is likely to enhance the attractiveness of NH-52 as an alternative route, resulting in a potential diversion of traffic from the Asset.
- 6.33 Traffic travelling between Kishangarh and Udaipur via the Asset traverses the Lambiya Kalan toll plaza located between Kishangarh and Bhilwara. Any diversion of such traffic to alternative routes is therefore expected to result in traffic loss at this northern toll plaza.
- 6.34 The negative impact of the flyover has been considered in a two-phase manner, with 50% of the impact assumed in FY27 and the full impact realised from FY28 onwards.

Toll Plaza	CJV	LCV	2A	3A	MAV
Lambiyan Kalan	-	-	(1.5%)	(1.0%)	(1.0%)

Source: Steer Analysis

- 6.35 All the impacts assumed are summarised in the table below:

	CJV	LCV	2A	3A	MAV
DME impact and spur impact					
Lambiyan Kalan		(7.4%)	(6.7%)	(7.1%)	(5.6%)
Jojro Ka Kheda		(7.5%)	(6.4%)	(6.3%)	(4.6%)
Gangrar Bridge					
Lambiyan Kalan					
Jojro Ka Kheda			1.1%	0.5%	0.9%
Jaipur Ring Road					
Lambiyan Kalan				2.8%	2.7%
Jojro Ka Kheda				2.5%	2.3%
AJE in combination with ATE					
Lambiyan Kalan		(2.3%)	(3.7%)	(3.6%)	(3.6%)
Jojro Ka Kheda		(2.5%)	(3.5%)	(3.2%)	(3.0%)
DMIC					
Lambiyan Kalan			1.9%	1.4%	1.3%

	CJV	LCV	2A	3A	MAV
Jojro Ka Kheda			1.0%		1.5%
Bhim Flyover					
Lambiyar Kalan			(1.5%)	(1.0%)	(1.0%)
Jojro Ka Kheda					

Source: Steer Analysis

Revenue forecasting assumptions

- 6.36 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

- 6.37 As discussed in chapter 3, a user can buy 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.
- 6.38 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 FY26 data available and listed in the table below:

Table 6.13: Trip factors for the forecast years - Jojaro Ka Kheda

Ticket category	CJV	LCV	Bus	2A	3A	MAV
Single	1	1	1	1	1	1
Return	2	2	2	2	2	2
Monthly	50	50	50	50	50	50
Local commercial	1	1	1	1	1	1
Local personal	30	1	1	1	1	1
Local monthly	30	40	30	30	30	30
Violations	1	1	1	1	1	1
Exemptions	1	1	1	1	1	1
Annual Pass	1	1	1	1	1	1

Source: Steer analysis of Client TMS data

Table 6.14: Trip factors for the forecast years - Lambiya Kalan

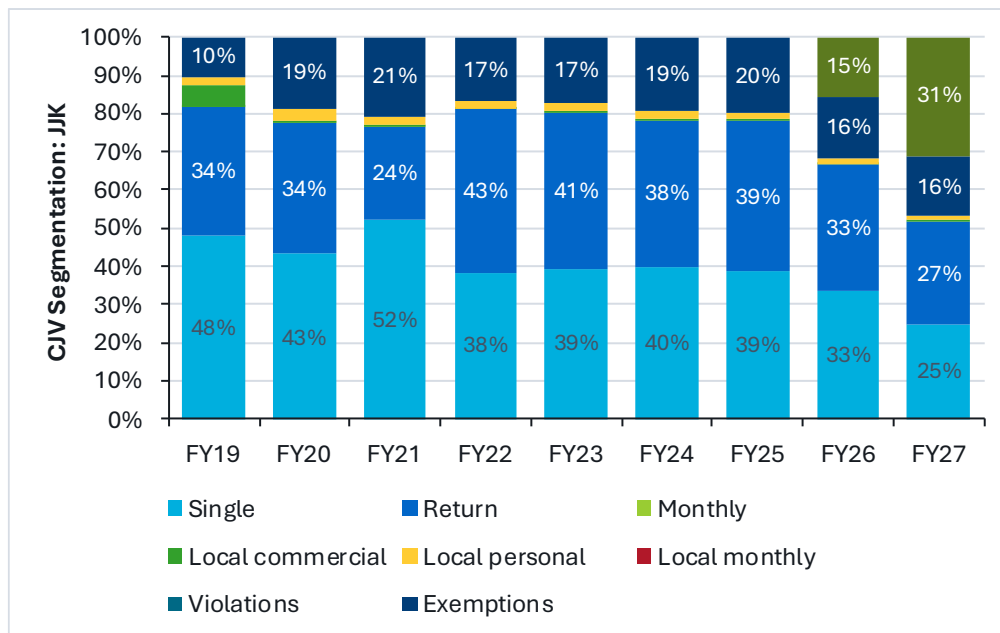
Ticket category	CJV	LCV	Bus	2A	3A	MAV
Single	1	1	1	1	1	1
Return	2	2	2	2	2	2
Monthly	50	40	25	44	50	50
Local commercial	1	1	1	1	1	1
Local personal	49	1	1	1	1	1
Local monthly	30	40	25	30	30	30
Violations	1	1	1	1	1	1
Exemptions	1	1	1	1	1	1
Annual Pass	1	1	1	1	1	1

Source: Steer analysis of Client TMS data

Toll segmentation

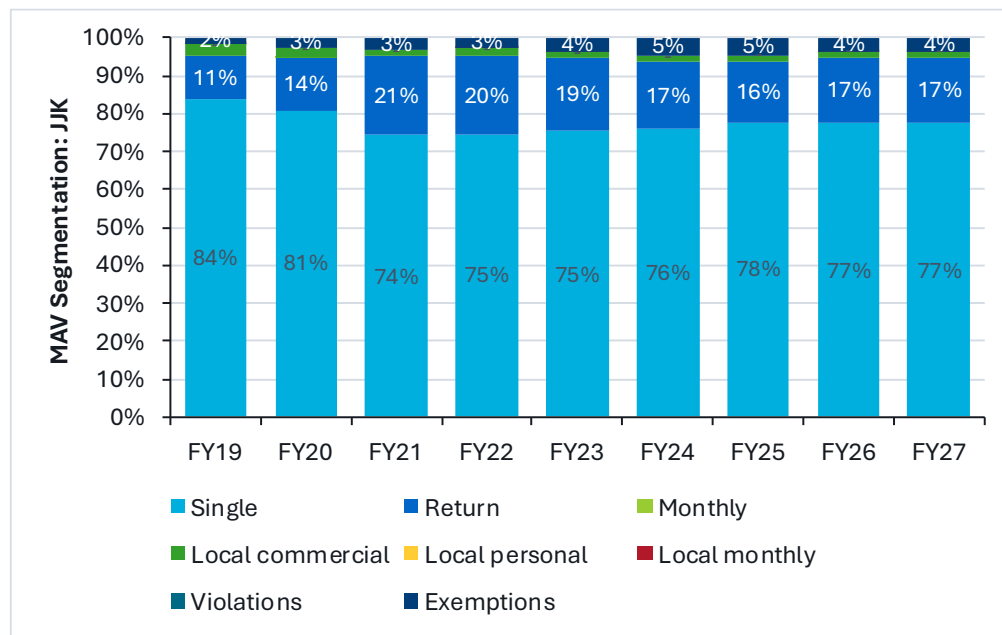
- 6.39 Toll segmentation on the Asset has been discussed in detail in chapter 3.
- 6.40 The toll segmentation adopted in the future years for calculating revenue is presented below for all the vehicle types and toll plazas.

Figure 6.2: CJV toll segmentation evolution - Jojaro Ka Kheda



Source: Steer analysis

Figure 6.3: MAV toll segmentation evolution - Jojaro Ka Kheda



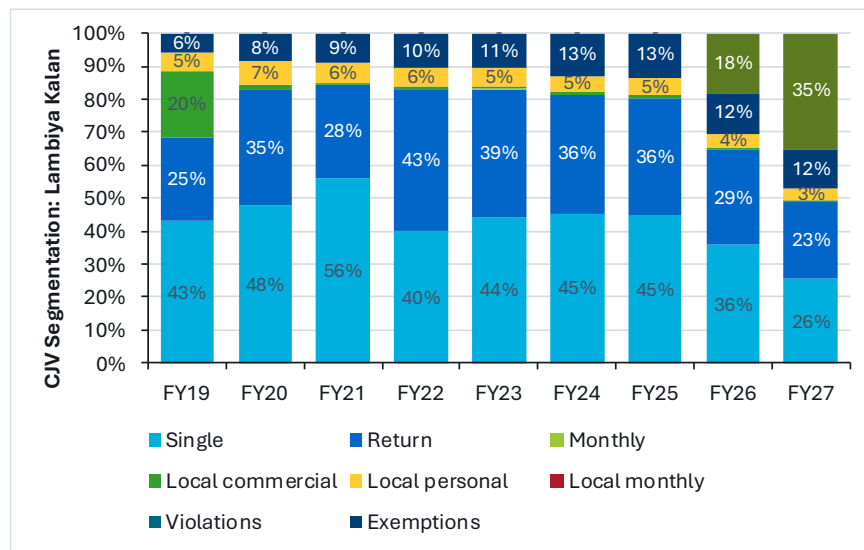
Source: Steer analysis

Table 6.15: Toll segmentation FY27 onwards - Jojaro Ka Kheda

Jojaro ka Kheda	CJV	Buses	LCV	2A	3A	MAV
Single	24.8%	32.2%	78.3%	91.0%	90.2%	77.3%
Return	26.9%	64.1%	9.5%	8.3%	4.5%	17.5%
Monthly	-	-	-	-	-	-
Local commercial	0.4%	0.4%	7.0%	0.2%	0.5%	1.6%
Local personal	1.0%	-	-	-	-	-
Local monthly	-	2.0%	3.5%	0.0%	-	0.0%
Violations	-	-	-	-	-	-
Exemptions	15.9%	1.4%	1.7%	0.6%	4.8%	3.6%
Annual Pass	31.1%	-	-	-	-	-

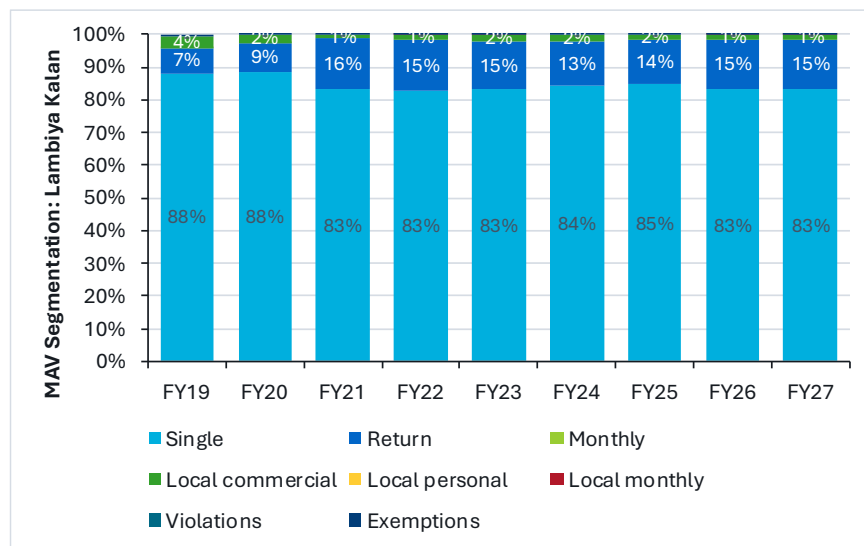
Source: Steer analysis of Client TMS data

Figure 6.4: CJV toll segmentation evolution - Lambiya Kalan



Source: Steer analysis

Figure 6.5: MAV toll segmentation evolution - Lambiya Kalan



Source: Steer analysis

Table 6.16: Toll segmentation FY27 onwards - Lambiya Kalan

Lambiya Kalan	CJV	Buses	LCV	2A	3A	MAV
Single	25.6%	27.8%	79.0%	86.8%	91.6%	83.4%
Return	23.2%	64.7%	14.0%	11.4%	6.2%	15.0%
Monthly	-	-	-	-	-	-
Local commercial	0.8%	1.2%	2.4%	1.4%	1.6%	1.5%
Local personal	3.4%	-	-	-	-	-
Local monthly	-	5.1%	3.2%	0.0%	-	0.0%
Violations	-	-	-	-	-	-
Exemptions	12.0%	1.3%	1.4%	0.4%	0.6%	0.2%

Lambiya Kalan	CJV	Buses	LCV	2A	3A	MAV
Annual Pass	35.0%	-	-	-	-	-

Source: Steer analysis of Client TMS data

Toll evolution

- 6.41 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 FY26 toll notifications to validate the modelling of the toll evolution. These existing toll lengths are presented in the table below:

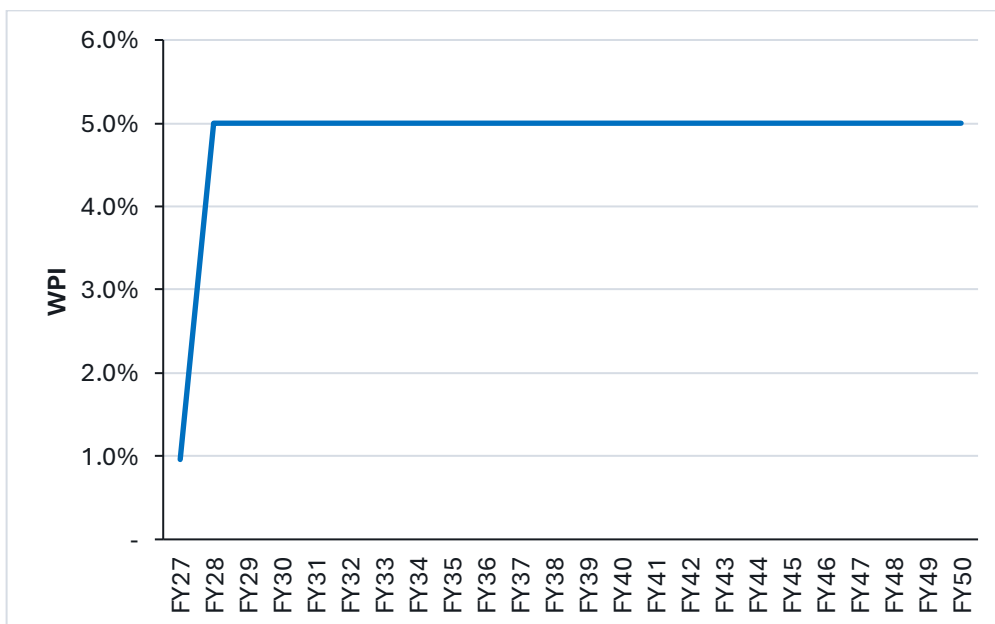
Table 6.17: Tolling lengths for toll evolution

Length (km)	Toll Lengths (FCOD)	
	Jojro Ka Kheda	Lambiya Kalan
Road length excluding bypass	61.728	61.815
Structure on road	0.792	0.535
Converted length of structures	7.923	5.349
Net Tollable length	69.651	67.164

Source: Steer analysis of toll notifications and concession agreement (CA)

- 6.42 The Figure 6.11 shows client provided WPI projections for India. The forecasts expect the Indian WPI to grow at an average of 5.0% FY28 onwards. The WPI forecasts available from other independent forecasting agencies may vary from this assumption and could be lower or higher than that provided by the client.

Figure 6.6: WPI growth forecast assumptions



Source: Based on the client input

Revenue reconciliation

- 6.43 As part of validating the data provided by the Client, as well as our assumptions around toll calculations, we have reconciled the actual reported revenue against the modelled revenue. For the Asset we have reconciled daily level reported revenue for FY26 with the modelled revenue based on FY26YTD MADT and forecast assumptions on toll segmentation, trip factors and toll rates.
- 6.44 The comparison, as shown in Table 6.18 below, shows that modelled revenue overall is within a variation of 0.7% and (0.1%) on Jojro ka Kheda and Lambiya Kalan, respectively from the reported revenue. This gives us confidence that the revenues estimated using the traffic data in our forecasts are accurately representing the revenues being reported from the Asset.
- 6.45 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 6.18: Revenue reconciliation summary for

Toll Plaza	Steer modelled revenue (INR Cr)	Reported revenue (INR Cr)	Delta (%)
Lambiya Kalan	194.3	194.6	(0.1%)
Jojro ka Kheda	218.7	217.2	0.7%

Source: Steer comparison between modelled and reported revenue

Traffic and Revenue forecasts

PCU factor assumption for forecasts

- 6.46 The PCU factors considered are given in the table below.

Table 6.19: PCU factors

Vehicle Category	PCU Factor
CJV	1.0
LCV	1.5
Bus/2A/3A	3.0
MAV/OSV	4.5

Source: Steer analysis

- 6.47 Based on the traffic and revenue-related forecast assumptions discussed above, we have modelled the traffic and revenue forecasts for the concession length of the Asset. The table below presents the AADT/PCU and revenue forecast growth rates and CAGRs on this Asset. Further, Appendix B presents the AADT and revenues for the concession period.

Jojro ka Kheda

Table 6.20: Traffic forecast (with impact) for Jojro Ka Kheda

Vehicle Type	FY25	FY26	FY27	FY30	FY32	FY35	FY40	FY42
CJV	7,171	8,263	8,996	11,370	12,959	15,544	20,874	23,383
Mini LCV	1,206	1,390	1,513	1,697	1,818	2,009	2,363	2,515
Bus	401	451	474	522	552	601	688	725

LCV	831	878	885	948	1,003	1,091	1,249	1,316
2A	2,599	2,597	2,628	3,008	3,184	3,647	4,521	4,911
3A	2,001	1,977	1,978	2,011	1,914	1,946	2,000	2,021
MAV	6,229	6,375	6,677	8,144	8,598	10,029	12,761	14,004
AADT	20,439	21,932	23,151	27,700	30,029	34,866	44,456	48,876
PCU's	52,657	54,736	57,121	67,761	71,925	82,899	1,04,161	1,13,863

Source: Steer analysis

Table 6.21: Traffic CAGR (%) for Jojro ka Kheda

Vehicle Type	FY26-FY27	FY27-FY30	FY30-FY32	FY32-FY35	FY35-FY40	FY26-FY42
CJV	8.9%	8.1%	6.8%	6.2%	6.1%	6.7%
Mini LCV	8.9%	3.9%	3.5%	3.4%	3.3%	3.8%
Bus	5.2%	3.2%	2.9%	2.8%	2.7%	3.0%
LCV	0.8%	2.3%	2.9%	2.8%	2.7%	2.6%
2A	1.2%	4.6%	2.9%	4.6%	4.4%	4.1%
3A	0.0%	0.5%	(2.4%)	0.6%	0.5%	0.1%
MAV	4.7%	6.8%	2.7%	5.3%	4.9%	5.0%
AADT	5.6%	6.2%	4.1%	5.1%	5.0%	5.1%
PCU's	4.4%	5.9%	3.0%	4.8%	4.7%	4.7%

Source: Steer analysis

Table 6.22: Revenue forecast (with impacts) for Jojro Ka Kheda

Vehicle Type	FY25	FY26	FY27	FY28	FY32	FY35	FY40	FY42
CJV	19.2	23.9	26.9	38.8	49.5	67.7	119.1	146.4
Mini LCV	0.0	3.7	4.2	5.4	6.5	8.1	12.5	14.6
Bus	4.7	4.9	5.3	6.8	7.9	10.0	14.8	17.2
LCV	4.7	5.1	5.3	6.7	7.8	9.7	14.4	16.9
2A	32.5	33.7	34.8	46.4	54.4	72.1	115.9	138.9
3A	26.4	27.1	27.8	32.9	34.4	40.7	54.3	60.7
MAV	113.3	120.2	129.3	182.5	213.5	288.8	476.0	577.8
Total Revenue	200.8	218.7	233.7	319.3	373.9	497.1	807.0	972.6

Source: Steer analysis

Lambiya Kalan

Table 6.23: Traffic forecast (with impacts) for Lambiya Kalan

Vehicle Type	FY25	FY26	FY27	FY30	FY32	FY35	FY40	FY42
CJV	7,111	8,882	9,679	12,233	13,942	16,723	22,458	25,158
Mini LCV	1,196	1,494	1,628	1,826	1,956	2,162	2,542	2,706
Bus	440	525	539	593	628	683	782	824
LCV	774	885	901	974	1,031	1,121	1,284	1,353
2A	2,300	2,485	2,519	2,795	2,962	3,408	4,224	4,589
3A	1,592	1,742	1,720	1,722	1,635	1,672	1,719	1,737
MAV	4,880	5,265	5,453	6,485	6,757	7,878	10,024	11,000
AADT	18,294	21,278	22,439	26,627	28,911	33,647	43,033	47,367
PCU's	44,425	49,652	51,531	60,031	63,526	73,305	92,208	1,00,843

Source: Steer analysis

Table 6.24: Traffic CAGR (%) for Lambiya Kalan

Vehicle Type	FY26-FY27	FY27-FY30	FY30-FY32	FY32-FY35	FY35-FY40	FY26-FY42
CJV	9.0%	8.1%	6.8%	6.2%	6.1%	6.7%
Mini LCV	9.0%	3.9%	3.5%	3.4%	3.3%	3.8%
Bus	2.5%	3.2%	2.9%	2.8%	2.7%	2.9%
LCV	1.8%	2.6%	2.9%	2.8%	2.7%	2.7%
2A	1.4%	3.5%	2.9%	4.8%	4.4%	3.9%
3A	(1.3%)	0.0%	(2.6%)	0.8%	0.5%	(0.02%)
MAV	3.6%	5.9%	2.1%	5.2%	4.9%	4.7%
AADT	5.5%	5.9%	4.2%	5.2%	5.0%	5.1%
PCU's	3.8%	5.2%	2.9%	4.9%	4.7%	4.5%

Source: Steer analysis

Table 6.25: Revenue forecast (with impacts) for Lambiya Kalan

Vehicle Type	FY25	FY26	FY27	FY30	FY32	FY35	FY40	FY42
CJV	19.5	25.1	28.4	41.2	52.8	72.9	126.3	158.4
Mini LCV	0.0	4.2	4.4	5.7	6.8	8.7	13.2	15.7
Bus	4.6	5.3	5.6	7.1	8.4	10.5	15.6	18.2
LCV	4.4	5.1	5.3	6.6	7.7	9.8	14.6	17.0
2A	27.5	30.7	32.0	41.1	48.4	64.1	103.2	124.1
3A	21.0	23.6	23.9	27.7	29.3	34.8	46.1	51.5

MAV	91.0	100.3	106.8	147.5	169.7	229.3	377.7	458.1
Total Revenue	168.0	194.3	206.5	276.8	323.1	430.1	696.7	842.9

Source: Steer analysis

Summary outlook

- 6.48 Being part of the GQ NH48 corridor, the Asset 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 JNPT port.
- 6.49 The Asset 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 Asset 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.
- 6.50 Bhilwara, just south of the Asset, is India's largest fabric manufacturing hub in the country and generates demand on the Asset, 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.
- 6.51 The Asset also witnesses freight movement from key industrial clusters in the vicinity, particularly cement manufacturing units in Chittorgarh and Nimbahera and mining activities in Bhilwara and Udaipur.
- 6.52 The Asset also benefits from tourism and religious traffic, with key destinations such as Udaipur, Chittorgarh, Nathdwara, and Kumbalgarh in the vicinity attracting steady passenger vehicle movement throughout the year.
- 6.53 The Asset's traffic is primarily freight-driven, with CJVs and MAVs forming the dominant share and underpinning toll revenues. Traffic declined during FY20-FY21 due to construction and COVID-19 impacts, followed by recovery in FY22-FY23 supported by improved connectivity and economic growth, albeit partially offset by diversion to the Delhi-Mumbai Expressway. In FY26, traffic rebounded on account of stabilizing diversion patterns, favourable economic conditions, and growth in passenger vehicle movement driven by tourism and policy support.
- 6.54 We have undertaken a detailed assessment of the risks which envelope the central case forecasts provided in the main section of the report. These risks are summarised below.
- Assumptions on key inputs such as GDP (which remains a major input to traffic growth), can vary basis various factors which include both local macroeconomic risks and can be affected by global geopolitical developments. These variations can influence both short-medium- and long-term forecasts. For example, GDP growth could be influenced both positively and negatively by the impact of

monsoons in the short term, and export-import balances, political changes in the medium long term.

- Elasticity assumptions for each vehicle type can be influenced by increased efficiencies achieved by technology, large shifts in commodity prices globally, changes in local manufacturing practices and ultimately the traffic response to economic growth.
- WPI assumptions could also vary in same measure with respect to central case forecasts. As seen in the recent past inflation may be influenced significantly by monsoon cycles, global economic cycles, and other factors such as currency fluctuations resulting in price fluctuations and as a result affect consumption patterns in the short and medium term.
- The value that has been assumed for the above key factors (GDP, elasticity, WPI) is based on a long-term average projection. The actual year on year values that observed could vary from that assumed in the forecast.
- In our view, the macro inputs and growth risks are the largest drivers in the medium to long term and the local risks are the largest driver of variation in traffic forecasts in the short term.

6.55 With regards to impacts, we see the following risks:

- The impact of the DME, along with the proposed spur connectivity, on the Asset will largely depend on the timely completion of the remaining sections. In our assessment, we anticipate a phased diversion of long-distance traffic reaching full impact from FY30 onwards given the history of delays. However, the timing of diversion may vary from current assumptions due to project completion timelines.
- We expect the completion of the flyover at Gangarar and lifting of temporary diversion may improve traffic conditions on the Asset supporting freight movement at the Jojro ka Kheda toll plaza.
- We anticipate a positive impact from the Jaipur Ring Road construction, with material movement, particularly cement from the Chittorgarh cluster likely to be routed via the Asset during the construction phase. However, infrastructure projects of this scale is subject to implementation delays and variability in execution timelines, which may affect the duration and magnitude of the impact.
- The development of alternate corridors such as the Ahmedabad-Tharad Expressway in conjunction with the Amritsar-Jamnagar Expressway is expected to introduce competing route options for long-distance traffic. However, the extent of diversion to these routes will depend on their completion timelines, relative travel efficiency, and user adoption patterns.
- We expect the development of the Bhilwara-Chittorgarh region as part of the Delhi-Mumbai Industrial Corridor (DMIC) to drive incremental freight movement on the Asset over the medium to long term. That said, such large-scale industrial developments are contingent on policy support and investment flows which could impact the realisation of these benefits.
- The completion of the flyover at Bhim on the Beawar-Gomti Chauraha stretch is expected to improve the attractiveness of the alternate NH-52 corridor, potentially leading to some diversion of traffic, particularly at the Lambiyan Kalan toll plaza.

6.56 In the above new route choices being made available to the user the magnitude of diversion can be both higher and lower which will be dependent on the choices made by the user.

- 6.57 In discussions with the client, we have presented a range of scenarios where such risks have been evaluated, and the results have been shared with the client.
- 6.58 We see a positive outlook for the region in the Asset 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 Asset 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.
- 6.59 Under the based case forecast, traffic (PCUs) at Lambiya Kalan Toll Plaza is projected to grow at a CAGR of **4.5%** between FY26 and FY42. At Jojro ka Kheda Toll Plaza, traffic (PCUs) is projected to grow at a CAGR of **4.7%**.
- 6.60 Despite the risks of Delhi Mumbai expressway, we believe that the Asset has a robust traffic profile and connects 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 term. 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 3A and MAVs combined below.

Table A.1: 3A/MAV top 10 OD pair shares for Jojaro Ka Kheda

	OD Pair	Share
1.	Bhilwara city-Chottorgarh city including RIICO Chittorgarh	5%
2.	Mumbai-NCT of Delhi	3%
3.	Ahmedabad-NCT of Delhi	2%
4.	Ahmedabad-Haryana	2%
5.	Chottorgarh city including RIICO Chittorgarh-Jaipur	2%
6.	Mumbai-Haryana	2%
7.	Bhilwara city-Ahmedabad	2%
8.	Jaipur-Udaipur	2%
9.	Chottorgarh city including RIICO Chittorgarh-Haryana	2%
10.	Jaipur-Ahmedabad	2%

Source: Steer analysis

Table A.2: 3A/MAV top 10 OD pair shares for Lambiya Kalan

	OD Pair	Share
1.	Bhilwara city-Jaipur	5%
2.	Bhilwara city-Ajmer	5%
3.	Jaipur-Ahmedabad	3%
4.	Raila-Bhilwara city	3%
5.	Chottorgarh city including RIICO Chittorgarh-Jaipur	3%
6.	Ahmedabad-NCT of Delhi	2%
7.	Mumbai-NCT of Delhi	2%
8.	Bhilwara city-NCT of Delhi	2%
9.	Jaipur-Udaipur	2%
10.	Jaipur-Mumbai	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

B.2 The following table presents the year-wise annual traffic forecasts for the forecast period until FY42.

Jojro ka Kheda

Table B.1: Forecasts for final (background + impacts) AADT – Jojro ka Kheda

Vehicle Type	CJV	Mini LCV	LCV	Buses	2A	3A	MAV	Total	PCU
FY26	8,263	1,390	878	451	2,597	1,977	6,375	21,932	54,736
FY27	8,996	1,513	885	474	2,628	1,978	6,677	23,151	57,121
FY28	9,749	1,573	906	490	2,791	2,037	7,341	24,886	61,666
FY29	10,548	1,635	918	506	2,858	1,998	7,662	26,125	64,124
FY30	11,370	1,697	948	522	3,008	2,011	8,144	27,700	67,761
FY31	12,171	1,758	976	537	3,134	1,957	8,365	28,899	69,921
FY32	12,959	1,818	1,003	552	3,184	1,914	8,598	30,029	71,925
FY33	13,769	1,879	1,032	568	3,334	1,924	9,060	31,567	75,447
FY34	14,630	1,943	1,061	584	3,491	1,935	9,547	33,191	79,158
FY35	15,544	2,009	1,091	601	3,647	1,946	10,029	34,866	82,899
FY36	16,515	2,077	1,122	618	3,811	1,957	10,534	36,634	86,834
FY37	17,527	2,146	1,153	635	3,980	1,968	11,059	38,468	90,916
FY38	18,589	2,217	1,185	652	4,154	1,979	11,605	40,381	95,163
FY39	19,704	2,289	1,217	670	4,335	1,989	12,173	42,377	99,576
FY40	20,874	2,363	1,249	688	4,521	2,000	12,761	44,456	1,04,161
FY41	22,100	2,438	1,283	706	4,713	2,011	13,371	46,622	1,08,922
FY42	23,383	2,515	1,316	725	4,911	2,021	14,004	48,876	1,13,863

Source: Steer Analysis

Table B.2: Growth Rates –Jojro ka Kheda

Vehicle Type	CJV	Mini LCV	LCV	Buses	2A	3A	MAV	Total	PCU
FY27	8.9%	8.9%	0.8%	5.2%	1.2%	0.0%	4.7%	5.6%	4.4%
FY28	8.4%	3.9%	2.3%	3.3%	6.2%	3.0%	9.9%	7.5%	8.0%

Vehicle Type	CJV	Mini LCV	LCV	Buses	2A	3A	MAV	Total	PCU
FY29	8.2%	3.9%	1.4%	3.3%	2.4%	(1.9%)	4.4%	5.0%	4.0%
FY30	7.8%	3.8%	3.2%	3.2%	5.3%	0.6%	6.3%	6.0%	5.7%
FY31	7.0%	3.6%	3.0%	3.0%	4.2%	(2.7%)	2.7%	4.3%	3.2%
FY32	6.5%	3.4%	2.8%	2.8%	1.6%	(2.2%)	2.8%	3.9%	2.9%
FY33	6.2%	3.4%	2.8%	2.8%	4.7%	0.6%	5.4%	5.1%	4.9%
FY34	6.2%	3.4%	2.8%	2.8%	4.7%	0.6%	5.4%	5.1%	4.9%
FY35	6.2%	3.4%	2.8%	2.8%	4.5%	0.6%	5.0%	5.0%	4.7%
FY36	6.2%	3.4%	2.8%	2.8%	4.5%	0.6%	5.0%	5.1%	4.7%
FY37	6.1%	3.3%	2.8%	2.8%	4.4%	0.6%	5.0%	5.0%	4.7%
FY38	6.1%	3.3%	2.7%	2.7%	4.4%	0.5%	4.9%	5.0%	4.7%
FY39	6.0%	3.3%	2.7%	2.7%	4.3%	0.5%	4.9%	4.9%	4.6%
FY40	5.9%	3.2%	2.7%	2.7%	4.3%	0.5%	4.8%	4.9%	4.6%
FY41	5.9%	3.2%	2.7%	2.7%	4.3%	0.5%	4.8%	4.9%	4.6%
FY42	5.8%	3.2%	2.6%	2.6%	4.2%	0.5%	4.7%	4.8%	4.5%

Source: Steer Analysis

Lambiya Kalan

Tabel B.3: Traffic Projections for TP: Lambiya Kalan

Vehicle Type	CJV	Mini LCV	LCV	Buses	2A	3A	MAV	Total	PCU
FY26	8,882	1,494	885	525	2,485	1,742	5,265	21,278	49,652
FY27	9,679	1,628	901	539	2,519	1,720	5,453	22,439	51,531
FY28	10,489	1,692	925	556	2,593	1,746	5,872	23,873	54,677
FY29	11,349	1,759	944	575	2,650	1,706	6,102	25,084	56,774
FY30	12,233	1,826	974	593	2,795	1,722	6,485	26,627	60,031
FY31	13,095	1,891	1,003	611	2,916	1,673	6,616	27,805	61,863
FY32	13,942	1,956	1,031	628	2,962	1,635	6,757	28,911	63,526
FY33	14,814	2,022	1,060	646	3,108	1,649	7,119	30,418	66,669
FY34	15,740	2,091	1,090	664	3,262	1,663	7,500	32,009	69,980
FY35	16,723	2,162	1,121	683	3,408	1,672	7,878	33,647	73,305
FY36	17,769	2,235	1,153	702	3,560	1,682	8,275	35,375	76,801
FY37	18,857	2,309	1,185	721	3,718	1,691	8,687	37,169	80,429
FY38	20,000	2,385	1,217	741	3,882	1,700	9,116	39,042	84,204
FY39	21,200	2,463	1,250	761	4,050	1,710	9,562	40,996	88,129
FY40	22,458	2,542	1,284	782	4,224	1,719	10,024	43,033	92,208
FY41	23,777	2,623	1,318	803	4,404	1,728	10,503	45,156	96,445
FY42	25,158	2,706	1,353	824	4,589	1,737	11,000	47,367	1,00,843

Source: Steer Analysis

Table B.4: Traffic Growth Rates for TP: Lambiya Kalan

Vehicle Type	CJV	Mini LCV	LCV	Buses	2A	3A	MAV	Total	PCU
FY27	9.0%	9.0%	1.8%	2.5%	1.4%	(1.3%)	3.6%	5.5%	3.8%
FY28	8.4%	3.9%	2.7%	3.3%	2.9%	1.5%	7.7%	6.4%	6.1%
FY29	8.2%	3.9%	2.0%	3.3%	2.2%	(2.3%)	3.9%	5.1%	3.8%
FY30	7.8%	3.8%	3.2%	3.2%	5.5%	0.9%	6.3%	6.2%	5.7%
FY31	7.0%	3.6%	3.0%	3.0%	4.3%	(2.8%)	2.0%	4.4%	3.1%
FY32	6.5%	3.4%	2.8%	2.8%	1.6%	(2.3%)	2.1%	4.0%	2.7%
FY33	6.2%	3.4%	2.8%	2.8%	4.9%	0.9%	5.4%	5.2%	4.9%
FY34	6.2%	3.4%	2.8%	2.8%	4.9%	0.9%	5.4%	5.2%	5.0%
FY35	6.2%	3.4%	2.8%	2.8%	4.5%	0.6%	5.0%	5.1%	4.8%
FY36	6.2%	3.4%	2.8%	2.8%	4.5%	0.6%	5.0%	5.1%	4.8%
FY37	6.1%	3.3%	2.8%	2.8%	4.4%	0.6%	5.0%	5.1%	4.7%
FY38	6.1%	3.3%	2.7%	2.7%	4.4%	0.5%	4.9%	5.0%	4.7%
FY39	6.0%	3.3%	2.7%	2.7%	4.3%	0.5%	4.9%	5.0%	4.7%
FY40	5.9%	3.2%	2.7%	2.7%	4.3%	0.5%	4.8%	5.0%	4.6%
FY41	5.9%	3.2%	2.7%	2.7%	4.3%	0.5%	4.8%	4.9%	4.6%
FY42	5.8%	3.2%	2.6%	2.6%	4.2%	0.5%	4.7%	4.9%	4.6%

Source: Steer Analysis

Revenue forecasts

B.3 The following table presents the year-wise annual revenue forecasts for the forecast period until FY42.

B1.2 Jojro Ka Kheda

Table B.2: Forecasts for final (background + impacts) revenue – Jojro ka Kheda - ₹ Crores

Vehicle Type	CJV	Mini LCV	LCV	Buses	2A	3A	MAV	Total
FY26	24	4	5	5	34	27	120	219
FY27	27	4	5	5	35	28	129	234
FY28	30	5	6	6	39	30	150	266
FY29	34	5	6	6	42	31	164	288
FY30	39	5	7	7	46	33	182	319
FY31	43	6	7	7	51	33	197	345
FY32	50	6	8	8	54	34	213	374
FY33	55	7	8	9	60	37	236	411
FY34	62	8	9	9	66	38	262	454
FY35	68	8	10	10	72	41	289	497
FY36	77	9	11	11	80	43	320	550
FY37	86	10	11	12	87	46	352	604
FY38	96	11	12	13	96	48	389	664
FY39	107	11	13	14	105	51	430	732
FY40	119	12	14	15	116	54	476	807
FY41	132	14	16	16	127	57	524	886
FY42	146	15	17	17	139	61	578	973

Source: Steer Analysis

Table B.3: Forecasts for final (background + impacts) revenue – Jojro ka Kheda- ₹ Crores

Vehicle Type	CJV	Mini LCV	LCV	Buses	2A	3A	MAV	Total
FY27	12.7%	13.3%	3.9%	7.5%	3.2%	2.6%	7.6%	6.9%
FY28	13.1%	8.3%	8.1%	9.2%	12.3%	8.4%	15.9%	13.7%
FY29	13.1%	8.8%	6.6%	7.8%	7.4%	2.5%	9.2%	8.5%
FY30	12.7%	8.8%	8.5%	8.8%	10.5%	6.3%	11.4%	10.7%
FY31	11.7%	8.3%	8.0%	7.8%	9.1%	1.5%	8.1%	8.0%
FY32	14.2%	10.4%	7.9%	8.7%	7.6%	3.1%	8.3%	8.4%
FY33	10.1%	7.3%	7.4%	7.8%	10.0%	6.2%	10.7%	9.9%

Vehicle Type	CJV	Mini LCV	LCV	Buses	2A	3A	MAV	Total
FY34	12.9%	9.5%	9.1%	8.2%	10.0%	5.2%	10.8%	10.4%
FY35	10.0%	7.2%	7.1%	8.0%	9.5%	5.9%	10.3%	9.6%
FY36	13.2%	10.2%	8.9%	8.4%	10.5%	5.9%	10.8%	10.6%
FY37	12.1%	9.1%	8.1%	7.8%	9.6%	5.9%	10.0%	9.8%
FY38	11.4%	8.2%	8.0%	8.2%	9.6%	5.9%	10.5%	10.0%
FY39	11.6%	8.7%	7.9%	8.2%	10.1%	5.6%	10.7%	10.2%
FY40	11.6%	8.7%	7.9%	8.2%	10.0%	6.3%	10.6%	10.2%
FY41	11.1%	8.5%	8.3%	7.9%	9.2%	5.5%	10.2%	9.7%
FY42	10.6%	7.8%	8.4%	7.9%	9.8%	6.1%	10.2%	9.8%

Source: Steer analysis

B1.3 Lambiya Kalan

Table B.4: Forecasts for final (background + impacts) revenue – Lambiya Kalan- INR Cr

Vehicle Type	CJV	Mini LCV	LCV	Buses	2A	3A	MAV	Total
FY26	25	4	5	5	31	24	100	194
FY27	28	4	5	6	32	24	107	206
FY28	32	5	6	6	34	26	121	231
FY29	37	5	6	7	37	26	131	249
FY30	41	6	7	7	41	28	147	277
FY31	46	6	7	8	45	28	158	298
FY32	53	7	8	8	48	29	170	323
FY33	58	7	8	9	53	31	187	354
FY34	66	8	9	10	58	33	208	392
FY35	73	9	10	11	64	35	229	430
FY36	82	10	11	11	71	37	255	476
FY37	90	10	12	12	78	39	280	521
FY38	101	11	12	13	86	41	309	573
FY39	113	12	13	14	94	44	341	631
FY40	126	13	15	16	103	46	378	697
FY41	140	14	16	17	113	49	415	763
FY42	158	16	17	18	124	52	458	843

Source: Steer analysis

Table B.5: Forecasts for final (background + impacts) revenue – Lambiya Kalan

Vehicle Type	CJV	Mini LCV	LCV	Buses	2A	3A	MAV	Total
FY27	13.2%	4.2%	5.1%	4.9%	4.2%	1.4%	6.5%	6.2%
FY28	14.3%	9.9%	6.1%	8.9%	7.7%	7.1%	13.7%	11.7%
FY29	13.2%	9.0%	7.6%	8.0%	7.3%	2.3%	8.2%	8.1%
FY30	12.1%	7.7%	8.7%	8.5%	10.9%	5.7%	12.3%	11.1%
FY31	11.9%	8.5%	8.3%	8.0%	9.4%	2.6%	6.8%	7.6%
FY32	14.6%	10.8%	8.1%	8.8%	7.7%	3.1%	7.7%	8.4%
FY33	10.2%	7.5%	7.3%	7.5%	9.3%	5.7%	10.3%	9.5%
FY34	13.3%	9.8%	9.5%	8.0%	10.4%	5.7%	10.9%	10.7%
FY35	10.6%	8.2%	7.1%	8.2%	9.7%	6.1%	10.5%	9.8%
FY36	12.8%	9.5%	9.2%	8.6%	10.7%	6.1%	11.0%	10.7%
FY37	9.8%	7.4%	8.2%	8.0%	9.8%	5.3%	10.1%	9.5%
FY38	11.8%	8.6%	8.3%	8.0%	9.7%	6.1%	10.1%	9.9%

FY39	11.9%	9.0%	7.9%	8.1%	9.5%	5.8%	10.4%	10.1%
FY40	11.8%	9.0%	8.0%	8.4%	10.2%	5.8%	10.8%	10.4%
FY41	10.9%	8.1%	7.2%	7.8%	9.3%	5.7%	9.9%	9.6%
FY42	13.2%	10.2%	8.7%	8.1%	10.0%	5.7%	10.3%	10.4%

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 - Jojro Ka Kheda

Date	CJV	Mini LCV	LCV	Bus	2 Axle	3 Axle	MAV	OSV	Total	PCU
03-Jun-26	7,309	1,102	1,767	578	1,786	1,826	6,330	8	20,706	52,153
04-Jun-26	7,416	1,199	1,725	564	2,026	2,025	6,460	9	21,424	54,158
05-Jun-26	8,220	1,148	1,731	593	1,921	1,968	6,279	-	21,860	53,666
06-Jun-26	9,376	1,321	1,787	598	1,941	1,934	6,358	3	23,318	55,421
07-Jun-26	10,917	1,136	1,906	633	2,005	2,038	6,440	-	25,075	57,920
08-Jun-26	8,496	1,070	1,494	620	1,675	1,655	6,054	2	21,066	50,909
09-Jun-26	7,855	1,216	1,451	589	1,563	1,625	5,963	4	20,266	49,430

Source: Steer analysis

Table C.2: 7-day TVC counts - Lambiya Kalan

Date	CJV	Mini LCV	LCV	Bus	2 Axle	3 Axle	MAV	OSV	Total	PCU
03-Jun-26	7,876	1,113	1,832	598	1,735	1,645	5,209	-	20,008	47,112
04-Jun-26	8,105	1,009	1,756	624	1,888	1,862	5,314	2	20,560	48,792
05-Jun-26	9,136	1,087	1,751	631	1,930	1,784	5,234	1	21,554	49,442
06-Jun-26	10,230	1,266	1,749	638	1,954	1,781	5,354	2	22,974	51,341
07-Jun-26	11,117	1,076	1,881	648	1,984	1,785	5,443	1	23,935	52,764
08-Jun-26	9,628	1,056	1,453	636	1,657	1,466	4,837	3	20,736	45,921
09-Jun-26	8,602	1,091	1,572	602	1,590	1,436	4,961	4	19,858	45,278

Source: Steer analysis

Table C.3: 7-WADT TVC vs TMS Table C.4: 7-WADT TVC vs TMS

Toll plaza	Source	CJV / MLCV	Bus	LCV/ 2A	3A	MAV	Total	PCU
Lambiy a Kalan	TVC	10,342	625	3,533	1,680	5,193	21,375	48,667
	TMS	10,609	615	3,208	1,680	5,216	21,333	49,261
Jojro ka Kheda	TVC	9,683	596	3,540	1,867	6,269	21,959	53,385
	TMS	10,094	549	3,301	1,892	6,348	22,188	54,592

Source: Steer analysis

Zone list

Table C.5: Zone list used for OD analysis

Zone No	Zone Name	Description/State
1	Kishangarh city	Local
2	RICCO Kishangarh	Local
3	Silora including RIICO silora	Local
4	Shreenagar	Local
5	Lavera	Local
6	Dilwari	Local
7	Nasirabad, rata Khera, Jagpura	Local
8	Jharwasa	Local
9	Bhairoo Khera	Local
10	Bandanwara	Local
11	Bhagwanpura	Local
12	Bijainagar	Local
13	Gulabpura	Local

Zone No	Zone Name	Description/State
14	Roopaheli	Local
15	Kanwaliyas, Sanodiya	Local
16	Raila	Local
17	Lambiya Kalan	Local
18	Jaswanpura	Local
19	Ramsinghpura, Chhatri Khera	Local
20	Reneegpura	Local
21	Mandal	Local
22	Bhilwara city	Local
23	Dhool Khera	Local
24	Pansal	Local
25	Pur	Local
26	Atoon	Local
27	Mandpiya	Local
28	Azad nagar	Local
29	Swaroopganj	Local
30	Baliya Kalan	Local
31	Hamirgarh	Local
32	Jatan Ka Khera	Local
33	Jojron Ka Khera	Local
34	Gangrar	Local
35	Det	Local
36	Salera	Local
37	Ajolion Ka Khera	Local
38	Chanderiya	Local
39	Zinc Nagar	Local
40	Rithola	Local
41	Chottorgarh city including RIICO Chittorgarh	Local
42	Dudu	IAOI
43	Pushkar	IAOI
44	Sarwar, Khekri	IAOI
45	Shahpura	IAOI
46	Sojat	IAOI
47	Asind	IAOI
48	Kapasan	IAOI
49	Fatehnagar	IAOI

Zone No	Zone Name	Description/State
50	Bhadsora	IAOI
51	Mangalwad	IAOI
52	Bassi	IAOI
53	Nimbahera	IAOI
54	Nathdwara	IAOI
55	Dabok	IAOI
56	Ajmer	Local
57	Alwar	Rajasthan
58	Banswara	Rajasthan
59	Baran	Rajasthan
60	Barmer	Rajasthan
61	Bharatpur	Rajasthan
62	Bhilwara	Rajasthan
63	Bikaner	Rajasthan
64	Bundi	Rajasthan
65	Chittorgarh	Local
66	Churu	Rajasthan
67	Dausa	Rajasthan
68	Dholpur	Rajasthan
69	Dungarpur	Rajasthan
70	Hanumangarh	Rajasthan
71	Jaipur	Rajasthan
72	Jaisalmer	Rajasthan
73	Jalore	Rajasthan
74	Jhalawar	Rajasthan
75	Jhunjhunu	Rajasthan
76	Jodhpur	Rajasthan
77	Karauli	Rajasthan
78	Kota	Rajasthan
79	Nagaur	Rajasthan
80	Pali	Rajasthan
81	Pratapgarh	Rajasthan
82	Rajsamand	Rajasthan
83	Sawai Madhopur	Rajasthan
84	Sikar	Rajasthan
85	Sirohi	Rajasthan

Zone No	Zone Name	Description/State
86	Sri Ganganagar	Rajasthan
87	Tonk	Rajasthan
88	Udaipur	Rajasthan
89	Neemuch	Madhya Pradesh
90	Mandsaur	Madhya Pradesh
91	Ratlam	Madhya Pradesh
92	Ujjain	Madhya Pradesh
93	Indore	Madhya Pradesh
94	Sheopur, Morena, Bhind, Gwalior, Datia, Shivpuri, Guna, Ashoknagar, Tikamgarh, Vidisha, Raisen	Madhya Pradesh
95	Burhanpur, Khandwa, Harda, Betul, Hoshangabad, Chhindwara, Seoni, Narsinghpur	Madhya Pradesh
96	Agar Malwa, Jhabua, Alirajpur, Dhar, Barwani, Khargone, Dewas, Shajapur, Rajgarh, Sehore, Bhopal	Madhya Pradesh
97	Chhatarpur, Panna, Satna, Rewa, Sindhi, Singrauli, Shahdol, Anuppur, Dindori, Umaria, Katni, Damoh, Jabalpur, Mandla, Balaghat, Sagar	Madhya Pradesh
98	Ahmedabad	Gujarat
99	Vadodara	Gujarat
100	Morbi	Gujarat
101	Vapi	Gujarat
102	Bharuch	Gujarat
103	Banaskantha, Patan, Surendranagar, Rajkor, Junagadh, Gir Somnath, Amreli, Bhavnagar, Botad, Jamnagar, Dwarka, Porbandar, Kutch, Diu	Gujarat
104	Mehsana, Sabarkantha, Gandhinagar, Aravali, Mahisagar, Dahod, Panch Mahal, Kheda, Anand, Chota Udaipur	Gujarat
105	Surat, Narmada, Tapi, Navasari, Dang, Valsad, Dadar and Nagar Haveli, Daman, Hazira, Ankleshwar, Dahej	Gujarat
106	Porbandar Port	Gujarat
107	Kandala Port	Gujarat
108	Mundra Port	Gujarat
109	Mumbai	Maharashtra
110	Dhule	Maharashtra
111	JNPT port	Maharashtra
112	Pune	Maharashtra
113	Nashik	Maharashtra
114	Nagpur	Maharashtra
115	Maharashtra	West India

Zone No	Zone Name	Description/State
116	Maharashtra	West India
117	NCT of Delhi	NCT Delhi
118	Haryana	Haryana
119	West Bengal	East India
120	Jharkhand	East India
121	Bihar	East India
122	Chattisgarh	East India
123	Odisha	East India
124	Punjab	North India
125	Himachal Pradesh	North India
126	Uttarakhand	North India
127	Jammu & Kashmir	North India
128	Uttar Pradesh	North India
129	Andhra Pradesh	South India
130	Bangalore	South India
131	Karnataka	South India
132	Kerala	South India
133	Tamil nadu	South India
134	Telangana	South India
135	Arunanchal pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland,Tripura, Sikkim	East India
136	Goa	South India
137	Nepal	Outside India
138	Bangladesh	Outside India
139	Bhutan	Outside India
140	Beawar	Local
141	Phalodi	Rajasthan
142	Didwana Kuchaman	Rajasthan

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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IRB Infrastructure Private Limited,
Investment Manager of IRB InvIT Fund.

(FINAL REPORT)

Evaluating O&M cost for SYBOT Project

LEA Associates South Asia Pvt. Ltd.
New Delhi, India

JULY 2026

Doc No	Date	Prepared By	Verified By
SYBOT/07/2026	02/07/2026		



CONTENTS

1	BACKGROUND	1-1
1.1	<i>PROJECT DESCRIPTION</i>	<i>1-1</i>
1.2	<i>OBJECTIVE AND SCOPE OF TECHNICAL CONSULTANCY SERVICES</i>	<i>1-1</i>
2	PROJECT DATA	2-1
2.1	<i>Executive Summary</i>	<i>2-1</i>
2.2	<i>Project Overview.....</i>	<i>2-2</i>
	2.2.1 Key project details.....	2-2
	2.2.2 Location Map	2-3
3	THE SCOPE OF WORKS AND PROJECT FACILITIES.....	3-1
3.1	<i>GENERAL.....</i>	<i>3-1</i>
3.2	<i>SCOPE OF WORKS.....</i>	<i>3-1</i>
	3.2.1 Scope of Work of SYBOT (as per Schedule –B and Schedule-C of the CA)	3-1
4	OPERATION & MAINTENANCE COST	4-1
4.1	<i>ESTIMATION AND RATE ANALYSIS OF O&M COST</i>	<i>4-1</i>
4.2	<i>ROUTINE & PERIODIC MAINTENANCE COST.....</i>	<i>4-1</i>

1 BACKGROUND

1.1 PROJECT DESCRIPTION

IRB Infrastructure Private Limited (Investment Manager to IRB InvIT Fund) has issued a work order to, LEA Associates South Asia Pvt. Ltd. (LASA) to evaluate O& M Cost for Concession Period.

This report in hand is the output of the Technical Consultancy Services to determine the O&M cost for SYBOT for the Project duration.

1.2 OBJECTIVE AND SCOPE OF TECHNICAL CONSULTANCY SERVICES

As per the Scope of the work, the consultant should carry out the O&M cost for the projects listed as under.

Sr. NO	ABBREVIATIONS	NAME OF PROJECT IN DETAILS	LENGTH
1	SYBOT	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 TO BE EXECUTED AS BOT (TOLL) ON DBFOT PATTERN UNDER NHDP PHASE – IV	98.72

2 PROJECT DATA

2.1 EXECUTIVE SUMMARY

A. General

The National Highways Authority of India (NHAI) is engaged in the development of National Highways and as part of this endeavor, the Authority has decided to undertake development of Four Laning of Solapur to Yedeshi Section of NH-211 from Km 0.000 to Km 100.000 through public-private/public sector partnership (PPP) on Design, Build, Finance, Operate and Transfer("DBFOT") basis in the State of Maharashtra ('Project').

The present project includes widening and Up gradation of the existing 2-lane highway section to 4-lane dual carriageway configuration from Solapur-Yedshi section of NH-211 from Km 0.000 to Km 100.000 in the state of Maharashtra.

B. Project Location

Solapur to Yedshi section from Km 0.000 to Km 100.000 is in the state of Maharashtra. The project highway section of NH-211 takes off from Km 0.000 at Solapur and terminates at Km 100.000 at Ratnapur in the state of Maharashtra and passes through two districts, namely Solapur and Dharashiv. The existing 2 lane road will be upgraded to 4 lane dual carriageway standard. This project stretch from Km 0.000 at Solapur to Km 16.400 at Kasegaon falls under the administrative jurisdiction of Solapur district whereas the section from Km 16.400 at Kasegaon/Tamalawadi village to Km 100.000 at Yedshi falls under Dharashiv district of Maharashtra.

C. Area, Terrain and Geology

For, Solapur to Yedeshi Section is passing through Plain, Rolling and Hilly Terrain. This indicates that the Terrain is primarily plain with few stretches of rolling and hilly at select locations. Project area is located at elevation varying from 448 mm to 725 mm above mean sea level. Talking of geological strata, area is comprised of Purely Deccan Trap basaltic rock.

Existing BT Road thickness varies from 200 mm to 300mm comprising of SDBC/BC as Wearing Course and DBM/BM as Base Course. GSB / WBM Layer thickness varies between 250 mm to 350 mm.

D. Climate and Environment

The District experiences summer from March to June, monsoon from July to October and winter from November to February. Annual Temperature ranges from mean minimum Temperature 22.0 degree Celsius to mean maximum temperature 42.1 degree Celsius.

The average rainfall in the districts is 730.00 mm / per annum, maximum temperature goes up to 43 degree Celsius. Wind speed (kmph) is generally 0.10 to 4 km/hr.

E. Road Inventory

Road Inventory has been carried out by Design Consultant, under the supervision of PMA. Existing BT Carriageway Width in general is 7.00 m and at some places varies from 7 to 11 M. Formation Width varies between 10.00 to 14.00 m. Existing ROW is 30.00 M. Earthen/Granular Shoulder Width is generally 1.50 to 2.00 m on either side.

F. Existing Right of Way

The existing Right-of-Way (EROW) of the project road is 30 mtr. Throughout length.

G. Pavement Condition at the Time of Award

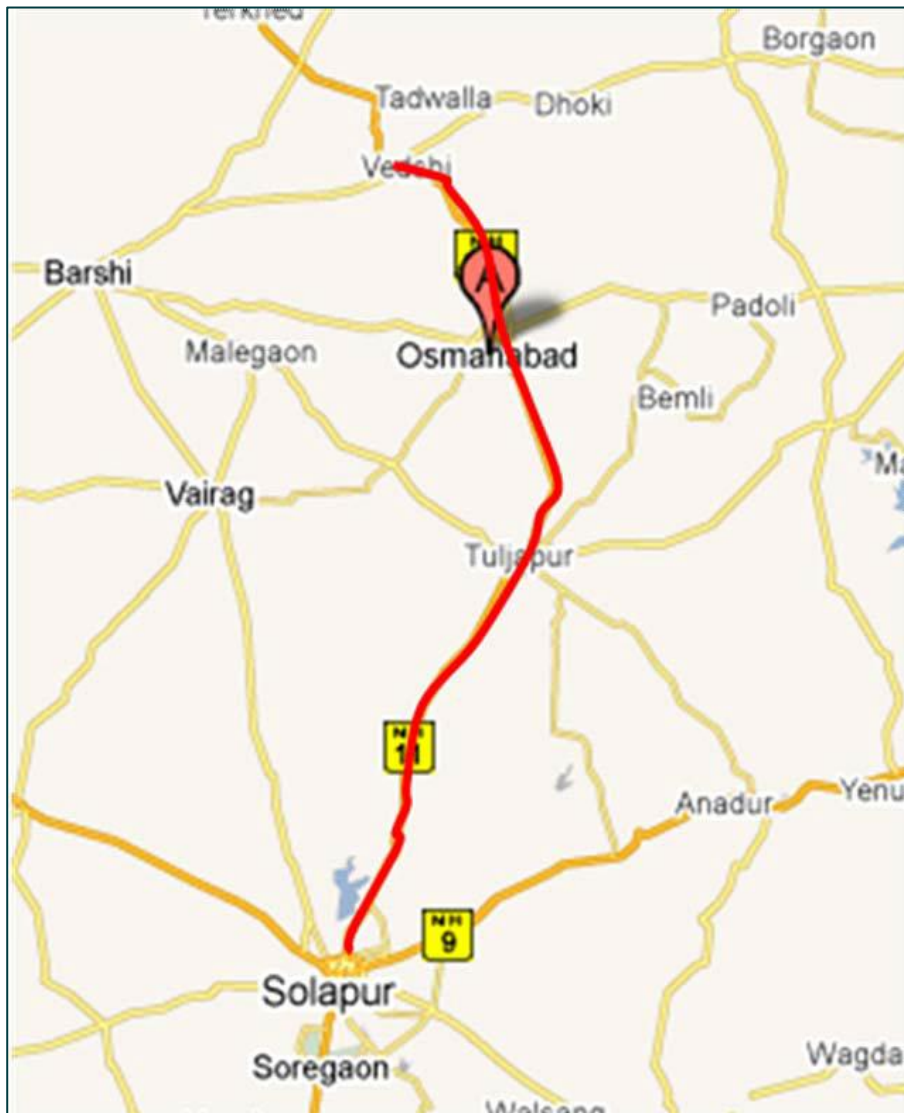
Pavement Condition Survey was carried out by the Design Consultant under the supervision of PMA. Riding Quality of the surface is a combination of fair and good; except at certain select reaches having Pot-Holes, Rutting, Raveling, Undulations, Alligator Cracks, and Material Loss in the Earthen Shoulder portion etc.

2.2 PROJECT OVERVIEW

2.2.1 Key project details

SR. NO.	PARTICULARS	DESCRIPTION
1.	Name of Project	"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 to be Executed as BOT(Toll) on DBFOT Pattern under NHDP Phase - IV"
2.	Total Length of Project	98.717 Km.
3.	Contract / Phase	Phase NHDP Phase – IV
4.	Client / Authority	National Highways Authority of India. (Ministry of Road Transport & Highways).
5.	Concessionaire	M/s. Solapur Yedeshi Tollway Limited
6.	EPC Contractor	M/s. IRB Infrastructure Developers Ltd.
7.	Date of Signing of Concession Agreement	03rd March 2014
8.	Appointed date	21st January 2015
9.	Scheduled Four-Laning Date	910th (nine hundred and tenth) day from the Appointed date (18.07.2017).
10.	Concession Period	29 Years Commencing from the Appointed Date.
11.	Provisional Completion Certificate (PCOD)	5th March, 2018
12.	Project Completion Certificate (COD)	15th October, 2019

2.2.2 Location Map



3 THE SCOPE OF WORKS AND PROJECT FACILITIES

3.1 GENERAL

The Schedule B of the Concession Agreement describes the Scope of Work involved in development of the Highway and Schedule C gives the details of facilities to be provided as part of the project development. These details are extracted and presented below.

3.2 SCOPE OF WORKS

3.2.1 Scope of Work of SYBOT (as per Schedule –B and Schedule-C of the CA)

Name of Project: Four laning of Solapur to Yedeshi section of NH 211 (from km.0 to Km. 100) in the state of Maharashtra.			
	From	To	Length
Project Chainage	0+000	100+000	100.00
Design Chainage	0+000	47+400	98.72
	47+634	98+951	

PROJECT DETAILS

Bill No	Item Head	Unit	Qty
1	Concession Period	Years	29
2	TPC	Crores	972.50
3	Length Of Main Carriageway	Km	98.72
4	Flexible Main Carriageway Flexible Paved Shoulder	Km	98.72
5	Length Of Bye Passes	Km	13.142
6	Length Of New Alignment/Realignment	Km	
7	Rigid Main Carriageway Rigid Paved Shoulder	Km	33.622
8	Rigid Main Carriageway Flexible Paved Shoulder	Km	
9	Length Of Service Road (Sum Of Both Side)	Km	33.622
	A) Widening length of service road (sum of both side)	Km	
	B) Reconstruction length of service road (sum of both side)	Km	33.622
10	New Length Of Service Road (Sum Of Both Side)	Km	
	New Length Of Slip Road (Sum Of Both Side)	Km	33.622
11	Major Junctions	Nos	
12	Minor Junctions	Nos	55
13	Toll Plaza	Nos	2
14	Tunnel	Nos	5
15	Flyovers	Nos	
16	ROB's	Nos	1
17	FOB's	Nos	2
18	A) Major Structures (New)	Nos	
	B) Major Structures Rehabilitation	Nos	25
19	A) Minor Structures (New)	Nos	
	B) Minor Structures Rehabilitation	Nos	25
	C) Minor Structures Widening	Nos	
20	A) Underpasses (Pup/Cup) - New	Nos	11
	B) Underpasses (Pup/Cup) - Widening	Nos	02
	C) Underpasses (VUP)	Nos	

Bill No	Item Head	Unit	Qty
21	D) Underpasses (LVUP)	Nos	
	A) Culverts (SC/BC) New	Nos	07
	B) Culverts S (SC/BC) Recons	Nos	03
	C) Culverts (SC/BC) Widen	Nos	01
	D) Culverts (PIPE) NEW	Nos	10
	E) Culverts (PIPE) Recons to Box	Nos	36
	F) Culverts (PIPE) Widen	Nos	77
22	Truck Lay bye	Nos	04
23	Rest Areas	Nos	02
24	Bus Bays With Shelters	Nos	48
25	Traffic Aid Post	Nos	2
26	Medical Aid Post	Nos	2
27	Vehicle Rescue Post	Nos	2
28	Telecom System	Km	98.72
29	Electrification In Urban Stretches, Flyovers, Underpasses, Toll Plazas, Bus Bays	Km	17.576

3.2.1.1 Photographs of SYBOT project







4 OPERATION & MAINTENANCE COST

4.1 ESTIMATION AND RATE ANALYSIS OF O&M COST

LASA had earlier worked out the O&M cost and submitted a report in Dec-2018. The rate analysis was then based on MORTH's standard data book format. Equipment hire charges, other Material and Labour rates were taken from schedule of rates of National Highway Circle applicable to respective state for the year 2018-19. Further these rates have been escalated to current year rates i.e. 2026-27 based on the difference in WPI of All commodities. The applicable lead for the plant-to-site lead has been applied for both concrete mix materials and bituminous mix materials.

Operation and maintenance cost has been worked out based on MoRT&H Report of the Committee on Norms for Maintenance of Roads in India' and experience of other ongoing projects. Accordingly, the Routine and Periodic Maintenance cost have been worked out for year 2030-31 by considering 5% Escalation per year for SYBOT project.

4.2 ROUTINE & PERIODIC MAINTENANCE COST

The operation & maintenance cost (routine and periodic) worked out by the Company is to the tune of INR 1,071.58 Crore including GST @ 18%. The details of Routine and Periodic Maintenance cost worked out by the Company is presented in the table below.

Table 4.1: Details of O&M Cost by the Company

Sl. No	Year	Amount (Rs. In Crores)		
		Routine Maintenance (RM)	Periodic Maintenance (RM)	Total
1	Oct-2026 to March-2027	9.20	9.07	18.27
2	2027-28	19.33	-	19.33
3	2028-29	20.27	-	20.27
4	2029-30	21.27	-	21.27
5	2030-31	22.37	-	22.37
6	2031-32	23.55	-	23.55
7	2032-33	24.60	54.58	79.18
8	2033-34	25.85	57.34	83.18
9	2034-35	27.09	60.09	87.18
10	2035-36	28.53	-	28.53
11	2036-37	29.82	-	29.82
12	2037-38	31.32	-	31.32
13	2038-39	32.93	-	32.93
14	2039-40	34.64	-	34.64
15	2040-41	36.29	-	36.29
16	2041-42	38.15	37.59	75.74
17	2042-43	40.01	39.43	79.44
18	2043-44	42.13	41.50	83.63
19	2044-45	43.63	-	43.63
20	2045-46	46.45	-	46.45

Sl. No	Year	Amount (Rs. In Crores)		
		Routine Maintenance (RM)	Periodic Maintenance (RM)	Total
21	1 Apr-2046 to 22-June-2046	11.09	-	11.09
TOTAL (1st Oct-2026 to 22-June-2046)		608.52	299.60	908.12
Add GST 18%		109.53	53.93	163.46
TOTAL O&M COST		718.05	353.53	1,071.58

Based on norms for maintenance of roads in India and experience on similar projects, the LASA's tentative cost works out to INR 1,124.34Crores including 18% GST.

Table 4.2: Details of O&M Cost by the LASA

SI No	Year	Amount (Rs. In Crores)			Remark
		Routine Maintenance (RM)	Periodic Maintenance (RM)	Total	
1	Oct-2026 to March-2027	9.80	9.66	19.46	Periodic Maintenance works includes roughness regulatory course (BC 30mm -partial length)
2	2027-28	20.63	-	20.63	
3	2028-29	21.65	-	21.65	
4	2029-30	22.68	-	22.68	
5	2030-31	23.85	-	23.85	
6	2031-32	25.02	-	25.02	
7	2032-33	26.33	55.49	81.83	Periodic Maintenance works includes Structural overlay for 95% of Project Length (BC30mm, DBM 50mm for MCW, and BC 30mm for SR)
8	2033-34	27.65	58.27	85.92	
9	2034-35	28.97	61.04	90.01	
10	2035-36	30.43	-	30.43	
11	2036-37	31.89	-	31.89	
12	2037-38	33.50	-	33.50	
13	2038-39	35.11	-	35.11	
14	2039-40	36.87	-	36.87	
15	2040-41	38.77	-	38.77	
16	2041-42	40.67	38.07	78.74	Periodic Maintenance works includes roughness regulatory course for 95% of Project Length (BC 30mm)
17	2042-43	42.72	39.99	82.71	
18	2043-44	44.91	42.04	86.96	
19	2044-45	46.49	-	46.49	
20	2045-46	48.81	-	48.81	
21	1 Apr-2046 to 22-June-2046	11.52	-	11.52	
TOTAL (1st Oct-2026 to 22-June-2046)		648.26	304.57	952.83	
Add GST 18%		116.69	54.82	171.51	
TOTAL O&M COST		764.94	359.39	1,124.34	

LASA's O&M cost is higher than the Company cost, which might be due to the reason that they have determined the Routine Maintenance and Periodic Maintenance cost based on their past experience, whereas LASA has followed norms for maintenance of roads in India and experience on similar projects.

In view of the foregoing, the O&M cost as considered by the Company is found to be reasonable and in line with the market trends.





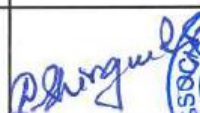
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(FINAL REPORT)

Evaluating O&M cost for GCBOT Project

LEA Associates South Asia Pvt. Ltd.
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CONTENTS

1	BACKGROUND	1-1
1.1	PROJECT DESCRIPTION	1-1
1.2	OBJECTIVE AND SCOPE OF TECHNICAL CONSULTANCY SERVICES	1-1
2	PROJECT DATA	2-1
2.1	Executive Summary	2-1
2.2	Project Overview.....	2-2
	2.2.1 Key project details.....	2-2
	2.2.2 Location Map	2-3
3	THE SCOPE OF WORKS AND PROJECT FACILITIES.....	3-1
3.1	GENERAL.....	3-1
3.2	SCOPE OF WORKS.....	3-1
	3.2.1 Scope of Work of GCBOT (as per Schedule –B and Schedule-C of the CA)	3-1
4	ESTIMATION of O&M cost.....	4-1
4.1	ESTIMATION AND RATE ANALYSIS OF O&M COST	4-1
4.2	OPERATION & MAINTENANCE COST	4-1

1 BACKGROUND

1.1 PROJECT DESCRIPTION

IRB Infrastructure Private Limited (Investment Manager to IRB InvIT Fund) has issued a work order to, LEA Associates South Asia Pvt. Ltd. (LASA) to evaluate O& M Cost for Concession Period.

This report in hand is the output of the Technical Consultancy Services to determine the O&M cost for GCBOT for the Project duration.

1.2 OBJECTIVE AND SCOPE OF TECHNICAL CONSULTANCY SERVICES

As per the Scope of the work, the consultant should carry out O&M Cost for the following project.

Sr. NO	ABBREVIATIONS	NAME OF PROJECT IN DETAILS	LENGTH
1	GCBOT	SIX LANING OF KISHANGARH UDAIPUR AHMEDABAD SECTION FROM KM.90.000 (NEAR GULABPURA) TO KM. 274.870 (END OF CHTTTORGARH BYPASS) OF NH 79 IN THE STATE OF RAJASTHAN PACKAGE- 2 UNDER NHDP PHASE- V ON BOT (TOLL) MODE.	124.87

2 PROJECT DATA

2.1 EXECUTIVE SUMMARY

A. General

The National Highway Authority of India has awarded M/s. Chittorgarh Gulabpura Tollway Limited, Six-Laning of Kishangarh to Gulabpura Section of NH-79A & NH-79 in the state of Rajasthan (Length – 124.870 Km) on DBFOT (Toll) under NHDP Phase V Package-2.

The above mentioned section of NH-79 developing the existing four lane with paved shoulder carriageway to Six lane carriageway configurations including strengthening of existing four lane between Km 90.00 to Km. 214.870 defined as “Project Highway”. The total design length of the project stretch is 124.870 km in the state of Rajasthan as shown in Project Location Map. Accordingly the Project has been completed on date 14.08.2021

B. Project Location

The Project starting from Chittorgarh to Gulabpura is a part of the NH 79/NH 79A connecting Rajasthan and Gujarat is one of the busiest highways in India. Enroot, it passes through Bhilwara which is a major industrial hub. The Project Highway is joined and/or intersected by number of State Highways (SH), Major District roads (MDR), and Other/District Roads (ODR).

C. Terrain and Geology

The project road passes mainly through plain terrain with rolling terrain at isolated stretches.

D. Climate and Environment

The climate patterns in Ajmer, Bhilwara and Chittorgarh districts are fairly uniform. The summer season extends from March to July, with the maximum temperature reaching about 48 °C. Monsoon starts from July and ends around September and winter season extends from November to February with the minimum temperature being 5°C to 24° C.

E. Right of Way

The existing ROW in Gangrar area is 45 m and 60 m in other Sections.

F. Pavement Condition

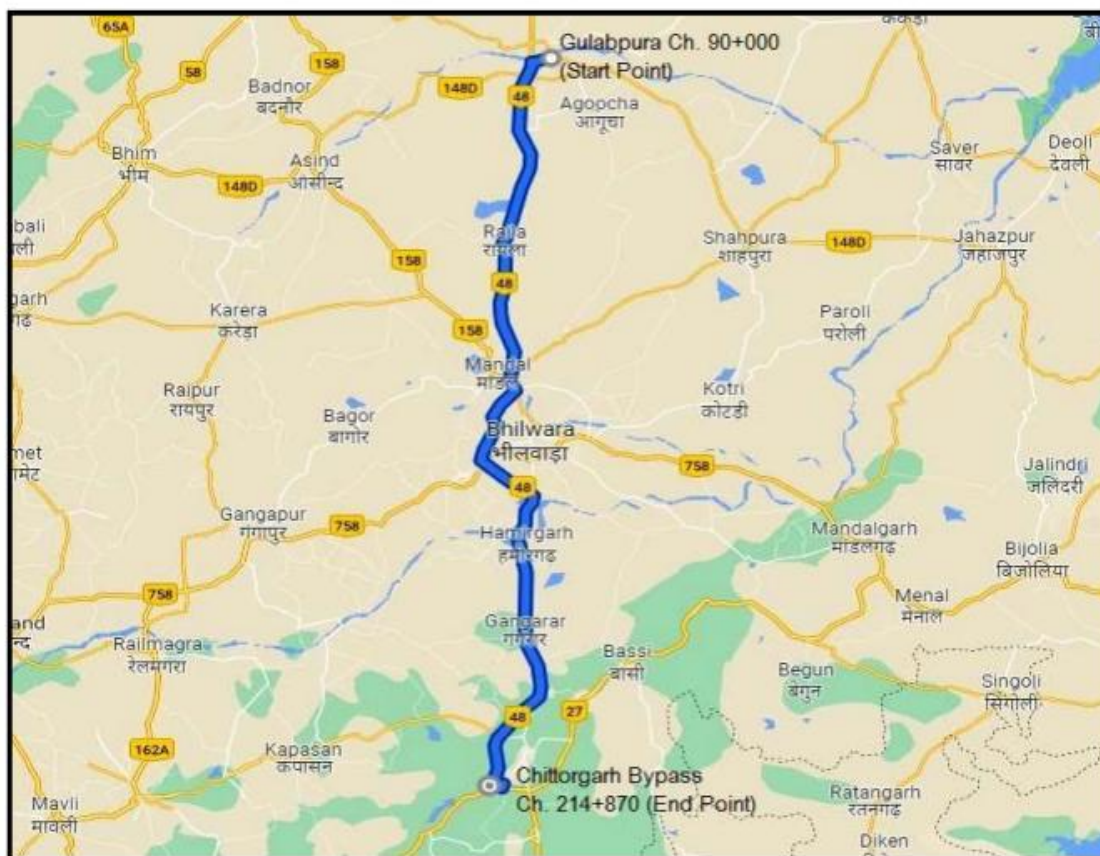
Pavement condition of the MCW & SR is in good condition.

2.2 PROJECT OVERVIEW

2.2.1 Key project details

Sl. No.	PARTICULARS	DESCRIPTION
1	Name of Project	Six Laning of Kishangarh Udaipur Ahemadabad 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
2	Total Length of Project	124.870 Km
3	Contract / Phase	NHDP Phase –V
4	Client / Authority	National Highways Authority of India. (Ministry of Shipping, Road Transport & Highways).
5	Concessionaire	M/s. CG Tollway Ltd.
6	EPC Contractor	IRB Infrastructure Developers Limited
7	Date of signing of Concession Agreement	9th December, 2016
8	Appointed date	4th November, 2017
9	Scheduled Date of Completion	02nd May, 2020
10	Concession Period	20 Years including construction period of 910 days
11	Project Completion Date	14th August, 2021

2.2.2 Location Map



3 THE SCOPE OF WORKS AND PROJECT FACILITIES

3.1 GENERAL

The Schedule B of the Concession Agreement describes the Scope of Work involved in development of the Highway and Schedule C gives the details of facilities to be provided as part of the project development. These details are extracted and presented below for GCBOT project.

3.2 SCOPE OF WORKS

3.2.1 Scope of Work of GCBOT (as per Schedule –B and Schedule-C of the CA)

Name of Project: Six Laning of Kishangarh Udaipur Ahmedabad Section From Km. 90.000 (Near Gulabpura) To Km. 214.870 (End Of Chitiorgarh Bypass) Of NH-79 in the State of Rajasthan Package- 2 Under NHDP Phase-V On BOT (Toll) Mode			
	From	To	Length
Project Chainage	69+730	164+000	94.270
Design Chainage	90+000	214+870	124.870

PROJECT DETAILS

Bill No	Item Head	Unit	Qty
1	Concession Period	Years	20.0
2	TPC	Crores	1,239.82
3	Length Of Main Carriageway	Km	124.870
4	Flexible Main Carriageway Flexible Paved Shoulder	Km	124.870
5	Length Of Bye Passes	Km	
6	Length Of New Alignment/Realignment	Km	
7	Rigid Main Carriageway Rigid Paved Shoulder	Km	
8	Rigid Main Carriageway Flexible Paved Shoulder	Km	
9	Length Of Service Road (Sum Of Both Side)	Km	
	A) Widening length of service road (sum of both side)	Km	20.74
	B) Reconstruction length of service road (sum of both side)	Km	
10	New Length Of Service Road (Sum Of Both Side)	Km	121.78
	New Length Of Slip Road (Sum Of Both Side)	Km	
11	Major Junctions	Nos	20
12	Minor Junctions	Nos	48
13	Toll Plaza	Nos	2.00
14	Tunnel	Nos	Nil
15	Flyovers	Nos	5
16	ROB's	Nos	Nil
17	FOB's	Nos	5
18	A) Major Structures (New)	Nos	Nil
	B) Major Structures Rehabilitation	Nos	
19	A) Minor Structures (New)	Nos	26
	B) Minor Structures Rehabilitation	Nos	4

Bill No	Item Head	Unit	Qty
	C) Minor Structures Widening	Nos	3
20	A) Underpasses (Pup/Cup) - New	Nos	19
	B) Underpasses (Pup/Cup) - Widening	Nos	Nil
	C) Underpasses (VUP)	Nos	9
	D) Underpasses (LVUP)	Nos	1
21	A) Culverts (SC/BC) New	Nos	53
	B) Culverts S (SC/BC) Recons	Nos	34
	C) Culverts (SC/BC) Widen	Nos	Nil
	D) Culverts (PIPE) NEW	Nos	Nil
	E) Culverts (PIPE) Recons to Box	Nos	47
	F) Culverts (PIPE) Widen	Nos	40
22	Truck Lay bye	Nos	12
23	Rest Areas	Nos	Nil
24	Bus Bays With Shelters	Nos	28
25	Traffic Aid Post	Nos	1
26	Medical Aid Post	Nos	1
27	Vehicle Rescue Post	Nos	1
28	Telecom System	Km	124.87
29	Electrification In Urban Stretches, Flyovers, Underpasses, Toll Plazas, Bus Bays	Km	28.180

3.2.1.1 Photographs of GCBOT





4 ESTIMATION OF O&M COST

4.1 ESTIMATION AND RATE ANALYSIS OF O&M COST

LASA had earlier worked out the O&M cost and submitted a report in Dec-2018. The rate analysis was then based on MORTH's standard data book format. Equipment hire charges, other Material and Labour rates were taken from schedule of rates of National Highway Circle applicable to respective state for the year 2018-19. Further these rates have been escalated to current year rates i.e. 2026-27 based on the difference in WPI of All commodities. The applicable lead for the plant-to-site lead has been applied for both concrete mix materials and bituminous mix materials.

Operation and maintenance cost has been worked out based on MoRT&H Report of the Committee on Norms for Maintenance of Roads in India' and experience of other ongoing projects. Accordingly, the Routine and Periodic Maintenance cost have been worked out for year 2030-31 by considering 5% Escalation per year for GCBOT project.

4.2 OPERATION & MAINTENANCE COST

The operation & maintenance cost (routine and periodic) worked out by the Company is to the tune of INR 1,591.12Crore including GST @ 18%. The details of Routine and Periodic Maintenance cost worked out by the Company is presented in the table below.

Table 4.1: Details of O&M Cost by the Company

SL. No	Year	Amount (Rs. In Crores)		
		Routine Maintenance (RM)	Periodic Maintenance (RM)	Total
1	Oct-2026 to March-2027	17.66	13.33	30.99
2	2027-28	37.08	-	37.08
3	2028-29	38.88	-	38.88
4	2029-30	40.79	-	40.79
5	2030-31	42.94	76.90	119.84
6	2031-32	45.21	80.96	126.18
7	2032-33	47.24	84.59	131.83
8	2033-34	49.62	-	49.62
9	2034-35	52.01	7.96	59.97
10	2035-36	54.78	41.36	96.14
11	2036-37	57.26	43.23	100.49
12	2037-38	60.12	45.39	105.51
13	2038-39	63.08	-	63.08
14	2039-40	66.42	-	66.42
15	2040-41	69.55	82.76	152.31
16	1 Apr-2041 to 31-01-2042	56.16	73.09	129.26
TOTAL (1st Oct-2026 to 31st Jan-2042)		798.83	549.58	1,348.41
Add GST 18%		143.79	98.92	242.71
TOTAL O&M COST		942.62	648.51	1,591.12

Based on norms for maintenance of roads in India and experience on similar projects, the LASA's tentative cost works out to INR 1,696.72Crores including 18% GST.

Table 4.2: Details of O&M Cost by the LASA

SL. No	Year	Amount (Rs. In Crores)			Remark
		Routine Maintenance (RM)	Periodic Maintenance (RM)	Total	
1	Oct-2026 to March-2027	18.81	14.20	33.00	
2	2027-28	39.58	-	39.58	
3	2028-29	41.54	-	41.54	
4	2029-30	43.51	-	43.51	
5	2030-31	45.75	77.83	123.58	Periodic Maintenance works includes Structural overlay for 95% of Project Length (BC40mm & DBM 50mm for MCW, BC 40mm for SR)
6	2031-32	48.00	81.65	129.64	
7	2032-33	50.52	85.95	136.47	
8	2033-34	53.05	-	53.05	
9	2034-35	55.57	8.08	63.66	PQC Diamond cutting
10	2035-36	58.38	41.87	100.25	Periodic Maintenance works includes roughness regulatory course for 95% of Project Length (BC 40mm)
11	2036-37	61.19	43.89	105.07	
12	2037-38	64.28	46.10	110.37	
13	2038-39	67.36	-	67.36	
14	2039-40	70.73	-	70.73	
15	2040-41	74.38	85.43	159.81	Periodic Maintenance works includes roughness regulatory course for 95% of Project Length (BC 40mm) + PQC Diamond cutting.
16	1 Apr-2041 to 27-Feb-2042	70.97	89.30	160.27	
TOTAL (1st Oct-2026 to 31st Jan-2042)		863.61	574.29	1,437.89	
Add GST 18%		155.45	103.37	258.82	
TOTAL O&M COST		1,019.06	677.66	1,696.72	

LASA's O&M cost is higher than the Company cost, which might be due to the reason that they have determined the Routine Maintenance and Periodic Maintenance cost based on their past experience, whereas LASA has followed norms for maintenance of roads in India and experience on similar projects.

In view of the foregoing, the O&M cost as considered by the Company is found to be reasonable and in line with the market trends.

