Research

CRISIL
An S&P Global Company

Traffic and valuation study of Hazira to Maharashtra /Gujarat border stretch (NH6) in Gujarat

April 2021

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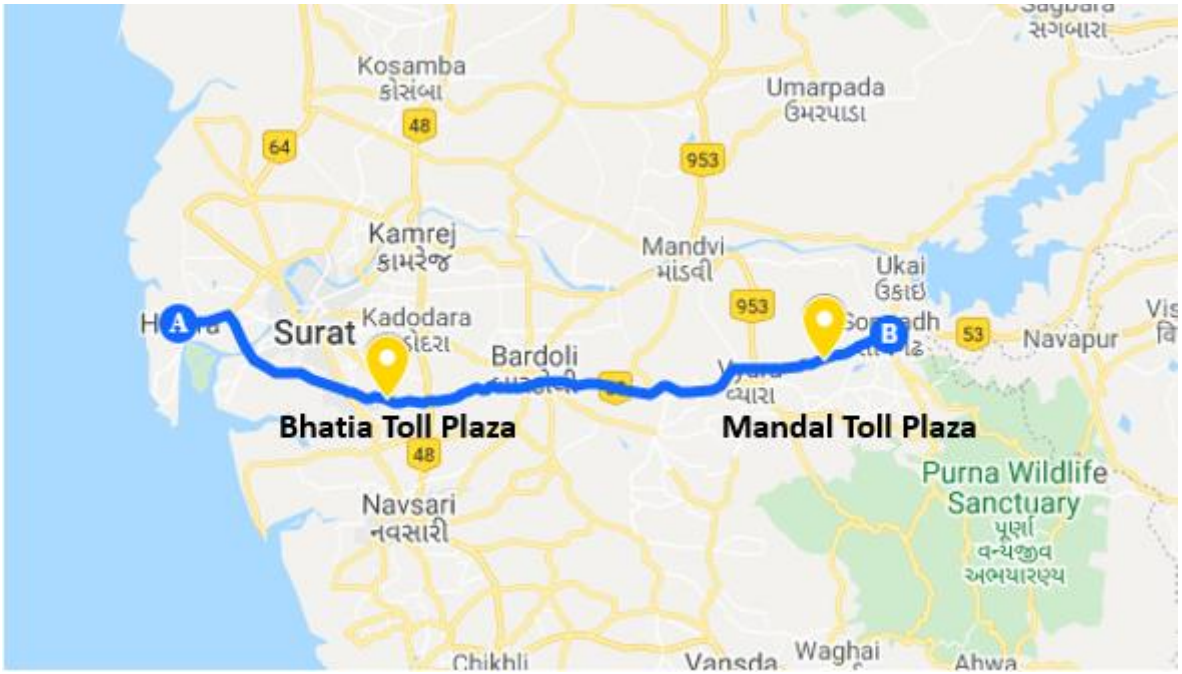
Project stretch is between Hazira port and Gujarat – Maharashtra border

The Surat-Hazira NH-6 Tollway Pvt Ltd (SHTPL), also referred to as 'project stretch' hereinafter, operates the four lane road from Hazira port in Surat to the Gujarat – Maharashtra border. The project stretch was awarded on a DBFOT basis to the concessionaire. This road is a part of NH-6 which starts from Surat in Gujarat and ends at Kolkata in West Bengal. The stretch operated by the company measures approximately 132.913 km. The four-lane toll highways has two toll plaza operating at Bhatia toll plaza (near Surat) and Mandal toll plaza (near Gujarat Maharashtra border).

Figure 1: Project stretch alignment



Source: Google Maps, CRISIL Research

Project stretch is dominated by the car/jeep/van category

Mandal Toll Plaza - Total traffic at the Mandal toll plaza is ~10,342 vehicles and ~25,046 PCUs per day. Passenger traffic accounts for approximately 50% of the total traffic at the Mandal toll plaza in terms of number of vehicles. The project stretch largely caters to two categories of vehicles, i.e. car/jeep/van & MAV vehicle category. MAVs form about 32% of total traffic in vehicle terms and ~60% of the traffic in PCU terms.

Bhatia Toll Plaza - Total traffic at the Bhatia toll plaza is ~14,140 vehicles and ~23,626 PCUs per day. Passenger traffic accounts for approximately 75% of the total traffic at the Mandal toll plaza in terms of number of vehicles. The project stretch largely caters to two categories of vehicles, i.e. car/jeep/van & MAV vehicle category. MAVs form about 17% of total traffic in vehicle terms and ~45% of the traffic in PCU terms.

Table 1: AADT for the project stretch in FY20

Vehicle type	Mandal (nos)	Bhatia(nos)
Car/jeep/van	5,149	10,672
LCV/mini bus	444	635
Bus/truck	1,432	498
MAV (> three-axle)	3,319	2,335
Total	**10,342**	**14,140**

Source: Traffic report shared by company, CRISIL Research

The project stretch has multiple alternate routes which leads to higher diversion of traffic from the project stretch

The project stretch has 3 major diversion points (Ichchapore, Sachin & Songadh) leading to shift of traffic from project stretch to the alternate route. All the three diversion points help vehicles in avoiding one of the two toll plazas on the project stretch.

Traffic on the stretch largely driven by commodities like agri commodities, petroleum products and building materials

Table 2 – Growth rates for major commodities moved on the project stretch

Commodity	Commodity Mix		Growth prospect
	Mandal	Bhatia	(FY22-FY25 CAGR)
Agri Produce	34%	45%	0.9%
Construction materials	21%	2%	8.8%
Textile & Leather	9%	8%	2.1%
Iron & Steel Products	6%	5%	3.5%
Consumer Products	5%	2%	1.7%
Petroleum Products	4%	3%	3.5%
Chemical Products	3%	12%	4.6%
Courier & parcel (Miscellaneous items)	3%	3%	-1.5%
Plywood & Timber products	2%	2%	4.6%
Milk & Animal Food	2%	2%	4.8%
Automobiles	1%	0%	4.8%
Paper products	1%	1%	2.0%
Coal	1%	3%	3.4%
Others	0%	4%	2.0%

Source – Traffic survey, CRISIL Research

- Goods traffic movement on the TP-1 shows higher composition of agriculture commodities, construction material and textile material together accounting for 36% of the total freight vehicles
- Mandal toll plaza is located closer to the Gujarat-Maharashtra border, hence a significant quantum of agri traffic which consist of fruits, vegetables, sugarcane, etc. travels towards Gujarat for the purpose of consumption

- Construction material and textile commodities travel from Gujarat towards Maharashtra as Surat is an established textile cluster
- Empty vehicles account for ~34% of the total freight traffic
- Goods traffic movement on the TP-2 shows higher composition of petroleum products, construction material and building material together accounting for a quarter of the total freight vehicles
- Bhatia toll plaza is located closer to the Hazira and Magadalla port, hence a significant quantum of traffic is derived from those locations
- Presence of LPG bottling plants of HPCL & IOCL leads to higher share of petroleum products at TP-2.
- Magadalla port has private jetty of Ambuja cement and a grinding unit of Ultratech cement. Combined together they have a capacity of 1.9 mn tons per annum
- Share of empty vehicles account for ~45% of the total freight traffic, higher than TP-1

Traffic and revenue projection for the project stretch

The average annual daily traffic (AADT) at Mandal TP is expected to rise from 9,966 in fiscal 2022 to 12,185 in fiscal 2029, clocking a compound annual growth rate (CAGR) of 3.7%. PCU count at this toll plaza is expected to grow from 24,539 to 29,579 or at 2.7% CAGR over the remaining concession period. The average annual daily traffic (AADT) at Bhatia TP is expected to rise from 14,150 in fiscal 2022 to 19,126 in fiscal 2029, clocking a compound annual growth rate (CAGR) of 4.4%. PCU count at this toll plaza is expected to grow from 24,764 to 30,693 or at 2.7% CAGR over the remaining concession period.

Toll revenue grew ~3.4% CAGR between fiscals 2018 and 2020

Table 3 – Key financial indicators during the past four years (FY18-FY20)

	FY18	FY19	FY20
Tolling income (Rs million)	1517.6	1692.7	1621.5
Construction income (Rs million)	659.2	68.5	40.6
O&M grant	590.4	606.6	454.3
Other income	8.4	6.7	19.0
Total operating income (Rs million)	2775.6	2374.5	2135.4
Operating profit (Rs million)	1547.1	1911.7	1770.1
Operating profit margin (%)	55.7%	80.5%	82.9%
Net profit (Rs million)	-2123.7	-102.3	-1398.4
Net profit margin (%)	-76.5%	-4.3%*	-65.5%
Net worth (Rs million)	618.5	1,018.5	-377.8
Total debt (Rs million)	21,593.5	21,898.6	15,935.5
Gearing (times)	34.9	21.5	-42.2
Interest coverage (times)	0.2	0.3	0.4
Net cash accrual/total debt (times)	-0.1	0.0	0.0

*Note: *Includes exceptional gain due to one-time debt restructuring exercise*

The company commenced tolling operations in August 2016 on the back of receiving a provisional COD. Tolling income increased at a CAGR of ~3.4% between fiscals 2018 and 2020, majorly contributed by increase in toll rates and a mild increase in traffic on both the plazas. Total operating income declined over the years, because of the reduction in construction income over years. Construction income is expensed out completely in the same year itself, hence leaving no impact on the profits of the SPV.

In terms of profitability, the company's net profit margin have been extremely poor over the years at (76.5)% in FY18 and at ~(65.5)% in FY20. Net profit margin in FY19 stood at (4.3)% due to an exceptional gain of Rs 1,376 mn due to one-time debt restructuring exercise, excluding the exceptional gain net profit margin for FY19 stood at (62.3)%. High depreciation and interest cost are two primary reasons for low net profit margins across the years. Gearing levels for the company has been extremely high. The net worth of the company went into the negative territory due to pilling losses in the past due to high interest cost and slow revenue growth.

Revenue projection for the project stretch

Revenue to grow at a CAGR of ~6% over the remaining concession period

Revenue is expected to grow at a CAGR of 6% during the remaining concession period (from fiscal 2022 to 2029), driven by growth in traffic and toll charges. The National Highways Authority of India (NHAI), the nodal agency for the roads sector, had stopped toll collections up to April 20, 2020, after the government imposed the nationwide lockdown on March 25 to contain Covid-19 afflictions. Revenue is expected to decline in fiscal 2021 owing to the lockdown enforced due to the Covid-19 pandemic but are are expected to bounce back in fiscal 2022 which would support the long term growth rate of toll collection on the stretch. The toll-rate revision calculations are based on the base rate of each vehicle category and changes in WPI over years.

Asset is taken over by a new entity and debt written off

New entity buys the asset

In this scenario, we assume the new owner will take over the asset for a consideration of Rs 6,160 million and with a capital structure of 60:40 (debt:equity) to begin with. We assume the new owner will not carry forward the SPV's existing debt.

Operating and net profit margin to improve for the new SPV over the long term

Assuming a debt-equity ratio of 60:40, operating and net profit margins are estimated to be positive for remaining portion of the concession period except for fiscal 2021 when the SPV is expected to make a loss at net profit level while still being profitable at operating level. The lower profitability in FY22 is due major maintenance cost to be incurred during the year. We further believe the new entity will continue to see improvement in profitability at both operating and net level over the remaining concession period. The operating level profitability will see a significant boost in fiscals 2028 and 2029 as the SPV would not be required to provision for major maintenance during these years. The net level profitability will improve gradually during the period under consideration as interest cost declines on account of debt repayment.

SPV would require short term debt for operations in fiscal 2022

SPV would require a short term debt of ~Rs 350 million in FY22 due to lower profitability. The short term debt would be completely repaid by FY23 via internal accruals and the SPV would not require any additional short term in future years.

Enterprise value pegged at Rs 6,160 million

Based on DCF method, the valuation of the SPV works out to Rs 6,160 million. This is based on the assumption that all the current debt is written off and a new entity acquires the asset.

Table 4 – Discounted cash flows (Rs million)

	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29
Free cash flow	106.3	1,506.9	1,600.9	1,703.5	1,813.2	70.3	1,543.9	1,597.2
Discounted cash flow	95.8	1,223.0	1,170.6	1,122.1	1,076.1	37.6	743.6	693.1

Source: CRISIL Research

Continued economic slowdown due to COVID-19 and dependence on few key commodities key monitorables for the project

- Elongated economic impact of Covid-19 pandemic would lead to subdued traffic on national highways and subsequently lower revenues for toll operators.
- Project stretch has 3 major diversion points leading to shift of traffic from project stretch to the alternate route. All the three diversion points help vehicles in avoiding one of the two toll plazas on the project stretch. Any further similar infrastructure in the region will further dent project's revenues.
- Good road connectivity between the every *mandal* (*taluks*) has helped the vehicles to avoid the toll plazas
- Agricultural products contribute major share in the commodity mix (%), deficit of rainfall in the region will impact the traffic on the project stretch
- Similarly, construction related products form a significant share of the commodity mix on the stretch and thus any slowdown in construction activity poses risk to traffic volumes
- Slower than expected revival of the economy post the lockdown would impact revenues on the stretch negatively
- Presence of low-growth commodities, such as food grains and petroleum, to moderate growth over years

Additionally, the company faces risk in terms of non-availability of funding from banks due to its poor liquidity position. Unless the promoters can bring in viability funding, the operations of the company might be severely impacted.

Valuation summary

Enterprise value pegged at Rs 6,160 million

Based on DCF method, the valuation of the SPV works out to Rs 6,160 million basis year end discounting method and Rs 6,490 million basis mid-year discounting method. This is based on the assumption that all the current debt and liabilities are written off and a new entity acquires the asset. The enterprise valuation of the asset is considered as of 31st March 2021.

We have built scenarios around the capital structure for the SPV once it is acquired by a new owner. We have also

analysed the valuation in case the project receives extension in concession period of 3 years and 289 days i.e. until January 2033. This translates to 20% of the concession period (19 years) which is the maximum allowed extension for the project. This extension is granted if the NHAI is satisfied that the traffic measured through samples gathered around the target date is below the Target traffic.

As per CRISIL Research's analysis of the financial projections of the company, the enterprise value of the SPV (Surat-Hazira NH-6 Tollway Pvt Ltd) works out to be as described in the table below:

Enterprise valuation of SHTPL	Capital structure (D:E)			Extension of concession period
	50:50	60:40 (Base Case)	70:30	
Valuation (Rs. Million)	5,835	6,160	6,520	8,600

Notes:

- WACC for all of the above scenarios is assumed at 11%
- Under the assumption that all the current debt and liabilities are written off and a new entity acquires the asset

Source: CRISIL Research

NPV of the asset to increase by ~Rs 1800 mn due to arbitration award of extension in tolling period by 959 days

The SPV has received an arbitration award of extension of 959 days in concession period of the project stretch. The NPV of the arbitration award is expected to increase by ~Rs 1,800 mn due to extension in concession period, but the same has not been included in the valuation exercise as the SPV has impending dues of claims of ~Rs 19,400 mn (including both principal & interest component of the outstanding) from EPC contractors. The extent and timing of these cash outflows, which can range from Rs 0 – 19,000 mn, is difficult to be ascertained at current point in time, hence the same has not been considered in the valuation exercise.

2 Overview of the project stretch

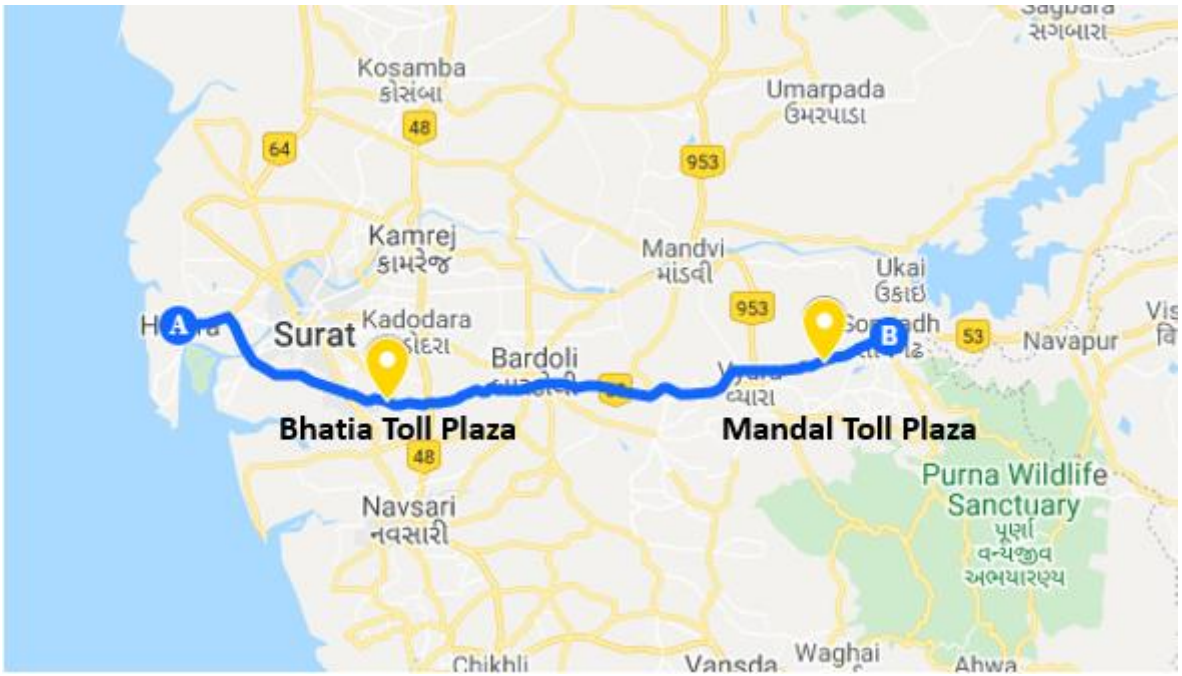
2.1 Project details

The Surat-Hazira NH-6 Tollway Pvt Ltd, also referred to as 'project stretch' hereinafter, operates the four lane road from Hazira port in Surat to the Gujarat – Maharashtra border. The project stretch was awarded on a DBFOT basis to the concessionaire. This road is a part of NH-6 which starts from Surat in Gujarat and ends at Kolkata in West Bengal. The stretch operated by the company measures approximately 132.913 km. The four-lane toll highways has two toll plaza operating at Bhatia toll plaza (near Surat) and Mandal toll plaza (near Gujarat Maharashtra border).

Table 5: Details of the project

Project	• **Surat Hazira Port to Gujarat Maharashtra Border stretch of NH-6 km**
Concessioner	• Surat-Hazira NH-6 Tollway Pvt Ltd
Concession period	• 19 years
Project length (km)	• 132.9
Project type	• Design Build Finance Operate Transfer (DBFOT) (toll)
Toll plaza	• Bhatia & Mandal Toll Plaza
Appointed Date	• March 30, 2010
Concession end date	• March 30, 2029
Project road connectivity	• Part of the NH-6 highway which connects Surat in Gujarat to Kolkata

Figure 2: Project stretch as a part of NH-6



Source: Google Maps, CRISIL Research

Project stretch is dominated by the car/jeep/van category

Mandal Toll Plaza

Total traffic at the Mandal toll plaza is ~10,342 vehicles and ~25,046 PCUs per day. Passenger traffic accounts for approximately 50% of the total traffic at the Mandal toll plaza in terms of number of vehicles. The project stretch largely caters to two categories of vehicles, i.e. car/jeep/van & MAV vehicle category. MAVs form about 32% of total traffic in vehicle terms and ~60% of the traffic in PCU terms.

Bhatia Toll Plaza

Total traffic at the Bhatia toll plaza is ~14,140 vehicles and ~23,626 PCUs per day. Passenger traffic accounts for approximately 75% of the total traffic at the Mandal toll plaza in terms of number of vehicles. The project stretch largely caters to two categories of vehicles, i.e. car/jeep/van & MAV vehicle category. MAVs form about 17% of total traffic in vehicle terms and ~45% of the traffic in PCU terms.

Passenger car unit (PCU) describes the amount of capacity of road that one individual vehicle uses when compared to a passenger car. The base value for passenger car 1.0. Correspondingly the PCU-value for a truck or bus is more than 1,0, i.e 3.0 and that of an LCV or a mini bus is 1.5. PCU value of a MAV is 4.5.

Table 6: AADT for the project stretch in FY20

Vehicle type	Mandal (nos)	Bhatia(nos)
Car/jeep/van	5,149	10,672
LCV/mini bus	444	635
Bus/truck	1,432	498

MAV (> three-axle)	3,319	2,335
Total	**10,342**	**14,140**

Source: Traffic report shared by company, CRISIL Research

Table 7: Toll rates at Mandal toll plaza (effective from April 1, 2020)

Vehicle type	Single journey (Rs)	Return journey (Rs)	Monthly pass (Rs)
Car	140	210	4,715
LCV	220	330	7,325
Bus/truck	450	675	14,955
MAV	685	1,030	22,865

Source: NHAI, CRISIL Research

Table 8: Toll rates at Bhatia toll plaza (effective from April 1, 2020)

Vehicle type	Single journey (Rs)	Return journey (Rs)	Monthly pass (Rs)
Car	110	165	3,675
LCV	175	260	5,795
Bus/truck	360	540	11,965
MAV	555	830	18,480

Source: NHAI, CRISIL Research

2.2 Alternate route / Diversion Analysis

The project stretch has multiple alternate routes which leads to higher diversion of traffic from the project stretch

The project stretch has 3 major diversion points (Ichchapore, Sachin & Songadh) leading to shift of traffic from project stretch to the alternate route. All the three diversion points help vehicles in avoiding one of the two toll plazas on the project stretch. All the three alternate routes are discussed in detail below:

Figure 3 - Alternate route-1 from Ichchapore towards Ankleshwar

Source – Google Maps, CRISIL Research

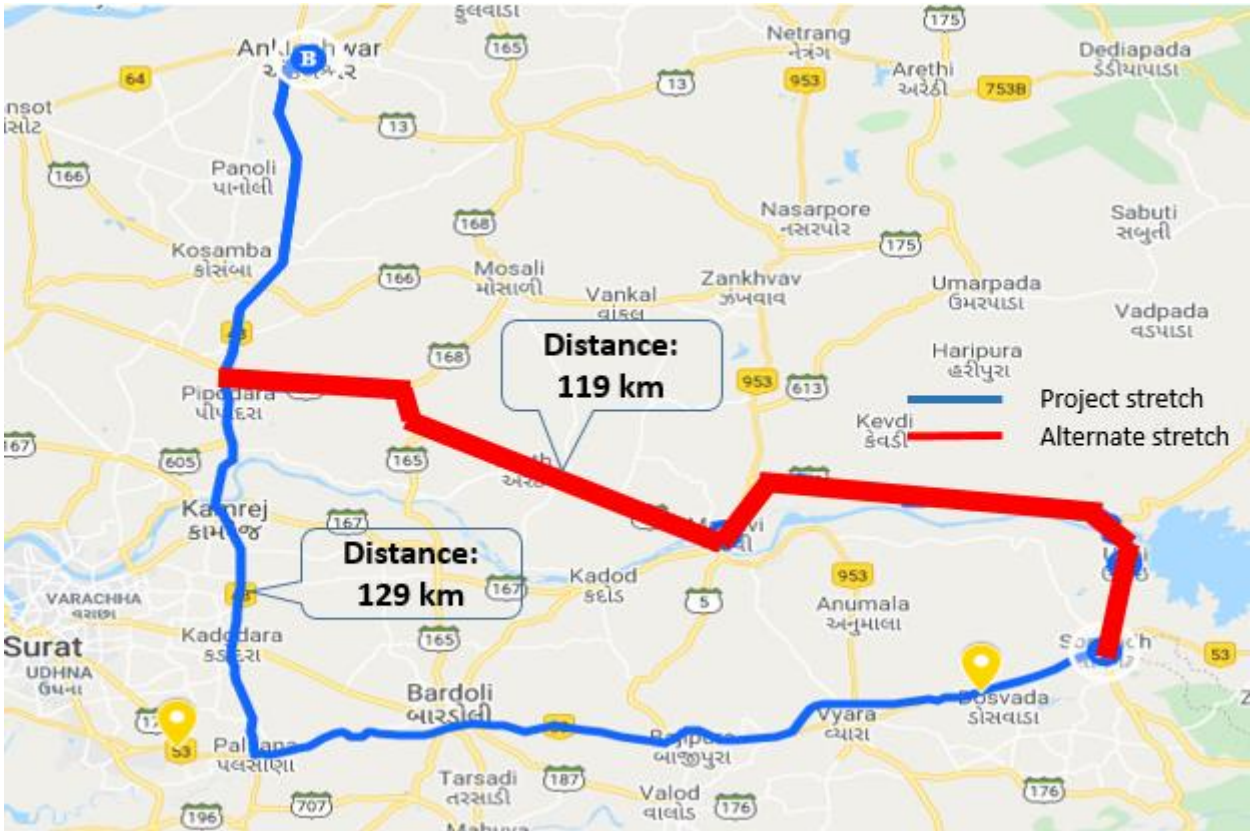
The alternate route diverts from the project stretch from Ichchapore towards north and connects to the NH-8 going ahead. The vehicles using the alternate route are able to avoid the Bhatia toll plaza on the project stretch and the total distance commuted is also lower by ~30km. The alternate route is a 4 lane route in good driving condition. A huge quantum of traffic travelling towards the north of the stretch divert via this alternate route. Hence, lower travel distance and lower toll expense leads to diversion of traffic on the alternate route from the project stretch.

Figure 4 - Alternate route-2 from Sachin-Navsari towards Valsad

Source – Google Maps, CRISIL Research

The alternate route diverts from the project stretch from Sachin and connects to NH-8 again at Navsari which is towards the south of Surat. The alignment is preferable for traffic from/to Vapi, Valsad, and Mumbai. Primary motivation for vehicles diverting onto alternate route is avoidance of toll payment. The alternate route is a 2-lane route with paved shoulders providing decent driving conditions. The quantum of loss of traffic via this alternate route is lower as compared to the alternate route -1. Hence, lower toll expense and similar driving conditions leads to diversion of traffic on the alternate route from the project stretch.

Figure 5 - Alternate route – 3 from Songadh-Mandvi towards Ankleshwar



Source – Google Maps, CRISIL Research

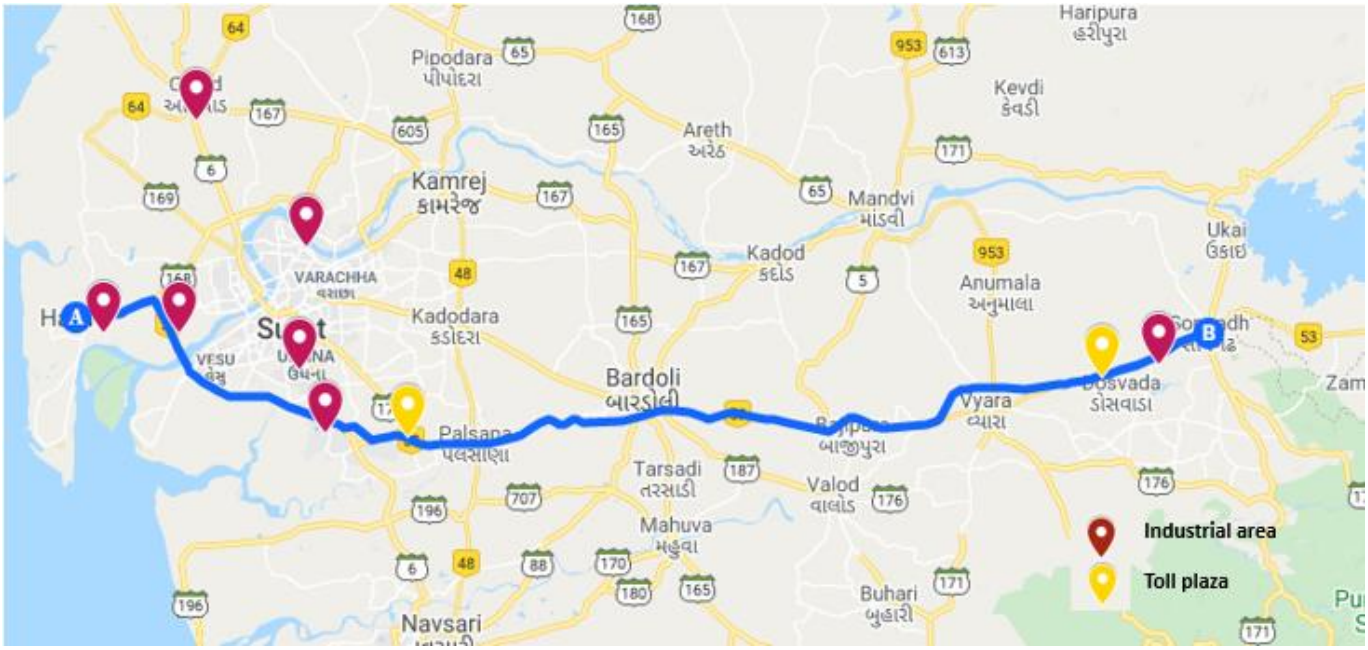
In current scenario, the alternate route is not effective as heavy vehicles are currently not allowed onto the dam structure. This rule is in place since January 2018. But the conditions are expected to reverse as the dam structure will be ready for use for heavy vehicles in FY22 and this is expected to lead to diversion of some portion of traffic towards & from the north region of the stretch. We expect ~5% of the heavy commercial traffic to shift to the alternate route post its operationalisation. The primary motivation for the vehicle operators to take de-tour from Songadh is avoidance of Mandal toll plaza.

3 Overview of districts

Gujarat, which is spread over an area of 196,024 sq km (6 per cent of India's land area), is located on the Western coast of India and has the longest coastline of 1,600 km in the country. The state has three major groups of rivers flowing in different directions. The major rivers of central and Northern Gujarat are Narmada, Sabarmati and Mahi.

Gujarat has significant activity in sectors such as chemicals, petrochemicals, drugs and pharmaceuticals, dairy, cement and ceramics, gems and jewellery, textiles and engineering.

Figure 6 - Major industrial areas near the project stretch



Source: Google Maps, CRISIL Research
Note: Details of the industrial areas are given under district profile

3.1 Surat district profile

3.1.1 Demographic profile

Surat is located on the Southern part of Gujarat. The district is divided into ten revenue tehsils namely Choryasi, Palsana, Kamrej, Bardoli, Olpad, Mangrol, Mandvi and Surat city are the major developed tehsils in the district. Industrial development in Surat district is attributed to the presence of a large number of diamond processing, textiles and chemical & petrochemical industries. Hazira and Magdalla Ports in the district provide logistic support to the industrial operations min the state with foreign countries.

Table 9 - Surat district demographic profile

Social profile		
Year	**2001**	**2011**
Area (sq km)	4,549	4,549

Social profile		
Population (000's)	4,275	6,081
Sex ratio	810	787
Average literacy (%)	77.6	85.5

3.1.2 Industrial overview

Industrial development in Surat district is attributed to the presence of a large number of diamond processing, textiles and chemical & petrochemical industries. Some of the main industries are textiles, chemicals, dying & printing, diamond processing, zari (silver) making, and; engineering and related activities (including manufacturing machines & equipments). Most of the small scale industries are located in Choryasi (Western Surat), Mangrol and Olpad (Northern Surat), Mandvi (Central Surat) and Palsana (Southern Surat) tehsils of the district. Surat has a domestic airport which is well connected to different metros. Magdalla & Hajira Ports in Surat have good rail and road connectivity. Magdalla port is only 2 km away from the state highway and 15 km away from NH-8. Hajira port in Surat has close proximity to the high speed dual carriageway. The port is well connected with main Mumbai-Delhi Freight Corridor is expected to be a major driver for the industrial growth Hajira Port.

Table 10 - List of industrial areas in the Surat district (GIDC)

S No.	Name of industrial area	Size (in ha)
1	Ichchapore (GIDC-SUDA)	910.4
2	Sachin	692.3
3	Hazira (Mora)	474.5
4	Pandesara	217.2
5	Doswada	165.6
6	Katargam	38.0
7	Olpad	29.7
8	Bardoli	4.7
9	Khatodara	3.1
10	Valod	1.1

Source: SIDCO, CRISIL Research

4 Assessment of industries and infrastructure influencing traffic on the stretch

4.1 Industries influencing the project stretch

Traffic on the stretch largely driven by commodities like agri commodities, petroleum products and building materials

Table 11 – Growth rates for major commodities moved on the project stretch

Commodity	Commodity Mix		Growth prospect
	Mandal	Bhatia	(FY22-FY25 CAGR)
Agri Produce	34%	45%	0.9%
Construction materials	21%	2%	8.8%
Textile & Leather	9%	8%	2.1%
Iron & Steel Products	6%	5%	3.5%
Consumer Products	5%	2%	1.7%
Petroleum Products	4%	3%	3.5%
Chemical Products	3%	12%	4.6%
Courier & parcel (Miscellaneous items)	3%	3%	-1.5%
Plywood & Timber products	2%	2%	4.6%
Milk & Animal Food	2%	2%	4.8%
Automobiles	1%	0%	4.8%
Paper products	1%	1%	2.0%
Coal	1%	3%	3.4%
Others	0%	4%	2.0%

Source – Traffic survey, CRISIL Research

Major takeaways from the commodity mix at TP-1:

- Goods traffic movement on the TP-1 shows higher composition of agriculture commodities, construction material and textile material together accounting for 36% of the total freight vehicles
- Mandal toll plaza is located closer to the Gujarat-Maharashtra border, hence a significant quantum of agri traffic which consist of fruits, vegetables, sugarcane, etc. travels towards Gujarat for the purpose of consumption
- Construction material and textile commodities travel from Gujarat towards Maharashtra as Surat is an established textile cluster
- Empty vehicles account for ~34% of the total freight traffic

Major takeaways from the commodity mix at TP-2:

- Goods traffic movement on the TP-2 shows higher composition of petroleum products, construction material and building material together accounting for a quarter of the total freight vehicles

- Bhatia toll plaza is located closer to the Hazira and Magadalla port, hence a significant quantum of traffic is derived from those locations
- Presence of LPG bottling plants of HPCL & IOCL leads to higher share of petroleum products at TP-2.
- Magadalla port has private jetty of Ambuja cement and a grinding unit of Ultratech cement. Combined together they have a capacity of 1.9 mn tons per annum
- Share of empty vehicles account for ~45% of the total freight traffic, higher than TP-1

Growth in infrastructure and industrial activity in the vicinity of the project stretch to drive traffic growth

The major projects in the region are all at the nascent or planning stage and hence their impact will be noticed in the later years of the concession agreement. The infrastructure development in the region would to incremental traffic of building material.

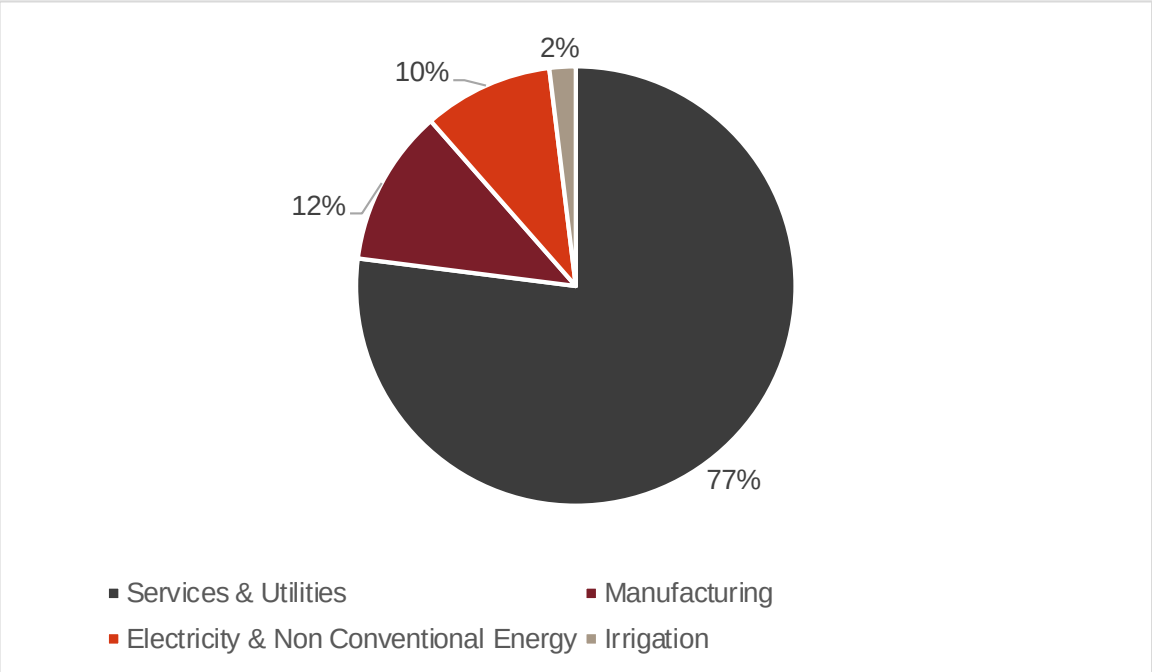
Table 12 - Major expansion plans by companies in the Surat region are listed as follows:

Project name	Implementation stage	Investment (Rs million)	Capacity	Units
Surat Metro Rail Project	Planning	15,234	40.35	kms
Outer Harbour (Hazira) Project - Expansion	Planning	14,030	-	
Atomic Power (Kakrapara) Project	Partially Completed	12,600	700	Mwe
Gas Pipelines (Surat-Paradip) Project	Planning	10,281	2112	kms
Ukai Coal Based Power Project [Unit-7]	Planning	5,113	800	MW
Outer Ring Road (Surat) Project	Nascent	5,000	63	kms
Zinc Smelter (Doswada) Project	Nascent	5,000	3	Lakh tpa
Self Propelled Guns (Hazira) Project	Planning	4,500	-	
Coal Based Power (Nani Naroli) Project	Planning	3,000	250	MW
Coastal Economic Zone (Suryapur) Project	Nascent	3,000	-	
Surat Railway Station Project - Modernisation	Planning	3,000	56	acres

Source – Projects Today, CRISIL Research

The above-mentioned expansion and new units set up are expected to drive traffic on the project stretch.

Figure 7 - Major investments planned in infrastructure projects in Surat region



Source – Projects Today, CRISIL Research

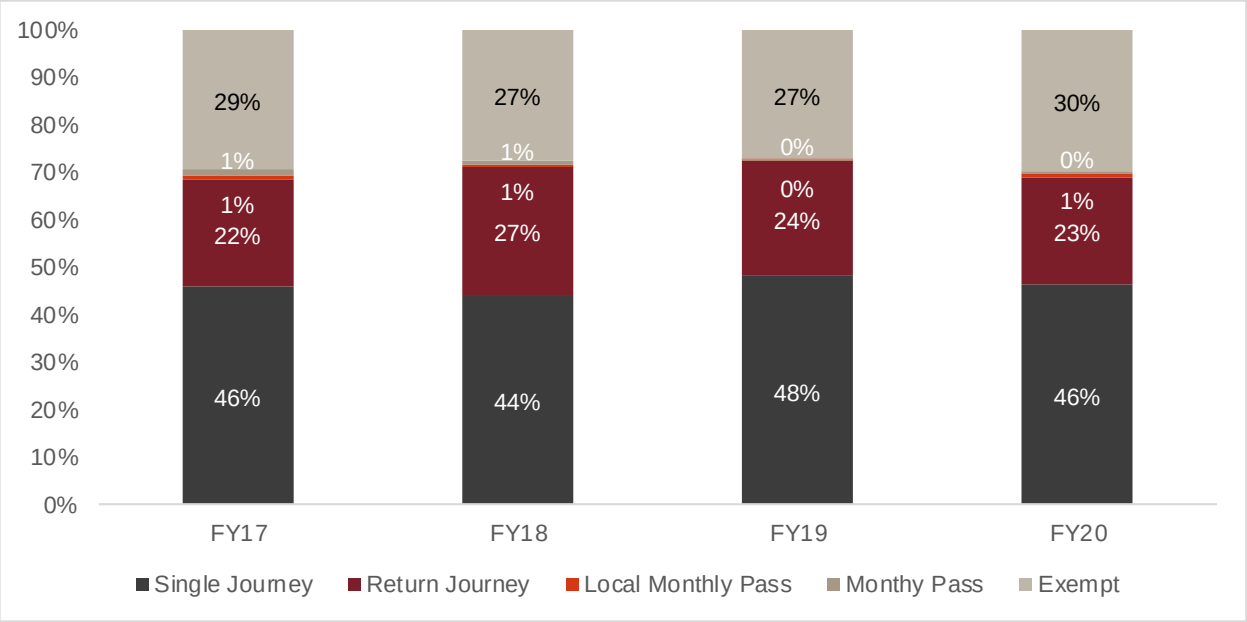
The overall investment in under-development projects in Surat is expected to be ~Rs 1,079.8 billion. About 77% of these investments are planned in the services and utilities sector, particularly in the community services, roadways, railways, water and sewage pipeline and distribution sub-sectors. Manufacturing and electricity and non-conventional energy make up for the rest of the investments planned in the region.

5 Assessment of traffic on project stretch

5.1 Analysis of traffic on project stretch

Exempt traffic highest in fiscal 2020 due to toll suspension in last week of March

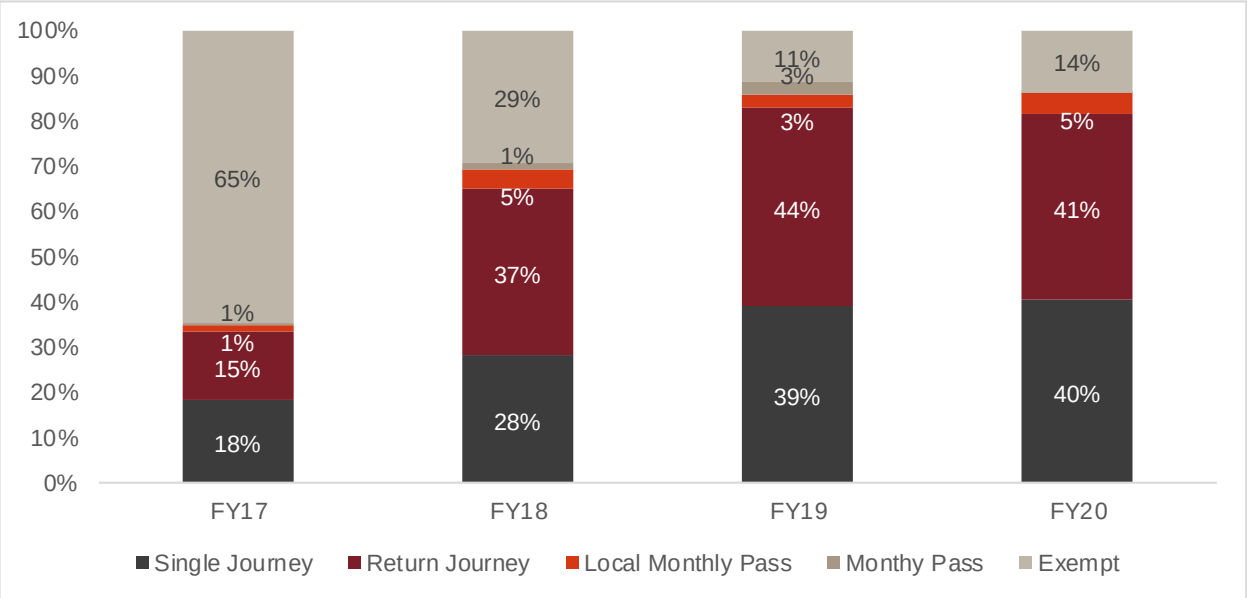
Figure 8 – Traffic composition by type of journey at the Mandal toll plaza



Source: Traffic Data, CRISIL Research

Proportion of exempt traffic to overall traffic at the Mandal toll plaza reached a high of 30% in fiscal 2020, due to toll suspension in last week of March due to nationwide lockdown. For the period FY17-19, the proportion of exemptions in the overall traffic remained in the range of 27-29%. Single journey's share of overall traffic has increased over the period of fiscal 2018 to fiscal 2020 from 44% to 46%, while proportion of return journey in the total traffic reduced to 23% in FY20 from 27% in FY18 due to compulsory issuance of return ticket only to Fastag users.

Figure 9 – Traffic composition by type of journey at the Bhatia toll plaza



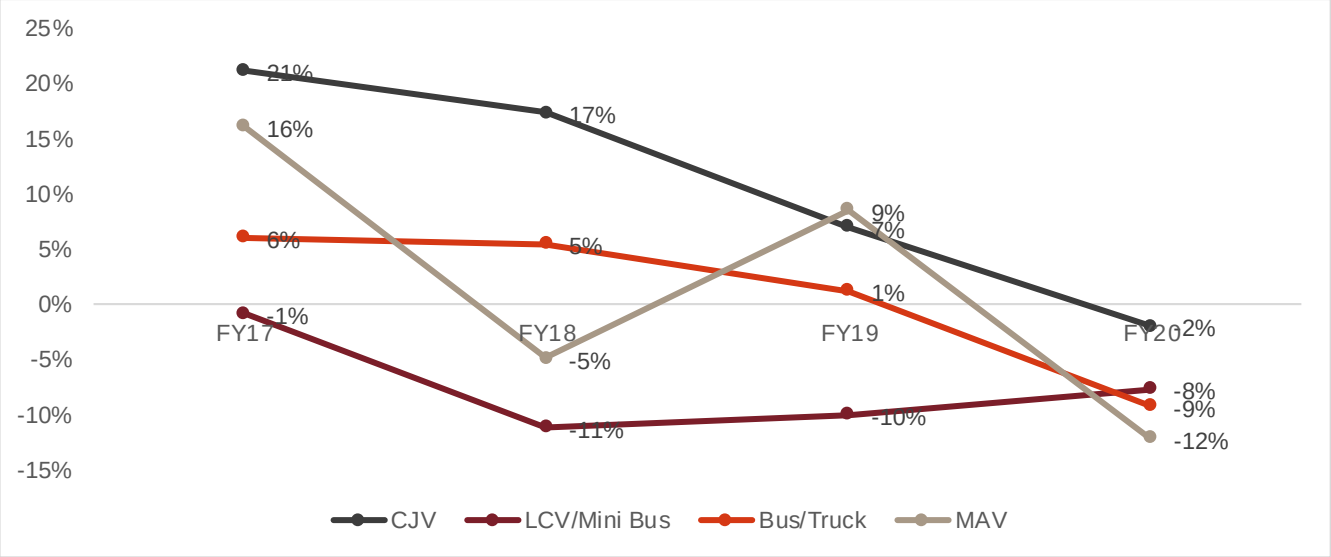
Source: Traffic Data, CRISIL Research

Proportion of exempt traffic to overall traffic on the project stretch has declined from 65% in FY17 to 14% in FY20. Major reason for high exemption levels in FY17 was resistance of local vehicle users to not pay toll. But the situation changed when the authorities introduced a local pass of Rs 10/- for single journey. Although, the contribution of the local segment to overall revenues is extremely low. But post compulsory implementation of Fastag, this category is expected to shift to alternate route or a notification from authority would be required to implement this category. Increase in share of single journey and return journey has increased during the same period owing to inclusion of local traffic in tolling categories.

5.2 Category-wise traffic growth on project stretch

Growth rates for cars at Mandal toll plaza has constantly de-grown since FY17

Figure 10 - Vehicle category-wise growth rates at Mandal toll plaza

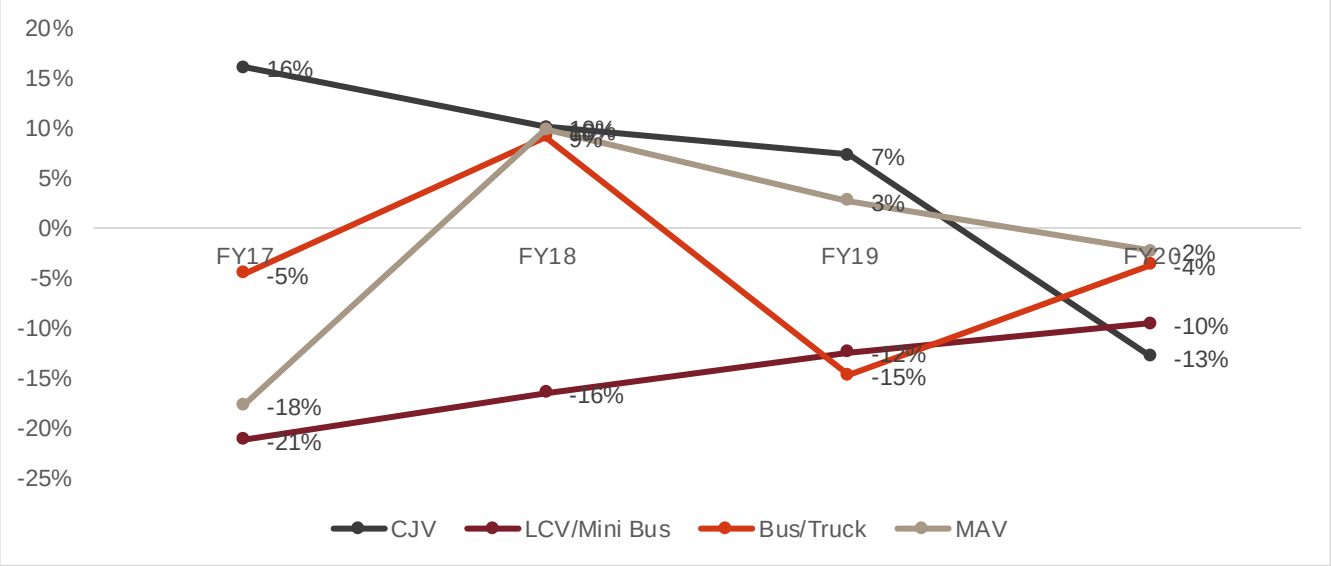


Source: Traffic Data, CRISIL Research

- Growth rates for heavy vehicles, Bus/Truck and MAVs, have been declining consistently since FY17 before landing in to the negative territory in FY20 due to pandemic. Passenger traffic has been in the negative throughout the period FY17-20.
- Presence of alternate routes available as against project stretch has led to de-growth of traffic on the project stretch.

Growth rates for cars at Bhatia toll plaza has constantly de-grown since FY17

Figure 11 - Vehicle category-wise growth rates at Bhatia toll plaza



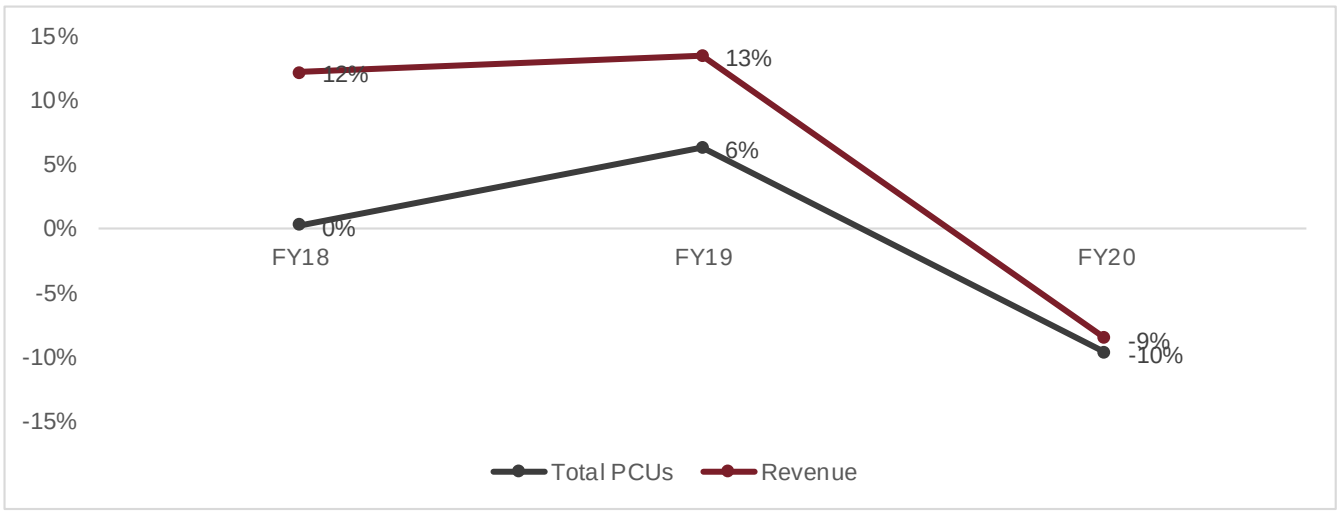
Source: Traffic Data, CRISIL Research

- Growth rates for heavy vehicles, Bus/Truck and MAVs, have been declining consistently since FY17 before landing in to the negative territory in FY20 due to pandemic. Passenger traffic has been in the negative throughout the period FY17-20.
- Presence of alternate routes at Ichchapore and Sachin against project stretch has led to de-growth of traffic on the project stretch.

5.3 Growth rates of total PCUs and revenue on the project stretch

PCU and revenue growth in FY18-19 was due to incremental traffic gained due closure of Ukai dam structure for heavy vehicles

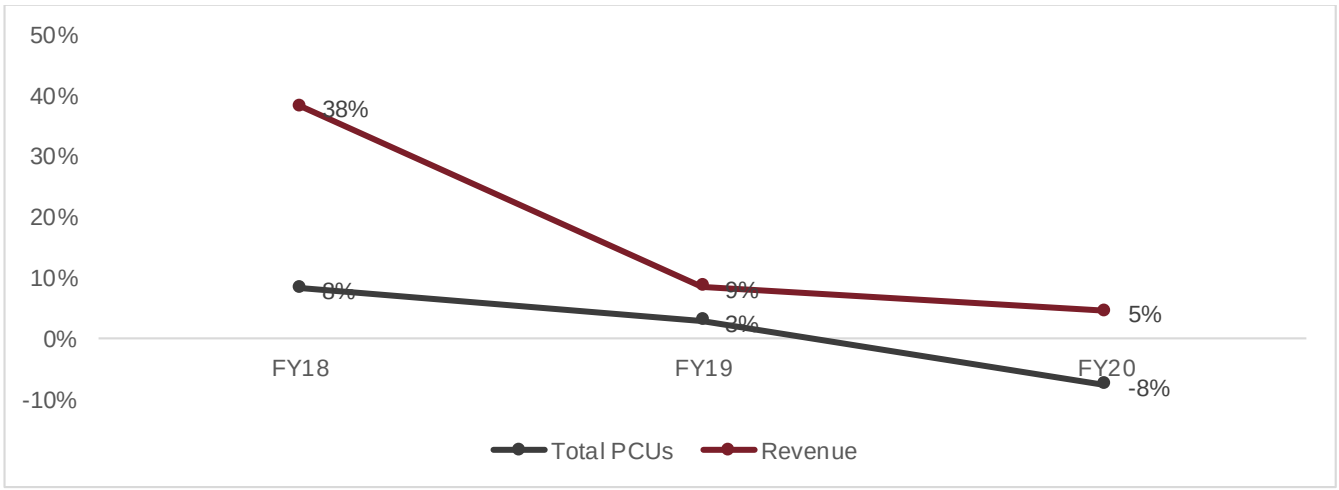
Figure 12 - Past growth rates for total traffic, PCUs and revenue at Mandal toll plaza



Source: Traffic Data, CRISIL Research

Consistent shift of traffic on the alternate route led to decline in growth rates of traffic and revenue at Bhatia toll plaza

Figure 13 - Past growth rates for total traffic, PCUs and revenue at Bhatia toll plaza



Source: Traffic Data, CRISIL Research

5.4 Final consideration for traffic projection

Traffic numbers of fiscal 2019 have been considered as the base numbers for future traffic projections. A few vehicle categories have been broken down into different vehicle types to separate passenger vehicles and goods vehicles. To breakdown the vehicle categories in the right proportion, average annual daily traffic (AADT) of all vehicle

categories from the past traffic reports were considered.

Vehicle categories which are differentiated/broken down are:

- LCV/Mini bus category has been differentiated into LCV and minibus.
- Bus/Truck category has been differentiated into bus and truck.

Passenger traffic accounts for more than 75% of the total traffic on the stretch.

Table 13 - Traffic numbers for projection at Mandal toll plaza

Vehicle type	AADT
Cars	5,967
LCV/Mini bus	488
Bus/Trucks	1,662
MAV (3 axle & above)	3,701
Total	**11,818**

Source: Traffic data, CRISIL Research

Table 14 - Traffic numbers for projection at Bhatia toll plaza

Vehicle type	AADT
Cars	9,449
LCV/Mini bus	541
Bus/Trucks	529
MAV (3 axle & above)	2,783
Total	**13,303**

Source: Traffic data, CRISIL Research

5.5 Origin-destination (O-D) analysis

Origin Destination survey was conducted at the toll plaza on 18th January, 2020. OD survey has conducted for all vehicle categories including both goods and passenger vehicles.

Table 15– Passenger traffic O-D analysis of Mandal toll plaza

Mandal toll plaza							
Direction - Towards Hazira (Up)				Direction - Towards East (Down)			
Origin	%	Destination	%	Origin	%	Destination	%

Songadh	49%	Surat	41%	Surat	40%	Songadh	38%
Navapur	11%	Vyara	38%	Vyara	36%	Ukai	11%
Nandurbar	9%	Bardoli	10%	Bardoli	12%	Navapur	9%
Dhule	5%	Navsari	4%	Navsari	1%	Uchchhal	8%
Uchchhal	4%	Ahmedabad	1%	Ahmedabad	1%	Nizar Road	6%
Others	23%	Others	7%	Others	9%	Others	27%

Source: Traffic survey report, CRISIL Research

- A majority of the passenger traffic plying in the direction towards Hazira port originated from Songadh and Navapur region, together they account for 60% of the traffic. The destination of major passenger traffic is Surat region, which comprises of Surat city, Vyara & Bardoli, together they account for ~89% of the traffic. Some portion of traffic is destined towards Ahmedabad & Navsari.
- A majority of the passenger traffic in the direction away from Hazira originates from Surat and neighboring regions such as Vyara & Bardoli, together they account for ~88% of the traffic. A small portion (~2%) of traffic originates from cities such as Navsari and Ahmedabad. Songadh, Ukai and Navapur are three major destinations located in near the project stretch for passenger traffic in this direction. Together they account for ~58% of the traffic.

Table 16– Passenger traffic O-D analysis of Bhatia toll plaza

Bhatia toll plaza							
Direction- Towards Hazira (Up)				Direction-Towards East (Down)			
Origin	**%**	**Destination**	**%**	**Origin**	**%**	**Destination**	**%**
Palsana	29%	Surat	65%	Surat	78%	Palsana	32%
Bardoli	17%	Sachin	24%	Sachin	13%	Bardoli	19%
Navsari	6%	Hazira	5%	Un	4%	Vapi	8%
Mumbai	6%	Un	2%	Hazira	2%	Navsari	7%
Vapi	5%	Limla	1%	Piplod	0%	Valsad	5%
Others	36%	Others	3%	Others	3%	Others	29%

Source: Traffic survey report, CRISIL Research

- Palsana, Bardoli and Navsari are the major origin locations for passenger traffic at the Bhatia toll plaza in directin towards Hazira. These locations account for ~52% of the traffic in this direction. 65% of the passenger traffic in direction towards hazira is destined towards Surat city and a quarter is destined towards Sachin which is located along the stretch.
- A majority of the passenger traffic in the direction towards east originates from Surat and Sachin, together they account for ~91% of the traffic. Regions such as Palsana and Bardoli which are in the vicinity of the stretch are

destinations for ~51% of the traffic in this direction. Some portion of traffic is also destined towards towns such as Vapi, Navsari and Valsad.

Table 17– Goods traffic O-D analysis of Mandal toll plaza

Mandal toll plaza							
Direction - Towards Hazira (Up)				Direction - Towards East (Down)			
Origin	**%**	**Destination**	**%**	**Origin**	**%**	**Destination**	**%**
Songadh	30%	Surat	49%	Surat	40%	Songadh	32%
Nandurbar	7%	Vyara	14%	Vyara	18%	Nizar Rode	12%
Navapur	6%	Bardoli	6%	Bardoli	8%	Navapur	9%
Dhule	5%	Ahmedabad	5%	Ahmedabad	6%	Nashik	5%
Ukai	5%	Vapi	3%	Vapi	5%	Uchchhal	5%
Others	47%	Others	22%	Others	23%	Others	37%

Source: Traffic survey report, CRISIL Research

- In the direction towards Hazira, ~30% of the traffic originates from Songadh which has an industrial estate alongside the stretch. As the stretch connect northern Maharashtra to Gujarat, ~43% of the freight traffic originates from Maharashtra. The stretch is a key connecting route to Surat which is a destination for approximately half of the traffic in this direction. Considering locations nearby Surat such as Vyara and Bardoli, together they account for another ~20% of the traffic in terms of destination. The project stretch also connects northern Maharashtra to key locations in Gujarat (via NH-8) such as Ahmedabad and Vapi.
- In direction towards the east, major proportion (~66%) of the traffic originates from Surat and regions along the stretch such as Vyara and Bardoli. Other key locations such as Ahmedabad and Vapi account for ~11% of the traffic origination. Songadh is the key destination for commercial traffic along the project stretch accounting for ~32% of the traffic. 32% of the total traffic in this direction is destined towards Maharashtra as this toll plaza is closer to the Maharashtra border.

Table 18– Goods traffic O-D analysis of Bhatia toll plaza

Bhatia toll plaza							
Direction - Towards Hazira (Up)				Direction - Towards East (Down)			
Origin	**%**	**Destination**	**%**	**Origin**	**%**	**Destination**	**%**
Vapi	17%	Hazira	42%	Hazira	43%	Vapi	16%
Palsana	15%	Sachin	24%	Sachin	28%	Palsana	15%
Mumbai	8%	Surat	21%	Surat	20%	Mumbai	8%
Bardoli	6%	Magdalla	5%	Magdalla	5%	Silvassa	5%
Kadodara	5%	Un	3%	Un	1%	Vadodara	5%
Others	49%	Others	6%	Others	3%	Others	50%

Source: Traffic survey report, CRISIL Research

- In the direction towards Hazira, traffic origination is scattered with ~17% of the traffic originating from Vapi, 15% from Palsana and 11% from Bardoli and Kadodra. In terms of destination, ~47% of the commercial traffic is destined towards Hazira & Magdalla port. Another quarter of the traffic has a destination at Sachin as it has an industrial estate near the stretch. ~21% of the commercial traffic is destined towards Surat city.
- In direction towards the east, half (~48%) of the traffic originates from Hazira and Magdalla ports. Another 20% of the traffic originates from Surat region. Destinations for the commercial traffic travelling towards the east are not concentrated as the origin points. Vapi, Palsana, Mumbai and Vadodara are key destination points for commercial traffic plying in this direction.

5.6 Major commodities moving on the project stretch

The major goods carried on the stretch include courier and parcels, agri produce, petroleum products, automobiles (including spare parts), poultry and seafood and machinery. About 44% of the goods traffic carries these commodities on the project stretch, whereas 31% of the vehicles are empty.

Table 19 – Commodity mix on the toll plaza

Commodity name	Mandal	Bhatia
Empty	34%	45%
Agri Produce	21%	2%
Construction materials	9%	8%
Textile & Leather	6%	5%
Iron & Steel Products	5%	2%
Consumer Products	4%	3%
Petroleum Products	3%	12%
Chemical Products	3%	3%
Courier & parcel (Miscellaneous items)	2%	2%
Plywood & Timber products	2%	2%
Milk & Animal Food	1%	0%
Automobiles	1%	1%
Paper products	1%	3%
Coal	0%	4%
Others	7%	8%
Total	**100%**	**100%**

Source: Traffic survey report, CRISIL Research

Note: Based on the observation from the sourcing, commodity mix is being adjusted

Major takeaways from the commodity mix at TP-1:

- Goods traffic movement on the TP-1 shows higher composition of agriculture commodities, construction material and textile material together accounting for 36% of the total freight vehicles
- Mandal toll plaza is located closer to the Gujarat-Maharashtra border, hence a significant quantum of agri traffic which consist of fruits, vegetables, sugarcane etc travels towards Gujarat for the purpose of consumption
- Construction material and textile commodities travel from Gujarat towards Maharashtra as Surat is an established textile cluster
- Empty vehicles account for ~34% of the total freight traffic

Major takeaways from the commodity mix at TP-2:

- Goods traffic movement on the TP-2 shows higher composition of petroleum products, construction material and building material together accounting for a quarter of the total freight vehicles
- Bhatia toll plaza is located closer to the Hazira and Magadalla port, hence a significant quantum of traffic is derived from those locations
- Presence of LPG bottling plants of HPCL & IOCL leads to higher share of petroleum products at TP-2.
- Magadalla port has private jetty of Ambuja cement and a grinding unit of Ultratech cement. Combined together they have a capacity of 1.9 mn tons per annum
- Share of empty vehicles account for ~45% of the total freight traffic, higher than TP-1

6 Traffic and revenue projections for the remaining concession period

6.1 Assumptions

Traffic and revenue projections for the project stretch toll plazas are based on various factors that influence traffic movement, such as:

i. Increase in vehicle registration in the district/state for cars and buses, and future growth in sales of passenger and commercial vehicles

ii. Impact of lockdown, enforced due to Covid-19 pandemic, on various categories of traffic

iii. Industries growth, which are positively impacting goods vehicles on the project stretch

iv. Impact of GST on increasing the share of multi-axle vehicles (MAVs) and light commercial vehicles (LCVs) to facilitate transportation of goods from central warehouses

v. A natural shift will increase the proportion of large-fleet operators in commercial vehicles

vi. Truck aggregators to improve efficiency in empty vehicles moving on the project stretch

vii. Revision in toll rates based on changes in the Wholesale Price Index (WPI)

viii. Cost estimates for operational expenditure such as routine and major maintenance of the road project have assumed as per discussion with the company and internal estimates

The chapter details out CRISIL Research's assumptions on traffic growth on the project stretch for the remaining concession period until fiscal 2029.

6.1.1 Growth in cars and buses

For passenger vehicles, such as cars and buses, vehicle registration data for Gujarat and Maharashtra has been taken into consideration. Growth rates for cars and buses have been assumed based on historical growth in the state.

CRISIL Research expects income growth and affordability with respect to ownership to rev up passenger vehicle demand over the next five years. Cost of ownership is expected to be stable, with fuel prices likely to remain in the same range. Also, CRISIL Research expects affordability to improve, as the economy increases employment opportunities and wages. Consequently, vehicle penetration is expected to rise from the current estimated 21 vehicles per 1,000 population to 25-27 vehicles per 1,000 people over the next five years.

Thus, growth in cars population has been assumed at a CAGR of ~5.5% over fiscals 2022 to 2029. Buses in the region have witnessed cyclical growth and, hence, we have assumed a CAGR of 2.0% over fiscals 2022 to 2029.

Growing passenger vehicle ownership, increasing per-capita income, rising industrial activity, development of new infrastructure projects and growth of Surat district is expected to lead to higher passenger vehicle movement for leisure and work-related travel.

6.1.2 Growth in industries influencing MAV, truck and oversize vehicular traffic on the stretch

Based on data from the traffic survey report at both the toll plazas, the influence of prominent industries on future traffic on the project stretch was taken into account. These industries either lie along the project stretch or further away, but vehicles carrying goods from/to these industries make use of the stretch to transport either raw materials or finished products to other regions. CRISIL Research's in-house GDP forecast has been linked to industry growth for the remaining concession period to arrive at appropriate growth rates. The impact of industrial growth has been accounted for vehicular growth in the following categories – LCVs, MAVs, trucks and oversized commercial vehicles.

The percentage of traffic carrying each of the following materials at the toll plaza has also been accounted for, based on the traffic survey report, to arrive at appropriate weighted averages, and the ratio has been maintained thereafter.

Table 20 – Industrial growth rates considered

Commodity	Growth prospect (FY22-FY25 CAGR)
Agri Produce	0.9%
Construction materials	8.8%
Textile & Leather	2.1%
Iron & Steel Products	3.5%
Consumer Products	1.7%
Petroleum Products	3.5%
Chemical Products	4.6%
Courier & parcel (Miscellaneous items)	-1.5%
Plywood & Timber products	4.6%
Milk & Animal Food	4.8%
Automobiles	4.8%
Paper products	2.0%
Coal	3.4%
Others	2.0%

Source: CRISIL Research

6.1.3 Impact of GST

MAVs and LCVs to grow at a faster rate replacing three-axle and two-axle vehicles

After the implementation of the Goods and Services Tax (GST), pan-India re-alignment of distribution networks and supply chains is expected. The hub-and-spoke model is expected to gain prominence, with more concentrated hubs and longer spokes (distance between hub and consumption centers). Companies are expected to consolidate state warehouses into larger regional warehouses, which will increase the average load size from manufacturing plants to larger regional warehouses.

Thus, the scope to use higher-tonnage MHCVs will broaden, aiding a shift to higher tonnage vehicles. CRISIL Research, therefore, estimates the population of MAVs and LCVs in overall vehicular population to grow at a faster

rate, replacing three-axle and two-axle vehicles.

CRISIL Research has considered the GST impact based on the commodities that are likely to be impacted.

- Commodities impacted - FMCD, FMCG, cement, pharma, automobiles, garments and other bulk commodities
- Commodities unaffected - Food grains, fruits and vegetables, iron and steel, limestone, and capital goods

6.1.4 Impact of natural shifts

Natural shift to increase the proportion of heavy vehicles

A natural shift towards heavy-vehicle categories in the long term should aid higher demand as the economy grows. For instance, LCV users might shift to ICV/ two-axle and some of two-axle and three-axle users move to MAV. This will likely to increase the higher categories vehicles such as two-axle, three-axle and MAVs.

6.1.5 Impact of truck aggregators

Truck aggregation will reduce empty commercial vehicle movement and improve efficiency

Truck aggregation startup platforms such as Blackbuck, Porter, Rivigo, Trukky and Truckola have ramped up their businesses over the past 3-4 years, thereby improving the efficiency of the logistics sector. Though truck aggregators are still in customer-acquisition mode, there has been a clear increase in demand for their services, which has resulted in increased utilisation of trucks. (*As per CRISIL Research, truck utilisation in LCV and two-axle categories is the movement of empty vehicles at toll plazas.*)

Efficiency among LCV and two-axles to improve

Growing penetration of truck aggregators in the coming years will improve vehicle efficiency with regard to empty vehicle trips.

6.1.6 Revision in toll rates

Based on the concession agreement, toll-rates revision happens once every year; the last toll rate revision happened in April 2019, and the next toll rate revision is due in April 2020.

Toll rate for next year = Toll rate of the previous year × [1 + (40% of WPI) + 3%]

For Wholesale Production Index (WPI) projection, CRISIL Research has relied on input from its Corporate Centre for the Economics Research team. WPI inflation is forecast to average in the range of 2.8% to 3.4% in the next five years, higher than 1.3% over the last five years.

6.2 Total Traffic projections

CRISIL Research's traffic forecast for both the toll plazas on the project stretch is for the remaining concession period, i.e., until fiscal 2029.

Table 21 – Vehicle segmentation of the projected AADT at Mandal toll plaza

	Car	LCV	2-axle/Bus	MAV/3-axle	Total traffic per day	PCU
FY22P	4,744	489	1,492	3,241	9,966	24,539
FY23P	5,029	498	1,520	3,341	10,387	25,367
FY24P	5,330	505	1,542	3,421	10,798	26,106
FY25P	5,618	512	1,563	3,493	11,186	26,794
FY26P	5,921	519	1,584	3,565	11,590	27,496
FY27P	6,225	525	1,605	3,637	11,992	28,192
FY28P	6,538	532	1,624	3,706	12,399	28,882
FY29P	6,860	538	1,642	3,774	12,815	29,579
CAGR (FY22-29) %	5.4%	1.4%	1.4%	2.2%	3.7%	2.7%

Source: CRISIL Research

The average annual daily traffic (AADT) at Mandal TP is expected to rise from 9,966 in fiscal 2022 to 12,185 in fiscal 2029, clocking a compound annual growth rate (CAGR) of 3.7%. PCU count at the toll plaza is expected to grow from 24,539 to 29,579 or at 2.7% CAGR over the remaining concession period.

Table 22 – Vehicle segmentation of the projected AADT at Bhatia toll plaza

	Car	LCV	2-axle/Bus	MAV/3-axle	Total traffic per day	PCU
FY22P	10,433	538	521	2,658	14,150	24,764
FY23P	11,059	547	526	2,718	14,850	25,686
FY24P	11,723	555	530	2,717	15,525	26,372
FY25P	12,356	561	535	2,740	16,192	27,131
FY26P	13,023	567	539	2,788	16,917	28,037
FY27P	13,691	573	542	2,837	17,643	28,945
FY28P	14,379	578	544	2,874	18,375	29,809
FY29P	15,088	583	545	2,910	19,126	30,693
CAGR (FY22-29) %	5.4%	1.1%	0.7%	1.3%	4.4%	3.1%

Source: CRISIL Research

The average annual daily traffic (AADT) at Bhatia TP is expected to rise from 14,150 in fiscal 2022 to 19,126 in fiscal 2029, clocking a compound annual growth rate (CAGR) of 4.4%. PCU count at the toll plaza is expected to grow from 24,764 to 30,693 or at 2.7% CAGR over the remaining concession period.

7 Review of past financial performance

Toll revenue grew ~3.4% CAGR between fiscals 2018 and 2020

Table 23 – Key financial indicators during the past four years (FY18-FY20)

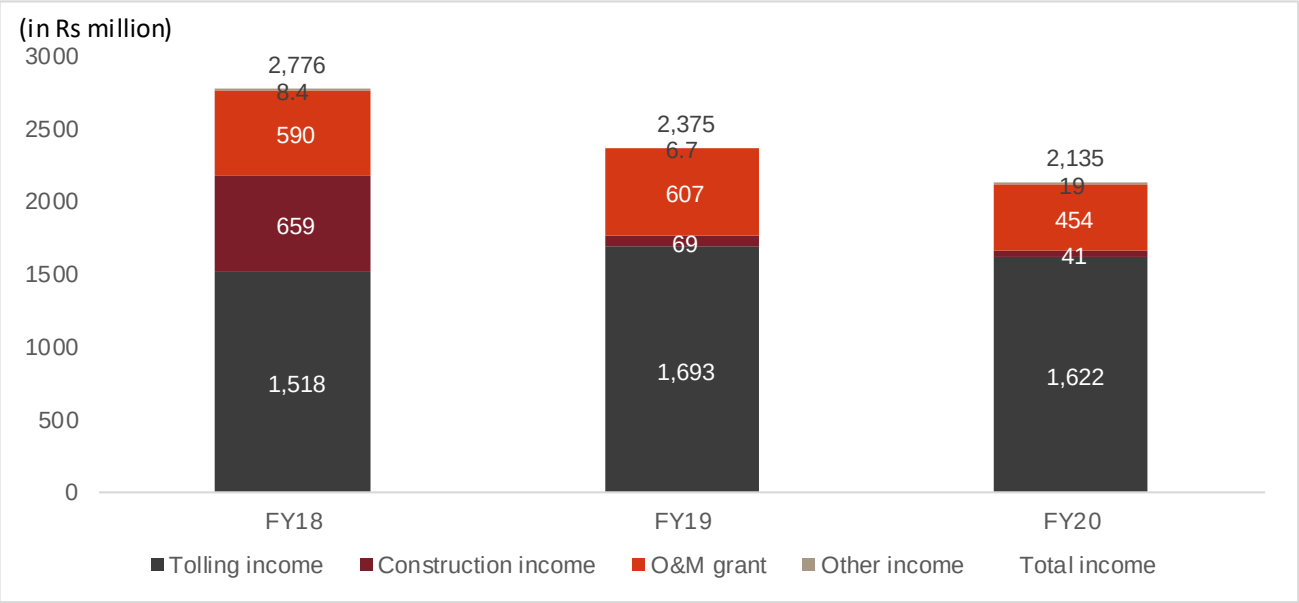
	FY18	FY19	FY20
Tolling income (Rs million)	1517.6	1692.7	1621.5
Construction income (Rs million)	659.2	68.5	40.6
O&M grant	590.4	606.6	454.3
Other income	8.4	6.7	19.0
Total operating income (Rs million)	2775.6	2374.5	2135.4
Operating profit (Rs million)	1547.1	1911.7	1770.1
Operating profit margin (%)	55.7%	80.5%	82.9%
Net profit (Rs million)	-2123.7	-102.3	-1398.4
Net profit margin (%)	-76.5%	-4.3%*	-65.5%
Net worth (Rs million)	618.5	1,018.5	-377.8
Total debt (Rs million)	21,593.5	21,898.6	15,935.5
Gearing (times)	34.9	21.5	-42.2
Interest coverage (times)	0.2	0.3	0.4
Net cash accrual/total debt (times)	-0.1	0.0	0.0

*Note: *Includes exceptional gain due to one-time debt restructuring exercise*

The company commenced tolling operations in August 2016 on the back of receiving a provisional COD. Tolling income increased at a CAGR of ~3.4% between fiscals 2018 and 2020, majorly contributed by increase in toll rates and a mild increase in traffic on both the plazas. Total operating income declined over the years, because of the reduction in construction income over years. Construction income is expensed out completely in the same year itself, hence leaving no impact on the profits of the SPV.

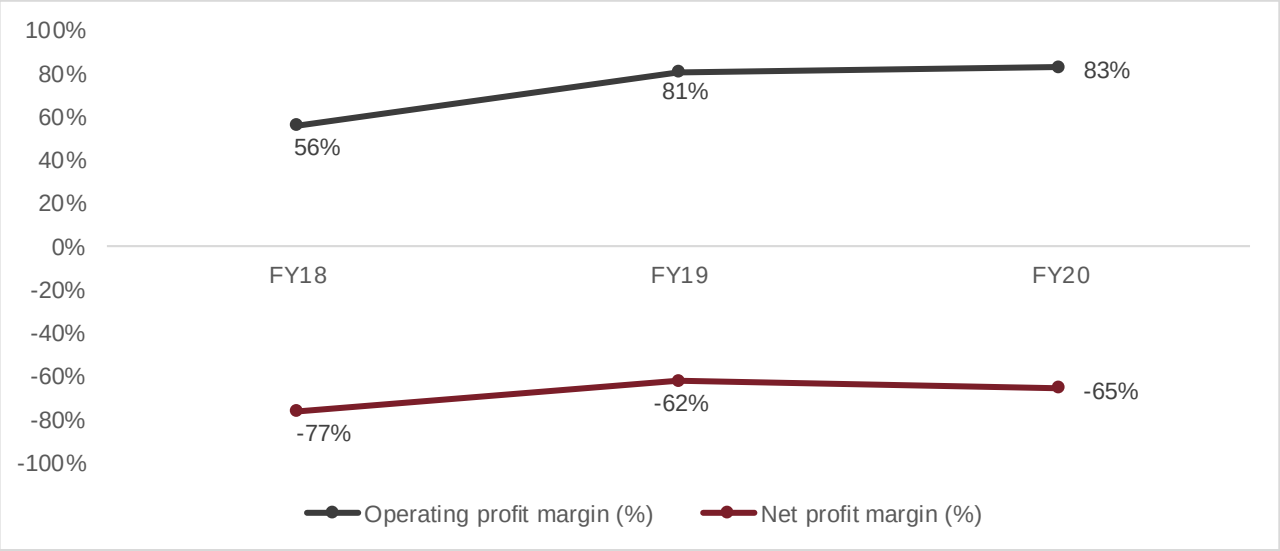
In terms of profitability, the company's net profit margin have been extremely poor over the years at (76.5)% in FY18 and at ~(65.5)% in FY20. Net profit margin in FY19 stood at (4.3)% due to an exceptional gain of Rs 1376 mn due to one-time debt restructuring exercise, excluding the exceptional gain net profit margin for FY19 stood at (62.3)%. High depreciation and interest cost are two primary reasons for low net profit margins across the years. Gearing levels for the company has been extremely high. The net worth of the company went into the negative territory due to pilling losses in the past due to high interest cost and slow revenue growth.

Figure 14 – Revenue during the last three-year period (FY18-20)



Source: CRISIL Research

Figure 15 – Profitability during the last three-year period (FY18-20)



Source: CRISIL Research

8 Revenue projections

Table 24 – Toll revenue at Mandal toll plaza toll plaza

Year	Car	LCV	Bus/Truck	MAV	Light Vehicle revenue	Heavy Vehicle revenue	Yearly Revenues (Rs. Million)	Yearly Revenue Growth
FY22P	110	25	56	446	135	503	638	
FY23P	121	26	59	474	147	533	680	6.6%
FY24P	131	28	62	492	159	554	712	4.8%
FY25P	143	29	65	513	172	578	750	5.3%
FY26P	156	30	67	542	186	610	796	6.1%
FY27P	171	31	70	573	203	644	846	6.3%
FY28P	186	33	73	601	219	674	893	5.5%
FY29P	203	34	76	631	237	707	944	5.6%

P: Projected

Note: Car, jeep, van, LCV, and minibus are classified as light vehicles, and bus, truck, multi-axle vehicle and oversized vehicle are classified as heavy vehicles.

Source: CRISIL Research

Table 25 – Toll revenue at Mandal toll plaza toll plaza

Year	Car	LCV	Bus/Truck	MAV	Light Vehicle revenue	Heavy Vehicle revenue	Yearly Revenues (Rs. Million)	Yearly Revenue Growth
FY22P	113	28	183	776	141	959	1,100	
FY23P	123	30	194	828	153	1,022	1,175	7%
FY24P	135	32	204	883	167	1,086	1,253	7%
FY25P	150	34	215	937	184	1,151	1,335	7%
FY26P	164	35	226	992	199	1,218	1,417	6%
FY27P	177	37	237	1,049	213	1,286	1,499	6%
FY28P	192	39	249	1,107	230	1,356	1,586	6%
FY29P	210	41	261	1,166	251	1,427	1,678	6%

P: Projected

Note: Car, jeep, van, LCV, and minibus are classified as light vehicles, and bus, truck, multi-axle vehicle and oversized vehicle are classified as heavy vehicles.

Source: CRISIL Research

9 Financial projections

9.1 Projection of financials for Surat Hazira NH-6 tollway Pvt Ltd – assuming sale to new promoter who brings in their own capital structure

9.1.1 Assumptions

CRISIL Research has made the following assumptions by assuming sale to a new promoter as well as our understanding of the sector. The enterprise valuation of the asset has been considered as of 31st March 2021.

Table 26 – Assumptions for financial projection

Particulars	Assumptions
Concession period	Until March 2029
Employee cost	Assumed at 6% of revenue
Major maintenance interval period	Assumed to be carried out in fiscals 2022 and 2027
Provisions for major maintenance expense	Benchmark cost assumed per km = Rs 9 million (for fiscal 2020) Cost for scheduled major maintenance estimated to grow at a rate of 5% on-year and apportioned equally as provisions during the preceding five years
Routine maintenance expense	Benchmark cost assumed per km = Rs 0.73 million (for fiscal 2020)
Intangible assets	Intangible assets are amortised based on the revenue model for road projects
Capital structure	Assumed a base capital structure of 60:40 debt:equity as the new promoter takes over
Debt assumptions for new promoter	Repayment period: 8 years (no principal repayment in 1st year) Interest cost: 10% p.a. (for both long term & short term debt)
Toll rate revision	Toll rate for next year = Toll rate of the previous year × [1 + (40% of change in WPI) + 3%]

Note: As per the remaining construction work provided by the company, maintenance of the under-construction amount is considered
Source: CRISIL Research

New entity buying the asset and bringing in their own capital structure

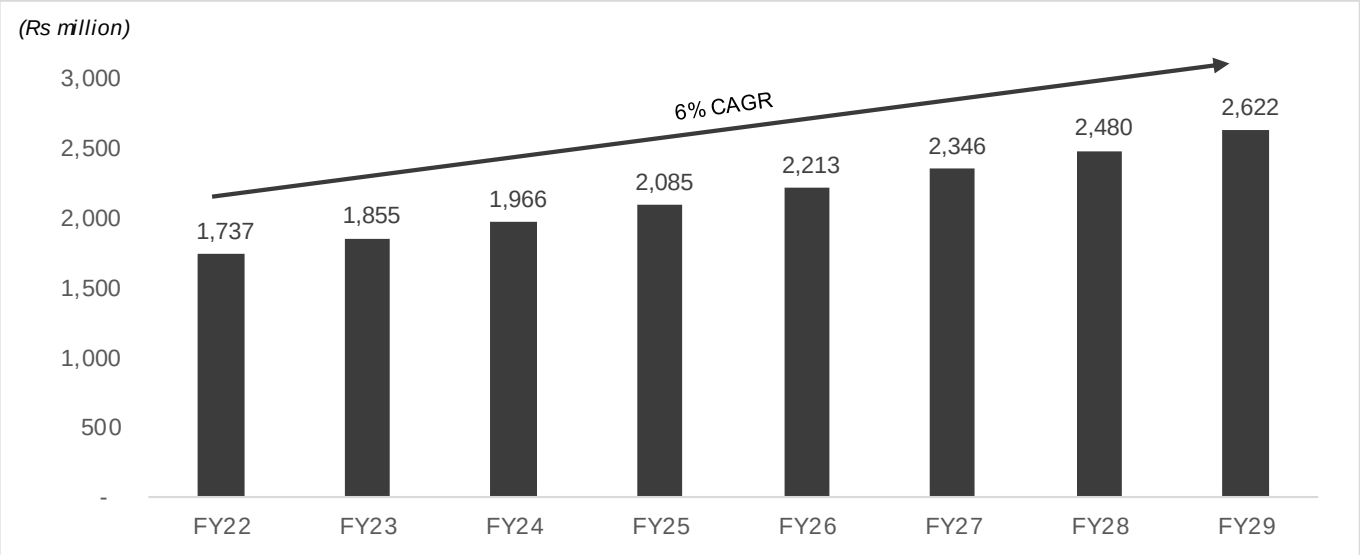
In this scenario, we assume the new owner will take over the asset for a consideration of Rs 6,160 million and with a capital structure of 60:40 (debt:equity) to begin with. We assume the new owner will not carry forward the SPV's existing debt.

Revenue to grow at a CAGR of ~6% over the remaining concession period

Revenue is expected to grow at a CAGR of 6% during the remaining concession period (from fiscal 2022 to 2029),

driven by growth in traffic and toll charges. The National Highways Authority of India (NHAI), the nodal agency for the roads sector, had stopped toll collections up to April 20, 2020, after the government imposed the nationwide lockdown on March 25 to contain Covid-19 afflictions. Revenue is expected to decline in fiscal 2021 owing to the lockdown enforced due to the Covid-19 pandemic but are are expected to bounce back in fiscal 2022 which would support the long term growth rate of toll collection on the stretch. The toll-rate revision calculations are based on the base rate of each vehicle category and changes in WPI over years.

Figure 16 – Revenue projected over the remaining concession period (FY22 to FY29)

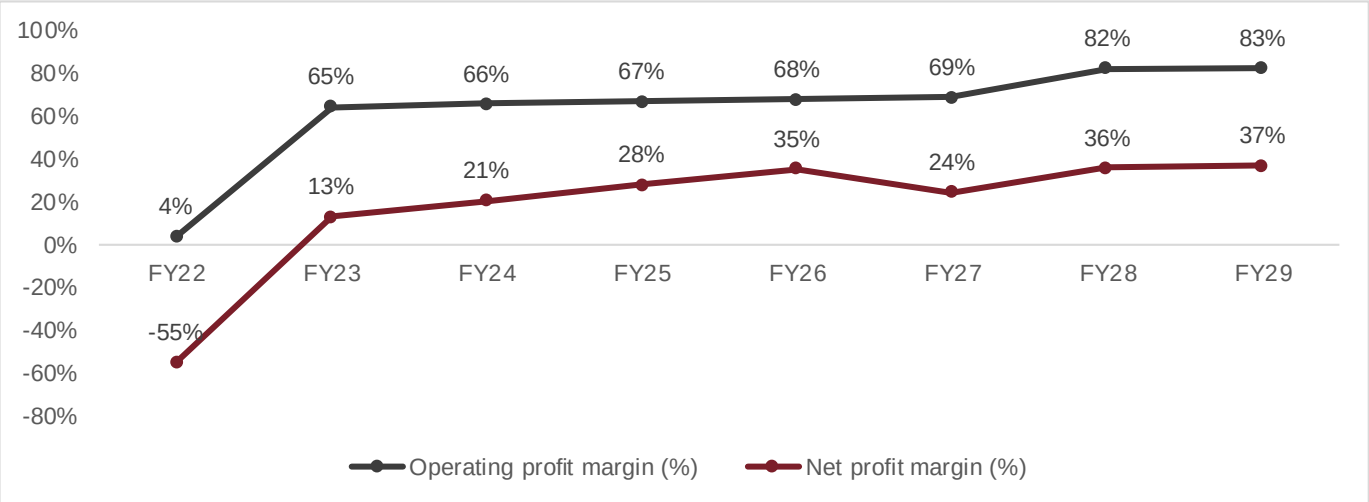


Source: CRISIL Research

Operating and net profit margin to improve for the new SPV over the long term

Assuming a debt-equity ratio of 60:40, operating and net profit margins are estimated to be positive for remaining portion of the concession period except for fiscal 2021 when the SPV is expected to make a loss at net profit level while still being profitable at operating level. The lower profitability in FY22 is due major maintenance cost to be incurred during the year. We further believe the new entity will continue to see improvement in profitability at both operating and net level over the remaining concession period. The operating level profitability will see a significant boost in fiscals 2028 and 2029 as the SPV would not be required to provision for major maintenance during these years. The net level profitability will improve gradually during the period under consideration as interest cost declines on account of debt repayment.

Figure 17 – Profitability projected over the remaining concession period (Fiscals 2021-37)



Source: CRISIL Research

SPV would require short term debt for operations in fiscal 2022

SPV would require a short term debt of ~Rs 350 million in FY22 due to lower profitability. The short term debt would be completely repaid by FY23 via internal accruals and the SPV would not require any additional short term in future years.

Valuation of the company

Calculation of cost of equity

Cost of equity = Rf + (Rm-Rf) β

Where, Rf: Risk-free rate, Rm-Rf: Market risk

Table 27– Cost of equity calculation

Particulars	Value
Beta (β)	1.5
Risk-free rate (Rf)	6.5%
Market risk (Rm-Rf)	6.5%
Cost of equity	16.3%

Source: CRISIL Research

Note: RBI's 10-year G-sec yield has been assumed as risk-free rate of return

Calculation of cost of capital

Table 28 – Cost of capital

Particulars	Amount (Rs million)	Share	Cost (%)
Debt	3,690	60.0%	7.5% (post tax)
Equity	2,460	40.0%	16.3%
WACC	**11.0%**		

Source: CRISIL Research

Enterprise value pegged at Rs 6,160 million

Based on DCF method, the valuation of the SPV works out to Rs 6,160 million basis year end discounting method and Rs 6,490 million basis mid-year discounting method. This is based on the assumption that all the current debt is written off and a new entity acquires the asset.

Scenario analysis

We have built scenarios around the capital structure for the SPV once it is acquired by a new owner. We have also analysed the valuation in case the project receives extension in concession period of 3 years and 289 days i.e. until January 2033. This translates to 20% of the concession period (19 years) which is the maximum allowed extension for the project. This extension is granted if the NHAI is satisfied that the traffic measured through samples gathered around the target date is below the Target traffic.

As per CRISIL Research's analysis of the financial projections of the company, the enterprise value of the SPV (Surat-Hazira NH-6 Tollway Pvt Ltd) works out to be as described in the table below:

Enterprise valuation of SHTPL	Capital structure (D:E)			Extension of concession period
	50:50	60:40 (Base Case)	70:30	
Valuation (Rs. Million)	5,835	6,160	6,520	8,600

Notes:

- WACC for all of the above scenarios is assumed at 11%
- Under the assumption that all the current debt and liabilities are written off and a new entity acquires the asset

Source: CRISIL Research

Sensitivity analysis for discount rates for base case scenario of capital structure of (D:E) of 60:40

Enterprise valuation of SHTPL (Rs mn)	Discount rates			
	10%	11%	12%	13%
Mid-year discounting method	6,725	6,490	6,270	6,060
Year-end discounting method	6,410	6,160	5,925	5,700

Sensitivity analysis for discount rates for scenario of extension of concession period (Capital Structure: 60:40)

Enterprise valuation of SHTPL (Rs mn)	Discount rates			
	10%	11%	12%	13%
Mid-year discounting method	9,500	9,060	8,640	8,250
Year-end discounting method	9,070	8,600	8,165	7,760

Note: The discount rates mentioned in the section above are same as WACC; The claim of extension of 959 days awarded in arbitration claim have not been considered in the enterprise valuation shown above.

NPV of the asset to increase by ~Rs 1800 mn due to arbitration award of extension in tolling period by 959 days

The SPV has received an arbitration award of extension of 959 days in concession period of the project stretch. The NPV of the arbitration award is expected to increase by ~Rs 1,800 mn due to extension in concession period, but the same has not been included in the valuation exercise as the SPV has impending dues of claims of ~Rs 19,400 mn (including both principal & interest component of the outstanding) from EPC contractors. The extent and timing of these cash outflows, which can range from Rs 0 – 19,000 mn, is difficult to be ascertained at current point in time, hence the same has not been considered in the valuation exercise.

Valuation of the company as of September 2020

Enterprise value as of September 2020 pegged at Rs 6,420 million

Based on DCF method, the valuation of the SPV as of September 2020 works out to Rs 6,420 million basis year end discounting method and Rs 6,750 million basis mid-year discounting method. This is based on the assumption that all the current debt is written off and a new entity acquires the asset.

Sensitivity analysis for discount rates for base case scenario of capital structure of (D:E) of 60:40 as of September 2020

Enterprise valuation of SHTPL (Rs mn)	Discount rates			
	10%	11%	12%	13%
Mid-year discounting method	7,000	6,750	6,520	6,300
Year-end discounting method	6,690	6,420	6,180	5,940

Sensitivity analysis for discount rates for scenario of extension of concession period (Capital Structure: 60:40) as of September 2020

Enterprise valuation of SHTPL (Rs mn)	Discount rates			
	10%	11%	12%	13%
Mid-year discounting method	9,590	9,130	8,700	8,310
Year-end discounting method	9,160	8,680	8,240	7,830

Note: The discount rates mentioned in the section above are same as WACC; The claim of extension of 959 days awarded in arbitration claim have not been considered in the enterprise valuation shown above.

Table 8- Discounted cash flows (Rs million)

	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29
Free cash flow	106.3	1,506.9	1,600.9	1,703.5	1,813.2	70.3	1,543.9	1,597.2
Discounted cash flow	95.8	1,223.0	1,170.6	1,122.1	1,076.1	37.6	743.6	693.1

Source: CRISIL Research

Revenue and cost estimates

Table 9 – Revenue and cost estimates (Rs million)

	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29
Toll collection	1,737	1,855	1,966	2,085	2,213	2,346	2,480	2,622
Other Income	-	-	-	-	-			
Total Revenue	1,737	1,855	1,966	2,085	2,213	2,346	2,480	2,622
Employee benefit expenses	104	108	113	117	122	127	132	137
Routine Maintenance	106	111	116	122	128	135	141	149
Other expenses	122	128	135	141	148	156	164	172
Major Maintenance cost	1,338	310	310	310	310	310	-	-
OPBITDA	67	1,197	1,292	1,394	1,504	1,618	2,043	2,164
Depreciation	619	660	700	742	787	835	882	933
PBIT	(552)	537	592	652	716	784	1,160	1,231
Interest Cost on short term debt	35	-	-	-	-	-	-	-
Interest Cost on Term loan	369	316	264	211	158	105	53	53
Non-Operating Income	3	23	76	143	224	203	277	360
PBT	(953)	244	405	584	782	881	1,385	1,538
Tax	-	-	-	-	-	306	498	566
PAT	(953)	244	405	584	782	574	887	972

Source: CRISIL Research

Free cash flow and discounted cash flow

Table 10 – Free cash flow (Rs million)

	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29
PBIT	(552)	537	592	652	716	784	1,160	1,231
Add: Depreciation and amortisation	(619)	(660)	(699)	(742)	(787)	(835)	(882)	(933)
(Increase)/ Decrease in working capital	40	310	310	310	310	(1,241)	-	-
Deduct: Capital expenditure	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Free cash flow	106	1,507	1,601	1,703	1,813	70	1,544	1,597
Discounted cash flows	96	1,223	1,171	1,122	1,076	38	744	693

Source: CRISIL Research

Table 11 – Balance sheet (Rs million)

	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29
Liabilities								
Equity	2,460	2,460	2,460	2,460	2,460	2,460	2,460	2,460
Reserves & Surplus	(953)	(709)	(304)	280	1,063	1,637	2,524	3,496
Net Worth	**1,507**	**1,751**	**2,156**	**2,740**	**3,523**	**4,097**	**4,984**	**5,956**
Term loan	3,690	3,163	2,636	2,109	1,581	1,054	527	0
Short term loans	350							
Total Debt	**4,040**	**3,163**	**2,636**	**2,109**	**1,581**	**1,054**	**527**	**0**
Provisions	1	311	621	931	1,242	1	1	1
Other current liabilities	3	3	3	3	3	3	3	3
Outstanding dues of creditors	150	150	150	150	150	150	150	150
Current liabilities	**154**	**464**	**774**	**1,084**	**1,395**	**154**	**154**	**154**
Total Liabilities	**5,701**	**5,378**	**5,566**	**5,933**	**6,499**	**5,305**	**5,665**	**6,110**
Assets								
Gross Fixed Asset	15	15	16	17	17	18	19	19
Accumulated Depreciation	11	12	12	13	14	15	16	16
Gross Intangible Assets	6,150	6,150	6,150	6,150	6,150	6,150	6,150	6,150
Accumulated Ammortisation	618	1,277	1,975	2,717	3,503	4,337	5,218	6,150

	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29
Other non-current assets	5	5	5	5	5	5	5	5
Right to Use (ROU) assets	8	8	8	8	8	8	8	8
Net Assets	**5,550**	**4,890**	**4,192**	**3,450**	**2,664**	**1,830**	**948**	**16**
Cash Balance	**31**	**368**	**1,254**	**2,363**	**3,715**	**3,355**	**4,596**	**5,973**
Cash	20	20	20	20	20	20	20	20
Other current assets	100	100	100	100	100	100	100	100
Current Assets	**120**	**120**	**120**	**120**	**120**	**120**	**120**	**120**
Total Assets	**5,701**	**5,378**	**5,566**	**5,933**	**6,499**	**5,305**	**5,665**	**6,110**

10 Potential risks to the traffic & revenue projections

Following are some of the potential risks to the project stretch:

- Elongated economic impact of Covid-19 pandemic would lead to subdued traffic on national highways and subsequently lower revenues for toll operators.
- Project stretch has 3 major diversion points leading to shift of traffic from project stretch to the alternate route. All the three diversion points help vehicles in avoiding one of the two toll plazas on the project stretch. Any further similar infrastructure in the region will further dent project's revenues.
- Good road connectivity between the every *mandal* (*taluks*) has helped the vehicles to avoid the toll plazas
- Agricultural products contribute major share in the commodity mix (%), deficit of rainfall in the region will impact the traffic on the project stretch
- Similarly, construction related products form a significant share of the commodity mix on the stretch and thus any slowdown in construction activity poses risk to traffic volumes
- Slower than expected revival of the economy post the lockdown would impact revenues on the stretch negatively
- Presence of low-growth commodities, such as food grains and petroleum, to moderate growth over years

Additionally, the company faces risk in terms of non-availability of funding from banks due to its poor liquidity position. Unless the promoters can bring in viability funding, the operations of the company might be severely impacted.

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