

Government of Gujarat Roads and Buildings Department

Second Gujarat State Highway Project

EXECUTIVE SUMMARY

ROAD USER SATISFACTION SURVEY

**Widening and Strengthening of
Umreth-Vasad and Ladvel-Kapadvanj**

May 2016

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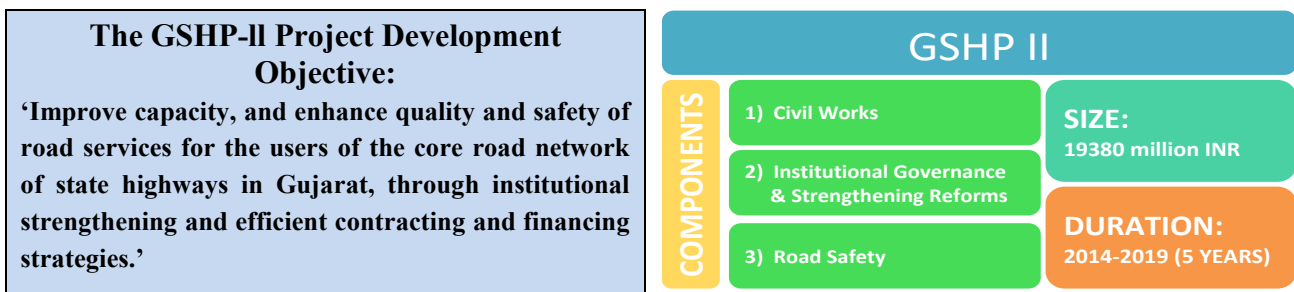
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1 INTRODUCTION

1.1 THE PROJECT

With the demonstrated excellence through Gujarat State Highway Project¹, Government of Gujarat (GoG) - Roads and Buildings Department (R&BD) and the World Bank (WB) are now continuing with their successful partnership. This is another teaming up and effort towards empowering the communities with enriched road infrastructure and building the capacities of stakeholders² participating in Second Gujarat State Highway Project (GSHP-II).

In order to achieve the objective, major components of the projects have been identified as; Highway Improvement, Sector Policy and Institutional Development, and Road Safety enhancement.



However, for project monitoring, and to see whether the project is able to make progress towards achievement of Project Development Objectives (PDO), following measurable project performance parameter³ have been developed:

- Parameter 1: Increase in roads in good and fair condition as a share of the state's Core Road Network (CRN)
- Parameter 2: Reduced average travel time on project roads
- Parameter 3: Reduced average Volume/Capacity (V/C) ratios on project roads, and
- Parameter 4: Reduction in number of annual fatalities on the safe corridor.

¹ GSHP, 2001-2007 one of the most successful WB assisted state highway project, set many benchmarks for others to follow.

² Institutional strengthening and governance reforms is one of the major focus components of GSHP-II.

³ Besides these, specific other indicators are agreed between the WB and GoG.

1.2 SALIENT FEATURES

The Salient Features of Second Gujarat State Highway Project is presented below.

Project size: 323 million US\$ (1938.00 Crore)	
Project Period: 5 Years (2014 to 2019)	Loan Size: 175 million US\$ (1050.00 Crore)
Approval of Loan 13 December 2013	Period for Loan Repayment 18 years (including 5 years grace period)
Signing of Agreement 12 February 2014	Payment terms Loan Repayment in Equal Amount Installments, Every year on 1st June and 1st December
Effective Date 19 March 2014	
Project Component	Civil Works: Total a+b+c: Rs.1734 Cr
	a. Upgradation of State Highway of CRN: 320.68 Km
	b. Rehabilitation of State Roads: 175.45 Km
	c. Maintenance and Repair on OPRC basis: 130.00 Km
	Sector Policy and Institutional Development: 12 MUS\$ (Rs.72 Crore)
Road Safety Management: 22 MUS\$ (Rs.132 Crore)	

2 SURVEY OBJECTIVE

As a post construction activity; one of the sub tasks under civil works is road user satisfaction survey need to be carried out on all the road corridors which are improved/rehabilitated. This survey is carried out to assess the level of satisfaction of those road users where, road corridors are improved/rehabilitated under GSHP-II.

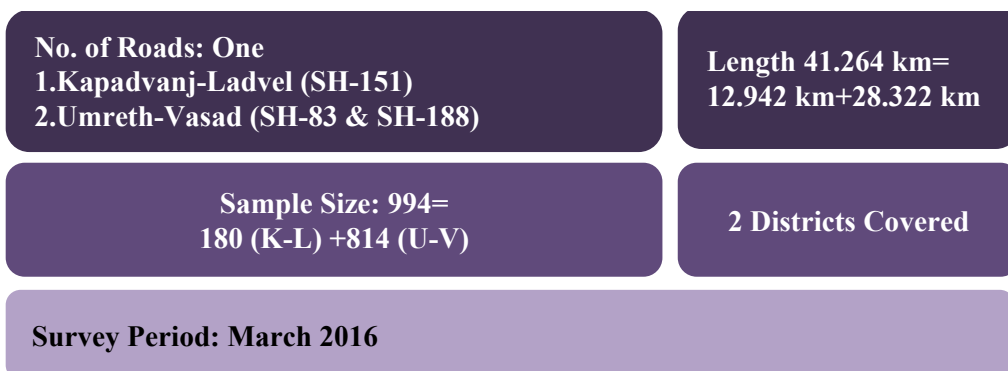
The objective is to assess the satisfaction level with respect to:



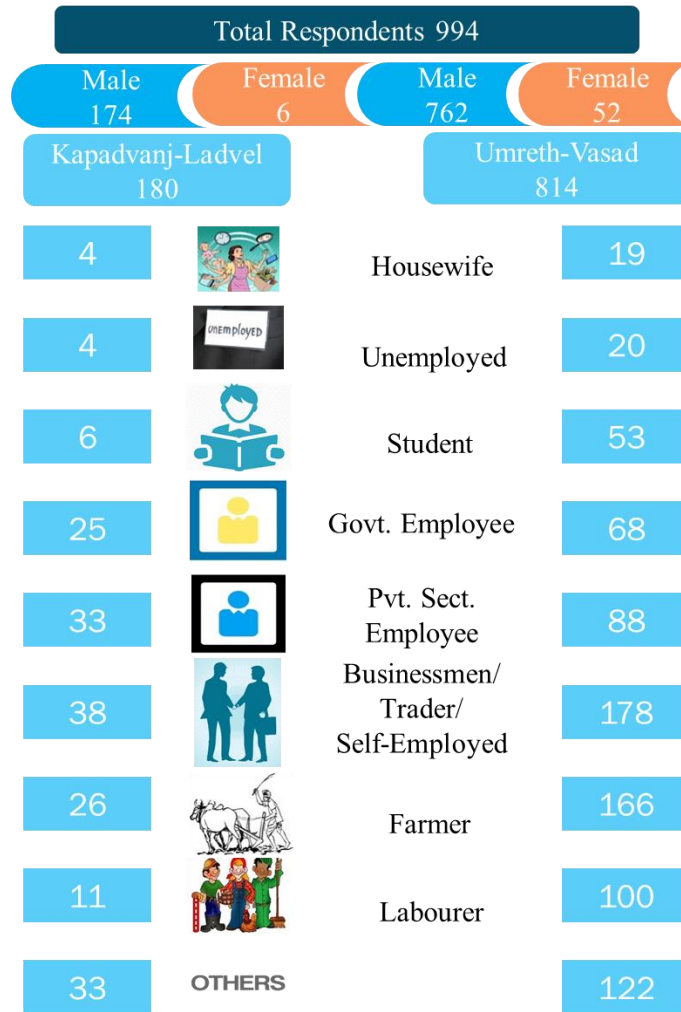
2.1 SURVEY PROFILE

Road users are interviewed on selected segment of the highway at various locations like road junctions, villages across road, government offices, private offices, police stations, hospitals, schools, colleges, hotels, restaurants, roadside hotels, fuel stations, garage, shops, bus stops, etc. The households, shopkeepers and representative bodies are interviewed at their places by visiting them.

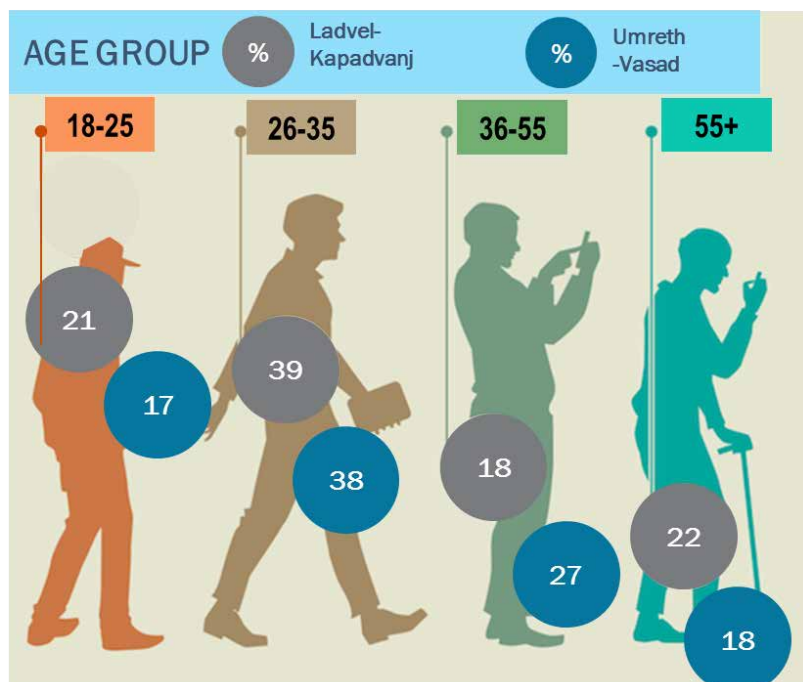
It was ensured that different types of road users (based on user categories, gender, income-groups, socio economy classes, age-groups, etc.) are included in the survey so that the responses are representative of the target road. The summary of Survey Profile is:



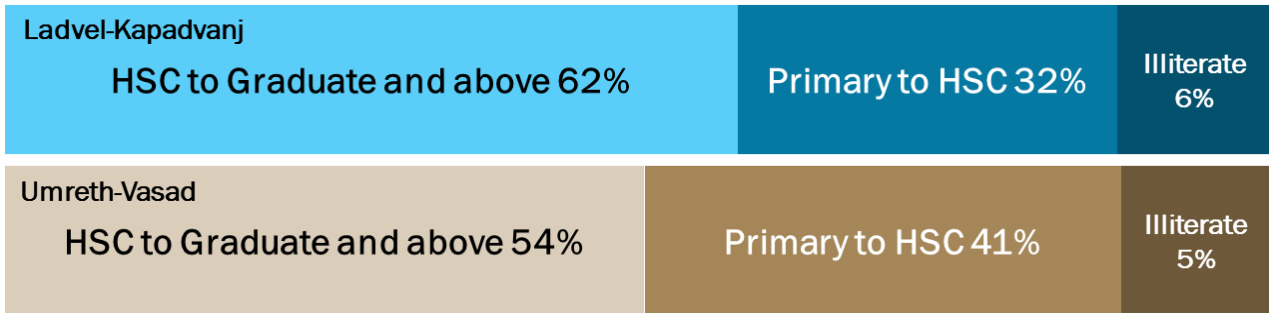
2.2 RESPONDENTS/COMMUTERS PROFILE



2.3 AGE GROUP



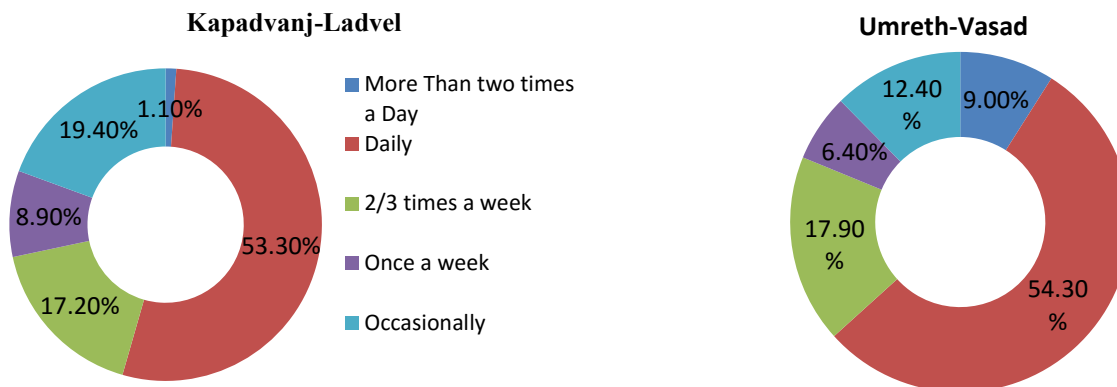
2.4 EDUCATION LEVELS



2.5 TRIP CHARACTERISTICS OF RESPONDENTS

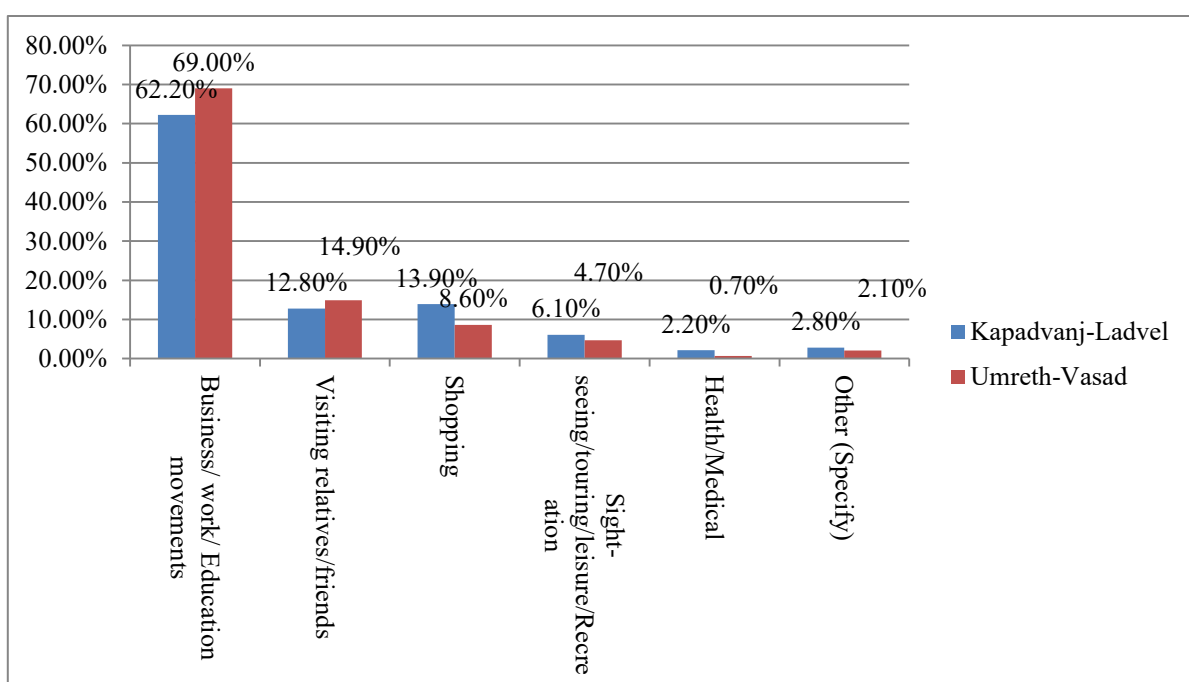
2.5.1 Trip Frequency

Half of the respondents travelled daily on survey roads. The frequency of travel is presented below







2.5.2 Trip Purpose

Majority of the respondents commute mainly for work and business purpose. Only few respondents travelled for leisure and tourism purpose.



2.5.3 Travel Speed and Time

Section		Before	After	
Kapadvanj-Ladvel		41	55	
Umreth-Vasad		40	53	
Kapadvanj-Ladvel		31	22	
Umreth-Vasad		32	24	

3 SURVEY FINDINGS

SECTION 1: LADVEL-KAPADVANJ CORRIDOR

3.1 ENGINEERING PARAMETERS

1. Road Geometry

Under this parameter the satisfaction level for adequacy of road width w.r.t traffic, bridges/approaches and visibility of roads at intersection and curves are obtained. The satisfaction levels for this parameter are presented below. The overall satisfaction level for this parameter is high (Highly Satisfied= 83.89% with 15.18% of users as responding as somewhat satisfied).



2. Road Quality

The satisfaction level with respect to road quality as responded by the users is highly satisfactory with overall satisfaction of 81.66%.



3. Riding/Travel Comfort

The Riding/Travel Comfort parameter included sub-parameter as Smoothness of Road, Cleanliness of Road and Condition of Bridges, Flyovers and Culverts. The users responded with an overall satisfaction of 80.24% with respect to this parameter.



3.2 ROAD FURNITURE

The Road Furniture parameter includes adequacy of Milestones, Warning Signs, Road Markings and Street Light. Road users are highly satisfied with adequacy of milestones, warning signs and road markings. Above all the road users are Highly Satisfied, overall as can be seen below.



3.4 WAYSIDE AMENITIES

The Satisfaction levels with respect to amenities such as bus shelter were gathered.



3.5 ROAD SAFETY

The Road safety parameter emphasises on safety of road users and the road users conveyed that 71.7% are safe while commuting on the improved road.



The next sub-parameter in Road Safety is dealt with respect to geometric design of road. 93.89% of the road users are highly satisfied with the design of horizontal, vertical alignment and intersections.



The Road Users are highly satisfied with Pedestrian/ Zebra crossing. With respect to speed breakers the road users gave mixed satisfaction level with 30% of users showing highly dissatisfied.

3.6 ROAD ENVIRONMENT

Under this parameter, the satisfaction levels for the Road Environment w.r.t Air Pollution, Noise Pollution and Tree Plantation. The road users are highly satisfied w.r.t air and noise pollution with more than 64.4% and 42.2% of satisfaction level respectively whereas for tree plantation 52.8% of users are highly satisfied.



3.7 ECONOMIC PARAMETERS

The Economic Parameters include sub-parameters such as Travel Time between places, fuel consumption of the vehicle, Overall maintenance of the vehicle etc. The Road Users responded positively indicating that they are highly satisfied (46.11%) with impact of the road on Travel Time and Cost. Summary of the sub-parameters included under Economic Parameters have been summarised below.



3.8 OVERALL SATISFACTION LEVELS OF KAPADVANJ-LADVEL ROAD

Table 3.1 shows the overall satisfaction levels of the road. It is very clear from the data that; road users have rated the road Highly Satisfied in all the parameter i.e. Engineering, Road Furniture, Wayside Amenities, Road Safety, Road Environment, Economic Indicator and Law-Enforcement and Security.

Table 3.1: Overall Satisfaction Levels of Kapadvanj-Ladvel Road

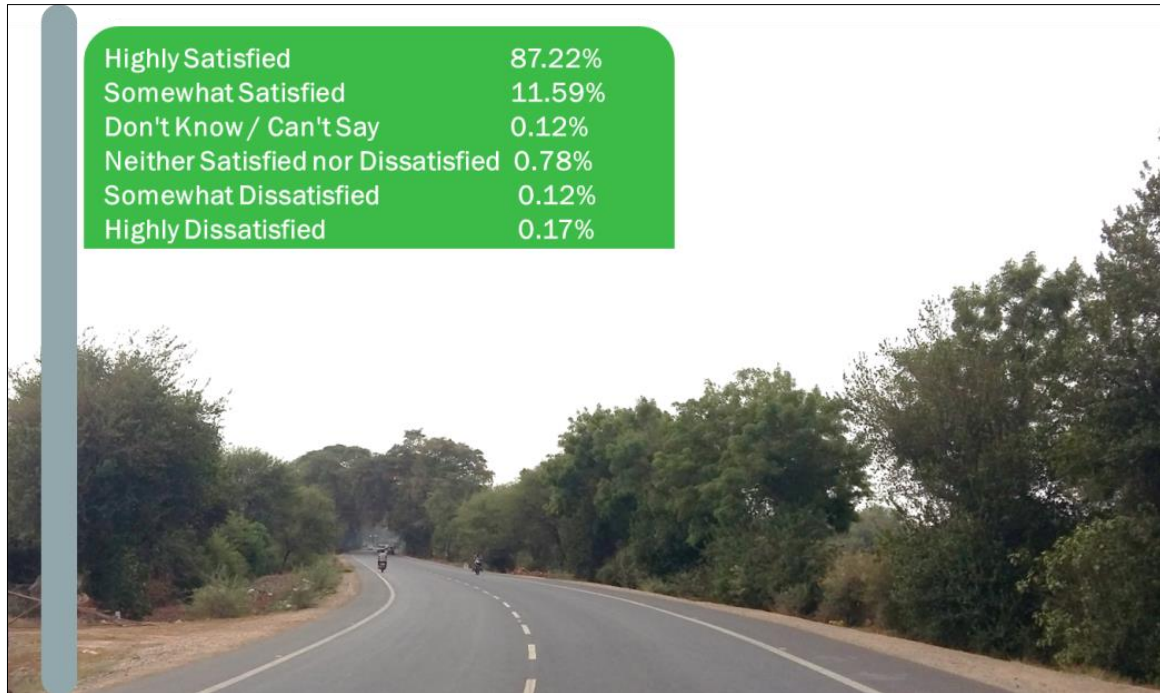
Indicator	Highly dissatisfied	Somewhat dissatisfied	Neither satisfied nor dissatisfied	Somewhat satisfied	Highly satisfied	Don't Know	Not applicable
Engineering Indicator	0.00%	0.00%	0.55%	16.96%	81.93%	0.56%	0.00%
Road Furniture	0.27%	0.0%	0.69%	13.47%	69.58%	15.97%	0.0%
Wayside Amenities	0.0%	1.11%	0.56%	11.67%	86.67%	0.0%	0.0%
Road Safety	0.0%	0.4%	0.8%	15.7%	81.8%	1.9%	0.0%
Road Environment	4.07%	5.19%	8.15%	29.44%	53.15%	0.0%	0.0%
Economic Indicator	0.0%	1.67%	2.96%	24.07%	46.11%	5.92%	19.25%

SECTION 2: UMRETH - VASAD CORRIDOR

3.9 ENGINEERING PARAMETER

1. Road Geometry

The satisfaction levels for this parameter are presented below. The overall satisfaction level for this parameter is high. (Highly Satisfied = 87.22%).



2. Road Quality

The satisfaction level with respect to road quality as responded by the users is highly satisfactory with overall satisfaction of 85.35%. The satisfaction levels for sub-parameter are presented below.



3. Riding/Travel Comfort

The users responded with an overall satisfaction of 81.52 % with respect to this parameter. The response of users with respect to the all the sub-parameter under this parameter are summarized.



3.10 ROAD FURNITURE

The Road Furniture parameter includes Milestones, Warning Signs, Road Markings and Street Light.



3.11 WAYSIDE AMENITIES

The rehabilitation of the existing road is attended; the Satisfaction levels with respect to amenities such as bus shelter were gathered. The road users are highly satisfied with the bus-shelters provided on the wayside.



3.12 ROAD SAFETY

The road users reflect that 72.85% are very safe while commuting on the road and there are 24.94% users who felt the road was somewhat safe. During survey when asked about occurrence of accidents, more than 14.37% of users responded saying accidents occur a few times now.



Around 92.67% of the road users are highly satisfied with the design of horizontal, vertical alignment and intersections. In general satisfied with the speed breakers and Pedestrian/ Zebra crossing.



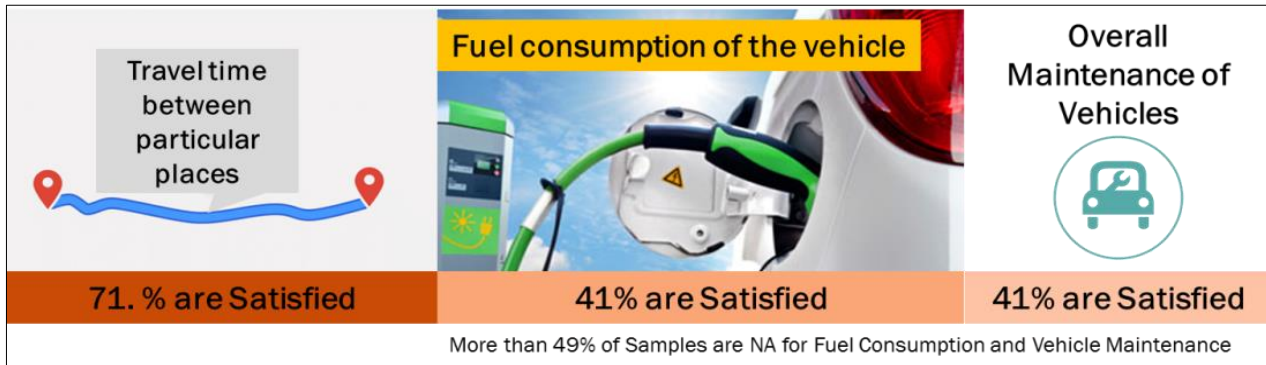
3.13 ROAD ENVIRONMENT

Under this parameter, the satisfaction levels for the Road Environment w.r.t Air Pollution, Noise Pollution and Tree Plantation is represented. The road users are highly satisfied w.r.t. air and noise pollution where as for tree plantation users are highly satisfied with more than 67.81%.



3.14 ECONOMIC PARAMETER

The Economic Parameters include sub-parameters such as Travel Time between places, fuel consumption of the vehicle, Overall maintenance of the vehicle etc. The Road Users responded positively indicating that are highly satisfied with impact of the road on Travel Time and Cost.



3.15 OVERALL SATISFACTION LEVELS OF UMRETH-VASAD ROAD

Table 3.2 shows the overall satisfaction levels of the road. It shows that for related parameters to strengthening component road users have rated the road as Highly Satisfactory.

Table 3.2: Overall Satisfaction Levels of Umreth-Vasad Road

Indicator	Highly dissatisfied	Somewhat dissatisfied	Neither satisfied nor dissatisfied	Somewhat satisfied	Highly satisfied	Don't Know	Not applicable
Engineering Indicator	0.17%	0.10%	0.59%	13.74%	84.70%	0.70%	0.0%
Road Furniture	0.58%	0.03%	1.16%	13.57%	75.58%	0.0%	9.06%
Wayside Amenities	0.61%	0%	0.37%	4.3%	94.35%	0.0%	0.37%
Road Safety	0.0%	0.0%	0.21%	4.79%	92.67%	2.33%	0.0%
Road Environment	0.82%	0.7%	2.99%	36.98%	58.15%	0.37%	0.0%
Economic Indicator	0.0%	0.04%	1.06%	9.25%	46.69%	1.47%	46.48%

4 RESULTS SUMMARY AND CONCLUSION

4.1 SUMMARY AND CONCLUSION

- Based on the survey findings about 29% of the respondents are literates with education level at least up to High school / SSLC level.
- About 54% of the respondents interviewed are daily users of the road using the road mainly for purposes related to work/business.
- With respect to road condition, road furniture and safety road users are highly satisfied.
- Majority of Road users never over speed, never drink and drive and never break traffic rules.
- Road users are highly satisfied with respect to police patrolling on all the corridors.
- Results of RUPS survey is carried forward and suggestions drawn are complied through implementation.
- The summary of satisfaction level for each parameter by corridor is presented in Table 4.1.

Table 4.1: Summary of Satisfaction Level for each Parameter by Corridor

Parameters	Kapadvanj-Ladvel	Umreth-Vasad
Road Geometry	HS	HS
Road Quality	HS	HS
Overall Travel Comfort	HS	HS
Mile Stone	HS	HS
Utility/Warning signs	HS	HS
Road Marking	HS	HS
Street Light	HS	HS
Rain Shelter	HS	HS
Design of intersection	HS	HS
Horizontal Alignment	HS	HS
Vertical Alignment	HS	HS
Pedestrian Crossing/Zebra crossing	HS	HS
Speed Breakers	HD	HS
Air Pollution	HS	HS
Noise Pollution	HS	SS
Tree Plantation along the Road	HS	HS
Economic Parameters		
Travel time	HS	HS
Fuel consumption of the vehicle	HS	HS
Overall maintenance of vehicle	HS	HS
Delay due to Police/RTO checking	HS	HS

Note:

S= SATISFIED
D= DISSATISFIED

NA= NOT APPLICABLE
SS=SOMEWHAT SATISFIED

HS= HIGHLY SATISFIED
HD= HIGHLY DISSATISFIED

FT= FEW TIMES