

Draft Report on Pilot Survey

Road User Satisfaction Survey on Project Corridors of Odisha State Roads Project

Submitted to:



Chief Engineer, World Bank Projects, Odisha

(Odisha State Roads Project)

Bhubaneswar

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Submitted by:



Marketing & Development Research Associates

34-B, Community Centre, Saket, New Delhi-110 017

Phone +91-11-26522244/55; Fax: 91-11-26968282

Email: info@mdraonline.com Web: www.mdraonline.com

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CHAPTER 1: INTRODUCTION

1.1 Introduction

Odisha State Road Project (OSRP) is a **World Bank** funded project implemented by Works Department of Odisha (OWD), Govt. of Odisha (GOO). The idea behind the Project Development is to remove transport bottlenecks in targeted transport corridors for greater investment and economic & social development activities in the state. OWD has taken the initiative to evolve a more participatory approach in the overall road sector planning by gathering feedback on road attributes and other concerns of various categories of road users. Therefore, it is important to assess the current level of satisfaction and expectations of various kinds of road users in the state.

This '**Road Users Satisfaction Survey**' is the first such survey in the state commissioned by OSRP to elicit views of road users and other stakeholders. This baseline survey is a benchmark survey after start of road improvement on six project corridors so as to measure and compare improvement in satisfaction level during mit-term and endline surveys.

Before launching the main survey across all the road segments of the state, a pilot survey was conducted. This report details out key findings of this pilot study. It is structured around the main themes addressed by the survey and their outcomes.

1.2 Objectives of the Pilot Survey

The objectives of the pretesting were to examine:

- Whether the instruments designed for the survey were fulfilling the research objectives.
- Any difficulties in implementing survey instruments.
- Any difficulties in implementing the sample design.
- Any difficulties during the administration of the survey.

CHAPTER 2: METHODOLOGY

2.1 Study Approach

A pilot survey was conducted among users and representative bodies. The pilot survey covered three critical aspects:

a) Respondent's perspective

- Willingness to participate
- Problems in responding to various questions

b) Observation

- Respondent's comfort in responding to the questionnaire
- Was there any fatigue?
- Were the responses honest?

c) Interviewer "debriefing"

- Problems encountered with questionnaire like instructions, wording of questions in explaining a response scale to customers
- Problems in selecting and approaching target respondents
- Need of show cards for various questions
- Category wise availability of the respondents

At the Questionnaire Level

Three issues were assessed of the questionnaire as well as on the individual questions basis.

a) Variation/Sensitivity

To assess if

- Questions were sensitive in capturing responses of various category of users
- Whether the questions were skewed to one end or the other

Based on results of field survey, some questions for the main study have been redesigned.

b) Flow of the Questionnaire

- To ensure questions are concisely worded with the direct objective stated clearly in the first few words.

c) Skip Pattern Performance

- To check for logic sequences in the questionnaire.
- To check number of questions and length of the questionnaire.

Method of calculating Customer Satisfaction Index (CSI)¹

A five point scale was used to record the satisfaction level of the customers, on various parameters. On this scale any respondent can rate his/ her satisfaction level on a scale of 1 to 5. CSI is an attempt for measuring the satisfaction level of the customers on a scale of 1 to 5.

For each road segment, on various parameters, CSI would be on a scale of 1 to 5.

Where,

5 = Very satisfied 4 = Satisfied 3 = Neither satisfied nor dissatisfied
2 = Dissatisfied 1 = Very dissatisfied.

CSI can have a maximum value of 5.0 and minimum value of 1.0.

A higher value of CSI indicates that the customer expectations are currently being matched to a higher extent with their experience customers while a lower CSI indicates that customer expectation exceeds the current offerings.

2.2 Sample coverage and distribution

Total sample of 192 respondents were covered for face to face interviews during pilot survey. Two sets of structured questionnaires were used to perform the survey in all 6 selected road segments of Odisha. To get uniformity in the outcomes, almost an equal sample (32 respondents) was selected from each road segment. Sampling details are as follows:

Table 2.1: Road segment wise sampling

Road Segment	Sample Achieved
Bhawanipatna – Khariar	32
Chandbali - Bhadrak - Anandpur	32
Berhampur – Taptapani	32
Jagatpur – Chandabali	31
Athagarh – Narsinghpur	33
Sambalpur – Rourkela	32
Grand Total	192

Observation on roads: During pilot survey researchers have found almost all categories of respondents in all six road segments. Broadly two major categories were covered in structured face-to-face interviews.

- **Main users:** Users of/ traveling in motorized vehicles were contacted and interviewed on the road sides at restaurants, bus stands, rest places, parking, taxi stands, mechanic shops, air-filling points, roads, garages, etc.

¹ Due to limited sample size during the pilot survey, instead of Road User Satisfaction Index (RUSI), CSI has been calculated. The report on the main survey will have detailed project-corridor wise RUSI, where weightages of indicators and sub-indicators would be determined statistically based on Factor Analysis and Regression method.

- **Vulnerable users:** This category included pedestrians, porters, households adjacent to shortlisted road segments and other users of non-motorized vehicles such as cycle, rickshaws, etc.

Different questionnaires were administered to these two categories of respondents. Almost all kinds of vehicles and road users were interviewed. Details are as follows:

Table 2.2: Profile of sample covered

Users \ Road Segment	Bh-Kh	Ch-An	Be-Ta	Ja-Ch	At-Na	Sa-Ro	Total
Main users	19	19	19	19	20	21	117
Motorized two wheelers	6	6	6	6	6	7	37
3W/Auto Rickshaw	2	2	2	2	3	2	13
Car /Jeep /Van /Taxi	3	3	3	3	3	3	18
Bus drivers/support staffs	2	2	2	2	2	2	12
Bus passengers	2	2	2	2	2	3	13
Agri. Tractor/LCVs etc.	3	2	2	2	2	2	13
Trucks	1	2	2	2	2	2	11
Vulnerable users	13	13	13	12	13	11	75
Pedestrians/porters	3	3	2	2	3	3	16
Cyclist	3	3	3	3	4	2	18
Residence on road sides	3	3	4	3	2	2	17
Rickshaw/Bullock Cart	2	2	2	2	2	2	12
Workers of amenities	2	2	2	2	2	2	12
Grand total	32	32	32	31	33	32	192

(**Bh-Kh**=Bhawanipatna-Khariar, **Ch-An**= Chandbali-Bhadrak-Anandpur, **Be-Ta** = Berhampur-Taptapani, **Ja-Ch**= Jagatpur-Chandabali, **At-Na** = Athagarh-Narsinghpur, **Sa-Ro**= Sambalpur-Rourkela)

In addition, 26 respondents were selected for in-depth interviews in all road segments. These interviews were conducted to get clearer and detailed picture of the roads conditions and network in Odisha. Details are as follows:

Table 2.3: In-depth interviews

Target Respondents	Total Sample
Road experts/ academia	3
Insurance industry experts	5
NGOs involved with social, environmental issues related to roads & vulnerable users	1
Traffic police wings/ patrolling vehicles	2
Hoteliers' associations/ hoteliers	2
Ambulance/ fire brigades/ other emergency vehicles	2
Transporters/ freight agents/ transporters' associations	7
Agricultural commodity producers	2
Journalists/ media representatives	1
Revenue department officials	1
Total	26

This pilot survey was carried out during April 18th to April 25th 2012 and the OSRP officials were informed in advance. They were invited to accompany MDRA investigators and supervisors during the pilot survey to experience how the interviews were conducted in live conditions.

**CHAPTER 3: LEARNING & RECOMMENDED
ACTIONS**

3.1 Problems encountered during administering questionnaires and actions recommended

In all six road segments, pilot survey was conducted among main and vulnerable users. On an average each interview took about 15-20 minutes. As a pleasant surprise, it has been found that most of the road users contacted for participating in the survey were forthcoming and co-operative in providing their feedback. However, during pilot survey, there were some difficulties related to administering of questionnaire encountered by the researchers. Therefore on the basis of experience and learning gained during the pre-testing, following changes have been suggested in questionnaire for capturing the required information in better way.

Table 3.1: Problems faced and actions recommended

S. N.	Problems faced	Actions recommended
1	Some questions require Re-structuring for a clearer understanding to the respondents.	Options for respondents education has been re-structured into SSC/HSC, Class 6 th -9 th , and some colleges but not graduate instead of up to 10 th class and up to 12 th class. This is as per the standard adopted in India. (B6) Category of respondent has been re-structured into Driver (Driving the vehicle) and Passenger (Seating on the vehicle) from multiple options which was confusing (Driver/Owner/Owner-cum-driver and Passenger/staff of vehicle respectively). (B10)
2	Non-applicability of some questions: Some questions were found to be not applicable for some respondents and hence it was difficult to elicit their views on those attributes.	Filters have been included for those questions, which are not applicable to certain respondents and an additional option with codes (Don't know (DK)/Can't say (CS) =8, Not applicable (NA) =9) has been introduced in the related questions. (Q3, Q4, Q5, Q6, Q7, Q8, , Q11, Q13, Q14, Q15, Q21)
3	Some questions required minor amendment and re-sequencing for a clearer understanding to the respondents.	Minor modification and re-phrasing has been done for some questions for better understanding and meaning (Q1, Q10, Q14, Q21)

[Note: The above question numbers are numbers in questionnaire for main users used for pilot survey and a copy of which was enclosed with the inception report. The questionnaire for vulnerable users had similar problems and appropriate modifications have been done on the questionnaire for vulnerable users too.]

**CHAPTER 4: OUTCOMES OF IN-DEPTH
INTERVIEWS**

4.1 Outcomes of In-depth Interviews

During In-depth interviews respondents were engaged in detailed discussion to understand the current situations and bottlenecks of the ground reality. Given below is the major outcome of in-depth interviews with various stakeholders.

As per respondents best knowledge roads network in Odisha is developing. In comparison to other states, road construction work and development in Odisha is little slow.

- **Conditions** of National Highways and newly constructed roads are satisfactory, but for other State highways & Major District Roads situation is poor. Most of the roads are with damaged surface, no proper signage, single lane/narrow width of road and lack of maintenance.
- **Delay in maintenance work** on road in is big concern. Authorities are not able to complete the maintenance work in given time which causes inconvenience to travelers. Also authorities always wait for the road to become in worst condition before starting the maintenance work.
- **Surface alongside the road** must be at the same level at which the roads are, as it will help two wheeler riders/ auto rickshaws to make balance for themselves whenever they leave the road for other vehicles/ heavy vehicles to give pass.
- **Narrow curves:** Road users, especially drivers of heavy vehicles who require more turning radius feel unsafe due to narrow curves as vehicles approaching from the opposite direction use the same road lanes.
- **Road markings** (white and yellow markings) on roads and speed breakers are available only on National Highways and newly constructed roads. For other state highways mostly there are not such marking, thereby making it difficult to maintain lanes, speed and estimate width of roads.
- There is no **proper signage** on the turnings or major accidental areas, mostly on state highways which leads to accidents. Otherwise on National highways and newly constructed roads there are sufficient signage for road users.
- **Unavailability of parking place** is one of the major concern which results into wrong parking, traffic jam, congestion and delay in travel. Thus respondents have suggested that there must be some parking place for heavy vehicles on every 30-40 kilometers especially on busy roads.

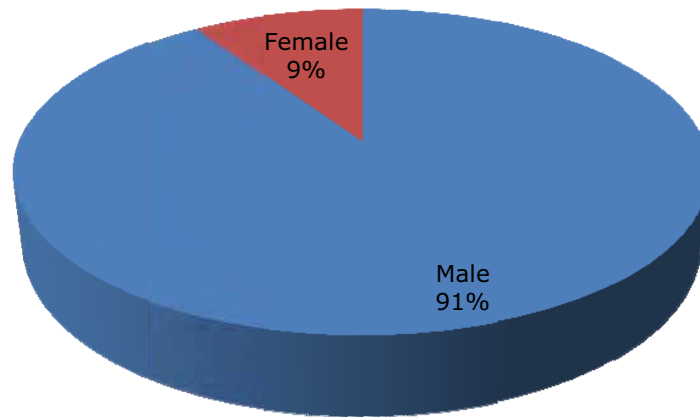
- **High beam light** of vehicles coming from opposite direction is a major concern for small vehicles.
- Issues like **air pollution** (Dust, smoke etc.) and road side garbage dumping are the concerns which lead to accidents and unnecessary traffic jam especially in cities and big towns. Pollution in mining and industrial area due to traffic is the major challenge for the authorities.
- **Insufficient drainage system and water logging** on roads cause slipperiness and inconvenience as well as reduce life of road surface. Eventhough drainage system on NH is good but for other state highways of major district roads there is no drainage facility as such.
- Other problems related to **Road management system**, are crossing of pedestrians and animals. For this fencing of roads on both sides, footpath/space and the divider were strongly recommended.
- The **Common reasons for road accidents** are rash and aggressive driving, drunken driving, zigzag driving, no proper maintenance of the vehicles, and a major factor like usage of mobile phone during driving.
- **Traffic congestion** is common issue especially in cities. It is because of traffic volume, encroachment and parking on the road.
- **Awareness among of the vulnerable** users is low regarding the usage of road, e.g. zebra crossing, foot over bridge etc. Some awareness programs need to be executed about usage of roads and road safety measures.

CHAPTER 5: RESPONDENTS PROFILE

5.1 Respondents Profile

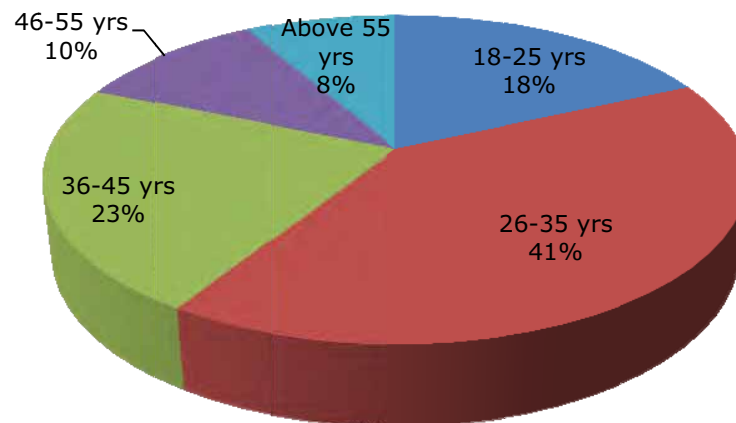
Gender wise categorization: As males are major users of roads, especially among motorized users, around 91% male respondents participated in the survey, whereas remaining 9% were females.

Figure 5.1: Categorization-Gender wise



Age group wise categorization: There was a good mix of respondents from all age groups.

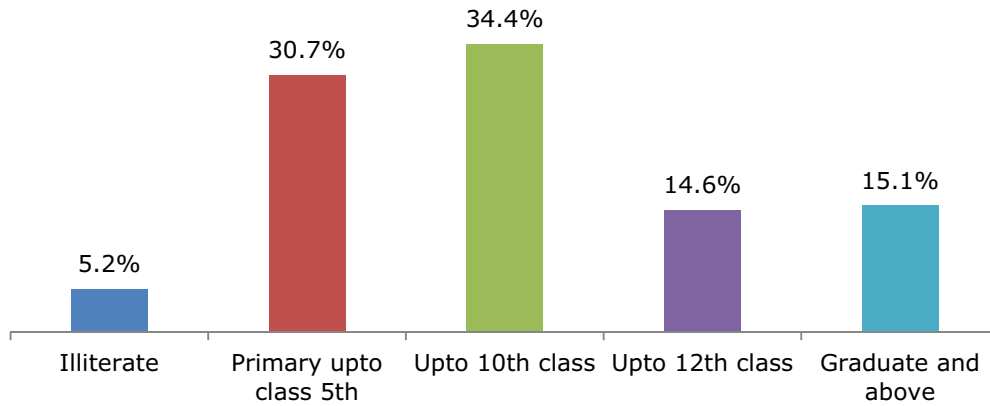
Figure 5.2: Categorization-Age wise



Maximum (41%) respondents were from 26-35 years age group followed by 36-45 years (23%) and 18-25 years (18%) respectively.

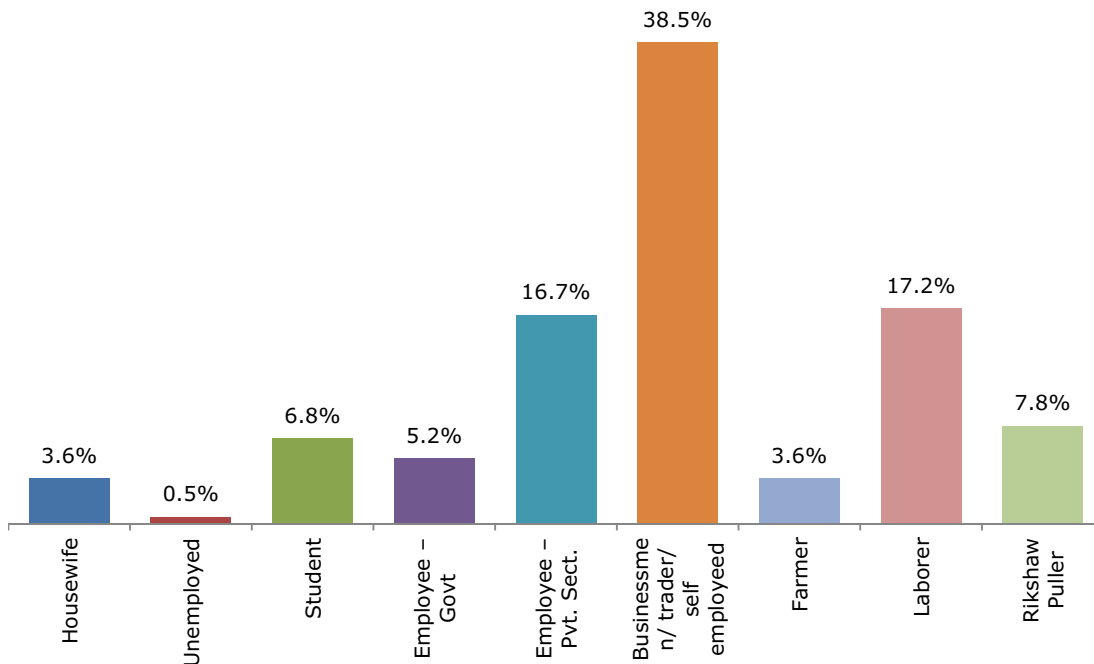
Education wise categorization: A mix of respondents was covered from different educational backgrounds. Around one-third of the respondents were educated up to senior secondary or higher.

Figure 5.3: Categorization-Education wise



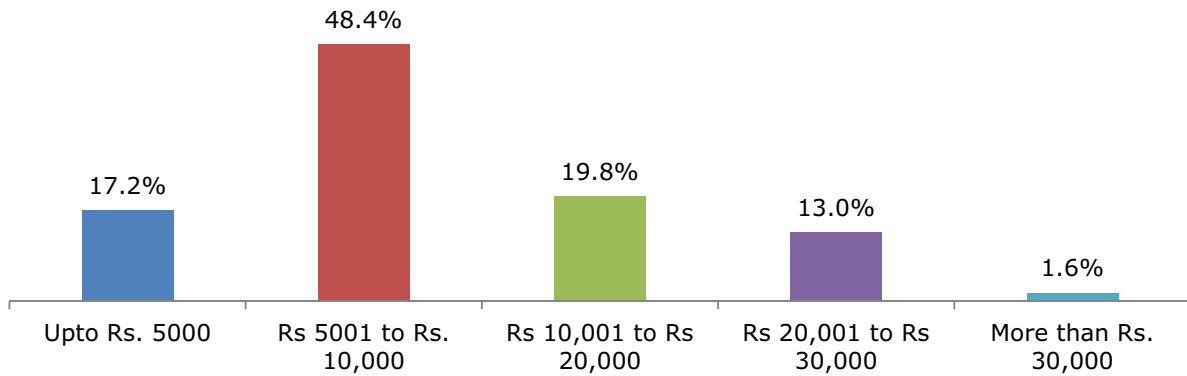
Occupation wise categorization: The respondents covered during the survey were from various occupations. Most of the respondents 46% were businessmen/traders/self-employed, followed by Laborers (17%) and Pvt. Sector employees (17%).

Figure 5.4: Categorization-Occupation wise



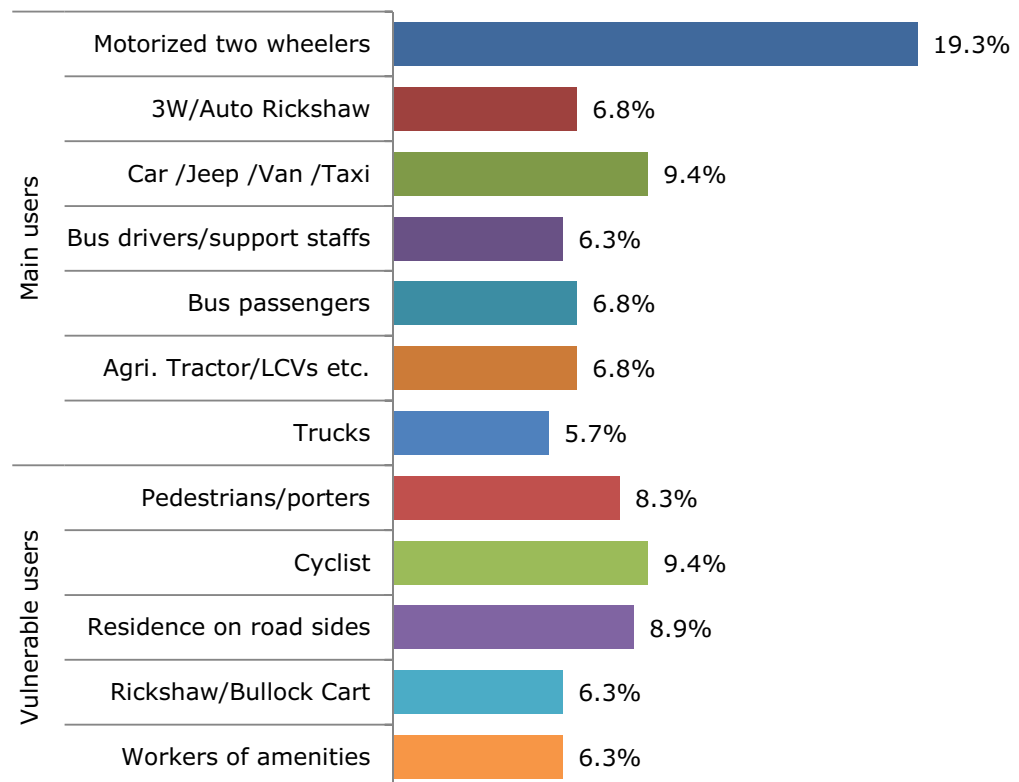
Monthly household Income wise categorization: Most of the respondents (48%) were having total monthly household income in the range of Rs. 5001-10000 per month, followed by Rs. 10001-20000 per month category.

Figure 5.5: Categorization-Household income wise



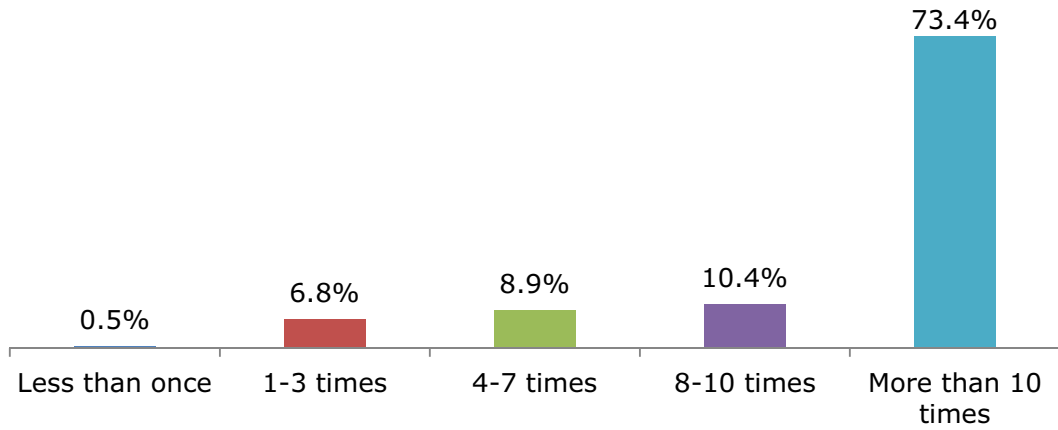
User’s category wise categorization: There were two major categories of respondents – Main users (61%) and vulnerable users (39%).

Figure 5.6: Categorization-Users wise



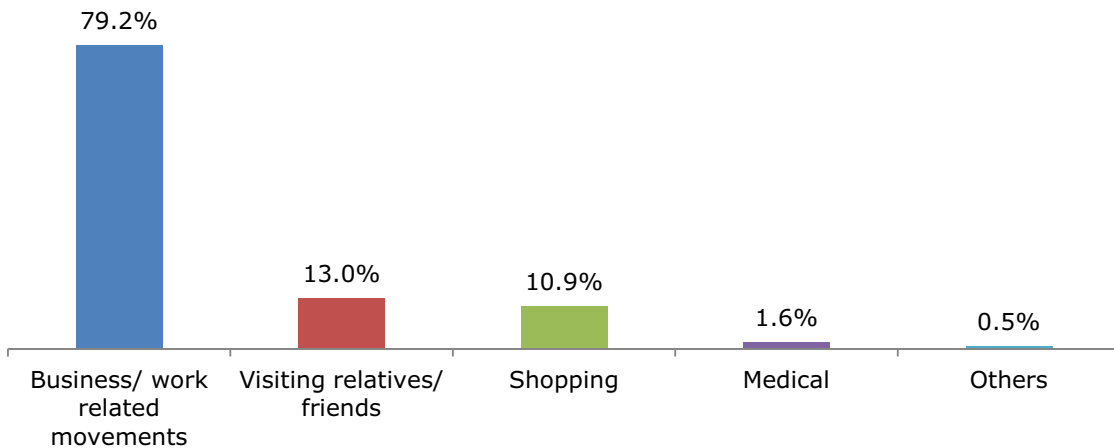
Frequency of travel: Almost 75% of the respondents were travelling more than 10 times a month on particular road segments. This shows that the movement of traffic on most of these project roads mainly consists of people living/ working nearby.

Figure 5.7: Travel frequency



Purpose of Traveling/commuting: Almost 80% of the respondents were traveling on these road segments for business/work related activities, followed by those visiting relatives/friends (13%).

Figure 5.8: Purpose of traveling/commuting



CHAPTER 6: FINDINGS OF QUANTITATIVE SURVEY

Due care should be taken while drawing any conclusion from this analysis. Due to small sample size the significance level of the responses is low and not representative of the entire population. The exact results would be arrived at only after the main field survey when the sample size would be large enough to yield very high confidence interv

6.1 Overall Satisfaction Scores

Gestalt Satisfaction Score² is based upon the overall stated score vs. calculated score of different parameters.

Table 6.1: Overall Satisfaction Scores (Gestalt Analysis)

Gestalt	Overall Score
Stated Score	2.73
Calculated Score	2.46
Difference	+0.27

[Note: The Stated Score is arrived at by taking weighted average of responses of Q16 i.e. "Overall satisfaction with the road segment". This is basically assesses "top of mind" satisfaction level. The Calculated Score is the weighted average of all the responses to all questions on satisfaction levels. This is average of parameter-wise satisfaction levels.]

As expected, being a baseline survey (assessment of road users' satisfaction before/on commencement of road improvement), the satisfaction scores are very low as the road users have poor experience with the current conditions of roads and have high expectations. These scores are expected to increase over time as the roads are improved on completion in future (during mid-term and end line surveys).

6.1.1 Road segment wise satisfaction score

The stated as well as calculated satisfaction scores are highest in case of Athagarh–Narsinghpur road segment while least in case of Bhawanipatna–Khariar road segments.

Table 6.2: CSI Score (Gestalt Analysis-Road segment wise)

Gestalt	Bh-Kh	Ch-An	Be-Ta	Ja-Ch	At-Na	Sa-Ro
Stated Score	1.75	2.34	2.72	2.81	3.73	3.00
Calculated Score	2.00	1.86	2.34	2.57	3.11	2.88
Difference	-0.25	+0.48	+0.38	+0.24	+0.62	+0.12

(**Bh-Kh**=Bhawanipatna–Khariar, **Ch-An**= Chandbali–Bhadrak–Anandpur, **Be-Ta** = Berhampur–Taptapani, **Ja-Ch**= Jagatpur–Chandabali, **At-Na** = Athagarh–Narsinghpur, **Sa-Ro**= Sambalpur–Rourkela)

6.1.2 Users category wise satisfaction score

Table 6.3: Gestalt Analysis-Road user wise

Gestalt	Main user	Vulnerable user
Stated Score	2.77	2.67
Calculated Score	2.50	2.41
Difference	+0.17	+0.26

The negative Gestalt shows that overall perceived value among respondents is lower than what they actually received. As calculated score is higher, means on different aspects of road it is on satisfactory level but overall it is lower. So in case of negative gestalt OSRP has to work towards improving their image.

² The main survey report will have RUSI (Road User Satisfaction Index) arrived from Factor and Regression Analysis instead of this CSI scores. This RUSI will be road-segment wise and will be a better representation of road users' satisfaction level.

6.1.3 Overall parameter- wise satisfaction with Road segments³

Parameter wise satisfaction scores on the road-corridors are given below:

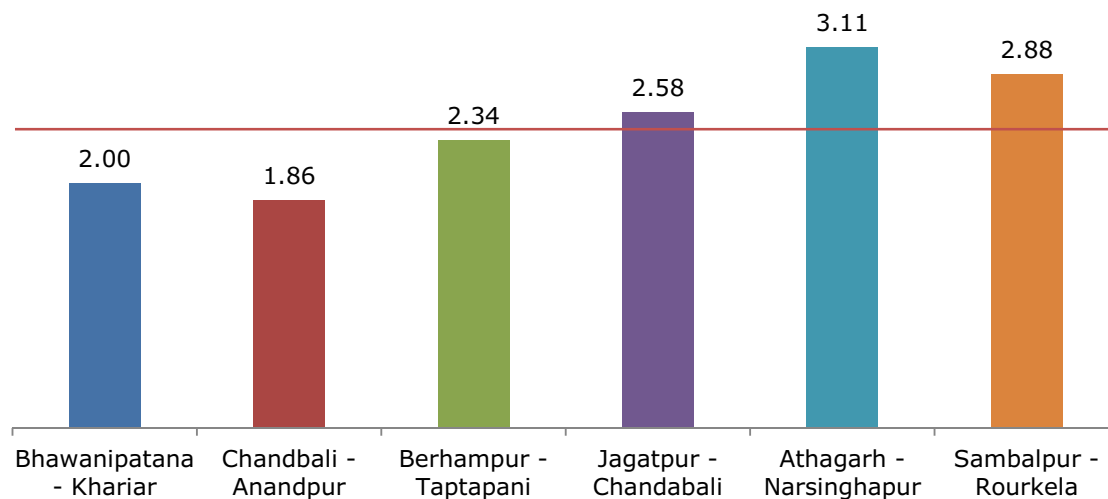
Table 6.4: Overall road segment and parameter wise satisfaction scores

Parameters	Bh-Kh	Ch-An	Be-Ta	Ja-Ch	At-Na	Sa-Ro
Road Geometry	2.22	2.57	3.19	2.80	3.99	3.25
Road Quality	2.39	1.95	2.70	2.58	3.78	3.55
Riding/Travel comfort	2.24	2.32	2.38	2.65	3.81	3.16
Impact on travel time and money	2.54	1.55	2.33	2.73	3.69	3.55
Road signage and markings	1.76	1.08	1.88	1.85	2.26	2.92
Traffic arrangements in work zone	2.68	1.83	2.11	2.68	3.55	3.28
Safety & security aspects	1.77	1.29	2.15	2.48	2.11	2.63
Response to emergency situations	1.84	1.15	2.04	2.37	1.31	2.59
Wayside amenities	1.50	2.46	2.19	2.62	2.72	2.67
Environmental impact	1.02	2.36	2.47	2.99	3.84	1.23
Overall satisfaction	2.00	1.86	2.34	2.58	3.11	2.88

(**Bh-Kh**=Bhawanipatna-Khariar, **Ch-An**= Chandbali-Bhadrak-Anandpur, **Be-Ta** = Berhampur-Taptapani, **Ja-Ch**= Jagatpur-Chandabali, **At-Na** = Athagarh-Narsinghpur, **Sa-Ro**= Sambalpur-Rourkela)

Overall, road users on Chandbali-Bhadrak-Anandpur road-corridor were least satisfied while those traveling on Athagarh-Narsinghpur road-segment showed highest satisfaction levels.

Figure 6.1: Overall satisfaction score on six road segments



Red line in the figure above shows the cutoff (2.46, calculated overall score) for the overall satisfaction scores. As per figure, satisfaction scores for the road segments Athagarh-Narsinghpur, Sambalpur-Rourkela, and Jagatpur-Chandabali is above cutoff.

³ As the purpose of this report is to help in finalizing survey instruments and approach and not analyze detailed findings, only parameter-wise scores are provided. The main survey report would consist of parameter-wise as well as sub-parameter wise satisfaction levels/ scores.

6.1.4 Overall Road segments wise satisfaction levels

Table 6.5: Overall stated satisfaction levels for road segments

(Figures in percent)

Satisfaction levels	Somewhat satisfied	Neither satisfied nor dissatisfied	Somewhat dissatisfied	Highly dissatisfied
Bh-Kh	0.0	6.3	62.5	31.3
Ch-An	9.4	15.6	75.0	0.0
Be-Ta	9.4	53.1	37.5	0.0
Ja-Ch	12.9	58.1	25.8	3.2
At-Na	78.8	15.2	6.1	0.0
Sa-Ro	28.1	43.8	28.1	0.0
Overall	23.4	31.8	39.1	5.7

(**Bh-Kh**=Bhawanipatna-Khariar, **Ch-An**= Chandbali-Bhadrak-Anandpur, **Be-Ta** = Berhampur-Taptapani, **Ja-Ch**= Jagatpur-Chandabali, **At-Na** = Athagarh-Narsinghpur, **Sa-Ro**= Sambalpur-Rourkela)
[The column totals may not be exactly 100% due to rounding off.]

Overall, only one fourth of respondents were satisfied with the overall condition of the road in all six road segments. Respondents (79%) of the Athagarh-Narsinghpur road segments were most satisfied among the various road segments, followed by Sambalpur – Rourkela (28%) and Jagatpur – Chandabali (13%) respectively. Also no users of Bhawanipatna-Khariar road segments were satisfied with condition of the road.

6.2 Road Geometry

Close to one-third of the respondents feel that the width of the roads is not enough w.r.t traffic and approaches at the bridges. Also about same proportion of respondents were not satisfied with the visibility of the roads at intersections, curves and turns.

Table 6.6: Satisfaction w.r.t. road geometry

(Figures in percent)

Satisfaction with Road Geometry	Highly satisfied	Somewhat satisfied	Neither satisfied nor dissatisfied	Somewhat dissatisfied	Highly dissatisfied
Road width w.r.t. traffic	7.3	37	24.5	26.6	4.7
Road width at bridges/ approaches	8.3	32.8	25.5	25	8.3
Visibility of roads at intersections and curves/ turns	5.7	24.5	27.6	27.6	14.6
Overall	7.1	31.4	25.9	26.4	9.2

Overall close to 2 out of 5 (38.5%) of the respondents were satisfied with road geometry where as little over one-third (35.6%) respondents were expecting more from the concerned authorities.

6.3 Road Quality

There was uniformity in the dissatisfaction level in all three attributes on road quality, viz. condition of shoulders (43%), durability/quality of roads built-up (43%) and maintenance/repairing of the road (41%) respectively.

Table 6.7: Satisfaction w.r.t. road quality

(Figures in percent)

Satisfaction with Road Quality	Highly satisfied	Somewhat satisfied	Neither satisfied nor dissatisfied	Somewhat dissatisfied	Highly dissatisfied
Condition of shoulders	3.1	26	28.1	32.8	9.9
Durability/ quality of roads built-up	8.3	22.9	26	30.7	12
Maintenance/repairing of the road	5.7	27.1	26	28.1	13
Overall	5.7	25.3	26.7	30.6	11.6

Overall proportion of dissatisfied road users w.r.t. overall road quality was higher at 42% vis-à-vis satisfied road users (31%).

6.4 Riding /travel comfort

About riding/travel comfort, respondents were mainly dissatisfied with the encroachment near settlements (59%), followed by overall riding comfort (54%) and accessibility to settlements (53%) such as villages, schools and hospitals etc. respectively.

Apart from above, largely respondents were happy with smoothness (43%) and appearance (41%) of road surface. On the other hand a higher percentage of respondents were dissatisfied with road cleanliness (46%) and availability of service lane (64%) respectively.

Table 6.8: Satisfaction w.r.t. riding/travel comfort

(Figures in percent)

Satisfaction with Riding Comfort	Highly satisfied	Somewhat satisfied	Neither satisfied nor dissatisfied	Somewhat dissatisfied	Highly dissatisfied
Improvement of road conditions in last 2 yrs.	8.3	41.7	35.4	12.5	2.1
Condition of the bridges & flyovers	5.7	16.7	28.6	34.9	14.1
Accessibility to settlements	2.6	20.8	23.4	31.8	21.4
Encroachments near settlements	3.1	21.4	16.7	40.6	18.2
Overall riding comfort	2.1	19.3	25.5	39.6	13.5
Smoothness of the road	10.9	32.3	28.1	22.9	5.7
Appearance of the road surface	5.2	35.4	22.9	31.3	5.2
Road cleanliness	4.2	20.3	29.7	29.7	16.1
Availability of service lanes	3.1	15.1	18.2	37	26.6
Overall	5.0	24.8	25.4	31.1	13.7

Overall less than one third of respondents were satisfied with the travel comfort on the surveyed road segments.

6.5 Impact on travel time and money

Satisfaction levels with impact on travel time and money due to road conditions were consistently between 35%-40%, on following indicators, except delay due to road works (27%) and level of congestion (18%).

Table 6.9: Satisfaction w.r.t. impact on travel time and money

(Figures in percent)

Satisfaction with travel time and money	Highly satisfied	Somewhat satisfied	Neither satisfied nor dissatisfied	Somewhat dissatisfied	Highly dissatisfied
Traveling time	6.3	32.8	30.2	19.8	10.9
Fuel consumption	10.3	29.9	21.4	25.6	12.8
Overall maintenance cost	9.4	25.6	28.2	22.2	14.5
Delay due to road works	4.7	22.4	20.8	28.1	24.0
Delay due to police checks	6.0	24.8	21.4	31.6	16.2
Level of congestion	2.1	16.1	28.6	35.9	17.2
Overall	6.4	25.3	25.1	27.2	15.9

Respondents were mostly dissatisfied with level of congestion (53%); followed by delay due to road work (52%), delay due to police/RTO checking (48%) on the road and fuel consumption of the vehicle (39%) respectively.

Overall only one third of the respondents were satisfied with the impact on travel time and money due to road condition and various activities related to it. Total 43% of the respondents were dissatisfied on this parameter.

6.6 Road signage and markings

Milestones/Destination signs: Over half of the respondents were not satisfied with the clarity of the milestones/destination signs on the road. Whereas there is almost equal proportion of the respondents who were satisfied or dissatisfied with adequacy and position of the milestone/destination signs on the road.

Utility/warning signs: Overall more than three-fourth of the respondents were dissatisfied with the utility/warning signs on the roads. Most of them were concerned about the clarity and positioning of the signs.

Road marking (Zebra crossing, center line & Pods marking lines etc.): Road marking is one of the integral parts of the road which helps users to avoid accidents on the roads. But almost 90% of respondents were dissatisfied with the road markings, e.g. zebra crossing and center line on the road in all segments. This is probably because road markings are normally not available on the roads. By including an option of "not applicable" in the options in the revised questionnaire, the findings of main survey could be more realistic.

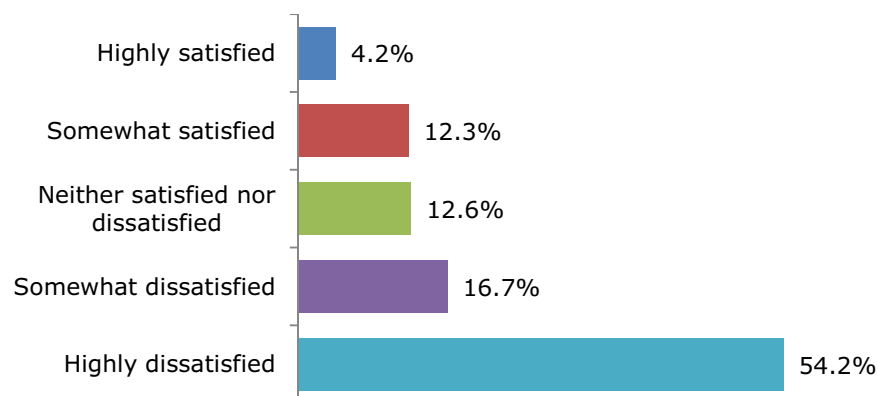
Table 6.10: Satisfaction w.r.t. road signage and markings

(Figures in percent)

Satisfaction levels with....		Highly satisfied	Somewhat satisfied	Neither satisfied nor dissatisfied	Somewhat dissatisfied	Highly dissatisfied
Milestone/Destination signs	Adequacy	10.9	34.4	17.2	10.4	27.1
	Clarity	9.9	19.8	16.7	25	28.6
	Positioning	9.9	28.1	21.9	12.5	27.6
	Overall	10.2	27.4	18.6	16	27.8
Utility/warning signs	Adequacy	2.1	6.3	12.5	19.8	59.4
	Clarity	1.6	7.8	8.9	19.3	62.5
	Positioning	1.6	6.3	12.5	16.1	63.5
	Overall	1.7	6.8	11.3	18.4	61.8
Road markings	Adequacy	1	2.6	6.8	17.7	71.9
	Clarity	0.5	2.6	9.4	14.1	73.4
	Positioning	0.5	3.1	7.8	15.1	73.4
	Overall	0.7	2.8	8	15.6	72.9

About road signage and markings, overall only one-sixth of the respondents were satisfied on various aspects like adequacy clarity and positioning.

Figure 6.2: Overall satisfaction w.r.t. road signage



6.7 Traffic arrangements in work zones

Almost 41% of the respondents were satisfied with roadwork with proper safety arrangements whereas around 35% were dissatisfied.

There were equal proportions (45%) of satisfied and dissatisfied respondents for the sign board displaying the road work ahead. Also there were very few satisfied respondents (19%) with proper diversion arrangements of traffic near work/maintenance.

Table 6.11: Satisfaction w.r.t. traffic arrangements in work zones

(Figures in percent)

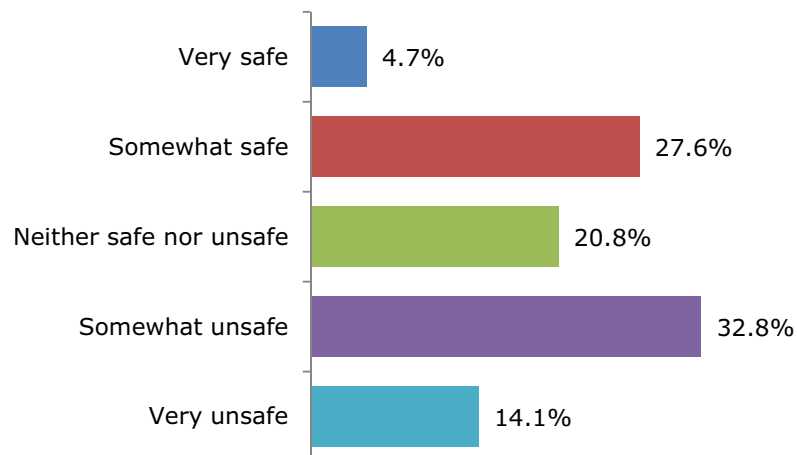
Satisfaction with traffic arrangements in work zones	Highly satisfied	Somewhat satisfied	Neither satisfied nor dissatisfied	Somewhat dissatisfied	Highly dissatisfied
Roadwork with proper safety arrangements	3.6	37.0	25.0	19.8	14.6
Sign board displaying "work in progress" ahead and diversion marking	6.8	38.0	10.4	25.0	19.8
Proper diversion arrangements of traffic near work/maintenance	1.0	17.7	21.4	25.5	34.4
Overall	3.8	30.9	18.9	23.4	22.9

Overall almost half of the respondents indicated there dissatisfaction with traffic arrangements in working zones whereas one third of respondents were satisfied.

6.8 Feeling of safety and security while commuting on the road

Largely respondents felt unsafe while traveling on the project corridors undergoing transformation. However one third of respondents were feeling safe while commuting on these roads.

Figure 6.3: Overall feeling about safety and security aspects



On deeper enquiry, various reasons were cited by the respondents for feeling unsafe/unsecure while commuting on these roads as stated below.

Table 6.12: Reasons for feeling unsafe on road

(Multiple Responses & Figures in percent)

Issues	Reasons for feeling unsafe	Response Percent
Road engineering/ construction related issues	Poor/No signage	24.4
	Bad roads/narrow roads	17.8
	Presence of intersections frequently	17.8
	No maintenance of the road	14.4
	Delay in construction work of road	12.2
	Absence of streetlights	11.1
	Water logging after rain	7.8
	Traffic converging into fewer lanes	5.6
	Width of road is very less	5.6
	Road works without proper safety arrangements	4.4
	Sharp turns/Curves	3.3
	Joining/leaving service lanes	3.3
Traffic management issues	High Speed of Traffic	5.6
	High Volume of Traffic	3.3
Driving behavior related issues	Mobile phone usage while driving	11.1
	Poor/Aggressive driving	4.4
	Heavy vehicles parked on the road	2.2
	Changing lanes/weaving	2.2
	Beaming lights of other vehicles	2.2

One fourth of respondents were feeling unsafe because of bad/no signage on the road, followed by bad roads/narrow roads (18%), presence of intersections frequently (18%), no maintenance of the road (14%) and delay in construction work of road (12%) respectively.

6.9 Satisfaction with safety and security aspects

Most of the respondents were dissatisfied with availability of police post/PCR vans (59%), design of road bends (68%), dedicated lanes for pedestrians (84%) and speed breakers (53%) on the roads to avoid accidents & immediate response in odd situations.

Table 6.13: Satisfaction w.r.t. safety and security aspects

(Figures in percent)

Satisfaction with safety & security aspects	Highly satisfied	Somewhat satisfied	Neither satisfied nor dissatisfied	Somewhat dissatisfied	Highly dissatisfied
Availability of police post/ PCR vans	2.1	16.7	22.4	28.1	30.7
Design of road bends/curves /turns	1.6	14.1	16.1	35.4	32.8
Dedicated lanes for pedestrians	0.5	2.6	13.0	15.6	68.2
Speed breakers	2.1	12.5	31.8	19.3	34.4
Overall	1.6	11.5	20.8	24.6	41.5

Overall only 13% of the respondents were satisfied with safety and security aspects on surveyed road segments. Maximum almost 66% of the respondents were dissatisfied with safety and security parameters on the road segments.

6.10 Suggestions to improve the road safety/reducing road accidents

To enhance the safety & security on the roads and to reduce the road accidents certain suggestions were shared by respondents which are as follows:

Table 6.14: Suggestions to improve the road safety

(Multiple Responses & Figures in percent)

Suggestions to improve the road safety	Percent
Width of the road should be more	53
Availability of sign boards/markings on road	28
Availability of police post/PCR vans on the road	19
Proper designing of road	10
Improved quality of the road	10
Dedicated lane for pedestrians especially in market area	10
Traffic signal to be provided at certain locations	10
Proper maintenance of the road	7
On time completion of road construction work	7
Provision of speed breakers especially in market areas	5
Proper traffic arrangements especially in market area	4
Tree plantation on road side	4
Street lights facility	1
Cleanliness on the road	1

Almost half of the respondents (53%) suggested widening of roads to enhance safety. Respondents have also suggested for availability of sign boards and proper marking on the roads (28%), availability of police post/PCR vans (19%), proper designing of the roads (curves and turns) (10%), improved quality of roads (10%), dedicated pedestrians lane (10%), proper traffic signals (10%) respectively.

6.11 Response to emergency situations

As per this survey, only 8% of the respondents were satisfied with the display of emergency numbers on roads, followed by availability of medical aid (6%) and response time of emergency vehicles after an emergency call (6%). The low satisfaction levels might be improved during the main survey by putting additional options of "not applicable" in the improved questionnaire.

Table 6.15: Satisfaction w.r.t. response to emergency situations

(Figures in percent)

Satisfaction with response to emergency situations	Highly satisfied	Somewhat satisfied	Neither satisfied nor dissatisfied	Somewhat dissatisfied	Highly dissatisfied
Display of emergency numbers (ambulance/fire brigade/PCR Van)	1.0	6.8	17.2	27.1	47.9
Availability of medical aid	0.5	4.7	9.9	42.7	42.2
Response time of emergency vehicles after an emergency call	1.0	4.7	30.2	20.3	43.8
Overall	0.9	5.4	19.1	30.0	44.6

Very few (6%) respondents were satisfied with the responses of respective departments in emergency situations. In fact, in most cases respondents would have never experienced any emergency situation on these roads. With additional option of “don’t know/ can’t say” when not experienced a particular situation in the improved questionnaire, the results are expected to be better and more realistic during the main survey.

6.12 Wayside amenities

Mostly respondents were dissatisfied with the wayside amenities normally expected to be available on the road sides. Three-fourth of the respondents were dissatisfied with overnight accommodation, followed by rain shelter on the roadside.

On the other hand main users were partially satisfied with facilities like fuel stations (59%), Mechanics/tow car service (33%) and parking facility (11%).

Table 6.16: Satisfaction with availability of wayside amenities

(Figures in percent)

Satisfaction with wayside amenities	Highly satisfied	Somewhat satisfied	Neither satisfied nor dissatisfied	Somewhat dissatisfied	Highly dissatisfied
Toilet facility	0.0	9.4	38.0	18.2	34.4
Restaurants	3.1	28.6	17.2	40.6	10.4
Drinking water	1.6	9.9	31.3	39.1	18.2
Rain shelter	0.0	10.9	19.3	29.2	40.6
PCO/Telephone	0.0	9.4	22.9	34.9	32.8
Overnight accommodation	0.9	5.1	23.1	36.8	34.2
Fuel station/petrol pump	26.4	32.7	19.1	9.1	12.7
Mechanics/ tow car services	11.8	20.9	19.1	13.6	34.5
Parking facility	0.9	10.0	25.5	24.5	39.1
Overall	5.0	15.2	23.9	27.3	28.6

Overall only one-fifth of the respondents were satisfied with wayside amenities while more than half of the respondents were dissatisfied with the provision of different type of amenities. Although OSRP/ OWD do not directly engage in providing these amenities, generally it is expected that they can facilitate in providing such amenities.

6.13 Environmental impact

With increase in traffic and urbanization, environment is getting affected with various types of pollution. Almost half of the respondents were dissatisfied with the increase in noise pollution, followed by air pollution and non-plantation of trees on roads.

Table 6.17: Satisfaction w.r.t. environmental impact

(Figures in percent)

Satisfaction with environmental impact	Highly satisfied	Somewhat satisfied	Neither satisfied nor dissatisfied	Somewhat dissatisfied	Highly dissatisfied
Air Pollution	2.6	16.7	31.3	13.5	35.9
Noise Pollution	1.0	13.0	19.8	28.1	38.0
Tree plantation along the road/greenery	3.6	23.4	25.0	14.6	33.3
Overall	2.4	17.7	25.3	18.8	35.8

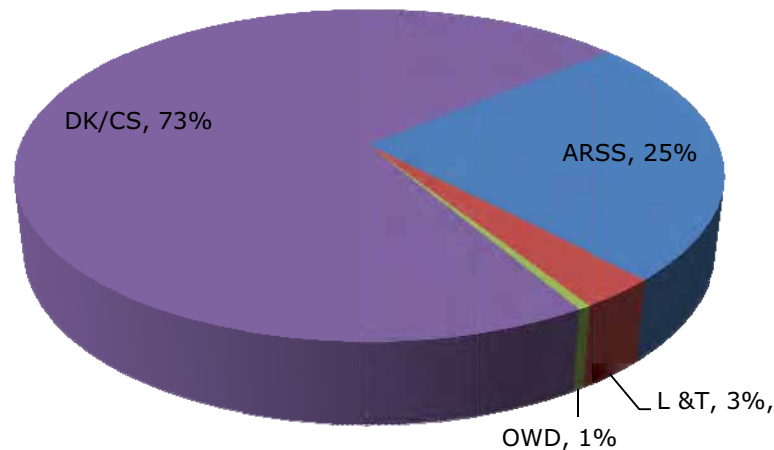
In particular road segments overall only one fifth of respondents were satisfied with the efforts to reduce pollution where as 55% of the respondents were dissatisfied. On getting low satisfaction levels on pollution, respondents were further enquired wheeby they said that as the roads were non-bituminous, dust flies when vehicles ply on the roads.

CHAPTER 7: OPINION ON OWD/OSRP

7.1 Opinion on OWD/OSRP

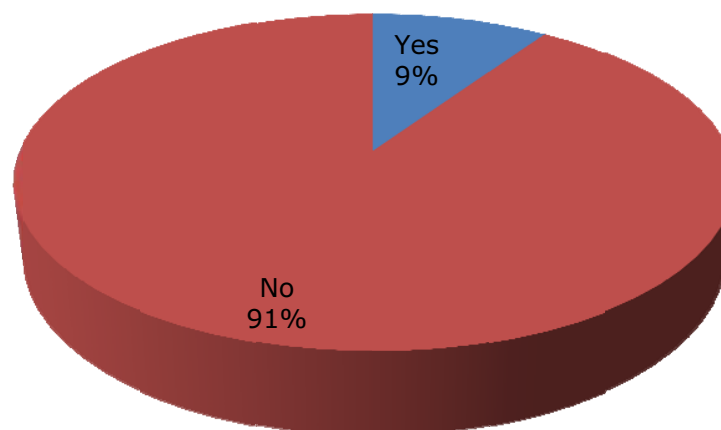
It has been observed during the pilot survey that almost 73% of the respondents were not aware about the responsible organization for the construction and maintenance work of roads in Odisha. Almost 25% of the respondents believe that ARSS Infrastructure Projects Ltd. (they just mentioned ARSS) is accountable for construction and maintenance work of roads in Odisha.

Figure 7.1: Awareness of organizations responsible for road works



On directly asking awareness of OWD, very few (9%) respondents said they were aware of OWD/OSRP. Remaining respondents (91%) have perception that contractors were directly taking care of the construction and maintenance work of the roads.

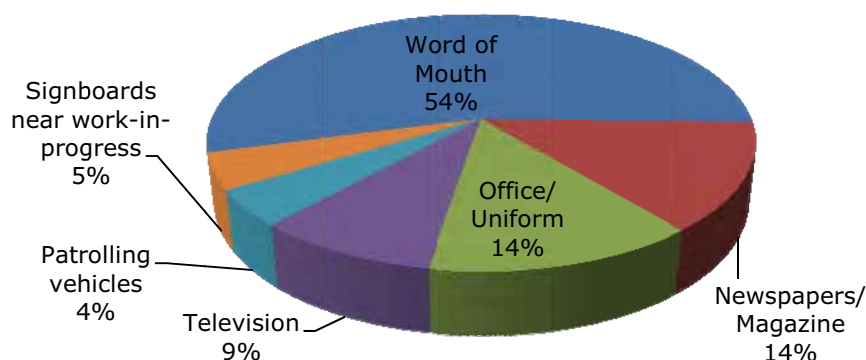
Figure 7.2: Awareness about OWD/OSRP



7.2 Source of information about OWD

Word of mouth is the most convincing medium of information for those respondents (55%) who were aware of OWD, followed by Newspaper/Magazine (14%), Office/Uniform (14%), Television (9%), Patrolling vehicles (4%) and signboards (4%) respectively.

Figure 7.3: Source of information about OWD



7.3 Satisfaction with the performance of OWD/OSRP

On explaining about the works of Odisha works department, almost 40% of the respondents showed their satisfaction with the road quality provided by the OWD, followed by improvement of roads, Time taken in repairing of roads.

Almost half of the respondents were dissatisfied with the complaint redressal system and information on road works, delays and alternate routes respectively.

Table 7.1: Satisfaction w.r.t. performance of OWD/OSRP

(Figures in percent)

Satisfaction with OWD/ OSRP performance	Highly satisfied	Somewhat satisfied	Neither satisfied nor dissatisfied	Somewhat dissatisfied	Highly dissatisfied	Don't know/Can't say
Providing quality roads in Odisha	0.5	38.7	35.6	23.6	1.6	0.5
Construction/ improvement of roads	1.6	30.7	39.1	21.9	6.8	0.0
Time taken in maintenance / repairing of roads	1.6	16.9	34.4	30.7	16.4	1.6
Carrying out road works speedily and efficiently	1.1	17	21.3	42.6	18.1	2.1
Overall safety design of roads	2.3	9.0	23.7	39.0	26.0	8.5
Initiatives in reducing road accidents	0.6	13.5	22.2	43.3	20.5	12.3
Accident clean-up time	2.5	12.3	28.2	33.1	23.9	17.8
Information on road works, delays & alternate routes	0.0	9.1	16.2	35.1	39.6	24.7
Complaint redressal system	26.6	7.8	6.8	24.5	34.4	0.0
Overall	4.0	16.5	23.8	30.3	19.0	6.4

Overall only 20% of the respondents were satisfied with the OWD/OSRP performance. Total 6% of the respondents were not aware /able to comment about OWD/OSRP.

7.4 Suggestions to improve the road-infrastructure

Some suggestions were sought from the respondents on how to improve road-infrastructure in Odisha. The suggestions provided by them are given below:

Table 7.2: Suggestion to improve the road infrastructure

(Multiple responses & Figures in percent)

Suggestions for improvement in road-infrastructure	Percent
Wider roads/ 2-4 lane roads	63
Better quality of the roads	39
Availability of sign boards/markings on road	22
Proper maintenance of the roads	11
Road side plantation	9
Streetlights facility at certain locations	8
Drinking water facility on the road side	5
Road work finishing on the time	4
Dedicated lanes for pedestrians/cyclists	2
Proper traffic arrangements	2
Improved condition of bus stops/shelters	2
Availability of police post/PCR vans on the road	2
Provision of more parking areas on road sides	1

ANNEXURES

ANNEXURE-1A - Photos taken during
the Pilot survey (Road Segment:
Bhawanipatna - Khariar)



A1: Single lane congested road



A2: Police barricade on the road



A3: Single lane road



A4: Damaged edges of the road



A5: Bad surface of the road



A6: Bridge on the road



A7: Flyover



A8: Single lane road



A9: Unclean road side



A10: Dangerous edges of the road



A11: Milestone on the roadside



A12: Rain shelter-cum-bus stop on road side



A13: Road in bad condition



A14: Bad road surface with uneven edges



A15: Marking on the road



A16: Milestone on the road side



A17: Road construction work in progress



A18: Bank on the roadside



A19: Police post and water source on road side



A20: Road construction in progress



A21: Petrol pump on road side



A22: Medical shop on roadside



A23: Construction in progress



A24: Drinking water source on roadside

ANNEXURE-1B -Photos taken during
the Pilot survey (Road Segment:
Chandbali - Anandpur)



B1: Bad surface of the road



B2: Damaged railing on the bridge



B3: Damaged surface of the road



B4: Maintenance work on the bridge



B5: Bad surface of the road



B6: Wrong Parking on the bridge



B7: Damaged surface of the road



B8: Road side vendors



B9: Single lane road



B10: Road side vendors



B11: Damaged edges of the road



B12: Taxi parking on single lane road



B13: Police station on the road



B14: Health center on road side



B15: Single lane congested road



B16: Eatery on the road side



B17: Mechanic shop on road side



B18: Damaged edges of the road



B19: Water logging on the road side



B20: Road encroachment



B21: Animal on the road



B22: Double lane with very good surface



B23: Double lane road



B24: Greenery on the road side



B25: Difficulty for cars to pass simultaneously



B26: Dangerous edges of the road



B27: Road widened and surfacing work done partially



B28: Animals on the road



B29: Filling station on road side



B30: No marking on the road

ANNEXURE-1C - Photos taken during
the Pilot survey (Road Segment:
Berhampur - Taptapani)



C1: Bad surface of the road



C2: Water logging on the road



C3: Double lane road with good surface



C4: Road in bad condition



C5: Sign board on road side



C6: Work in progress for double lane road



C7: Dangerous edges of the road



C8: Wide road with good surface



C9: Milestone on road side



C10: Difficulty for buses to pass simultaneously



C11: Bad surface of the bridge



C12: Congested road with water logging



C13: Rain shelter cum bus stop on road side



C14: Police van



C15: Single lane bumpy road



C16: Unclean road edges



C17: Road with good surface



C18: Police check-post on road side



C19: Filling station on road side



C20: Marking on the road



C21: Road side vendors



C22: Unmarked Speed breaker on the road



C23: Drinking water source on road side



C24: Road information on road side

ANNEXURE-1D - Photos taken during
the Pilot survey (Road Segment:
Jagatpur - Chandabali)



D1: Bumpy road with dangerous edges



D2: Milestone on road side



D3: Drinking water source on road side



D4: Filling station on road side



D5: Congested road



D6: Milestone on road side



D7: Police station on road side



D8: Construction work in progress



D9: Filling station on road side



D10: Rain shelter cum bus stop



D11: Damaged edges of the road



D12: Uneven edges of the road



D13: Police check post on the road



D14: Speed breakers on the road



D15: Bad surface of the road



D16: Filling station on the road



D17: Greenery on the roadsides



D18: Unmarked Speed breaker on the road



D19: Accessibility to settlements



D20: Banks on road side



D21: Restaurant on road side



D22: Milestone on roadside



D23: Filling station on road side



D24: Uneven edges of the road

ANNEXURE-1E - Photos taken during
the Pilot survey (Road Segment:
Athagarh - Narsinghpur)



E1: Road signage on the road side



E2: On road parking



E3: Road with good surface



E4: Uneven surface of the road



E5: Drinking water source on road side



E6: Unmarked speed breakers on the road



E7: Signage on the road side



E8: Muddy road side



E9: Taxi stand on the road side



E10: Water logging on damaged road



E11: Milestone on road side



E12: Unclean road sides



E13: Mechanic shop on road side



E14: Filling station on road side



E15: Motel on road side for travelers



E16: Water logging on road side



E17: Road with good surface



E18: Road with one side service lane



E19: Bad surface of the road



E20: Road information



E21: Good road with uneven edges



E22: Double lane road with good surface



E23: Newly construction road surface



E24: Police check post on the road

ANNEXURE-1F - Photos taken during
the Pilot survey (Road Segment:
Sambalpur - Rourkela)



F1: Mechanic shop on the road side



F2: Emergency helpline numbers



F3: Congested bridge on the road



F4: Bus stop on the road side



F5: Milestone on the road side



F6: Police check post on the road



F7: Traffic jam due to heavy traffic



F8: Bumpy and congested road



F9: Hotel on road side



F10: Filling station on road side



F11: Toll gate on the road



F12: Divider on the road



F13: Sign board on the road side



F14: Bus stop on the road side



F15: Pedestrian-lane on road side



F16: Zebra crossing on the road



F17: Traffic signals on the road



F18: Unmarked speed breaker on the road



F19: Filing station on the road side



F20: Road side drinking water source



F21: Dividers on the road



F22: Police station



F23: Water logging on road side



F24: Proper marking on the road

**ANNEXURE-2A –Suggested Modified
Questionnaire (Main, Vulnerable Users)**

QUESTIONNAIRE FOR MAIN USERS

Serial No:

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PREAMBLE

Good: I am from MDRA (Marketing & Development Research Associates), a leading market research agency in India. We are currently conducting a survey on selected road segments in Odisha. Please answer the following questions keeping in mind only this section of the road where we are interacting now. In the following questions roads will imply the (road name.....) road. I would be grateful if you could spare some time to answer these questions. Only aggregate data will be used for the survey purpose and no individual information would be shared.

SECTION A: LOCATIONAL DETAILS

- A1. Interview for the Road Segment:
 (1) Bhawanipatna - Khariar (2) Chandbali – Bhadrak - Anandpur (3) Berhampur – Taptapani
 (4) Jagatpur - Chandbali (5) Athagarh - Narsinghapur (6) Sambalpur – Rourkela
- A2. Origin of Journey: _____ A3. Destination _____
 A4. Place of interview: _____ A4a. Side of the Road: (1) Up (2) Down
 A5. Highway/ road number _____ A6. Town/Village _____
 A7. District _____

SECTION B: RESPONDENT'S PROFILE

- B1. Name
- B2. Contact
 Address
- B3. District B3a. State
- B4. Phone

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- B5. Occupation of **Respondent**
 (1) Housewife (2) Unemployed (3) Student
 (4) Employee – Govt (5) Employee – Pvt. Sect. (6) Businessmen/trader/self employed
 (7) Farmer (8) Laborer (9) Other (Specify _____)
- B6. Education of **Respondent**
 (1) Illiterate (2) Primary upto class 5th (3) Class 6th –9th (4) SSC/HSC
 (5) Some college but not graduate (6) Graduate and above (7) Other (Specify _____)
- B7. **Income:** Please look at this card and tell me which income group best indicates your **Total Monthly Household Income**. Please include all sources including salary, bonus, pension, interest, dividend, rental income, etc. [**SHOW CARD**]
 (1) Up to Rs. 5000 (2) Rs 5001 to Rs. 10,000 (3) Rs 10,001 to Rs 20,000
 (4) Rs 20,001 to Rs 30,000 (5) More than Rs. 30,000
[A PERSON BELOW 18 YEARS NOT TO BE INTERVIEWED]
- B8. Age: (1) 18-25 yrs (2) 26-35 yrs (3) 36-45 yrs
 (4) 46-55 yrs (5) Above 55 yrs
- B9. Gender (1) Male (2) Female
- B10. Category of respondent:
 (1) Driver (Driving the vehicle) (2) Passenger (Seating on the vehicle)
- B11. Type of Vehicle
 (1) Motorized two wheelers (Scooter / Motorcycle) (6) LCVs (407, Matador, Trekker, small lorries etc)
 (2) 3 Wheelers/ Auto Rickshaw (7) Tractor/ Agricultural vehicles
 (3) Car /Jeep /Van /Taxi/SUVs/MUVs (8) Police/ Fire/ Ambulance/ Emergency vehicles
 (4) Bus/Mini Bus (9) Others (specify _____)
 (5) Trailer/ Truck/ Tanker/ Tempo (HCV)

SECTION C: MAIN INTERVIEW

[TIME AND AGAIN (AFTER EVERY 4-5 QUESTIONS) KEEP REMINDING THE RESPONDENT THAT HIS/HER OPINION IS BEING ASKED RELATED TO ONLY THE PARTICULAR ROAD SEGMENT MENTIONED IN AI]

TRAVEL DETAILS

- Q1. How many times do you travel/commute on this road in a month (**MENTION NAME OF THE ROAD**)?
 (1) Less than once (2) 1-3 times (3) 4-7 times
 (4) 8-10 times (5) More than 10 times
- Q2. Mostly, what is your purpose of traveling/commuting on this road?
 (1) Business/ work related movements (2) Visiting relatives/friends
 (3) Shopping (4) Sight-seeing/ touring/ leisure
 (5) Medical (6) Others (specify (_____))

OPINION OF THE ROAD

Q3. Your satisfaction level with **Road Geometry** on this road segment

S. N	Attributes	Highly satisfied	Somewhat satisfied	Neither satisfied nor dissatisfied	Somewhat dissatisfied	Highly dissatisfied	DK/CS=8 NA=9
3.1	Road width with respect to traffic	5	4	3	2	1	
3.2	Road width at bridges/ approaches	5	4	3	2	1	
3.3	Visibility of roads at intersections and curves/ turns	5	4	3	2	1	

Q4. Your satisfaction level with **Road Quality** on this road segment

S. N	Attributes	Highly satisfied	Somewhat satisfied	Neither satisfied nor dissatisfied	Somewhat dissatisfied	Highly dissatisfied	DK/CS=8 NA=9
4.1	Condition of shoulders	5	4	3	2	1	
4.2	Durability/ quality of roads built-up	5	4	3	2	1	
4.3	Maintenance/repairing of the road	5	4	3	2	1	

RIDING COMFORT

Q5. Your satisfaction level with **riding/travel comfort** on this road segment

S. N	Attributes	Highly satisfied	Somewhat satisfied	Neither satisfied nor dissatisfied	Somewhat dissatisfied	Highly dissatisfied	DK/CS=8 NA=9
5.1	Improvement of road conditions in last two years	5	4	3	2	1	
5.2	Smoothness of the road	5	4	3	2	1	
5.3	Appearance of the road surface	5	4	3	2	1	
5.4	Road cleanliness	5	4	3	2	1	
5.5	Condition of the bridges and flyovers	5	4	3	2	1	
5.6	Availability of service lanes	5	4	3	2	1	
5.7	Accessibility to settlements such as villages, schools and hospitals etc.	5	4	3	2	1	
5.8	Encroachments near settlements	5	4	3	2	1	
5.9	Overall riding/travel comfort	5	4	3	2	1	

IMPACT ON TRAVEL TIME AND MONEY

 Q6. Your satisfaction level with the condition of this road segment with respect to the **impact on travel time and money**

S. N	Attributes	Highly satisfied	Somewhat satisfied	Neither satisfied nor dissatisfied	Somewhat dissatisfied	Highly dissatisfied	DK/CS=8 NA=9
6.1	Traveling time between particular places	5	4	3	2	1	
6.2	Fuel consumption of your vehicle	5	4	3	2	1	
6.3	Overall maintenance cost of your vehicle	5	4	3	2	1	
6.4	Delay due to road works	5	4	3	2	1	
6.5	Delay due to police/RTO checking	5	4	3	2	1	
6.6	Level of congestion	5	4	3	2	1	

ROAD SIGNAGE AND MARKINGS

 Q7. Your satisfaction level with **Road Signage & Marking** on this road segment

S. N	Attributes	Highly satisfied	Somewhat satisfied	Neither satisfied nor dissatisfied	Somewhat dissatisfied	Highly dissatisfied	DK/CS=8 NA=9	
7.1	Milestones/Destination signs	a. Adequacy	5	4	3	2	1	
		b. Clarity	5	4	3	2	1	
		c. Positioning	5	4	3	2	1	
7.2	Utility/warning signs	a. Adequacy	5	4	3	2	1	
		b. Clarity	5	4	3	2	1	
		c. Positioning	5	4	3	2	1	
7.3	Road markings (Zebra crossing, centre line & Peds marking line etc.)	a. Adequacy	5	4	3	2	1	
		b. Clarity	5	4	3	2	1	
		c. Positioning	5	4	3	2	1	

TRAFFIC ARRANGEMENTS IN WORK ZONES

 Q8. Your satisfaction level with **traffic arrangements in work zones** on this road segment

S. N	Attributes	Highly satisfied	Somewhat satisfied	Neither satisfied nor dissatisfied	Somewhat dissatisfied	Highly dissatisfied	DK/CS=8 NA=9
8.1	Roadwork with proper safety arrangements	5	4	3	2	1	
8.2	Sign board displaying "work in progress" ahead and diversion marking	5	4	3	2	1	
8.3	Proper diversion arrangements of traffic near work/maintenance place	5	4	3	2	1	

SAFETY/SECURITY ASPECTS

Q9. How **safe** do you feel while commuting on this road?

- (1) Very safe (2) Somewhat safe (3) Neither safe nor unsafe (4) Somewhat unsafe (5) Very unsafe

Q10. What are the reasons for feeling unsafe on this road? *[ASK ONLY IF RESPONSE TO Q9 IS '3', '4' OR '5'] [MULTIPLE RESPONSES POSSIBLE]*

- a. _____ f. _____
 b. _____ g. _____
 c. _____ h. _____
 d. _____ i. _____
 e. _____ j. _____

[POST-CODES]

1	High speed of traffic	2	High volume of traffic	3	Heavy vehicles parked on the road
4	Poor/ aggressive driving	5	Absence of streetlights	6	Bad roads/ narrow roads
7	Road works without proper safety arrangements	8	Presence of intersections frequently	9	Traffic converging into fewer lanes
10	Robbery/ theft	11	Bad/No signage	12	Mobile phone usage while driving
13	Sharp turns/curves	14	Changing lanes/weaving	15	No maintenance of the road
16	Water logging after rain	17	Insufficient Police patrolling	18	Joining/leaving service lanes
19	Beaming light of other vehicles	20	Other (Specify _____)		

Q11. Your satisfaction level with **safety and security aspects** on this road segment

S. N	Attributes	Highly satisfied	Somewhat satisfied	Neither satisfied nor dissatisfied	Somewhat dissatisfied	Highly dissatisfied	DK/CS=8 NA=9
11.1	Availability of police post/ PCR vans	5	4	3	2	1	
11.2	Design of road bends/curves/turns	5	4	3	2	1	
11.3	Dedicated lanes for pedestrians	5	4	3	2	1	
11.4	Speed breakers	5	4	3	2	1	

Q12. Suggestions to improve the **road safety/reducing road accidents**

S. N	Suggestions
1	
2	
3	
4	
5	

RESPONSE TO EMERGENCY SITUATIONS

Q13. Your satisfaction level with **response to emergency situations**

S. N	Attributes	Highly satisfied	Somewhat satisfied	Neither satisfied nor dissatisfied	Somewhat dissatisfied	Highly dissatisfied	DK/CS=8 NA=9
13.1	Display of emergency numbers (ambulance/fire brigade/PCR Van)	5	4	3	2	1	
13.2	Availability of medical aid	5	4	3	2	1	
13.3	Response time of emergency vehicles after an emergency call	5	4	3	2	1	

WAYSIDE AMENITIES

Q14. Your satisfaction level with availability of **wayside amenities** on this road segment

S. N	Attributes	Highly satisfied	Somewhat satisfied	Neither satisfied nor dissatisfied	Somewhat dissatisfied	Highly dissatisfied	DK/CS=8 NA=9
14.1	Toilet facility	5	4	3	2	1	
14.2	Restaurants/ hotels for food	5	4	3	2	1	
14.3	Drinking water	5	4	3	2	1	
14.4	Rain shelter-cum-Bus stop	5	4	3	2	1	
14.5	PCO/Telephone booth	5	4	3	2	1	
14.6	Overnight accommodation	5	4	3	2	1	
[DO NOT ASK 14.7 TO 14.9 FROM PASSENGERS]							
14.7	Fuel station/petrol pump	5	4	3	2	1	
14.8	Mechanics/ tow car services	5	4	3	2	1	
14.9	Parking facilities	5	4	3	2	1	

ENVIRONMENTAL IMPACT

Q15. Your satisfaction level with **Road Environment** on this road segment

S. N	Attributes	Highly satisfied	Somewhat satisfied	Neither satisfied nor dissatisfied	Somewhat dissatisfied	Highly dissatisfied	DK/CS=8 NA=9
15.1	Air Pollution	5	4	3	2	1	
15.2	Noise Pollution	5	4	3	2	1	
15.3	Tree plantation along the road/greenery	5	4	3	2	1	

OVERALL SATISFACTION

Q16. Rate your **overall satisfaction** with this road segment (**MENTION ROAD NAME AS IN A1**)

S. N	Attributes	Highly satisfied	Somewhat satisfied	Neither satisfied nor dissatisfied	Somewhat dissatisfied	Highly dissatisfied
16.1	Overall satisfaction with this road segment	5	4	3	2	1

OPINION ON OWD/OSRP

Q17. As per your knowledge which organization is responsible for the construction and maintenance of the roads in Odisha?

Q18. Are you aware of Odisha Works Department (OWD)?
 (1) Yes (2) No **[IF RESPONSE IS 'NO', GO TO Q21]**

Q19. What is your source of awareness about Odisha Works Department (OWD)? **[MULTIPLE RESPONSES POSSIBLE]**

1	Hoardings	2	Internet	3	Newspapers/Magazine
4	Television	5	Radio	6	Office/ Uniform
7	Word of Mouth	8	Patrolling vehicles	9	Signboards near work-in-progress
10	Others (Specify _____)				

Q20. What is your perception/opinion about OWD/ Road Works Department, Govt. of Odisha? **(RECORD VERBATIM)**

Q21. Mention your satisfaction level with the performance of OWD/Road works Department in Odisha on the following attributes:
[Brief about Odisha Works Department (OWD): OWD is governing authority works under Govt. of Odisha, which is responsible for construction, repair and maintenance of buildings, roads, bridges and other related structures financed from the state and capital budget allocations in Odisha.]

S. N	Attributes	Highly satisfied	Somewhat satisfied	Neither satisfied nor dissatisfied	Somewhat dissatisfied	Highly dissatisfied	DK/CS=8 NA=9
21.1	Providing quality roads in Odisha	5	4	3	2	1	
21.2	Construction/maintenance / improvement of roads	5	4	3	2	1	
21.3	Time taken in maintenance / repairing of roads	5	4	3	2	1	
21.4	Carrying out road works speedily and efficiently	5	4	3	2	1	
21.5	Overall safety design of roads	5	4	3	2	1	
21.6	Initiatives and intervention in reducing road accidents	5	4	3	2	1	
21.7	Accident clean-up time	5	4	3	2	1	
21.8	Information on road works, delays and alternate routes	5	4	3	2	1	
21.9	Complaint redressal system	5	4	3	2	1	

Q22. Any three suggestions for further improvements in road-infrastructure in Odisha **[RECORD VERBATIM]**

1. _____
2. _____
3. _____

Q23. Would you be willing to participate in similar surveys in future?
 (1) Yes (2) No (3) Don't know/can't say

[SAY "THANK YOU & HAVE A WONDERFUL JOURNEY" AND TERMINATE THE INTERVIEW]

SECTION D: FIELD CONTROL INFORMATION

INVESTIGATOR				
NAME		DATE		SIGNATURE
SUPERVISOR				
NAME		DATE		SIGNATURE
VERIFICATION BY: (NAMES & SIGNATURES)				
	TL	FE	FM	RE
ACCOMPANIED				
SPOT/ BACK CHECKED				
SCRUTINISED				
DATA CODING				
NAME		DATE		SIGNATURE
DATA ENTRY				
NAME		DATE		SIGNATURE

NOTE: NO QUESTIONNAIRE WILL BE ACCEPTED WITHOUT COMPLETE FIELD CONTROL INFORMATION AND/ OR UNSIGNED AS AND WHERE APPLICABLE.

QUESTIONNAIRE FOR VULNERABLE USERS

Serial No: **PREAMBLE**

Good: I am from MDRA (Marketing & Development Research Associates), a leading market research agency in India. We are currently conducting a survey on selected road segments in Odisha. Please answer the following questions keeping in mind only this section of the road where we are interacting now. In the following questions roads will imply the (road name.....) road. I would be grateful if you could spare some time to answer these questions. Only aggregate data will be used for the survey purpose and no individual information would be shared.

SECTION A: LOCATIONAL DETAILS

- A1. Interview for the Road Segment:
 (1) Bhawanipatna - Khariar (2) Chandbali – Bhadrak - Anandpur (3) Berhampur – Taptapani
 (4) Jagatpur - Chandbali (5) Athagarh - Narsinghapur (6) Sambalpur – Rourkela
- A2. Origin of Journey: _____ A3. Destination _____
 A4. Place of interview: _____ A4a. Side of the Road: (1) Up (2) Down
 A5. Highway/ road number _____ A6. Town/Village _____
 A7. District _____

SECTION B: RESPONDENT'S PROFILE

- B1. Name
- B2. Contact
 Address
- B3. District B3a. State
- B4. Phone
- B5. Occupation of Respondent
 (1) Housewife (2) Unemployed (3) Student
 (4) Employee – Govt (5) Employee – Pvt. Sect. (6) Businessmen/trader/self employed
 (7) Farmer (8) Laborer (9) Other (Specify _____)
- B6. Education of Respondent
 (1) Illiterate (2) Primary upto class 5th (3) Class 6th –9th (4) SSC/HSC
 (5) Some college but not graduate (6) Graduate and above (7) Other (Specify _____)
- B7. **Income:** Please look at this card and tell me which income group best indicates your **Total Monthly Household Income**. Please include all sources including salary, bonus, pension, interest, dividend, rental income, etc. [**SHOW CARD**]
 (1) Up to Rs. 5000 (2) Rs 5001 to Rs. 10,000 (3) Rs 10,001 to Rs 20,000 (4) Rs 20,001 to Rs 30,000 (5) More than Rs. 30,000
[A PERSON BELOW 18 YEARS NOT TO BE INTERVIEWED]
- B8. Age: (1) 18-25 yrs (2) 26-35 yrs (3) 36-45 yrs
 (4) 46-55 yrs (5) Above 55 yrs
- B9. Gender (1) Male (2) Female
- B10. Category of respondent
 (1) Pedestrian (2) Cyclist (3) Resident on the roadside
 (4) Rickshaw/Bullock-cart (5) Shopkeeper/ Workers of roadside amenities
 (6) Others (specify _____)

SECTION C: MAIN INTERVIEW

[TIME AND AGAIN (AFTER EVERY 4-5 QUESTIONS) KEEP REMINDING THE RESPONDENT THAT HIS/HER OPINION IS BEING ASKED RELATED TO ONLY THE PARTICULAR ROAD SEGMENT MENTIONED IN A1]

TRAVEL DETAILS

- Q1. How many times do you travel/commute on this road in a month (**MENTION NAME OF THE ROAD**)?
 (1) Less than once (2) 1-3 times (3) 4-7 times
 (4) 8-10 times (5) More than 10 times
- Q2. Mostly, what is your purpose of traveling/commuting on this road?
 (1) Business/ work related movements (2) Visiting relatives/friends
 (3) Shopping (4) Sight-seeing/ touring/ leisure
 (5) Medical (6) Others (specify ())

OPINION OF THE ROAD

Q3. Your satisfaction level with **Road Geometry** on this road segment

S. N	Attributes	Highly satisfied	Somewhat satisfied	Neither satisfied nor dissatisfied	Somewhat dissatisfied	Highly dissatisfied	DK/CS=8 NA=9
3.1	Road width with respect to traffic	5	4	3	2	1	
3.2	Road width at bridges/ approaches	5	4	3	2	1	
3.3	Visibility of roads at intersections and curves/ turns	5	4	3	2	1	

Q4. Your satisfaction level with **Road Quality** on this road segment

S. N	Attributes	Highly satisfied	Somewhat satisfied	Neither satisfied nor dissatisfied	Somewhat dissatisfied	Highly dissatisfied	DK/CS=8 NA=9
4.1	Condition of shoulders	5	4	3	2	1	
4.2	Durability/ quality of roads built-up	5	4	3	2	1	
4.3	Maintenance/repairing of the road	5	4	3	2	1	

RIDING COMFORT

Q5. Your satisfaction level with **riding/travel comfort** on this road segment

S. N	Attributes	Highly satisfied	Somewhat satisfied	Neither satisfied nor dissatisfied	Somewhat dissatisfied	Highly dissatisfied	DK/CS=8 NA=9
5.1	Improvement of road conditions in last two years	5	4	3	2	1	
5.2	Smoothness of the road	5	4	3	2	1	
5.3	Appearance of the road surface	5	4	3	2	1	
5.4	Road cleanliness	5	4	3	2	1	
5.5	Condition of the bridges and flyovers	5	4	3	2	1	
5.6	Availability of service lanes	5	4	3	2	1	
5.7	Accessibility to settlements such as villages, schools and hospitals etc.	5	4	3	2	1	
5.8	Encroachments near settlements	5	4	3	2	1	
5.9	Overall riding/travel comfort	5	4	3	2	1	

IMPACT ON TRAVEL TIME AND MONEY

 Q6. Your satisfaction level with the condition of this road segment with respect to the **impact on travel time and money**

S. N	Attributes	Highly satisfied	Somewhat satisfied	Neither satisfied nor dissatisfied	Somewhat dissatisfied	Highly dissatisfied	DK/CS=8 NA=9
6.1	Traveling time between particular places	5	4	3	2	1	
6.2	Delay due to road works	5	4	3	2	1	
6.3	Level of congestion	5	4	3	2	1	

ROAD SIGNAGE AND MARKINGS

 Q7. Your satisfaction level with **Road Signage & Marking** on this road segment

S. N	Attributes		Highly satisfied	Somewhat satisfied	Neither satisfied nor dissatisfied	Somewhat dissatisfied	Highly dissatisfied	DK/CS=8 NA=9
7.1	Milestones/Destination signs	a. Adequacy	5	4	3	2	1	
		b. Clarity	5	4	3	2	1	
		c. Positioning	5	4	3	2	1	
7.2	Utility/warning signs	a. Adequacy	5	4	3	2	1	
		b. Clarity	5	4	3	2	1	
		c. Positioning	5	4	3	2	1	
7.3	Road markings (Zebra crossing, centre line & Peds marking line etc.)	a. Adequacy	5	4	3	2	1	
		b. Clarity	5	4	3	2	1	
		c. Positioning	5	4	3	2	1	

TRAFFIC ARRANGEMENTS IN WORK ZONES

 Q8. Your satisfaction level with **traffic arrangements in work zones** on this road segment

S. N	Attributes	Highly satisfied	Somewhat satisfied	Neither satisfied nor dissatisfied	Somewhat dissatisfied	Highly dissatisfied	DK/CS=8 NA=9
8.1	Roadwork with proper safety arrangements	5	4	3	2	1	
8.2	Sign board displaying "work in progress" ahead and diversion marking	5	4	3	2	1	
8.3	Proper diversion arrangements of traffic near work/maintenance place	5	4	3	2	1	

SAFETY/SECURITY ASPECTS

 Q9. How **safe** do you feel while commuting on this road?

- (1) Very safe (2) Somewhat safe
 (3) Neither safe nor unsafe (4) Somewhat unsafe (5) Very unsafe

 Q10. What are the reasons for feeling unsafe on this road? **[ASK ONLY IF RESPONSE TO Q9 IS '3', '4' OR '5'] [MULTIPLE RESPONSES POSSIBLE]**

- f. _____ f. _____
 g. _____ g. _____
 h. _____ h. _____
 i. _____ i. _____
 j. _____ j. _____

[POST-CODES]

1	High speed of traffic	2	High volume of traffic	3	Heavy vehicles parked on the road
4	Poor/ aggressive driving	5	Absence of streetlights	6	Bad roads/ narrow roads
7	Road works without proper safety arrangements	8	Presence of intersections frequently	9	Traffic converging into fewer lanes
10	Robbery/ theft	11	Bad/No signage	12	Mobile phone usage while driving
13	Sharp turns/curves	14	Changing lanes/weaving	15	No maintenance of the road
16	Water logging after rain	17	Insufficient Police patrolling	18	Joining/leaving service lanes
19	Beaming light of other vehicles	20	Other (Specify_____)		

Q11. Your satisfaction level with safety and security aspects on this road segment

S. N	Attributes	Highly satisfied	Somewhat satisfied	Neither satisfied nor dissatisfied	Somewhat dissatisfied	Highly dissatisfied	DK/CS=8 NA=9
11.1	Availability of police post/ PCR vans	5	4	3	2	1	
11.2	Design of road bends/curves/turns	5	4	3	2	1	
11.3	Dedicated lanes for pedestrians/ cyclists	5	4	3	2	1	
11.4	Speed breakers	5	4	3	2	1	

Q12. Suggestions to improve the road safety/reducing road accidents

S. N	Suggestions
1	
2	
3	
4	
5	

RESPONSE TO EMERGENCY SITUATIONS**Q13. Your satisfaction level with response to emergency situations**

S. N	Attributes	Highly satisfied	Somewhat satisfied	Neither satisfied nor dissatisfied	Somewhat dissatisfied	Highly dissatisfied	DK/CS=8 NA=9
13.1	Display of emergency numbers (ambulance/fire brigade/PCR Van)	5	4	3	2	1	
13.2	Availability of medical aid	5	4	3	2	1	
13.3	Response time of emergency vehicles after an emergency call	5	4	3	2	1	

WAYSIDE AMENITIES

Q14. Your satisfaction level with availability and adequacy of **wayside amenities** on this road segment

S. N	Attributes	Highly satisfied	Somewhat satisfied	Neither satisfied nor dissatisfied	Somewhat dissatisfied	Highly dissatisfied	DK/CS=8 NA=9
14.1	Toilet facility	5	4	3	2	1	
14.2	Restaurants/ hotels for food	5	4	3	2	1	
14.3	Drinking water	5	4	3	2	1	
14.4	Rain shelter-cum-Bus stop	5	4	3	2	1	
14.5	PCO/Telephone booth	5	4	3	2	1	

ENVIRONMENTAL IMPACT

Q15. Your satisfaction level with **Road Environment** on this road segment

S. N	Attributes	Highly satisfied	Somewhat satisfied	Neither satisfied nor dissatisfied	Somewhat dissatisfied	Highly dissatisfied	DK/CS=8 NA=9
15.1	Air Pollution	5	4	3	2	1	
15.2	Noise Pollution	5	4	3	2	1	
15.3	Tree plantation along the road/greenery	5	4	3	2	1	

OVERALL SATISFACTION

Q16. Rate your **overall satisfaction** with this road segment (**MENTION ROAD NAME AS IN A1**)

S. N	Attributes	Highly satisfied	Somewhat satisfied	Neither satisfied nor dissatisfied	Somewhat dissatisfied	Highly dissatisfied
16.1	Overall satisfaction with this road segment	5	4	3	2	1

OPINION ON OWD/OSRP

Q17. As per your knowledge which organization is responsible for the construction and maintenance of the roads in Odisha?

Q18. Are you aware of Odisha Works Department (OWD)?

(1) Yes

(2) No **[IF RESPONSE IS 'NO', GO TO Q21]**

Q19. What is your source of awareness about Odisha Works Department (OWD)? **[MULTIPLE RESPONSES POSSIBLE]**

1	Hoardings	2	Internet	3	Newspapers/Magazine
4	Television	5	Radio	6	Office/ Uniform
7	Word of Mouth	8	Patrolling vehicles	9	Signboards near work-in-progress
10	Others (Specify _____)				

Q20. What is your perception/opinion about OWD/ Road Works Department, Govt. of Odisha? **(RECORD VERBATIM)**

Q21. Mention your satisfaction level with the performance of OWD/Road works Department in Odisha on the following attributes:

[Brief about Odisha Works Department (OWD): OWD is governing authority works under Govt. of Odisha, which is responsible for construction, repair and maintenance of buildings, roads, bridges and other related structures financed from the state and capital budget allocations in Odisha.]

S. N	Attributes	Highly satisfied	Somewhat satisfied	Neither satisfied nor dissatisfied	Somewhat dissatisfied	Highly dissatisfied	DK/CS=8 NA=9
21.1	Providing quality roads in Odisha	5	4	3	2	1	
21.2	Construction/maintenance / improvement of roads	5	4	3	2	1	
21.3	Time taken in maintenance / repairing of roads	5	4	3	2	1	
21.4	Carrying out road works speedily and efficiently	5	4	3	2	1	
21.5	Overall safety design of roads	5	4	3	2	1	
21.6	Initiatives and intervention in reducing road accidents	5	4	3	2	1	
21.7	Accident clean-up time	5	4	3	2	1	
21.8	Information on road works, delays and alternate routes	5	4	3	2	1	
21.9	Complaint redressal system	5	4	3	2	1	

Q22. Any three suggestions for further improvements in road-infrastructure in Odisha **[RECORD VERBATIM]**

1. _____
2. _____
3. _____

Q23. Would you be willing to participate in similar surveys in future?

(1) Yes

(2) No

(3) Don't know/can't say

[SAY "THANK YOU & HAVE A WONDERFUL JOURNEY" AND TERMINATE THE INTERVIEW]

SECTION D: FIELD CONTROL INFORMATION

INVESTIGATOR				
NAME		DATE		SIGNATURE
SUPERVISOR				
NAME		DATE		SIGNATURE
VERIFICATION BY: (NAMES & SIGNATURES)				
	TL	FE	FM	RE
ACCOMPANIED				
SPOT/ BACK CHECKED				
SCRUTINISED				
DATA CODING				
NAME		DATE		SIGNATURE
DATA ENTRY				
NAME		DATE		SIGNATURE

NOTE: NO QUESTIONNAIRE WILL BE ACCEPTED WITHOUT COMPLETE FIELD CONTROL INFORMATION AND/ OR UNSIGNED AS AND WHERE APPLICABLE.