

*Inception Report on
(Version 2.0)*

Carrying Out Road User Satisfaction Survey in Project Corridors of Orissa State Roads Project

Submitted to:



OSRP
Orissa State Roads Project
Works Department, Govt. of Orissa

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1.0 INTRODUCTION

1.0 INTRODUCTION

Orissa Works Department (OWD) has taken 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. **Marketing and Development Research Associates (MDRA)**, a premier market research and consulting firm has been awarded the assignment for conducting “road user satisfaction survey in the project corridors of Orissa” in view of its experience and expertise in conducting similar road user satisfaction surveys. It has signed the contract with **Orissa State Roads Project (OSRP)**, a World Bank funded project implemented by Orissa Works Department (OWD).

This revised inception report contains description of start-up activities, the detailed work and activity plan, methodologies (including sampling design), list of indicators, list of target respondents and time plan for the baseline road user satisfaction survey in six project corridors of Orissa. Further, a pilot survey would be undertaken based on these plans on the project roads before finalization of the methodology and survey tools. The outcome and experience of pilot survey would be shared with the client and their inputs would be taken to make the methodology more rigorous and reliable.

The assignment was formally commenced on 28th of December 2011 after due consultation with the client. Few rounds of meetings of core technical staff was held in the first week of the project to design the methodology including preparation of list of indicators, target respondents, sample design and preparation of draft questionnaires. A reconnaissance visit was earlier made to have a first-hand experience of current conditions of project corridors.

The approach was further discussed with the client to take their viewpoints and to learn from their experience of working on these six project corridors. MDRA acknowledges contribution of the client (OSRP) in providing some important information/ data related to these road sectors and a formal authority letter to conduct the survey on its behalf. Some inputs such as traffic count data and road-completion status of these roads were of immense help in designing the survey, especially the sampling design.

This inception report is in accordance with the spirit of the contract with some minor modifications/ improvements in view of the reality and practicality, which have been highlighted at appropriate places. The following chapters discuss in detail about various elements of the survey to be conducted.

2.0 METHODOLOGY

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In order to accomplish the objectives of the survey in the best possible way, the methodology avails judicious mix of qualitative and quantitative research methods.

It has two phases:

Phase I: Exploratory phase including secondary research, recce visit, extraction of information from previous similar surveys and any study conducted by OSRP followed by pilot survey

Phase II: Descriptive phase including qualitative interviews and quantitative survey comprising main survey among users of various categories.

Phase I (Exploratory phase)

Based on secondary research, prior experience, recce visit and over two dozen in-depth interviews with various categories of road users and traffic count data provided by the client, a list of indicators, sampling design and questionnaire were prepared. A questionnaire was designed which would be piloted in real conditions on the project corridors as a part of exploratory phase and before finalization.

Phase II (Descriptive phase)

Based on outcome and experience of pilot survey, in-depth interview discussion guidelines and questionnaires would be fine tuned, if required. These would be used for descriptive phase. With due consultation with the client some focus group discussions (FGD) would be carried out in order to understand the perceptions of students, women, teachers/lecturers and street/market vendors, transport associations and drivers of different types of vehicles regarding the road infrastructure and issues related to roads in Orissa.

The descriptive phase would consist of:

- **Focus Group Discussion (FGD):** In order to understand the perception, experience and expectations of different types/groups of respondents the FGD would be conducted. The target respondents for the FGD would be young students (college going), women, teachers/lecturers, street/market vendors, transport association members and drivers of different kind of vehicles.

- The objectives behind interviewing teenagers are to identify the awareness, importance and understanding of the traffic rules and their expectations from the road authorities.
 - Women would be met to find out their level of satisfaction with the condition of the roads, ease of communicating in the road segment and the facilities such as toilets, they need on road sides.
 - The transport association members and the drivers of various kinds of vehicles would be interviewed to have a clear view of the current road conditions, development opportunity in that road segment and also to find out the problems faced by them related to road infrastructure, taxation and road policy by govt. of Orissa.
 - Street/market vendors will be interviewed to get the details about the road work/maintenance happening on the road and the best picture of day to day happening on the roads.
 - The objective behind interviewing teachers/lectures is to identify the opinion about the condition of the road, development opportunities and to find out the prospect future policies. Their views would be used for making suggestions with regard to future policy priorities.
- **In-depth interviews (IDI):** In-depth interviews would be carried out among various stakeholders to understand deeper aspects of elements forming road users' satisfaction or dissatisfaction.
 - This would be also used to take suggestions of various road experts to make the project roads better so as to enhance satisfaction level of road users in future.
 - Some in-depth interviews would be carried out with the local people who reside/ work/ travel near the accident hot-spots in each road segment in order to find out the reasons for accidents and to plan and develop the policies and road infrastructure to reduce such incidents.
 - Their views would be used for making suggestions with regard to future policy priorities.

- **Structured interviews:** Structured questionnaires would be used to conduct face-to-face interviews among various categories of road users.
 - This quantitative study using face-to-face mode would help in arriving at the overall satisfaction level figures with respect to road infrastructure, implementation of policies, impact on environment, safety and security and comfort levels of road users as well as in determining benchmarks for Orissa Works Department (OWD).

Questionnaire:

Two separate sets of questionnaires would be availed to collect the data from main users and vulnerable users. The following areas of inquiry are suggested:

- Overall Satisfaction with road experience using a 5-point scale (5 = "Highly Satisfied" to 1 = "Highly Dissatisfied")
- Measurement of parameters and sub-parameters' performance on a number of attributes using a 5-point scale (5 = "Highly Satisfied" to 1 = "Highly Dissatisfied")
- Awareness and perception about OWD
- Demographics profiling of respondents (gender, age, etc.)

The questionnaires to be used in this survey are enclosed in Annexure -1 and Annexure - 2 respectively.

The sample details of descriptive phase are provided in the chapter on sampling design.

Approaches to Analyze Data

Individuals can analyze their data in a number of ways and the following outlines are some of the most common approaches. This research methodology is not a "one-size-fits-all" approach to research, but is designed to be a flexible tool, applicable to a variety of situations. Thus, the following list should not be interpreted as a comprehensive list of analytical options available for this survey.

Overall Satisfaction Analysis

The overall satisfaction question is the heart of this research method. Respondents are asked to indicate their level of satisfaction with their experience on the road segment. Responses range from "Highly Satisfied" to "Highly Dissatisfied". The data is used:

- To determine the distribution of overall customer satisfaction with road usage, and
- As the dependent variable against which independent factors are regressed to determine which factors are most closely associated with road users' satisfaction (See Factor and Regression Analysis below).

Factor and Regression Analysis

In the questionnaire respondents are asked to rate their satisfaction with parameters on 40-45 attributes. Mean scores for each attribute can be subjected to a factor analysis, which statistically groups the attributes into independent factors. The independent factors can then be regressed against the dependent variable, which is overall road user satisfaction. This step assigns weights to each factor, which reflects each factor's contribution to overall customer satisfaction.

Construction of User Satisfaction Index

This will be used to construct the user satisfaction index.

Its mathematical model would be:

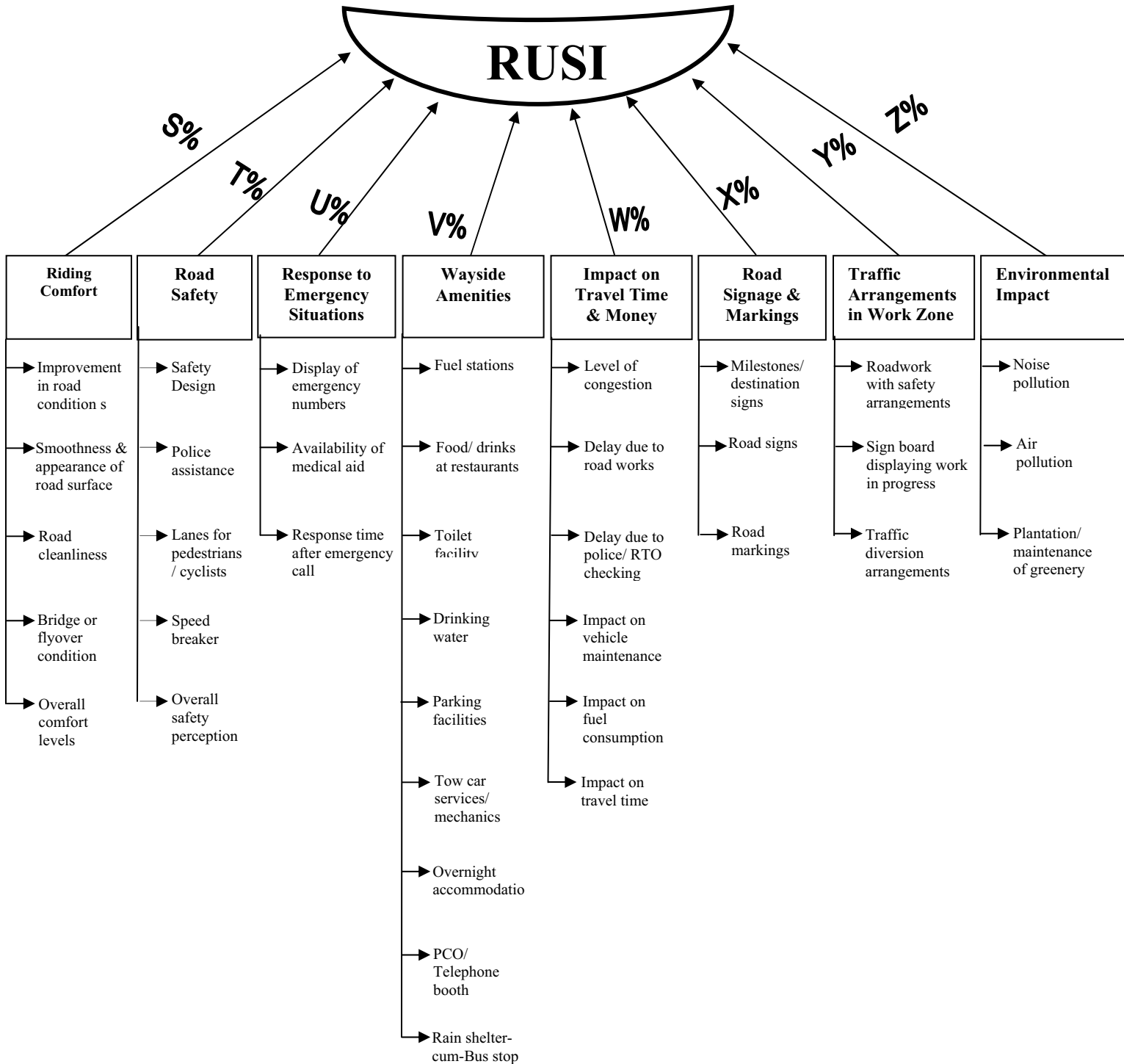
$$USI = aA + bB + cC + dD + \dots$$

- USI = User Satisfaction Index
- Here A, B, C, D, ...are the identified factors & a, b, c, d, ...are the respective weightages indicating the importance of the factors.
- Each factor A, B, C, D, ...in turn is the linear combination of a set of parameters, i.e.

$$A = x + y + z + w + \dots$$

- x, y, z, w,are the parameters of the factor A.

MODEL FOR ROAD USER SATISFACTION INDEX



3.0 LIST OF INDICATORS

3.0 REVISED LIST OF PARAMETERS

Based on the recce visit to all six project corridors and in-depth interviews during the exploratory phase, and with due consultation with the client and the references provided by the officials of World Bank a revised list of indicators and sub-indicators affecting road users' satisfaction levels are mentioned below.

1. Riding comfort

- a. Improvement in road condition
- b. Overall comfort levels
- c. Smoothness and appearance of road surface
- d. Road cleanliness
- e. Bridge/ flyover conditions

2. Road safety

- a. Overall safety perception
- b. Availability of Police assistance
- c. Design of road bends
- d. Dedicated lanes for pedestrians/ cyclists
- e. Speed breakers

3. Response to emergency situations

- a. Display of emergency numbers (ambulance/fire brigade/PCR Van)
- b. Availability of medical aid
- c. Response time after emergency call

4. Wayside amenities

- a. Fuel stations (petrol pumps)
- b. Food/ drinks at restaurants
- c. Toilet facility
- d. Drinking water
- e. Parking facilities
- f. Tow car services/ mechanics
- g. Overnight accommodation
- h. PCO/Telephone booth
- i. Rain shelter-cum-Bus stop

5. Impact on travel time and money

- a. Level of congestion
- b. Delay due to road works
- c. Delay due to police/ RTO checking
- d. Impact on vehicle maintenance cost
- e. Impact on fuel consumption
- f. Impact on travel time

6. Road signage and markings

- a. Milestones/ destination signs
 - Adequacy/ availability
 - Clarity
 - Positioning
- b. Road signs (Utility and warning signs)
 - Adequacy of signs
 - Clarity of signs
 - Positioning of signs
- c. Road markings (Middle line, zebra crossing etc.)
 - Adequacy of markings
 - Clarity of markings
 - Positioning of markings

7. Traffic arrangements in work zones

- a. Roadwork with safety arrangements
- b. Sign board displaying work in progress
- c. Traffic diversion arrangements

8. Environmental Impact

- a. Noise pollution
- b. Air pollution
- c. Plantation/ maintenance of greenery

9. Road agency's direct performance

- a. Overall perception about OWD
- b. Efficiency in building and maintaining roads
- c. Carrying out road works speedily and efficiently
- d. Maintenance response time
- e. Accidents clean-up time
- f. Grievance redressal system

Note: Weightages of indicators and sub-indicators would be determined statistically using factor and regression analysis based on responses received during main field survey. These weightages would be used for developing Road User Satisfaction Index (RUSI).

4.0 LIST OF TARGET RESPONDENTS

4.0 LIST OF TARGET RESPONDENTS

Based on the recce visit to all the project corridors in Orissa and secondary research undertaken so far, a list of target respondents is identified and the details of the respondents are below mentioned. The selection of respondents would be finalized after the experience and outcome of pilot survey.

Main Users (Travelers in motorized vehicles)

Drivers/ staffs on vehicle/ passengers/ owners of –

- Motorized two wheelers
- 3Wheelers /Auto Rickshaw
- Car /Jeep /Van /Taxi/SUVs/MUVs
- Bus drivers/support staffs (Regular bus & mini bus)
- Bus passengers
- Other light commercial vehicles (LCVs)
- Agricultural tractors
- Commercial Trucks/ tempos/ trailers/ tankers
- Ambulance/ Fire brigades/ other emergency vehicles

Vulnerable Users (Travelers in non-motorized vehicles/ pedestrians, etc)

- Pedestrians
- Cyclists
- Residents on the roadside
- Rickshaw pullers/ cart- pullers etc
- Workers of amenities on the roadside, like fuel stations, etc/ Shopkeepers on the roadside/ Road-side vendors

These respondents would be interviewed using structured questionnaires designed for the specific category.

Other road related representative bodies

In addition to the structured interviews, in depth interviews would be conducted with different kinds of road related representative bodies to understand the finer aspects of the given indicators. The aim of the interviews would be to seek their views on future policy priorities and measure their perceptions of OWD's performance. Discussion will be held mainly with the key persons belonging to the following potential bodies on road related issues with reference to the sample areas (directly connected to road satisfaction).

- Inter-urban bus services operators and drivers
- Wagon, rickshaw, auto-rickshaw, taxi and hired car operators and drivers
- Private car owners/drivers
- Household living adjacent to main roads
- Shopkeepers/Workers adjacent to highways
- Farmers/agricultural commodity producers
- Chamber of commerce, industrial manufacturers and traders
- Transport/freight forwarding/shipping agents
- Insurance industry representative
- Emergency services representatives (fire services, ambulance, police etc.)
- Hoteliers' association; tour operators; travel agents
- NGOs involved with social, environmental safeguard issues related to roads and vulnerable groups
- Academia
- Journalists/ media representatives
- Govt. undertaking in transport sector/Industries Department
- Traffic police wing
- Revenue Department officials

User contact points in and around (petrol pumps, toll gates, rest houses, restaurants etc.) will be identified. From these contact points users will be selected.

5.0 FIELD OBSERVATIONS

5.0 SUMMARY REPORT ON FIELD VISIT OF SURVEY ROADS

Based on the recce visit of all the six project roads, observation and discussions with few road users/ stakeholders, the key facts and information about the six roads are tabulated below. As the purpose of this visit was to help in finalizing the survey design and approach, sampling design, parameters and sub-parameters, questionnaire etc, and not to draw any final conclusion – these are indicative in nature.

Road Segment	1	2	3	4	5	6
Name	Bhawanipatana-Khariar	Chandbali- Bhadrak – Anandpur	Berhampur-Taptapani	Jagatpur-Chandbali	Dashapalla-Banarpal	Sambalpur - Rourkela
Basic Facts:						
Road (No.) NH/SH/MDR	SH-16	SH-53 & SH-9	SH-17	SH-9A	MDR-18	SH-10
Actual Road Length (KM)	68	95	41	106	80	165
Districts Covered	Kalahandi, Bolangir & Nuapada	Bhadrak & Keonjhar	Ganjam	Cuttack, Kendrapada & Bhadrak	Nayagada, Cuttack, Dhenkanal & Angul	Sambalpur, Jharsuguda & Sundargarh
No. of towns en-route	No major town	Bhadrak (1 town)	Digopohondi (1 town)	Salepur, Kendrapada, Patamunde, (3 towns)	Hindole, Narshingpur, Gania (3 towns)	Jharsuguda, Sundargarh
Estimated No. of villages en-route	40-45	80-90	30-40	110-120	60-70	120-150
Industrial zone en-route	None	Ferro Alloys Corporation Ltd (Facor)	None	None	None	Bhusan Steel & Power, Some Small scale industries
Whether road is by-pass or passing through the town	NA	Passing through Bhadrak town	Passing through Digopohondi town	Passing through Salepur, Kendrapada towns	Passing through Hindole town	Passing through Jharsuguda and Sundargarh town

Road Segment	1	2	3	4	5	6
Name	Bhawanipatana-Khariar	Chandbali- Bhadrak – Anandpur	Berhampur-Taptapani	Jagatpur-Chandbali	Dashapalla-Banarpal	Sambalpur - Rourkela
1. Comfort & Convenience						
No of lanes	<ul style="list-style-type: none"> • Single lane till 35 km towards Khariar (Salepara) and the road condition is bad • After that 8-10 km of double lane constructed • After that the next 14-15 km of road has been widened but only one lane is bituminous the other is not • The last 10 km is single lane but the condition is much better than the 1st segment 	<ul style="list-style-type: none"> • Approximately 20% of the road is single lane on the complete stretch • Around 60-70% of the road is widened to double lane and one lane is partially bituminous • 10-20% the road is complete double lane with good surface 	<ul style="list-style-type: none"> • Upto 5 Km road is single lane; the condition of the road is poor • There after the next 5-6 KM double lane road construction has started • There after single lane starts till Taptapani 	<ul style="list-style-type: none"> • 17 km from Jagatpur is complete double lane while the next 10-15 km is mixed with single and double lane. • The rest of the road is double lane till Patamundeï but the condition of the road is not good. • The rest of the road is mixed with single and double lane till Chandbali but not in good condition 	<ul style="list-style-type: none"> • Single road upto 30 km till Bhagarïa Chowk after that few km are double road then single road • Then road has been widened to double lane but only one lane is bituminous the other is not • Surface of the road is average. 	<ul style="list-style-type: none"> • Double lane from Sambalpur to Rourkela • Approximately 5 km the condition of the road is bad out of the total stretch
Any construction (work in progress) going on	<ul style="list-style-type: none"> • Road construction work is going on in some places • The work has not begun in the first stretch of 35 Km 	<ul style="list-style-type: none"> • Work stopped for the last two months, prior to the rain there was the work in progress 	<ul style="list-style-type: none"> • Work stopped for the last two months as told by locals • The work has not begun in the first stretch of 5 Km 	<ul style="list-style-type: none"> • 5-8 km before Salepur road work was going on • Maintenance work was going on in most part of road from Salepur to Chandbali 	<ul style="list-style-type: none"> • Work stopped for the last two months as told by locals 	<ul style="list-style-type: none"> • None

Road Segment	1	2	3	4	5	6
Name	Bhawanipatana-Khariar	Chandbali- Bhadrak – Anandpur	Berhampur-Taptapani	Jagatpur-Chandbali	Dashapalla-Banarpal	Sambalpur - Rourkela
Nature and type of traffic	More passenger traffic than freight	More passenger traffic than freight	More passenger traffic than freight	More passenger traffic than freight	Mixed as night traffic is more freight	Mixed as day traffic is more passengers and night traffic is more freight
Road encroachment & type of encroachment (permanent/temporary)	Near every village encroachment by roadside vendors and villagers & most of them are temporary encroachment	Temporary encroachment seen at few places.	Near every village encroachment by roadside vendors and villagers & most of them are temporary encroachment	No major encroachment but at few places the road was used for decoration during Durga Puja.	Near every village encroachment by roadside vendors and villagers & most of them are temporary encroachment	No major encroachment seen.
2. Perception of Safety & Safety Standard						
Key structure :						
1. Flyovers	One	One	Zero	One	Zero	Zero
2. Under passes	Zero	Zero	Zero	Zero	Zero	Zero
3. Toll plazas	Zero	Zero	Zero	Zero	Zero	Three
Milestones (Y/N) and type	<ul style="list-style-type: none"> Rare. In case of presence they are of the old small type 	<ul style="list-style-type: none"> No milestones in that route 	<ul style="list-style-type: none"> Rare 	<ul style="list-style-type: none"> Yes, Nearly every km there is a milestone upto Kendrapada There after one milestone within 4-5 km till Chandbali They are of the old small type 	<ul style="list-style-type: none"> Rare 	<ul style="list-style-type: none"> Yes, nearly every km there is a milestone They are of the old small type

Road Segment	1	2	3	4	5	6
Name	Bhawanipatana-Khariar	Chandbali- Bhadrak – Anandpur	Berhampur-Taptapani	Jagatpur-Chandbali	Dashapalla-Banarpal	Sambalpur - Rourkela
Road signage	None	None	None	Only in the starting point of the road in Jagatpur there is a hoarding on the left side of the road with radium plated	None	Most of them are clearly visible but road lines are not visible in some places
Road markings	None. Even the middle yellow line is invisible at most of the places	None	None	None. Even the middle white line is invisible at some of the places	None	Good road markings
Dividers (Y/N) and type	None	Yes in some places, 1 feet high	None	Yes in Salepur town, 1 feet high	None	Dividers are there near Jharsuguda town, 1 feet high
Speed breakers	8-10 on the entire stretch	Only near the village areas	Removed or damaged	Only near the village/town areas	None	None
Pavement (Y/N)	No	Only one (Approx 400 m) on the flyover which is around 2-3 km before Bhadrak towards Chandbali	No	No	No	No
3. Facilities (Travel amenities)						
Amenities	<ul style="list-style-type: none"> No public toilets/bathrooms. 4-5 clinics on the roadside. 	<ul style="list-style-type: none"> No public toilets/bathrooms. No Govt./private clinics or hospitals 	<ul style="list-style-type: none"> No public toilets/bathrooms. 3-4 clinics on the roadside. 	<ul style="list-style-type: none"> No public toilets/bathrooms. 2-3 clinics on the roadside. 	<ul style="list-style-type: none"> No public toilets/bathrooms. 3-4 clinics on the roadside. 	<ul style="list-style-type: none"> No public toilets/bathrooms. 4 to 5 Govt./private clinics or hospitals

Road Segment	1	2	3	4	5	6
Name	Bhawanipatana-Khariar	Chandbali- Bhadrak – Anandpur	Berhampur-Taptapani	Jagatpur-Chandbali	Dashapalla-Banarpal	Sambalpur - Rourkela
	<ul style="list-style-type: none"> Tea stalls/drinking water is available in the roadside village stalls. 3 police post on roadside. No parking facilities 	<ul style="list-style-type: none"> are available on road sides. Tea stalls/drinking water is available in the roadside village stalls. No parking facilities 	<ul style="list-style-type: none"> Tea stalls/snacks are available in the roadside village stalls. Only one police station on Digopohondi. No parking facilities 	<ul style="list-style-type: none"> Tea stalls/snacks are available in the roadside village stalls. No parking facilities 	<ul style="list-style-type: none"> Tea stalls/snacks are available in the roadside village stalls. 3-4 police post (outhouse) on roadside. No parking facilities 	<ul style="list-style-type: none"> are available on road sides. Tea stalls/drinking water is available in the roadside village stalls. No parking facilities
Petrol pumps (Approx. fig):						
1.Up	2	2	1	5	3	8
2. Down	2	2	2	5	2	7
Approximate no. of Restaurants / Dhabas	4-5	6-8	4-5	4-6	8-10	30-40
Approximate no. of Hotels	None overnight accommodation. Only Govt. IB at “Borda”	Only 2-3 hotels for Overnight stay at Bhadrak.	Only 2-3 hotels for Overnight stay at Digopohondi	Only one hotel for Overnight stay at Kendrapada	Only 2-3 hotels for Overnight stay at Hindole.	Hotels for Overnight stay are available at Sambalpur and Rourkela
Approximate no. of Mechanic shops	3-4 on the entire stretch	4-5 at Bhadrak	3-4 at Digopohondi	4-5 at Salepur & Kendrapada	4-5 at Hindole	30-40 on the entire stretch
4. Visual Appeal						
Landscaping	None	None	None	None	None	None
Cleanliness	No provision but not very bad condition	No provision but not very bad condition	No provision but not very bad condition	No provision but not very bad condition	No provision but not very bad condition	Good

Road Segment	1	2	3	4	5	6
Name	Bhawanipatana-Khariar	Chandbali- Bhadrak – Anandpur	Berhampur-Taptapani	Jagatpur-Chandbali	Dashapalla-Banarpal	Sambalpur - Rourkela
Plantation	Normal vegetation growth but no planned plantation	Initial some part of the road has planned plantation	Normal vegetation growth but no planned plantation	Normal vegetation growth but no planned plantation	Normal vegetation growth but no planned plantation	Normal vegetation growth but no planned plantation
Comments	<ul style="list-style-type: none"> • The condition of road for the first 35 km is miserable • Unsafe to move on the roads • No night patrolling by police • Robbery and theft is common (5-6 times in a month) 	<ul style="list-style-type: none"> • Some part of the road is single lane but most of the road is widened and one lane is partially bituminous and rest of the road is complete double lane with good surface 	<ul style="list-style-type: none"> • Surface of the road is good • Only 5 km road is double lane and the rest of the road is single lane but is in average condition 	<ul style="list-style-type: none"> • Overall Road condition is not good as the initial 20 km is in good condition but rest of the road is either single lane or double lane but both sides are damaged. • However the maintenance of the road is going on but still is not a very safe road to drive • Because of the single lane accidental cases are quite high. 	<ul style="list-style-type: none"> • Comparatively good in condition 	<ul style="list-style-type: none"> • Approx 18 km from Sambalpur, at a place called Rampil Camp the road is in worst condition (a stretch of approx. 1km) Bhushan steel & power Plant is on the road side • At Rengali there is a railway crossing where road condition is not good and which causes the heavy traffic congestion • In Rajgangpur there is one more railway crossing • Night patrolling is done by police, still Robbery and Diesel theft happens sometimes

6.0 SAMPLE DESIGN

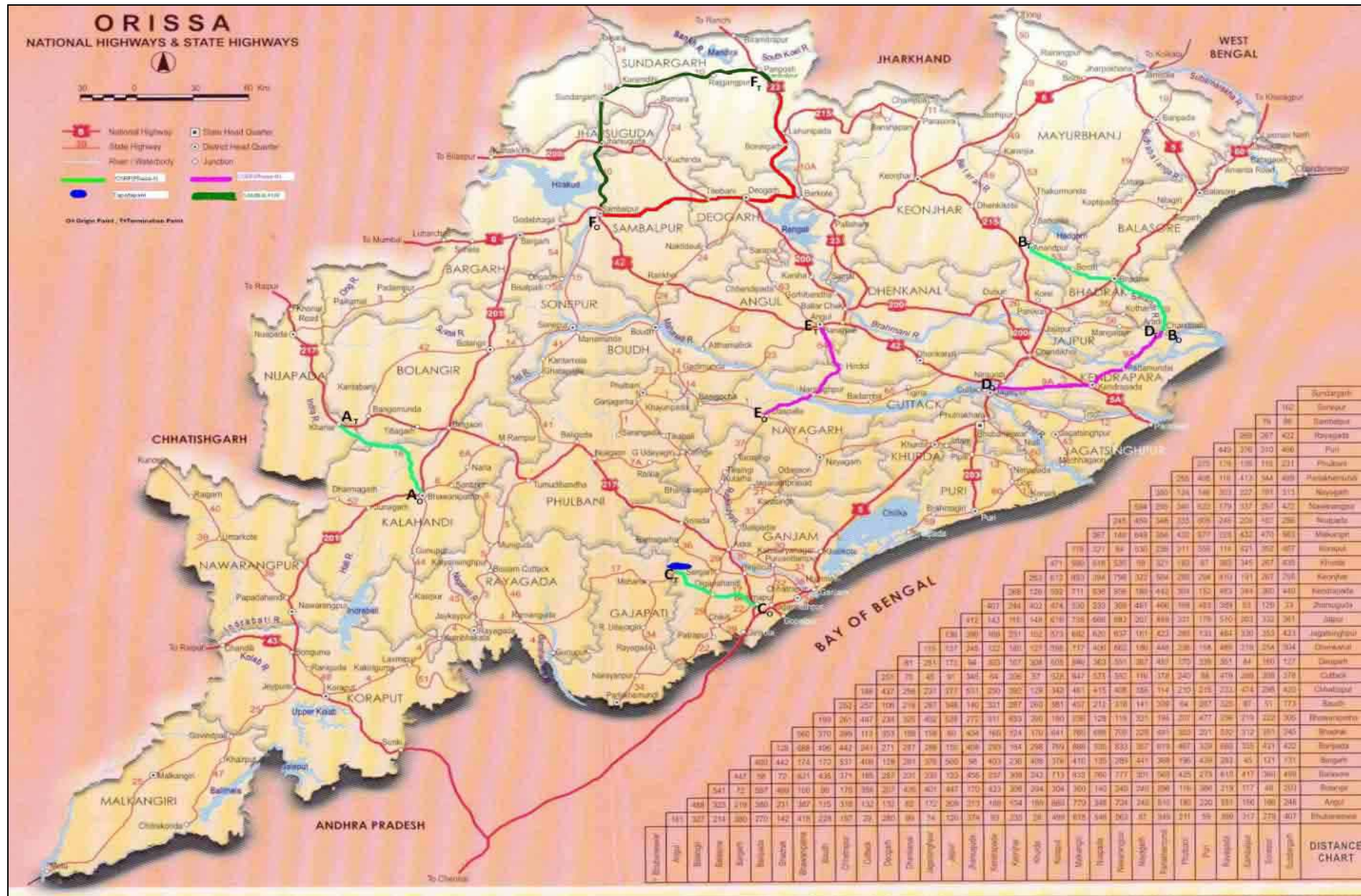
6.0 Sample Design

The road work is being carried out/will be carried out in different phases under separate contracts. In all six road segments are to be covered for this survey.

The details of which are provided below:

S. No.	Road segments under consideration	Road lengths (in KM)
Phase-1 Contract – 204 KM (Year –I ongoing)		
1	Bhawanipatana – Khariar	68
2	Chandbali – Bhadrak – Anandpur	95
3	Berhampur – Taptapani	41
Phase-2 Contract – 186 Km (proposed/ tender to be invited)		
4	Jagatpur-Chandbali	106
5	Dashapalla-Banarpal	80
Phase-3 Contract – 165 Km (under PPP mode)		
6	Sambalpur – Rourkela	165
Total Road –length to be covered		555

These road-segments have been identified and presented in the road map of Orissa below:



Before working on detailed sampling plan, it needs to be understood that at present all the road-segments mentioned above exist and considerable amount of traffic movement takes place on each of these road-segments. While the phase-1 and phase-2 of project-roads would be converted to double-lane standard, phase-3 of the project-road would be converted to four-lane standard at the end of project. Also, it needs to be taken in mind that all different road-segments are accessed and used by all types of road users in different proportions. Therefore, the perception, experience and expectations of different types of road-users on these roads under three phases would be different at different points of time – especially before start of road-work, at the time of road-work and on completion of project roads. Hence the survey would be conducted thrice for each road segments.

Each of these six segments would be covered thrice viz. the Baseline survey, the Mid-term survey and the Endline Survey. Since the current inception report focuses on the Baseline survey so the sampling details are provided for the Baseline Survey only.

It will be acknowledged that in case of roads, the type of traffic as well as the response of the respondents might vary to great extent from place to place. A particular stretch of the road may be having much higher volume of traffic than the other sections of the same road. The response may also vary because the condition of the road varies from one section to other.

While designing a sampling plan the point to be given the utmost importance is that the sample selected should be truly representative of the universe. In the current scenario this implies that the respondents have to be interviewed from each and every part of the road segment. However, in practice sometimes it is not possible to conduct face-to-face interviews with road users within each KM of the road-segments. Therefore, project-roads need to be demarcated at every 5 KM. Thus a road-sub-segment of 5 km length would be the unit for sampling.

Based on its previous experience MDRA has suggested that while conducting road user satisfaction survey various types of roads a sample of 40 road-users per road-sub-segment of 5 km of more focused road-segment is sufficient in view of the objectives of this survey. Similarly, 30 road-users per road-sub-segment of less focused road-segment would be able to yield high quality results.

As discussed MDRA has taken each 5km stretch as its unit and it will try to achieve similar sample size in each of the segments. Therefore, the sample size for the survey can be arrived at as following:

Sample size calculation for 1st survey - baseline

S.No.	Road segments under consideration	Road lengths (in KM)	Sample size per road-sub-segment of 5 KM	Total sample size for the road-segment
Phase-1 Contract – 204 KM (Year –I ongoing)				
1	Bhawanipatana – Khariar	68	40	544 [(68/5)*40]
2	Chandbali – Bhadrak – Anandpur	95	40	760 [(95/5)*40]
3	Berhampur – Taptapani	41	40	328 [(41/5)*40]
Phase-2 Contract – 186 Km (proposed)				
4	Jagatpur-Chandbali	106	30	636 [(106/5)*30]
5	Dashapalla-Banarpal	80	30	480 [(80/5)*30]
Phase-3 Contract – 165 Km (under PPP mode)				
6	Sambalpur – Rourkela	165	30	990 [(165/5)*30]
Total		555		3738

However, a minimum of 384 samples is required for an error of $\pm 5\%$ at 95% confidence level. Therefore, the sample for Berhampur-Taptapani road segment is being increased to 385, thus totaling sample of 3795.

Therefore the total sample size for quantitative interviews is 3795 for baseline survey.

The sampling design has covered different categories of road users (Different types of vehicles, households, manufacturing and commercial establishments, small traders, academia, emergency services, representative, etc.) and well-representative cross-sections of road segments in the sample survey.

Sample Size – User Categories

Now we have to determine proportion of user-categories among these types of roads. In the proposal submitted the users were primarily divided into two categories:

1. **Main users:** This included those using motorized vehicles (self or as passengers).
2. **Vulnerable Users:** These are those people who are either using the road without a motorized vehicle or are residents/ working by the roadside. These are vulnerable to road traffic.

Field visits to these road segments were made to have a first-hand experience of the ground reality and have in-depth understanding for fine-tuning the sampling design and drafting the questionnaire.

Apart from field-visit, MDRA had requested to provide traffic-count data of these road segments, if available. The actual traffic count data provided by OSRP is provided below for each of these project corridors.

Based on the traffic count data the proportion of the road users are mentioned below:

	Bhawanipatna a Khariar Road	Chandbali Anandpur Road	Berhampur Taptapani Road	Jagatpur Chandbali Road	Banarpal Dashpalla Road	Rourkela Sambalpur Road
2Wheelers	25.8%	37.3%	35.1%	39.2%	27.5%	26.7%
3Wheelers/Auto Rickshaw	0.2%	2.1%	3.4%	3.3%	7.4%	1.7%
Car /Jeep /Van /Taxi	12.8%	13.2%	6.0%	13.0%	14.6%	14.8%
Mini Bus	0.3%	1.8%	1.7%	1.4%	1.4%	0.4%
Full Bus	0.9%	1.5%	3.6%	1.1%	0.4%	3.4%
LCV	4.0%	2.0%	1.4%	2.4%	7.4%	3.8%
2 - Axle Trucks	6.8%	6.6%	2.6%	2.6%	1.7%	30.0%
Multi-Axle Trucks	1.9%	1.0%	0.4%	0.5%	0.1%	2.4%
Articulated Trucks	0.9%	0.1%	0.2%	0.1%	0.0%	0.0%
Agri. Tractor With Trailer	5.1%	0.2%	1.2%	0.2%	3.4%	0.4%
Agri. Tractor Without trailer	1.4%	0.1%	0.2%	0.3%	0.2%	0.0%
Main Users :	60%	66%	56%	64%	64%	84%
Cycle	37.5%	32.9%	42.4%	34.5%	32.8%	16.2%
Rickshaw	0.7%	1.2%	1.7%	1.1%	0.2%	0.3%
Bullock Cart	1.6%	0.0%	0.2%	0.1%	2.8%	0.0%
Horse Drawn	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Vulnerable users :	40%	34%	44%	36%	36%	16%

However, it was found that the traffic count data did not have two important categories of active road users, namely – passengers and pedestrians. In addition, few passive users who are affected heavily by various factors related to these roads such as residents on roadsides, workers/ shopkeepers, road side vendors etc need to be considered while conducting survey. While deciding on proportion of such road users, the recce visit experience was very helpful.

Therefore, traffic count data for each road segment were firstly used for determining the proportion of main and vulnerable road users. All the motorized vehicles are included in the main user category and non motorized vehicles users are included in vulnerable user category. Within this proportion, little adjustment had to be done to incorporate such road users who were not counted during the traffic count. As bus passengers are also the key users of the road so we have included them in the main user category and the proportion of the passengers for the study is double of the number of buses proportion. Likewise the pedestrians, residents on road side, road side vendors, shopkeepers, hotel/restaurant owner or staffs and workers of amenities on road side facilities are also the key users of the road. As the concrete data for these users are not available equal proportion of pedestrians, residents on road sides and workers of amenities on road side facility (shopkeepers, road side vendors, hotel owner and staffs are included in workers of amenities) were taken as the proportion of cyclists on those road segments provided in traffic count data.

Thus the updated proportion of each road users is stated in the below mentioned table:

Road Segment	1	2	3	4	5	6
Name	Bhawanipatana-Khariar	Chandbali-Bhadrak – Anandpur	Berhampur-Taptapani	Jagatpur-Chandbali	Dashapalla-Banarpal	Sambalpur - Rourkela
Main Users	60%	66%	56%	64%	64%	84%
Motorized two wheelers	25%	34%	29%	36%	26%	24%
3W/Auto Rickshaw	1%	2%	3%	3%	7%	2%
Car /Jeep /Van /Taxi	12%	12%	5%	12%	14%	14%
Bus drivers/support staffs	1%	3%	5%	2%	2%	3%
Passengers	2%	6%	9%	5%	3%	7%
Agri. Tractor/LCVs etc.	10%	2%	2%	3%	10%	4%
Trucks	9%	7%	3%	3%	2%	30%
Vulnerable users	40%	34%	44%	36%	36%	16%
Pedestrians/porters	10%	9%	11%	9%	9%	4%
Cycle	10%	8%	11%	9%	9%	4%
Residence on road sides	10%	8%	10%	9%	9%	4%
Rickshaw/Bullock Cart	1%	1%	1%	1%	1%	1%
Workers of amenities	9%	8%	11%	8%	8%	3%

Further to this based on the traffic count data provided by the client the project corridors are categorized in the following three different categories – **A)** road with high proportion of vulnerable user, **B)** road with moderate number of main user and **C)** road with high proportion of main user.

The roads which have a ratio of 60:40 of main users and vulnerable users fall under category A. While the roads which have a ratio of 65:35 of main users and vulnerable users fall under category B and the roads which have a ratio of 80:20 of main users and vulnerable users fall under category C.

Further to this the proportion of the respondents in each user category are divided based categories of roads as per the traffic count data.

The following table summarizes the proposed coverage in all these type:

S. N	Target group	Sample Coverage in various types of roads		
		Category A	Category B	Category C
	Names of the road segments	i. Bhawanipatana-Khariai ii. Berhampur – Taptapani	i. Chandbali- Bhadrak – Anandpur ii. Jagatpur-Chandbali iii. Dashapalla-Banarpal	i. Sambalpur - Rourkela
1	Motorized two wheelers	24-25%	32-35%	23-25%
2	3W/Auto Rickshaw	1-2%	1-2%	2-3%
3	Car /Jeep /Van /Taxi	11-12%	10-12%	12-15%
4	Bus drivers/support staffs	1-2%	3-4%	3-4%
5	Passengers	2-3%	6-7%	6-7%
6	Agri. Tractor/LCVs etc.	9-11%	2-3%	3-4%
7	Trucks	8-10%	7-8%	28-30%
	Main Users (Approx)	60%	65%	80%
8	Pedestrians/porters	8-10%	8-10%	4-5%
9	Cycle	8-10%	7-9%	4-5%
10	Residence on road sides	8-10%	7-9%	4-5%
11	Rickshaw/Bullock Cart	1-2%	1-2%	1-2%
12	Workers of amenities	8-9%	7-9%	4-5%
	Vulnerable users (Approx)	40%	35%	20%

However it is clarified that the user based classification will only be applicable for the entire project corridor and not for each stretch of 5 km.

Selection of respondents: The selection of respondents will vary based on the category of users. All the main users would be interviewed on the road itself but in case of vulnerable users the sample will consist of interviews on roads as well as household interviews in the adjacent settlements. This methodology has been adopted because it was found that most of the vulnerable users on a particular stretch of road are mostly from the adjoining settlements. So it is suggested that 50 percent of vulnerable users will be covered while using the road while the other half of the vulnerable users will be covered through household interviews in the adjoining villages/towns.

Coverage of junctions, intersections, crossings etc

During the field survey, the roads would be identified in such a way that major junctions, intersections, crossings, bypasses, over bridges, underpasses, flyovers (if there is any) or other major roads are not left out so that views of stakeholders/ road-users can be taken on these important and significant structures deeply affecting their satisfaction.

Coverage by gender

Out of all the respondents, a minimum of 10-12 percent coverage would be given to female (as most of the above categories of road users and stakeholders have male-only and females can be found only among bus/ private cars passengers, households and pedestrians).

Coverage by age and income

The interviews would be taken in such a way that representative cross-sections of respondents are covered among all age groups, income-groups strata.

Contact points and selection of respondents

At the pre-determined contact points, the users as and when they come will be interviewed. Interviews with movable traffic would be held at various checkpoints, fuel stations, motels, restaurants, rest rooms, parking etc on the roads. The households, shopkeepers and representative bodies would be contacted at their places by visiting them and interviewing them.

MDRA would ensure that all different types of road users are included in the survey and also the different genders and people from different age groups are well represented.

COVERAGE FOR IN-DEPTH INTERVIEWS

Based on MDRA’s recent experience of successfully conducting two Road Users’ Satisfaction Survey and on the basis of ease of availability of the various representative groups, we have arrived at roughly following sample distribution for in-depth interviews. Some of them have already been covered to make a list of attributes affecting their satisfaction and to help in developing questionnaire.

Table 4.12 Coverage for the in-depth interviews

S. No.	Target respondents	No. of In-depth interviews
1	Agricultural commodity producers	8
2	Ambulance/ fire brigades/ other emergency vehicles	10
3	Transporters/ freight agents/ transporters’ associations	12
4	Representatives of chambers of commerce/ trade associations	10
5	Industrial manufacturers & traders	12
6	NGOs involved with social, environmental issues related to roads & vulnerable users	7
7	Insurance industry representatives	7
8	Traffic police wings/ patrolling vehicles	8
9	Journalists/ media representatives	8
10	Road experts/ academia	5
11	Revenue department officials	5
12	Hoteliers’ associations/ hoteliers	8
TOTAL		100

The above coverage has been worked out on the basis of our prior experience and desk research. Looking at the requirements of the study together with our past experience in conducting similar studies, the nature of qualitative information required would be achieved from above sample size. However, there might be few variations during the actual fieldwork within the total number of interviews.

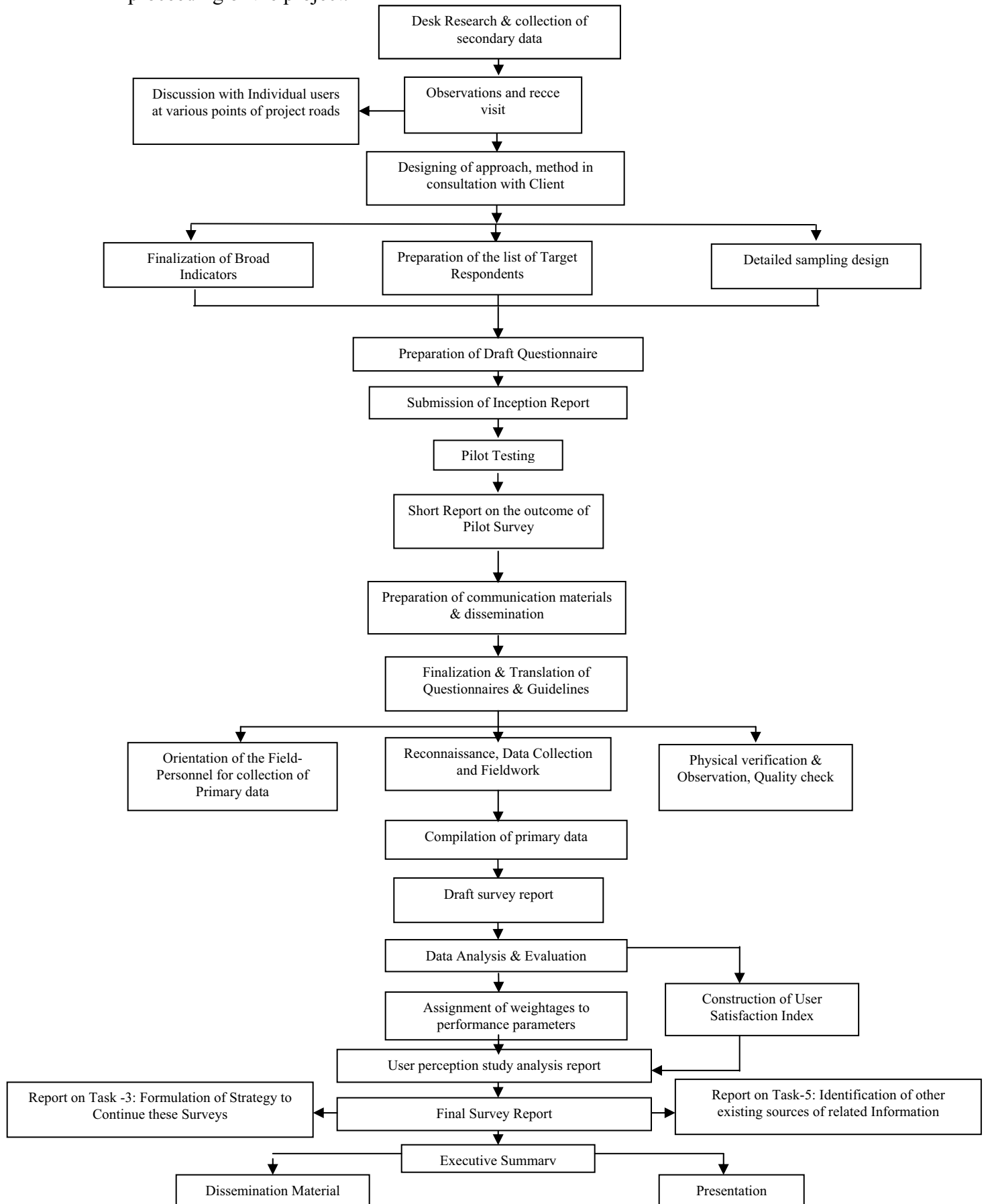
Statistical significance

We have essentially followed a multistage sampling, at the first stage; major factors that could cause sampling errors have been controlled through appropriate selection process (division of road in various stretches of 5km and covering each unit). At the second stage, the contact points with the respondents are petrol pumps, roadside dhabas, restaurants, fuel stations and similar other locations. This is an adaptation of queuing theory where randomization is built into the system. Above all, total sample size is 3795 and this number is sufficiently high to ensure that overall sampling error is low.

In view of above, the **confidence level will be 95 percent with +/- 1.59 percent error of margin.**

7.0 WORK PLAN

7.0 Work Plan: A modified work plan provided below details out the step by step proceeding of the project.



7.1 Details of Work-Plan

7.1.1 Desk Research and Collection of Secondary Data

Secondary research has been done to get secondary data (List of indicators, stakeholders, and the length of the completed section of project corridors, etc). Secondary research also involved a review of other Road User Satisfaction Surveys to find out what could be included. It helped in understand parameters and sub-paramters causing satisfaction/dissatisfaction of road users. Traffic count data was also collected from the client that helped in sampling design. This aided in questionnaire designing.

7.2 Observation and recce visit

The purpose of recce visit was to observe the real condition of the project corridors and to help in finalizing the survey design and approach, sampling design, questionnaire designing and parameters selection.

7.2.1 Discussion with individual users at various points of project roads

The purpose of discussion with individual users was to observe their perception, experience and expectation on the project corridors and to help in finalizing the survey design and approach, sampling design, questionnaire designing and parameters selection. This also helped in eliminating those parameters/ sub-paramters which are not related to the survey roads, such as toll taxes.

7.3 Designing of approach method in consultation with client

The study-design detailed out in this report was finalized after few rounds of meeting with client and on getting all secondary information.

7.4 Finalization of the broad Indicators

The secondary research, recce visit and few in-depth interviews conducted were used to finalize the broad indicators that form elements of satisfaction.

7.5 Preparation of the list of Target Respondents

The exhaustive list of possible direct, indirect and vulnerable users as well as list of road representative bodies was prepared. The sample size for each kind of respondent at different sections of the project roads was arrived on the basis of traffic-flow data.

7.6 Detailed sampling design

Based on the traffic count and the recce visit a detail sampling design was done.

7.7 Preparation of Draft Questionnaire

Based on the secondary research, prior experience and outcomes of in-depth interviews, draft questionnaires were prepared for different target groups.

7.8 Submission of Inception Report

After the finalization of study design, list of indicators and list of target respondents along with draft questionnaire, this inception report is being submitted to OSRP.

7.9 Pilot Testing

A pilot testing will be conducted with the proposed survey mechanisms and research topics and indicators on a total sample-size of around 150 respondents of various target groups with a view to refining them both before finalization and use in the main survey stage. Finally, the desired modifications would be done.

7.10 Short Report on the outcome of the Pilot Survey

A short report on the outcome of this pilot survey would be prepared and submitted to OWD for their suggestions, and improvements in questionnaires, if any.

7.11 Preparation of Communication Material and their Dissemination

An effort will be made to raise awareness among the general public (users & non-users) before the start of the actual survey through distributing some modest summary material for dissemination through newspapers as well as through simple flyers or posters (around 2,000 in number, four colors) at roadside amenities such as pedestrian flyovers, bus stops, truck points, fuel stations, parks, motels, etc. The design and content of these materials would be finalized after discussion with the officials of OWD. Also, few press-conferences at local level would be organized with the help of OSRP officials to raise awareness of the survey and to elicit maximum participation.

7.12 Finalization & Translation of Questionnaires and Guidelines

After incorporating the suggestion of the client (OWD) on the basis of pilot survey, the questionnaires for different target respondents would be finalized and would be translated into Oriya. A detailed guideline would be also prepared for the field investigators.

7.13 Reconnaissance, Data Collection & Field Work

All fieldwork would be carried out by well-experienced and trained interviewers drawn locally from Orissa. The interviewers would be under the direct supervision of the field supervisors. All fieldwork would be carried out under the overall supervision of the Field Manager at each centre.

7.14 Orientation of the field personnel

The field personnel would be briefed and trained for collection of the primary data. All interviewers, supervisors and the field executives in charge of this study at the various urban and rural centers, would be thoroughly briefed about each and every aspect of the study – in terms of how to select respondents, how to administer the questionnaire, how to deal with stimulus materials etc.

7.15 Physical verification and Observation, Quality Check

All standard measures are followed to ensure that good and reliable quality data are collected in this study. It is ensured that the data is of the highest order and accurate.

7.16 Compilation of primary data

Depending upon the contents of the questionnaire, scrutiny and coding plan would be prepared and implemented. The primary data would be compiled and punched.

7.17 Draft survey report

After the completion of the field work, a draft survey report would be prepared and submitted about key aspects of the main survey.

7.18 Data Analysis and Evaluation

The quantitative phase would help in arriving at the final satisfaction level figures and the benchmarks for OWD. This phase would also enable to obtain the in-depth understanding of the users and non-users of OWD, and how the target segment views it. User Satisfaction Analysis would be conducted.

7.19 Assignment of weightages to performance parameters

While conducting the satisfaction study, MDRA would employ analytic techniques to identify the key drivers of satisfaction within the performance attributes and how successful OWD has been in delivering these key satisfaction factors. The analysis involves collecting and simultaneously plotting the importance level of category of attributes score to a particular infrastructure developed. Weightages would be assigned to the performance parameters.

7.20 Construction of User Satisfaction Index

This will be used to construct the user satisfaction index.

Its mathematical model would be:

$$USI = aA + bB + cC + dD + \dots$$

- USI = User Satisfaction Index
- Here A, B, C, D, ...are the identified factors & a, b, c, d, ...are the respective weightages indicating the importance of the factors.
- Each factor A, B, C, D, ...in turn is the linear combination of a set of parameters, i.e.

$$A = x + y + z + w + \dots$$

- x, y, z, w,are the parameters of the factor A.

7.21 Draft analysis/ User perception study analysis

Based on the data, a user perception analysis would be conducted. A survey report would be prepared on various parameters and issues covered in accordance with objectives and deliverables of the study. This report would be structured so as to demonstrate the opportunities and priorities for improvements in future service delivery.

7.22 Task 3 – Formulation of strategy to continue these surveys

Based on MDRA's experience and expertise of conducting user satisfaction surveys, especially, road user satisfaction surveys and its long-term associations with various policy makers it would look at how these surveys can be conducted at regular intervals with the help of institutional and funding agencies.

7.23 Report on other existing sources of related Information (Task 5)

Other possible existing mechanisms for collecting information from the general public would be identified that has a bearing on the issue of public attitudes on road service delivery. Such surveys might include those conducted by OSRP/ OWD or by the private or non-profit sector on similar kinds of issues. The outcome of the external stakeholders meetings can also be considered which may provide useful information on road user attributes. MDRA would recommend whether any data might usefully be extracted from these existing surveys, or whether by modest adaptation, they might provide valuable information the OWD in future on road user attitudes.

7.24 Final Survey Report

Based on the inputs and discussion on draft survey report and after incorporating them, a final report will be submitted to the client.

7.25 Executive Summary

A draft executive summary would be prepared and submitted to OWD. Then after receiving comments on this executive summary, final executive summary would be submitted.

7.26 Dissemination Material

Finally, the information generated under the survey would be disseminated to the general public (users & non-users) through some dissemination material. Posters/ flyers (2,000 in number, of folder type in four colors) would be distributed among the general public. This will be also posted on the OSRP website. The content, design, etc of the material will be finalized after discussion with the officials of OSRP.

7.27 Presentation

The findings of the survey would be presented to the senior management of OSRP/ OWD and other relevant decision makers in the GOO.

8.0 TIME FRAME

8.0 Time Frame

As per the requirements of OWD, it is planned to complete the study in about 5 months (around 20 weeks). Accordingly, the detailed time frame for different activities has been worked out.

Activity (Work)	Month & week wise program																			
	1 st Month				2 nd Month				3 rd Month				4 th Month				5 th Month			
Months from the Start	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Weeks from start	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Desk Research & Collection of Secondary Data	█																			
Designing of Approach, Methodology & Exploratory Research	█																			
Finalization of the list of target respondents & broad indicators	█																			
Preparation of Draft Questionnaire		█																		
Preparation & Submission of inception report		█																		
Pilot Testing			█	█																
Report on pilot survey				█	█															
Preparation & Dissemination of awareness raising materials					█	█	█													
Finalization & translation of Questionnaires & Guidelines						█														
Field Planning						█														
Main Field work							█	█	█	█										
Compilation of primary data								█	█	█										
Draft Survey report									█	█										
Data Analysis & Evaluation/User Perception Study Analysis										█	█									
Draft Analysis/ User Perception Study Analysis											█	█								
Final Survey Report	2 Weeks after receipt of comment																			
Task 3- Formulation of strategy to continue these survey													█	█						
Task 5 – Identification of other existing sources of related information															█	█				
Dissemination material	2 Weeks after acceptance of final report																			
Presentation to OSRP/OWD																				█
Total	20 Weeks (5 Months)																			

ANNEXURE – 1
DRAFT QUESTIONNAIRE FOR MAIN USERS

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 (**MENTION NAME OF THE ROAD**) in a month?
 (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
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
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
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
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
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
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 '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
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 SITUATIONSQ13. Your satisfaction level with **response to emergency situations**

S. N	Attributes	Highly satisfied	Somewhat satisfied	Neither satisfied nor dissatisfied	Somewhat dissatisfied	Highly dissatisfied
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 AMENITIESQ14. 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
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 10.7 TO 10.9 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
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

 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 Orissa?

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

(1) Yes

(2) No

[IF RESPONSE IS 'NO', GO TO Q21]

 Q19. What is your source of awareness about Orissa 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 Orissa? (*RECORD VERBATIM*)

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

S. N	Attributes	Highly satisfied	Somewhat satisfied	Neither satisfied nor dissatisfied	Somewhat dissatisfied	Highly dissatisfied	DK/CS
21.1	Providing quality roads in Orissa	5	4	3	2	1	6
21.2	Construction/maintenance / improvement of roads	5	4	3	2	1	6
21.3	Time taken in maintenance / repairing of roads	5	4	3	2	1	6
21.4	Carrying out road works speedily and efficiently	5	4	3	2	1	6
21.5	Overall safety design of roads	5	4	3	2	1	6
21.6	Initiatives and intervention in reducing road accidents	5	4	3	2	1	6
21.7	Accident clean-up time	5	4	3	2	1	6
21.8	Information on road works, delays and alternate routes	5	4	3	2	1	6
21.9	Complaint redressal system	5	4	3	2	1	6

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

1. _____
2. _____
3. _____

[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.

ANNEXURE – 2

DRAFT QUESTIONNAIRE FOR VULNERABLE USERS

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 Orissa. 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

A135. Interview for the Road Segment:

(1) Bhawanipatna - Khariar
(4) Jagatpur - Chandbali(2) Chandbali – Bhadrak - Anandpur
(5) Dashapalla – Banarpal(3) Berhampur – Taptapani
(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 A12. 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) Upto 10th class
 (4) Upto 12th class (5) Graduate and above (6) 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) Upto 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
- B8. Age: (1) 18-25 yrs (2) 26-35 yrs (3) 36-45 yrs (4) 46-55 yrs (5) Above 55 yrs

[A PERSON BELOW 18 YEARS NOT TO BE INTERVIEWED]

- 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 (**MENTION NAME OF THE ROAD**) in a month?
 (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 _____

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
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
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
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	Overall riding comfort	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 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
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	
7.1	Milestones/Destination signs	d. Adequacy	5	4	3	2	1
		e. Clarity	5	4	3	2	1
		f. Positioning	5	4	3	2	1
7.2	Utility/warning signs	d. Adequacy	5	4	3	2	1
		e. Clarity	5	4	3	2	1
		f. Positioning	5	4	3	2	1
7.3	Road markings (Zebra crossing, centre line & Peds marking line etc.)	d. Adequacy	5	4	3	2	1
		e. Clarity	5	4	3	2	1
		f. 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
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 '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	Robbery/ theft
7	Road works without proper safety arrangements	8	Joining/leaving service lanes	9	Traffic converging into fewer lanes
10	Beaming light of vehicles	11	Bad/No signage	12	No maintenance of the road
13	Water logging after rain	14	Insufficient Police patrolling	15	Other_____

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
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
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
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
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

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 Orissa?

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

(1) Yes

(2) No

[IF RESPONSE IS 'NO', GO TO Q21]

Q19. What is your source of awareness about Orissa 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 Orissa? *[RECORD VERBATIM]*

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

S. N	Attributes	Highly satisfied	Somewhat satisfied	Neither satisfied nor dissatisfied	Somewhat dissatisfied	Highly dissatisfied	DK/CS
21.1	Providing quality roads in Orissa	5	4	3	2	1	6
21.2	Construction/maintenance / improvement of roads	5	4	3	2	1	6
21.3	Time taken in maintenance / repairing of roads	5	4	3	2	1	6
21.4	Carrying out road works speedily and efficiently	5	4	3	2	1	6
21.5	Overall safety design of roads	5	4	3	2	1	6
21.6	Initiatives and intervention in reducing road accidents	5	4	3	2	1	6
21.7	Accident clean-up time	5	4	3	2	1	6
21.8	Information on road works, delays and alternate routes	5	4	3	2	1	6
21.9	Complaint redressal system	5	4	3	2	1	6

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

1. _____
2. _____
3. _____

[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.

ANNEXURE – 3

T-TABLE (LIST OF INDICATORS VS QUESTIONNAIRES)

ANNEXURE – 3

T-TABLE (LIST OF INDICATORS VS QUESTIONNAIRES)
Baseline Road User Satisfaction Survey in Orissa
Comparison of Indicators and sub-indicators with questionnaires

S.N.	Parameters	Sub-parameters	Main Users	Vulnerable users
1	Riding comfort		Q5	Q5
	a.	Improvement in road condition	Q5.1	Q5.1
	b.	Overall comfort levels	Q5.9	Q5.9
	c.	Smoothness and appearance of road surface	Q5.2 & 5.3	Q5.2 & 5.3
	d.	Road cleanliness	Q5.4	Q5.4
	e.	Bridge/ flyover conditions	Q5.5	Q5.5
2	Road safety		Q9,Q10,Q11	Q9,Q10,Q11
	a.	Overall safety perception	Q9	Q9
	b.	Availability of Police assistance	Q11.1	Q11.1
	c.	Design of road bends	Q11.2	Q11.2
	d.	Dedicated lanes for pedestrians/ cyclists	Q11.3	Q11.3
	e.	Speed breakers	Q11.4	Q11.4
3	Response to emergency situations		Q13	Q13
	a.	Display of emergency numbers	Q13.1	Q13.1
	b.	Availability of medical aid	Q13.2	Q13.2
	c.	Response time after emergency call	Q13.3	Q13.3
4	Wayside amenities		Q14	Q14
	a.	Fuel stations (Petrol pumps)	Q14.7	NA
	b.	Food/ drinks at restaurants	Q14.2	Q14.2
	c.	Toilet facility	Q14.1	Q14.1
	d.	Drinking water	Q14.3	Q14.3
	e.	Parking facilities	Q14.9	NA
	f.	Tow car services/ mechanics	Q14.8	NA
	g.	Overnight accommodation	Q14.6	NA
	h.	PCO/Telephone booth	Q14.5	Q14.5
	i.	Rain shelter-cum-Bus stop	Q14.4	Q14.4
5	Impact on travel time and money		Q6	Q6
	a.	Level of congestion	Q6.6	Q6.3
	b.	Delay due to road works	Q6.4	Q6.2
	c.	Delay due to police/ RTO checking	Q6.5	NA
	d.	Impact on vehicle maintenance cost	Q6.3	NA
	e.	Impact on fuel consumption	Q6.2	NA
	f.	Impact on travel time	Q6.1	Q6.1
6	Road signage and markings		Q7	Q7
	a.	Milestones/ destination signs	Q7.1	Q7.1
	b.	Road signs (Utility and warning signs)	Q7.2	Q7.2
	c.	Road markings (Middle line, zebra crossing etc.)	Q7.3	Q7.3
7	Traffic arrangements in work zones		Q8	Q8
	a.	Roadwork with safety arrangements	Q8.1	Q8.1
	b.	Sign board displaying work in progress	Q8.2	Q8.2
	c.	Traffic diversion arrangements	Q8.3	Q8.3
8	Environmental impact		Q15	Q15
	a.	Noise pollution	Q15.2	Q15.2
	b.	Air pollution	Q15.1	Q15.1
	c.	Plantation/ maintenance of greenery	Q15.3	Q15.3
9	Road agency's direct performance		Q20,Q21	Q20,Q21
	a.	Overall perception about OWD	Q20	Q20
	b.	Efficiency in building and maintaining roads	Q21.2	Q21.2
	c.	Carrying out road works speedily and efficiently	Q21.4	Q21.4
	d.	Maintenance response time	Q21.3	Q21.3
	e.	Accidents clean-up time	Q21.7	Q21.7
	f.	Grievance redressal system	Q21.9	Q21.9

ANNEXURE – 4
ISSUES FOR DISCUSSION WITH ROAD RELATED
REPRESENTATIVE BODIES

ANNEXURE 4

ISSUES FOR DISCUSSION WITH ROAD RELATED REPRESENTATIVE BODIES

Given below is an indicative list of issues to be discussed with different kinds of road related representative bodies. In-depth interviews would be conducted with them to know the finer aspects of each of the following indicators. The aim of the interviews would be to seek their views on future policy priorities and measure their perceptions of OWD's performance.

1. Transporters/ freight agents and chambers of commerce, industrial manufacturers and traders

- a. Satisfaction with various kinds of road-related taxes/ charges
- b. Impact on maintenance cost
- c. Impact on fuel consumption
- d. Impact on travel time
- e. Police/ RTO checking
- f. Patrolling on roads
- g. Law and order on these roads
- h. Traffic flow/ delays
- i. Safety of goods
- j. Safety improvement on roads
- k. Police assistance availability
- l. Availability of tow car services/ mechanics/ service stations
- m. Parking facilities with rest rooms
- n. Satisfaction with availability and services of filling stations
- o. Other travel amenities
- p. OWD's performance
- q. Timely information of road works
- r. Industry acceptance of different kinds of charges
- s. Rationalization of user charges from different kinds of users
- t. Maintenance of green belt
- u. Dealing with illegal encroachments

2. NGOs involved with social, environmental issues related to roads and vulnerable users

- a. Environmental impact
 - Air pollution
 - Noise pollution
 - Maintenance of green belt
- b. Issues of concern for vulnerable users
- c. Tackling accidents
- d. Animal crossings on roads
- e. Safety improvement on roads
- f. Long term maintenance policy
- g. Dealing with illegal encroachments
- h. Dealing with safety due to poor weather conditions

3. Emergency services representatives and traffic police wing

- a. Dealing with accidents
- b. Accidents clean up
- c. Reasons of accidents and ways to avoid them
- d. Vulnerable users as innocent victims
- e. Overall safety perception
- f. Availability of emergency telephones
- g. Medical aids facility
- h. Availability of mechanics/ tow car services
- i. Advance warning systems on road works/ accidents/ jams

4. Academia/ journalists and media representatives/ road experts

All the above issues would be discussed in detail and extra insights on issues on road encroachments by various kinds of people.

Note: These discussion guidelines would be modified from time-to-time based on new inputs from completed in-depth interviews.

ANNEXURE – 5A
PHOTOS TAKEN DURING THE FIELD VISIT
(Road Segment: Bhawanipatna to Khariar)

Annexure: 5A: Road Segment: Bhawanipatna to Khariar



A1: Road Signage on the road side



A2: Police check post on the road



A3: Single lane road with bad surface



A4: No accident clearance on the road



A5: Bad surface of the road



A6: Milestone on the road side



A7: Damaged edges of the road



A8: Flyover on the road



A9: Damaged edges of the road



A10: Difficult for 2 vehicles to pass simultaneously



A11: Damaged Edges of the road



A12: Bad condition of the road



A13: Road merging



A14: Single lane road with damaged edges



A15: Single lane road; difficult for the 2nd vehicle to pass



A16: Single lane road in bad condition



A17: Less visible road markings



A18: Single lane road with damaged edges



A19: Animals crossing the road



A20: Unsafe joints of road and bridge/culvert



A21: Unsafe joints of road and bridge/culvert



A22: Road construction process going on



A23: Road widened and one lane completed



A24: Single lane road in bad condition

ANNEXURE – 5B
PHOTOS TAKEN DURING THE FIELD VISIT
(Road Segment: Chandbali-Bhadrak-Anandpur)

Annexure: 5B- Road Segment: Chandbali-Bhadrak-Anandpur



B1: Different types of road users on the road



B2: Plantation on the road sides



B3: Divider on the road



B4: One lane of the road is complete other is under process



B5: Road widened but needs surfacing on this stretch



B6: Road widened but culvert work not yet started



B7: Road widened and surfacing work done partially



B8: Culvert/bridge work is under process



B9: Double lane complete with good surface



B10: Road widened but needs surfacing on this stretch



B11: Check point on the road



B12: Double lane complete with good surface



B13: Difficult for a car and a HCV to pass simultaneously



B14: Road widened and surfacing work done partially



B15: Filling station on road side



B16: Industrial zone on road side



B17: Pavement on the flyover 2-3 km before Bhadrak



B18: Road encroachment

ANNEXURE – 5C
PHOTOS TAKEN DURING THE FIELD VISIT
(Road Segment: Berhampur to Taptapani)

Annexure: 5C-Road Segment: Berhampur to Taptapani



C1: No cleanliness on road sides



C2: Single lane road



C3: Unclean road edges



C4: Damaged edges of the road



C5: Bad surface of the road



C6: Double lane with good surface



C7: Primary health centre on road side



C8: Water logging on road after rain



C9: Traffic problem due to water logging



C10: Bad surface of the road



C11: Road side vendors on the road



C12: Mechanic shops on road side



C13: Filling station on road side



C14: Mechanic shop on road side



C15: Animals crossing the road



C16: Mechanic shop on the road side



C17: Road information pillar



C18: Milestone on the road side with no information on it

ANNEXURE – 5D
PHOTOS TAKEN DURING THE FIELD VISIT
(Road Segment: Jagatpur to Chandbali)

Annexure: 5D-Road Segment: Jagatpur to Chandbali



D1: Road signage on the road side



D2: Road work is going on this road



D3: Filling stations on the road side



D4: Milestone on the road side



D5: Double lane with good surface



D6: Divider on the road



D7: Single lane, good surface road but edges are dangerous



D8: Single lane road, both sides of the road are damaged



D9: Double lane road with surface is in bad condition



D10: Temporary road encroachment during festivals



D11: Road maintenance work in progress



D12: Road maintenance work in progress



D13: Flyover on the road



D14: Animal on the road



D15: Road marking is not clearly visible



ANNEXURE – 5E
PHOTOS TAKEN DURING THE FIELD VISIT
(Road Segment: Dashapalla to Banarpal)

Annexure: 5E-Road Segment: Dashapalla to Banarpal



E1: Milestone on road side



E2: Single lane road and road encroachment



E3: Temporary road encroachment



E4: Vehicle washing facility on the road side



E5: Double lane road with okay condition



E6: Vehicle washing facility on the road side



E7: Animal crossing the road



E8: Temporary road encroachment



E9: Milestone on road side



E10: Bad surface of the road



E11: Filling station on road side

ANNEXURE – 5F
PHOTOS TAKEN DURING THE FIELD VISIT
(Road segment: Sambalpur to Rourkela)

Annexure: 5F-Road segment: Sambalpur to Rourkela



F1: Milestone on road side



F2: Divider on the road



F3: Double lane with good surface



F4: Road markings on the road



F5: Mechanic shop on the side of the road



F6: Road marking on the road



F7: Filing stations on road side



F8: Display of emergency telephone no



F9: Bad surface of the road



F10: Toll gates on the road



F11: Crane facility on the road



F12: Driving on the wrong side of the road



F13: Traffic congestion due to the railway crossing



F14: Bad surface of the road



F15: Traffic congestion due to the Police check posts



F16: Bus stand on the road side



F17: Animals crossing the road



F18: Filling stations on road side



F19: Workstation for vehicles on the road side



F20: Industrial zone on the road side



F21: Overnight accommodation on the road side



F22: Police station on the road side



F23: Divider on the road



F24: Traffic signals/intersection on the road

ANNEXURE – 6

**AUDIO RECORDINGS OF SOME IN-DEPTH
INTERVIEWS UNDERTAKEN DURING THE FIELD
VISIT**

Annexure: 6 Audio Recordings of some In-depth interviews

Audio recordings of some in-depth interviews conducted among various categories of road users have been submitted in soft copy alongwith the Inception Report (version 1.0), submitted on January 18th, 2012.

ANNEXURE – 7
INPUTS BY MDRA PROFESSIONALS

Annexure 7: Inputs by MDRA Professionals

Name of Staff	Positions	Inputs
Dr. N. Bhaskara Rao	Team Leader/ Social Scientist	<ul style="list-style-type: none"> • Overall project planning • Review of secondary research • Field visit • Designing and development of indicators • Designing research tools (questionnaires) • Guidance in preparation of inception report
Dr. S. N. Kulkarni (TO BE REPLACED)	Economist	<ul style="list-style-type: none"> • Planning of the project • Designing and development of indicators • Technical input in designing survey tools • Sampling design and preparation of list of target respondents • Inception report
Mr. Shashikant Brahmankar	Statistician	<ul style="list-style-type: none"> • Review of traffic count data • Review of field visit report • Sampling design • Calculation of sampling error
Mr. A. K. Pathak	Database Specialist	<ul style="list-style-type: none"> • Review of secondary research • Review of traffic count data • Review of research tools w.r.t. data tabulation planning
Mr. Abhishek Kumar	Project Coordinator	<ul style="list-style-type: none"> • Coordination with the client • Secondary research • Field visit • Questionnaire designing • Development of indicators • Sampling design • Inception report preparation
Mr. Subas Chandra Giri	Senior Researcher	<ul style="list-style-type: none"> • Secondary research • Field visit • Conduct of in-depth interviews
Mr. Atil Kumar Mishra	Local field coordinator	<ul style="list-style-type: none"> • Field visit • Translation of survey instruments • Arrangement of in-depth interviews • Transcription of in-depth interviews