



**Government of Odisha (GOO)
Chief Engineer, World Bank Projects, Odisha
Odisha State Roads Project**

**Consultancy Services for
Road Sector Institutional Development
Loan # 7577-IN**



QUARTERLY PROGRESS REPORT-1



**Intercontinental Consultants
and Technocrats Pvt Ltd**



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Staffing Schedule

**Abbreviations**

CE	Chief Engineer
CEO	Chief Executive Officer
EE	Executive Engineer
EIC	Engineer-In-Chief
EMP	Environmental Management plan
EOT	Extension of Time
GIS	Geographical Information System
GOI	Government of India
GOO	Government of Odisha
GT-APL	Grant Thornton Advisory Pvt. Ltd.
HRD	Human Resource Development
HRM	Human Resource Management
ICT	Information and Communication Technology
ICTPL	Intercontinental Consultants and Technocrats Pvt. Ltd.
ID	Institutional Development
IDS	Institutional Development Strategy
IG	Inspector General
ISAP	Institutional Strengthening Action Plan
IT	Information Technology
LASA	LEA Associates South Asia Pvt. Ltd.
LWE	Left Wing Extremist
MCA	Model Concession Agreement
MDR	Major District Road
MIS	Management Information System
MoRT&H	Ministry of Road Transport and Highways
NH	National Highway
OBCC	Odisha Bridge and Construction Corporation Ltd.
ODR	Other District Road
ORSAC	Odisha Space Application Centre
OWD	Odisha Works Department
PMU	Project Management Unit
PPP	Public Private Partnership
PWD	Public Works Department



QP	Quarterly Progress
RD	Rural Department
RDA	Rural Development Area
RDC	Road Development Corporation
ROW	Right of Way
RSID	Road Sector Institutional Development
SE	Superintending Engineer
SH	State Highway
ToR	Terms of Reference
VR	Village Road
WB	World Bank



SECTION **1**
BACKGROUND OF THE STUDY



1. Background of the Study

1.1. General

The improved transport system of the state is the main sustainable factor towards poverty eradication. To achieve this strategic objective, the state PWD bears the main responsibility. Its efficient functioning becomes the key to economic growth and social satisfaction needs. To meet the expectations, it needs to adapt contemporary tools of planning, design, construction methodologies, road safety engineering, plants/equipment and modern techniques. For this purpose the organisations/establishments involved with infrastructure development have started taking measures for:

- Institutional Development by way of:
- Institutional Strengthening and Restructuring
- Capacity building and enhancement of concerned department
- Go for well-defined development targets of State/Organisation by way of 'Development Plan Visions'.

1.2. Project Background

To move forward, GOO conceived and planned to upgrade major roads in the network and sent proposals to the World Bank for Loan Assistance in the year 1997–98. The World Bank however desired that the proposed project should cover not only improvement of the Road Transport Infrastructure, but also improve and upgrade the Institutional Structure and Capacity of OWD. In response, the World Bank and the GOO engaged a Consultant to carry out 'Institutional Development Strategy' (IDS) Study in the year 1998–99. This study made series of recommendations to the GOO for implementation in OWD, under short, medium and long term, in the year 2000.

Based on findings of IDS Study the GOO decided to establish a vision for the Road Sector reform with a view to update the policies and enhance the capacities in planning and management of Road Transport Sector efficiently.

As an integral part of the new project, GOO went ahead to develop an integrated Institutional Strengthening Action Plan in a phased manner during the term of New Road Improvement Project. The GOO constituted a 'Task Force' to revise the IDS, update its vision and findings where appropriate, and develop an Institutional Strengthening Action Plan (ISAP) with the assistance of a Consultant and in consultation with the World Bank.

Based on the World Bank recommendations, the Task Force inputs and GOO requirements, a Road Sector Reforms Plan emerged in 2007, named as ISAP covering major objectives of Institutional Strengthening and Capacity Building of OWD.

In order to give shape to ISAP for the Road Sector in general and the OWD in particular, OWD initiated action to procure the services of a Consultant for Road Sector Institutional Development and Capacity Enhancement of OWD. M/s ICT Pvt. Ltd. in joint venture with Grant Thornton Advisory



Pvt. Ltd. in association with Arkitechno Consultants (India) Pvt. Ltd. have been selected to provide such services.

1.3. Project Objectives

The main objective of the Road Sector Institutional Development consultancy assignment is to enhance the capacity of the Odisha Works Department (OWD) and where appropriate, other GOO road sector agencies concerned to carry out road infrastructure development, to improve the engineering aspects and planning for road safety management in the State and to initiate mechanism for sustainable future growth with the resources dedicated to roads infrastructure development.

As a follow up action, ISAP 2008–2018 was endorsed by the State Government in 2009 to guide the implementation of ISAP activities in the sector and to facilitate monitoring of ISAP results by the GOO and the Bank. The ISAP includes clear, monitorable targets and milestones for a planned range of policy, capacity and resource improvements in the following fields:

- i. Road Sector Strategy (Regulatory and Strategic Context);
- ii. Core Processes in Road Management;
- iii. Organisational Structure and Management;
- iv. Financial Management, Audit and Administration;
- v. Information and Communication Technology and MIS; and
- vi. Human Resources Development and Capacity Building.

1.4. Scope of Services

The achievement of this overall objective will, at varying stages, involve policy and institutional interventions in the roads sector, in accordance with the ISAP. This will require diverse forms of technical assistance, training and capacity building services, policy studies and implementation support (including legal and statutory aspects).

To achieve the above goal the Consultants propose to carry out a set of distinct Tasks integrated into one overall 'package'. The services 'package' shall include broad-based 'decision-making, facilitation and support' to the Clients in the process of preparing and presenting recommendations to the GOO and (once GOO decisions are made) for subsequent implementation of the accepted package. This will also require the Consultants to provide assistance for legislative, drafting and/or development of documentation of a legal and/or statutory nature.

The Tasks Comprising the Assignment, as per the ToR are:

- i. Revision of Works Code and Manual;
- ii. Road Sector Policy and Strategy;



- iii. Re-organisation and Strengthening of OWD;
- iv. Enhancement of capacity of OWD Staff through Training and ending sustained HRD policy;
- v. Road Safety Engineering and Planning;
- vi. Road Network Master Planning;
- vii. Future Road Funding and Management their of;
- viii. Road Toll Collection and Management;
- ix. Vehicle Axle Load Regulation and Management; and
- x. Future Road Sector Institutional Options.

1.5. Project Organisation

The Project Organisation has been structured, taking into account the functional operational, hierarchical structure of OWD and GOO, approval of deliverables and decision making process during the course of performance of assignment.

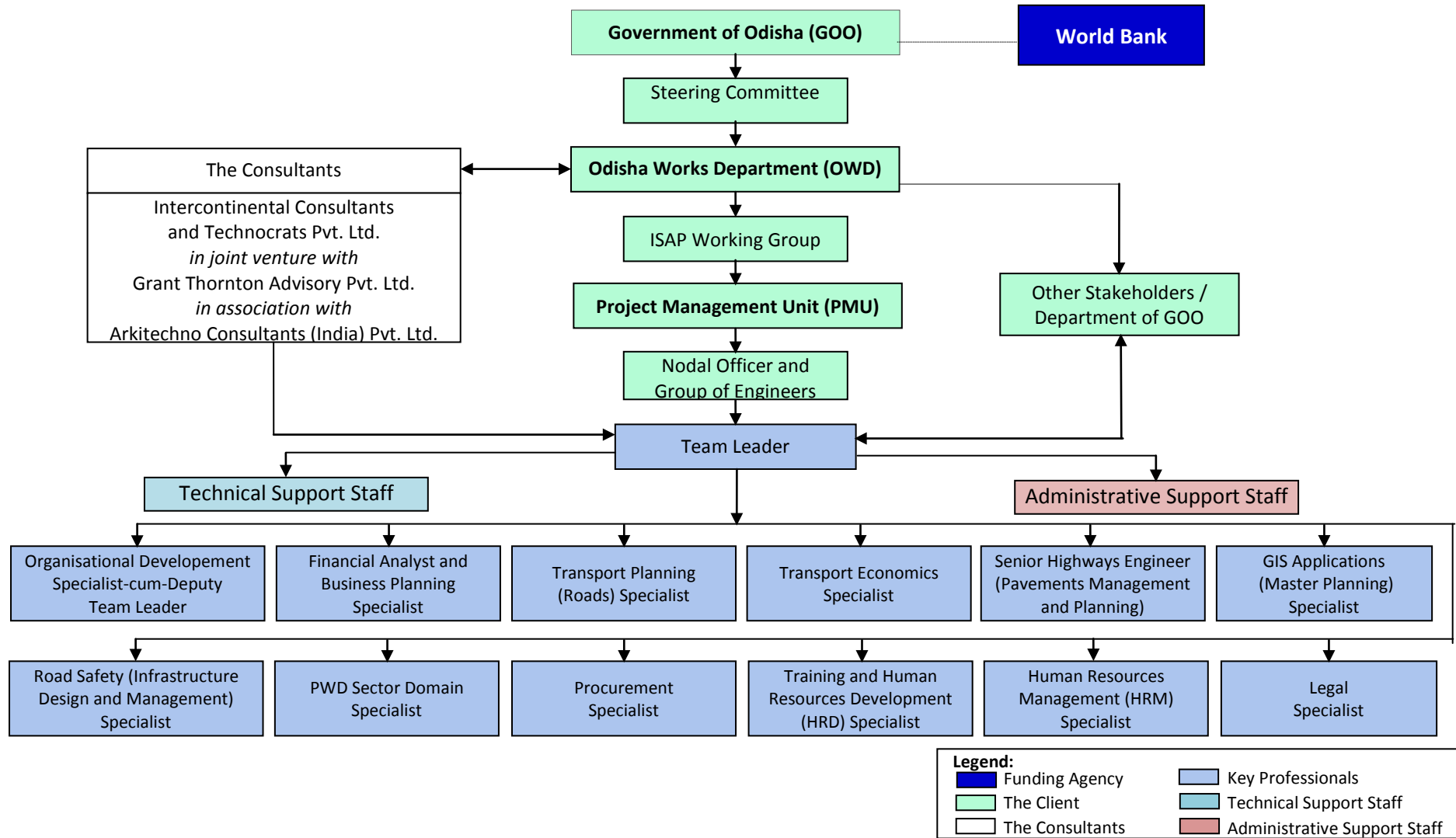
At operation level, the Consultants will report to Chief Engineer, OWD, World Bank Projects, PMU and ISAP Nodal Officer, who would provide assistance and support in carrying out the various tasks and interaction with the Stakeholders to get their response on various issues.. The PMU would be the main link between Consultant and OWD. In addition, the Professionals/Key Experts have been directly liasoning with concerned GOO departments for discussions, queries and information specific to their field and the required services.

The Chief Engineer (WB) and Head of PMU (Project Management Unit) has nominated Sh. R. R. Bohidar, S.E. as Nodal Officer for coordinating the activities during consultancy services. This additional provision of Project Management Unit has been included as part of the Project Structure.

The Consultants, having analysed the need to interact with large number of departments of GOO and OWD, have nominated Col. S. P. Tomar as Project Coordinator for liaison and coordination activities with various departments and stakeholders.



PROJECT ORGANISATION





SECTION 2
QUARTERLY STATUS REPORT



2. Quarterly Status Report

2.1. Mobilisation

Having signed the contract agreement with OWD on 16th March 2012, the Consultant consortium comprising of Intercontinental Consultants and Technocrats Pvt. Ltd (ICT) in joint venture with Grant Thornton Advisory Pvt. Ltd (GT-APL) and in association with ARKITECHNO Consultants (India) Pvt. Ltd, have mobilised w.e.f. 9th April 2012 and commenced their services.

The project office has been functional at the address given below:

Plot No: N-3/91, IRC village,
Nayapalli, Bhubaneswar-751 015, Odisha, India
Ph-0674-2557204
Fax-0674-2557204
E-Mail: Orissa@ictonline.com
Web: www.ictonline.com

2.2. Visit of Key Professionals to Odisha

The following Key Professionals have visited the project during last three months and have been regularly interacting with OWD and GOO officials to get their inputs for progressing their tasks as per requirement of ToR and sub-tasks defined therein.

Sl. No.	Name	Position
1	Dr. C P Bohra	Organisational Development Specialist-cum-Deputy Team Leader
2	AmitavaBasu	Financial Analyst and Business Planning Specialist
3	BoominathanMuthuthevar	Transport Economics Specialist
4	Dr. P K Nanda	Senior Highways Engineer (Pavements Management and Planning)
5	Dr. P K Sikdar	Road Safety (Infrastructure Design and Management) Specialist
6	Deepak Narayan	PWD Sector Domain Specialist
7	B R Suri	Procurement Specialist
8	Sandeep Jagota	Training and Human Resources Development (HRD) Specialist
9	S N Swaroop	Human Resources Management (HRM) Specialist
10	DipakRao	Legal Specialist
11	Col. S P Tomar	Adhoc Technical Specialist



Sl. No.	Name	Position
		Institutional Strengthening and Restructuring
12	Tony Mathew	Adhoc Technical Specialist Road Network Planning and Road Safety

2.3. Visit by Senior Officials of HO

Since the Consultancy Assignment involves the Restructuring and Capacity Building of various departments of GOO besides OWD, ICT on its own initiative also mobilised additional senior expert from its HO. This has been done to have the benefit of their experience being shared with OWD on restructuring, policy and capacity building of road sector as followed in some of the other States and Center.

Sh. A D Narain, Ex DG of MoRT&H and President visited OWD and participated in ISAP Working Group meeting held on 26 June 2012. During the proceedings of meeting he deliberated in detail on various options of restructuring of OWD, which could be considered over by GOO. These options will be further detailed as part of Task No. 10 i.e. Future Road Sector Institutional Options.

Besides Sh. A D Narain, Mr. S K Puri, the Ex DG of MoRT&H and Mr. Prashant Kapila, COO, ICT Pvt. Ltd. have made visits to discuss certain Administrative and Technical issues in the overall interest of the assignment and project.

2.4. Details of Meetings and Consultations during this Quarter

Soon after the mobilisation, the Consultants commenced the process of interaction with various stakeholders. Some of the important meetings, which took place during this quarter are:

- Meeting with GOO/OWD 09 and 10 April 2012
- IT-ICT Consultants 17 April 2012
- Asset Management System Consultants 17 April 2012
- Engineer-in-Chief cum Secretary (Works), GOO 21 April 2012
- World Bank Officials 26 April 2012
- Steering committee, headed by Development Commissioner, GOO 22 May 2012
- ISAP Working Group 26 June 2012

Besides the above meetings, the Key Professionals have continued their one-on-one meetings with other Road User Groups regularly as detailed below:

- Tourism Department
- Chief Engineer, Rural Roads



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- Chief Engineer (NH)
- Chief Engineer (Buildings)
- Chief Architect
- Engineer-in-Chief (Civil)
- Chief Engineer (Roads)

In addition, the individual professional, carried out interactions with various road user groups for road safety and network planning as per details below:

- 11 April 2012 - Met with Asset Management Consultants (LASA) to collect data
- 12 April 2012 - Chief Engineer, National Highways Division, GOO
- Chief Engineer, Rural Development Department, GOO
- 17 April 2012 - Attended the workshop conducted by IT/ ICT Consultant and had interactions
- OWD Secretary to have a brief introduction to the project Objectives
- 08 May 2012 - Meeting with officials of Transport Department Bhubaneswar
- Mr. Dalai, Motor Vehicle Inspector in Bhubaneswar
- 09 May 2012 - Meeting with Transport Commissioner, Cuttack
Meeting with Mr. Nirmal Kumar Sahoo, Director, Office of Transport Commissioner, Cuttack
Meeting with Inspector General, Crime Branch, Cuttack to collect accident data
- Transport Commissioner, Cuttack
- Inspector General (IG), Crime Branch, Cuttack
- 10 May 2012 - Director, Department of Mines
- 11 May 2012 - Director, Survey of India, Bhubaneswar
- 19 May 2012 - Secretary, Rural Development Department
- 19 June 2012 - Tapan Kumar Mishra, Director, Transport Commissioner
- 22 June 2012 - Engineer-in-Chief cum Secretary, GOO (Sh. S K Puri and Col S P Tomar)
- 28 June 2012 - CEO, ORSAC
- 04 July 2012 - CEO, ORSAC
- 05 July 2012 - Scientist, ORSAC

These interactions have been of immense help to assess the existing situation, so as to plan our way forward to perform the assignment.



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Details of Minutes of Meetings of Steering Committee are enclosed as an Annexure.

2.5. Progress

- a. As brought out above, the specific components of assignment are covered under ten main tasks, which have further been divided into sub-tasks. In terms of overall execution of assignment, these ten tasks are to be performed and submitted to client as part of 23 nos. of deliverables for subsequent implementation by OWD/GOO.
- b. During this Quarter, the Key Professionals have been collecting the Data, interacting with OWD/GOO officials and progressing the various tasks further. Some of the tasks are interlinked. The progress of one task is dependent on other. The progress on each task and how the same is to be progressed further, is given as below:

S. No.	Task	Actions Taken So Far	Way Forward	
1	Revision of works, Code and Manual	<ul style="list-style-type: none"> • Interactions with E-in-C (Civil), CE (NH), other CEs, few SEs, EEs and Accounts Section to get their views on issue of revision of Manual • Data being collected on organisation set up of CE units, workload per Division for each CE during last five years • Seeking response on adequacy of existing powers of offices of OWD for execution of public works 	<ul style="list-style-type: none"> • Study of work procedures for OWD to achieve proper coordination and improve delivery of projects as per laid down institutional framework • Review of procedures for sale and acquisition of land and suggest modifications, if any. • Review procedures for implementation of EMP, Rehabilitation and Resettlement 	
2	Road Sector Policy and Strategy	<ul style="list-style-type: none"> • Studied the existing draft road sector policies developed in 2004 • Reviewed the development plans of Odisha for evolving the policy and strategy • Carried out interaction with various CEs to get their views on proposed policy review. 	Components of Road Sector Policy and Strategy	Suggested Components and Parameters
			Strategy Statement	<ul style="list-style-type: none"> • Eradication of Poverty • Economic and Social Development • Concentrate on development of LWE Sector to bring them into main stream
			Vision Statement	<ul style="list-style-type: none"> • Achieve 100% Connectivity in next 10 years



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S. No.	Task	Actions Taken So Far	Way Forward		
			<table border="1" data-bbox="879 349 1525 651"> <tr> <td data-bbox="879 349 1098 651">Mission Statement</td> <td data-bbox="1098 349 1525 651"> <ul style="list-style-type: none"> To develop the road infrastructure with requisite quality and adequate capacity to meet, the multi-sectoral demands to achieve the socio economic goals for upliftment and prosperity for the people of Odisha. </td> </tr> </table> <p data-bbox="879 658 1414 689">Analysis of Projected Road Sector Demands</p> <ul data-bbox="879 712 1525 969" style="list-style-type: none"> Road sector demands of medium to long term is being evaluated so as to work out suitable options for review of policy and vision Existing legal and institutional framework along with organisational capacity of OWD and considerations for capacity building are being studied. <p data-bbox="879 992 1525 1059">For Identification of Gaps in Policy and Strategy the following are being considered:</p> <ul data-bbox="879 1081 1525 2038" style="list-style-type: none"> Road Sector medium to long term organisational vision covering: <ul style="list-style-type: none"> Road Sector Network demands for next 5, 10, 15 and 20 years to cover SH, MDR, ODR and VR etc. Institutional gaps in Authority/Powers for: <ul style="list-style-type: none"> Administrative – Inter departmental Postings etc. Technical – For Technical Sanctions and Supervision etc. Financial – For acceptance of Contracts, approval of deviation/variation, grant of EOT and approval of CVs etc. Need to separate Policy and Implementation or maintain Status Quo <ul style="list-style-type: none"> Review the working of OBCC for capacity augmentation to cover both roads and bridges whether selected works given to the corporation and remaining with existing OWD Whether all PPP Projects will need to be controlled by corporation? Will need required support legally for any changes to be made? 	Mission Statement	<ul style="list-style-type: none"> To develop the road infrastructure with requisite quality and adequate capacity to meet, the multi-sectoral demands to achieve the socio economic goals for upliftment and prosperity for the people of Odisha.
Mission Statement	<ul style="list-style-type: none"> To develop the road infrastructure with requisite quality and adequate capacity to meet, the multi-sectoral demands to achieve the socio economic goals for upliftment and prosperity for the people of Odisha. 				



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S. No.	Task	Actions Taken So Far	Way Forward
			<ul style="list-style-type: none"> • Performance Based Management Contracts • ROW Management - Revenue Generation - Yamuna Expressway Concept • Ownership of Road Assets of GOO • Study and suggest an appropriate scheme for creating Road Fund and consequential budgetary reforms.
3	OWD Staff Training and HRD	<ul style="list-style-type: none"> • Interaction with E-in-C (Civil), CE (NH), CE (Building) • Interaction with some SEs and EEs • Detail discussion with CE (R&D) and (QP) regarding training and HRD 	<ul style="list-style-type: none"> • Review the functioning of construction academy for ensuring appropriate training requirements of OWD staff. • HRD policies are being reviewed to match with Restructuring proposals of OWD, with a sustainable HRD philosophy
4	Reorganisation and Strengthening of OWD	<ul style="list-style-type: none"> • Interaction with E-in-C (civil), CE (World Bank), CE (NH) other CEs, few SEs and EEs to get their views on re-structuring issues • Collection of Data regarding staffing in OWD and restructuring agreed to in December 2011 by GOO • Interaction with CE (RD and QP) regarding Training and Quality Management 	<ul style="list-style-type: none"> • Review the restructuring of OWD carried out in Dec. 2011 by GOO for effective and efficient, functioning • Reviewing the HRD and HRM Policies for ensuring sustained training to the staff of OWD.
5	Road Safety Engineering and Planning	<ul style="list-style-type: none"> • Collected State Level Accident data of all districts from Crime Branch • State level accident data analysis is in progress to identify hazard groups and hazard locations • Consultation with Transport Department complete 	<ul style="list-style-type: none"> • Collecting state level accident data – Hospitals and Insurance companies • Identifying hazardous locations and user groups • Identifying sample road network and conduct safety assessment • Developing countermeasures for hazardous road sections <ul style="list-style-type: none"> – Developing a multi-sectoral ‘Road Safety Action Plan’ including creation of appropriate institutional arrangements for implementation.



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S. No.	Task	Actions Taken So Far	Way Forward
6	Road Network Master Planning	<ul style="list-style-type: none"> • Development of base map is under progress • Initial data collection from secondary sources completed • Various consultations to obtain development plans/information is in progress • Initial field visits • OWD road network base map prepared from data gathered by Asset Management Consultants 	<ul style="list-style-type: none"> • Collect data for developing the base map covering the states development plans (NH, SH, MDR, ODR and VR) • Comprehensive Consultation – Study State’s development plans • Collection of data from Primary and Secondary Sources with regard to State’s socio-economic profile, Development plan of other modes of transport etc. • Identifying the sample network (3000 Km) in consultation with OWD and Conduct traffic and other engineering surveys
7	Future Roads Management Funding	<ul style="list-style-type: none"> • Collected relevant documents, reports, budgets, policies, legislations, data and information • Held discussions with officials concerned of OWD, OBCC and other stakeholders • Study and review of the collected data and information and inputs received during the discussions in progress • Quick findings on present status of road financing 	<ul style="list-style-type: none"> • ‘As Is Situation’ Study to understand and assess the current situation of road financing and issues in terms of fund sourcing, allocation and utilisation; and cover identification of sources of fund for the road sector, assessment of mechanism for and trend of allocation of funds for the sector, pattern of expenditure for different categories of roads; and review of levy, collection and utilisation of toll fees. • Suggest Funding Options through identification of potential sources of funds carrying out a comparative analysis with reference to other States, review of potential for fund generation, sourcing mechanism, social acceptability, administrative and financial viability. Also, study the viability of setting up a Road Fund. • Rank preferred options considering the merits and demerits of each identified option and recommend preferred options. • Support for implementation entails – <ul style="list-style-type: none"> • Estimation of future fund requirements; • Prioritisation of fund requirements; • Linking the prioritised estimated fund requirements with the preferred funding options; • Prepare implementation plan for 20 year time horizon indicating tasks, responsible agency, and time schedule.



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S. No.	Task	Actions Taken So Far	Way Forward
			<p>Consultation</p> <ul style="list-style-type: none"> • During the course of the exercise, interaction and consultation will be carried out with <ul style="list-style-type: none"> – counterpart team and other officials concerned of OWD, officials of finance department, rural works department and other relevant departments such as mining, tourism, industry, transport of GOO; – Other stakeholders like Chambers of Commerce and Industry, Trade Associations, Truck Owners Association, etc. • Discussion format to follow one-to-one meeting, focus group discussion, and workshop. <p>Study and Assessment of :-</p> <ul style="list-style-type: none"> • Allocation of fund and expenditure made for various categories of roads and type of works; • Trends of fund utilisation and capacity of the implementing agency to utilise the funds allocated; • Adequacy of funds allocated to address the needs of core road network; • Overall gap in road sector funding; and • Potential sources of dedicated and sustainable funding
8	Road Toll Collection and Management	<ul style="list-style-type: none"> • Studied the present toll collection model being operative with Odisha Bridge Construction Corporation vis-a-vis model concession agreement • Odisha Tolling Act 2010 is being studied for its review • Toll collection data of last three years collected to carry out comparative studies 	<ul style="list-style-type: none"> • Modifications to the Tolling Act 2010 of GOO to be recommended on the lines of MCA of GOI • Subsequently a legal framework for toll collection plan to be suggested by consultants
9	Vehicle Axle Load Regulation and	<ul style="list-style-type: none"> • Site visits were made in the Districts of Puri and Khordha to have a Preliminary feel of the 	<ul style="list-style-type: none"> • 50 locations being identified for carrying out Axle-load Surveys. • Proposed use of Wheel Weigh Bridges and



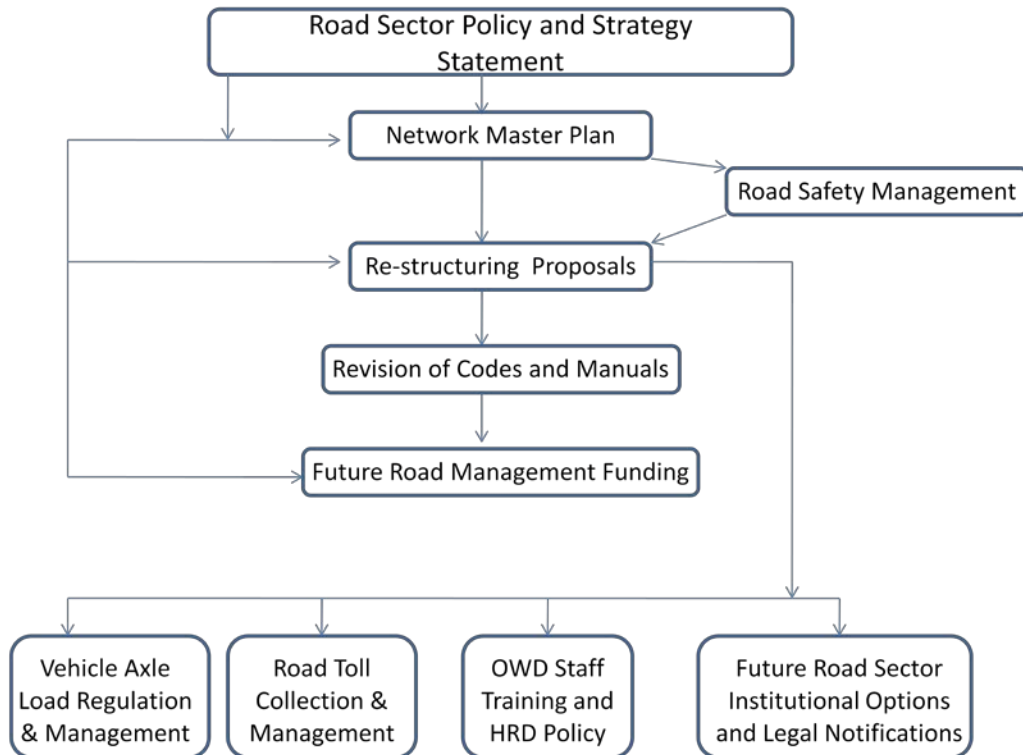
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S. No.	Task	Actions Taken So Far	Way Forward
	Management	<p>commercial traffic plying in the area and the extent of their loading</p> <ul style="list-style-type: none"> Meetings were held with the respective Executive Engineers Shri P. K. Sutar and Shri P. K. Patra to know about the problem of overloading on roads under their jurisdiction and the control measures being employed and their effectiveness Review is also being taken of Monitoring and Regulatory Measures being adopted in other states like Tamil Nadu, Maharashtra, Rajasthan and Punjab 	<p>dummies.</p> <ul style="list-style-type: none"> Loading pattern on heavily loaded corridors of mining/industrial area roads and other roads will also be identified
10	Future Road Sector Institutional Options	<ul style="list-style-type: none"> Interactions with E-in-C (Civil), CE(NH), other CEs and few SEs to get their views on restructuring issues Assessment of existing Powers and Authorities for Administrative, Technical and Financial Issues of various establishments Collection of Data on Financial Allotment for Maintenance and Projects in last three years 	<ul style="list-style-type: none"> Major Decisions on option of RDC or RDA will be examined on merits and demerits for obtaining views of OWD and other connected departments Restructuring Process to be taken up based on policy frame work worked out in consultation with ISAP working group and OWD Re-structuring Process to Commence on receipt of inputs as above Subsequently HRD and HRM Issues to be taken up

As brought out above, that some of the tasks are interlinked and dependent on outcome of others, a brief interactive suggested format of action plan will be as below:



Suggested Action Plan for Tasks and Deliverables



2.6. Certain Priorities Suggested for Deliverables by CE (WB)

The Consultants are already working for the following deliverables and will continue to interact with OWD and other departments for suggestions and inputs prior to their submission:

- Draft Bidding Documents for Works, Goods and Services,
- Draft Revised Code, Manuals for getting Comments of GOO and OWD,
- Draft Network Master Plan,
- Draft Road Sector Policy and Strategy.



ANNEXURES

Office copy: 10/7/2012

**OFFICE OF THE ENGINEER-IN-CHIEF (CIVIL), ODISHA
NIRMAN SOUDHA, KESHARI NAGAR, UNIT - V, BHUBANESWAR - 751 001**

Letter No. PMU - WB - 33/2012 - **22053** Dt. **7.7.12**

From
Er. Nalini Kanta Pradhan
Chief Engineer, World Bank Projects, Odisha and
Member Convenor, ISAP Steering Committee
Tel: +91 674 239 6783 / Fax: +91 674 239 0080
Email: pnuosrp@gmail.com

To
Members of ISAP Steering Committee

1. Principal Secretary, Department of Rural Development,
2. Principal Secretary, Department of Commerce & Transport,
3. Secretary/Special Secretary to Government, **Finance Department.**
4. Principal Secretary, Law Department,
5. Secretary to Government, Revenue and D.M. Department
6. Special Secretary (Plan), P. & C. Department

Sub: Minutes of 1st Meeting of the ISAP Steering Committee held on 22th May 2012 at 4:00 PM in P&C Department Conference Hall of the Secretariat

Ref: Works Department Letter No. 6480/W dated 30.06.2012

Sir,
Please find enclosed herewith the minute of 1st ISAP Steering Committee meeting held under the Chairmanship of Development Commissioner - cum- Addl. Chief Secretary on 22nd May 2012 at 4:00 PM in Planning & Co-ordination Department Conference Hall of the Secretariat for favour of information.

Yours faithfully,

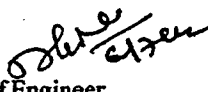
Encl: As Above


Chief Engineer
World Bank Projects, Odisha
Member Convenor, ISAP Steering Committee

Memo No. **22054** Dt. **7.7.12**

Copy submitted to the Development Commissioner-cum-Additional Chief Secretary, Government of Odisha and Chairman of ISAP Steering Committee for information with respect to Works Department Letter No. 6480/W dated 30.06.2012.

Encl: As Above


Chief Engineer
World Bank Projects, Odisha
Member Convenor, ISAP Steering Committee

Memo No. 22055 Dt. 7-7-12

Copy submitted to Engineer-in-Chief-cum-Secretary, Works Department, Government of Odisha for favour of information.

Encl: As Above

[Signature]
Chief Engineer
World Bank Projects, Odisha
Member Convenor, ISAP Steering Committee

Memo No. 22056 Dt. 7-7-12

Copy to all Members of the internal working Groups of PMU for ISAP activities (Shri R.R. Bohidar, Superintending Engineer (ISAP Cell), Bhubaneswar / Dr. N.C. Pal (Executive Engineer, PMU) / Shri M.R. Misra (EE, ISAP) / Shri C R Mandhata, EE, Design-IV / Sri S K Misra, EE, PMU / Sri G D Panigrahy, EE, ISAP Cell / Sri F M Panigrahy, EE, PMU / Sri M B Acharya, FA PMU) for information and necessary action.

Encl: As Above

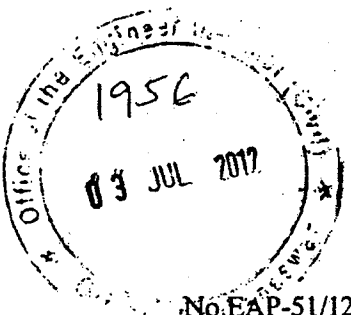
[Signature]
Chief Engineer
World Bank Projects, Odisha
Member Convenor, ISAP Steering Committee

Memo No. 22057 Dt. 7-7-12

Copy forwarded to M/s Intercontinental Consultants and Technocrats Pvt. Ltd. N-3/91, IRC Village, Nayapalli, Bhubaneswar-751015, Odisha for information and necessary action.

Encl: As Above

[Signature]
Chief Engineer
World Bank Projects, Odisha
Member Convenor, ISAP Steering Committee



GOVERNMENT OF ODISHA
WORKS DEPARTMENT

30.6.12

No.EAP-51/12 6480 /W.,Dt.

From

Sri M.Naik,
Under Secretary to Government

To

The Chief Engineer,
World Bank Projects, Odisha, Bhubaneswar.

Sub: Minutes of the Ist Meeting ISAP Steering Committee dtd.22.5.2012 at 4.00 P.M. in P. & C. Department Conference Hall of the Secretariat.

Sir,

I am directed to send herewith the approved minutes of the ISAP Steering Committee held on 22.5.2012 at 4.00 P.M. in the Conference Hall of P. & C. Department for your information and necessary action.

You are requested to circulate the same to all concerned accordingly.

Yours faithfully,

[Signature]
30.6.12
Under Secretary to Government

Memo No. _____ /W.,Dt.

Copy with copy of minutes of the Meeting forwarded to Sr. P.S. to D.C.-cum-Addl. Chief Secretary for kind information of DC-cum-A.C.S.

[Signature]
Under Secretary to Government

for Impulley
Od
3/2/12

**Minutes of the 1st Meeting, ISAP Steering Committee dated 22nd May 2012 at 4PM in P&C
Dept. conference hall of the Secretariat**

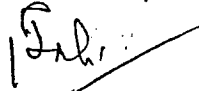
The meeting was chaired by the D.C.-cum-Addl. Chief Secretary. The list of participants is at Annexure-I.

1. The Development Commissioner desired item wise discussion as per the role and responsibility assigned to the Steering Committee in the Gazette Notification dated 11th December, 2008. He further desired to know the action taken up on the ISAP related issues so far and sought responses from the Consultant/ Department.
 - a) **OPWD Code Revision.** The Secretary, Works Department stressed on revision of OPWD Code incorporating the new business requirements such as services, PPP projects, e-procurement in harmony with the works code of other states and central organizations.
 - b) **Multi Modal Transport Issues.** The Consultant explained that there will be a workshop with various stake holders in the first week of June, 2012 wherein they will finalize the approach and methodology based on the inputs from various stakeholders. The challenges and merits of multi modal transport planning shall be discussed in a workshop with the stakeholders.
 - c) **State Road Policy:** The Consultant said that they have started collecting the data. The Committee decided that the draft road sector policy may be formulated for a time horizon of 20 years; with medium and long term strategies.
 - d) **Sustainable road maintenance funding.** The RSID Consultant expressed the need for a sustainable road fund to be used only for maintenance purpose; which may be accrued through collection of toll on road users, cess on petroleum products and lease of road side amenity based projects or other financial instruments. It was decided to explore the merits/demerits of different options before putting up the proposal to the Government for consideration. It was discussed that maintenance funding will be based on functional and structural performance indices of the roads. The details would come up in the study later which would incorporate the phasing of the maintenance requirement over different periods.
 - e) **Core Road Network :** The Secretary, Works informed that already a network of 1563 Km. roads have been identified based on the reports of the DPR consultant of OSRP. The Consultant explained that the road network may cover roads of other category/ roads from other departments; which would emerge from their study.
 - f) **Implementation of GAAP:** The Committee desired to know whether all provisions of the GAAP Matrix have been complied. The Secretary, Works informed that the GAAP Action Matrix is being implemented by the Dept. and action is being taken for full compliance.

- g) **Management of Core Road Network:** The Committee desired to know the mechanism and the indicators to oversee the efficiency of the core network maintenance and prudent use of road fund.
- h) **Capacity Building:** The Committee suggested that the consultant may include the reward and punishment mechanism such as incentives and promotional opportunities for motivation of the employees in the present restructuring proposal under formulation by the Government. However, the salary structure may not be pertinent for review as it would be difficult for revision of salary for a particular service or Department.
- i) **Road Safety:** The Committee desired to know about the standard operating guidelines to assess road safety in various categories of roads such as SH, MDR and ODR. The consultant informed that they have already started collecting data on accidents from the police department available with them as per the formats prescribed by NCRB (National Crime Records Bureau). The draft road safety policy would be in conformity with IRC Codes.
- j) **Master Planning:** The Committee suggested to change the horizon of Plan from 10 years to 20 years with targets for both short term and long term period. The Consultant agreed to do the same developing a base map for the existing road network covering all the relevant category of roads and study current network with transport demand considering socioeconomic factors.
- k) **I.T. & I.C.T. support for P.W.D:** A Consultant has already been engaged for the strategy formulation and will endorse its solution architecture to Government. It was decided that the RSID consultants will interact with the IT/ICT Consultants and carry forward their activities soon.
- l) **Review Procurement Policy through e-Procurement and road contracting:** The e-procurement guideline followed in the state is yet to be a part of the OPWD code. Committee decided that data-validation, encryption, decryption, system security of the e-procurement process should be studied, reviewed as per existing Cyber Laws; IT Acts/ Rules of the Country/ State by the Consultant.
- m) **Axle Load Regulation:** The Pavement Specialist, RSID Consultant spoke on the issue of axle loads and the general condition of overloading on the roads that leads to faster deterioration of roads and therefore resulting in higher maintenance cost. Since the extent of damage is proportional to fourth power of the magnitude of overloading, it is the major factor responsible for poor performance of roads. Hence axle loads of vehicles plying on roads in Odisha deserves close monitoring and measures are needed to control the menace of overloading which would be addressed in detail in the action plan.

n) **Other Issues:** The Committee decided that the Consultant should provide draft action plan on issues such as financial management and audit administration, private sector participation in the road sector infrastructure building, social and environmental issues in the road construction works and suggest for carrying out necessary modifications.

The meeting ended with a vote of thanks to the Chair.

A handwritten signature in black ink, appearing to be 'D. C.', written over a horizontal line.

D.C.-cum-Addl. Chief Secretary

Annexure 1

List of Attendees

ISAP Steering Committee Members

- Shri R.N. Senapati, IAS, Development Commissioner cum Addl. Chief Secretary
- Shri S.N. Tripathi, IAS, Principal Secretary, Department of Rural Development
- Shri G.K. Dhal, IAS, Principal Secretary, Commerce & Transport
- Shri S.K. Ray, EiC-cum-Secretary, Works Department
- Shri H.K. Panda, Addl. Secretary, Finance Department
- Shri Debabrata Dash, OSJB(SB), Principal Secretary, Law Department
- Er. N.K.Pradhan, Chief Engineer (World Bank)

PMU Officials

- Shri R.R. Bahidar (SE, ISAP)
- Shri N.C. Pal (EE, PMU, WBP)
- Shri M. R. Mishra (EE, ISAP)
- Shri A.K. Sahoo (AE(C), PMU)

Key Professionals from RSID Consultant

- Dr. C. P. Bohra (Dy. Team Leader)
- Dr. P. K. Nanda (Sr. Highway Engineer)
- Mr. Amitav Basu (Finance Specialist)
- Dr. P.K. Sikdar (Road Safety Specialist)
- Mr. Rajesh Roy Choudhury (MD, ARKITECHNO-Associate Consultant)
- Mr. Deepak Narayan (PWD Sector Domain Specialist)
- Mr. B.R. Suri (Procurement Specialist)
- Mr. Sandeep Jagota (Trg.& HRD Specialist)
- Mr. Tony Mathew (Traffic and Transportation Engineer)
- Col. S. P. Tomar (Project Coordinator)

OFFICE OF THE ENGINEER-IN-CHIEF (CIVIL), ODISHA
NIRMAN SOUDHA, KESHARI NAGAR, UNIT -V, BHUBANESWAR-751 001

Letter No. PMU -WB - 53/12-

18736

June 6, 2012

From

Er. N.K. Pradhan,
Chief Engineer (World Bank Project), Odisha
Bhubaneswar-751001
Tel/Fax: +91-674-239 6783/0080
Email: pnuosrp@gmail.com

To

✓ Mr. Prashant Kapila,
President, Intercontinental Consultants & Technocrats Pvt. Ltd.,
A-8, Green Park, New Delhi-110016
Tel : 91-11-40863000
Email: business@ictonline.com

Kind Attention: Col. S. P. Tomar, Project Coordinator, M/s ICT Pvt. Limited

Sub: Consultancy Services for Road Sector Institutional Development, Government of Odisha
- Review the Report of "Effect of Overloading on Road Infrastructure" in the Vehicle
Axle Load Regulation and Management context.

Sir,

It is to intimate that the Government of Odisha is desirous to implement the measures suggested in the report 'Pilot Study on effect of overloading on road infrastructure' by CRRI, New Delhi to control overloading in the State of Odisha. Copy of the Executive Summary of the report is enclosed for your reference.

As Vehicle Axle Load Regulation and Management is one of the scopes in RSID consultancy service with requisite key deliverable(s), you may consider the suggestions mentioned in the report.

Encl: As Above

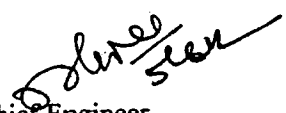
Yours sincerely,

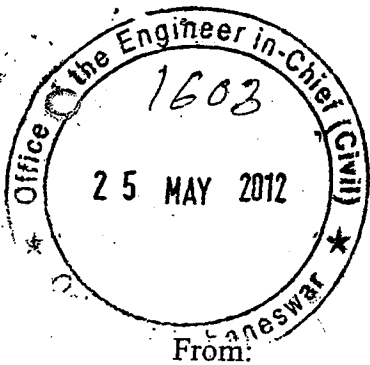

Chief Engineer,
World Bank Projects, Odisha

Memo

Date

Copy submitted to the E.I.C.-cum-Secretary, Govt. in Works Department for information and necessary action with reference to Works Department Letter No. 5309/W dated 22.05.2012.


Chief Engineer,
World Bank Projects. Odisha



Government of Odisha
Works Department.

No. 0758400082012 5309 /W., Dated, the

22/5/12

From:

Sri M. Naik,
Under Secretary to Government.

To


The Chief Engineer, DPI & Roads, Odisha, BBSR
The Chief Engineer, National Highways, Odisha, BBSR.
The Chief Engineer, World Bank Projects,
Odisha, Bhubaneswar.

Sub: Report on "Pilot Study on effect of over loading on Road Infrastructure" regarding.

Sir,

I am directed to enclose a copy of the letter No. 3013/T dated 9.5.12 on the above noted subject and to request that to appropriate action may be taken in the matter under intimation to this Department.

Yours faithfully,


Under Secretary to Government.

Handwritten notes:
20.5.12
E.M.R.M.

Handwritten notes:
E-E-P.M.U. - J (En. B. E. Tripathy, E.E.)

S.O(P)

Handwritten signature and date:
26/5/12

submitted to Yc SE (ISAP)
for perusal.

Copy is Dr N. C Pal
E.M.R.M. EE
EF

CHIEF IN-CHIEF OFFICE
- 9 MAY 2012

BY FAX

**GOVERNMENT OF ODISHA
COMMERCE & TRANSPORT (TRANSPORT) DEPTT.**

No. 2013 /T., Dated Bhubaneswar the 9/5/12
LC-TR-Case-09/2012.

From:
Dr. A. K. Nayak, OAS,
Deputy Secretary to Government.

*By 228 Roads
14/5/12*

To
The EIC-cum-Secretary to Government,
Works Department,
The Transport Commissioner-cum-Chairman, STA, Odisha, Cuttack
The Project Director, NHAI, Bhubaneswar.

Sub: Report on "Pilot Study on effect of overloading on Road Infrastructure"- regarding

Sir,

I am directed to send herewith the copy of the letter No.RT-16031/05/2010-T dated 20.03.2012 of the Deputy Secretary to Government of India, Ministry of Road Transport and Highway and the copy of final report "Pilot Study on effect of overloading on Road Infrastructure" of Central Road Research Institute (CRRI), New Delhi and to request you to please implement the measures as suggested therein to control overloading in the State of Odisha.

Action taken in the matter may please be intimated to this Department.

Yours faithfully,

[Signature]
9/5/12

Deputy Secretary to Government.

*B
B. B. Pathy
17/5/12*

*LP-5-12
10/5/12*

*CC: (M) / (M) / (M)
For 9/5/12*

10/5/12



-DYNV-20917
12.4.12

MOST IMMEDIATE /
By Speed Post

Government of India
Ministry of Road Transport and Highways
(Parivahan Anubhag)

This be the points

Dated : 20/03/2012

F.No. RT-16031/05/2010-T

To

- i) The Principal Secretary (Transport) of all States/UTs
- ii) Chairman,
National Highway Authority of India,
Dwarka, New Delhi
- iii) The Director,
The Automotive Research Association of India (ARAI),
Survey No. 102, Vetal Hill, Off Paud Road,
Kothrud, Pune - 411 038
P.B. No. 832, Pune - 411 004
- iv) DGRD&SS
Road Wing,
Ministry of Road Transport & Highways

Subject: Report on "Pilot study on effect of overloading on Road infrastructure" - regarding.

Sir,

I am directed to enclose a copy of final report of "Pilot Study on effect of overloading on road infrastructure" submitted by Central Road research Institute (CRR), New Delhi on October 2008. The report has been examined in this Ministry. Following measures has been suggested:-

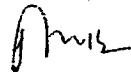
- i) Law enforcement agencies should take stringent actions against the truck operators for overloading and need for enforcement at source of loading (ports, industrial etc.) itself.
- ii) Setting up of weigh-in-motion stations and highways authorities should be empowered to enforce the axle load limits and made the weigh-bridge stations.
- iii) Heavy penalties should be levied exceeding the legal limits at the rate per tonne and goods should be offloaded.
- iv) Discourage modification in design (tyre size, no. of springs etc.) to suit overloading by incorporating essential features in Registration Certificate.
- v) Encouraging the multi-axle vehicles to carry more goods, thereby reducing VDF and its damages.

L.P.
12

- vi) Installation of Vehicle Overloading Management System to minimise the damages to the roads.
- vii) Road authorities should be advised to continue to design road pavements taking into account axle load spectrum studies on actual basis.

You are requested to implement the measures as suggested by IFTRT to control Overloading in your respective States/UTs & organizations.

Yours faithfully,



(Nandan Singh)

Dy. Secretary to the Government of India

Tele Fax : 23718574

Email: nandan.singh@nic.in

Executive summary of the report 'Pilot Study on Effect of overloading on Road Infrastructure' conducted by Central Road Research Institute (CRRI) in the year 2008

A 'Pilot Study on Effect of overloading on Road Infrastructure' was conducted by Central Road Research Institute (CRRI) in the year 2008 at the instance of Ministry Road Transport & Highways. All the data and technical information furnished in this report are based on the investigations carried out in the field and analysis done at CRRI, New Delhi. The brief report of the study is given under:-

1. The Government has specified certain limits for axle loads of vehicles under section 58 of the motor vehicle act of 1988 as legal axle load limits and the excess of legally defined loads of vehicles is called 'overloading'.

The Indian Trucking industry today uses mainly 2-and3- axle rigid trucks with a small sleeper cab and an open top freight box of 30-40 cubic metres. The two axle trucks constitute roughly 90% of all trucks on National Highway Network. The truck drivers and owners generally consider overloading as a profitable practice and are completely unaware of the adverse effects of overloading on operational economics of their fleet i.e. damage to road pavements, increased vehicle operating cost and high rate of road accidents.

The overloading of trucks have created a piquant situation in the truck market in which a light goods carriage (5 to - 7.5 ton capacity) encroaches upon medium goods carriage (9 ton - 10 ton capacity), the medium truck snatches the load of 16.2 ton HCV, which in turn, encroaches on 25.2 ton truck.

The immediate impact of limiting overloading may increase the freight rate, but it may not last long due to better stock utilization and addition of new vehicle stock and introduction of higher tonnage vehicles like trailers and multi-axle vehicles. It will not only improve highway durability, but it also benefits transporters by reducing wear and tear of their vehicles and the commercial vehicles industry by enhancing their sales. The operating cost of vehicle maintenance and tyres will come down by 40-50% and will improve the fuel efficiency of engine, resulting in fuel saving. Overloaded vehicles mostly use extra duty cross ply tyres, specially designed and marketed for their overloading capacities.

There is an increase in the usage of multi axle and articulate trucks which may caused less damage to road pavement structure and more economy to the operators. The road network in India is mainly consists of flexible pavements.

Vehicle Overloading Management System (VOMS) provide a tool for road and traffic authorities to monitor trends of overloading, as well as to identify the predominant offenders. It can be deployed at any location on the road. It includes windows based on weight-in-Motion System with High Resolution cameras, to take the pictures of the vehicle and its registration number plate. The system can generate several reports including:

- A detailed listing of each vehicle weighed, including the mass of overloading on each axle/axle unit.
- Statistics including percentage overloading of all vehicles as well as per individual regulation based on selected month, selected quarter, selected year, as well as selected number of months.

- Maximum overloads indicating the applicable regulation, operator, cargo and locality.

2. This report has used different techniques and studies to analyze the impact of overloading on Pavement, Bridges, Emission, Vehicle Operating Costs, Cargo Safety and Vehicle Damage and Vehicle Damage Factor. These studies/techniques have shown the following effects of overloading:-

G) Pavement:

i) **Flexible pavement:** The Highway Development and Management (HDM-4) analysis has found out the following effect of overloading on roughness, cracking, fuel consumption and vehicle operating cost.

- The pavement maintenance (roughness based) requirement is higher in high overloading cases than no overloading and medium overloading cases.
- The fuel consumption for high overloading of two axle and multi axle trucks is higher by 10-13% and medium overloading is higher by 5-8%.
- The vehicle operating cost is higher by 3-4% and for high overloading and 1-3% for medium overloading.

ii) **Rigid pavement:** The AASHO Road Test Result has indicated that pavement damage depends on many variables but predominant factors are axle load and axle configuration. When a pavement is subjected to heavy load, some permanent deformation may develop in the pavement layers. The maximum damage to a concrete pavement is caused by heavy single axle trucks and the damage caused by tandem and multiple axle trucks is comparatively very less due to distribution of loads on various axles.

The analysis of axle loads and concrete pavement stress ratio have also shown the following results of overloading on design life, design thickness and cost calculations.

- The 22 cm thick concrete pavement has design life of 20 years and it reduces very rapidly even with slight overloading i.e. 2 T of single axle load beyond legal load limit. It requires an increase of 2-2.5 cm thickness of the pavement to maintain the design life of 20 years.
- In monetary terms, the extra thickness requires Rs. 3.15 - 3.6 Lakhs per lane per km to provide extra thickness of concrete so that the pavement sustains design life of 20 years.
- A concrete pavement initially designed for 10.2 T single axle load (legal load limit) may sustain tandem axle load up to 26 T.

H) **Bridges:** The overloading of trucks affects the service life of the bridge superstructure like bridge deck, girders, diaphragms, joints and bearings. The axle loads, survey of bridges, visual inspection of bridge elements, using weigh-in-motion system (WIM) and bridges diagnostic system to measure the strains are used to collect the data from the existing bridge and compared it with theoretical analysis of the bridge to study the effect of overloading on the existing highway bridges. The following conclusions are being drawn.

- The existing single lane bridges with span less than 25 m which are designed prior to 1966 are susceptible to affect of overloading.
- The two lane bridges which are designed for IRC class AA loading may also be vulnerable to overloading, if the condition is not satisfactory.
- The two lane RC slab bridges may be able to carry a minimum safe axle load of 20 T, provide the slab is in good condition.
- There is a requirement to develop an integrated system for monitoring truck loads and verify the truck load carrying capacity of bridges so that the bridges can be classified in terms of the truck loads that can be safely passes through.

I) **Emission:** The three overloading conditions i.e. 10%, 20%, 30% more of trucks gross load have been used to analyse the affect of overloading on emissions of exhaust gasses i.e. NO_x, HC, CO and PM. It has been found that Overloading adversely reduces the engine efficiency resulting in substantial increase in the amount of visible and invisible tail-pipe emissions. These factors have an adverse effect on fuel efficiency, operation of trucks, economy and the environment.

J) **Vehicle operating costs:** The study has been done on the relationship between the load profile of the vehicle and fuel consumption as fuel consumption accounts for about 70% of the vehicle operating cost (VOC) and also the extra consumption of other VOC components (such as spare parts, tyres, lubricants, maintenance and labour) take place in consonance mainly with fuel consumption. An another study has been done to study the affect of overloading of truck on fuel consumption at different constant speeds under controlled conditions. These studies have found the following conclusions:

- The fuel consumption rate increases significantly in all types of good vehicles when standard pay loads are exceeded by 25%.
- Further, the fuel consumption remains constant after certain overloading limit irrespective of the level of overloading in all type of vehicles.
- Therefore, the goods vehicle operators are incline to overload their vehicles by chassis tempering and increasing the tyre pressure to maximise the revenue in each trip. However, vehicle operating costs increases in the long run due to damage to their vehicles.
- The fuel consumption varied from 15-64% depending on the extent of same overloading (10-30%) at different constant speeds of the vehicles.

K) **Cargo Safety and Vehicle Damage:** Vehicle manufacturers mostly supply chassis to body builders who intern fabricate bodies according to the requirements of different customers. Most of the modifications take place in length, addition of springs, increase in width etc. The pattern varies from region to region. The overloading in light commercial vehicles, heavy commercial vehicle, rigid body carriers, trailers, tipper and trucks with general cargo has been carried out by modification in the following ways:

- Length of long member is extended beyond the permissible overhang of 60% of the wheel base.

- Number of leaves in the leaf spring suspension are added which changes the vehicle handling characteristic, ride comfort and road induced vibration level resulting in driver fatigue.
- Height of the load body is also increased.
- Width of the vehicle is increased beyond the permissible limits.
- As a result of width change the position of the steering column and seat is also modified.

These modifications have resulted into the following consequences:-

- The increase in vehicle height results in higher centre of gravity which leads to instability and propensity for overturning.
- Modifications in vehicle leads to overloading which in turn makes the vehicle handling difficult thereby resulting in accidents apart from road damage.
- All these modifications ultimately lead to premature failure of components and structure elements.

L) Vehicle Damage Factor (VDF): The damages caused due to impact of vehicle loading on road pavement are expressed by a factor known as Vehicle Damage Factor. The vehicle type and the loading pattern in it also influence vehicle damage factor. Overloading is detrimental to pavement but imbalanced loading in a truck is much more harmful to the pavement. As per truck manufacturers technical specifications, load in a truck should be distributed in the ratio of 1to2 on front and rear axes respectively. But truck operators seldom follow this norm as overloading disturbs the loading ratio. The change in load distribution in a truck changes the VDF significantly. The overloading has been responsible for premature failure of several road stretches and damages the existing pavements. The substantial investment is required for strengthening road pavements to match the higher permissible axle load limits. The following recommendations have been made for VDF.

- To design a new pavement, the VDF should be arrived by carrying out specific axle load surveys on existing roads.
- VDF upto maximum of 4.5 is recommended where the information axle loads could not be arrived.
- The VDF would be 0.59 for LCV, 2.67 for truck/buses and 2.77 for multi axle vehicle (with front axle of 6 Tonne and rear tandem axle of 19 Tonne) where the vehicles are carrying load within the permissible limits.
- Overloading leads to higher VDF and thicker pavement which lead to increase in initial cost of construction.

3. This report has suggested the following measures to control overloading:

- i) Law enforcement agencies should take stringent actions against the truck operators for overloading and need for enforcement at source of loading (ports, industrial etc.) itself.
- ii) Setting up of weigh-in-motion stations and highways authorities should be empowered to enforce the axle load limits and made the weighbridge stations.

- iii) Heavy penalties should be levied exceeding the legal limits at the rate per tonne and goods should be offloaded.
- iv) Discourage modification in design (tyre size, no. of springs etc.) to suit overloading by incorporating essential features in Registration Certificate.
- v) Encouraging the multi-axle vehicles to carry more goods, thereby reducing VDF and its damages.
- vi) Installation of Vehicle Overloading Management System to minimise the damages to the roads.
- vii) Road authorities should be advised to continue to design road pavements taking into account axle load spectrum studies on actual basis.

4 The report reveals that the overloading is damaging the Infrastructure (roads, bridges and vehicle damaging factor), environment (emission), transporters (vehicle operating cost), customers (cargo safety), public (accidents) and which also resulted into huge financial impact. Therefore, all the concerned authorities should take necessary action and implement the measures suggested in the report to curb the practice of overloading.

Task No.	Description of Activity	Activity Duration (in Months)	Assignment Duration (Months)																													
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
504	Develop HRD Policy Statement Linking with Training Needs to Cover Planning and Execution for Foreseeable OWD Functional Requirement for the OWD Staff at Head Office & Field Level	3.0, AW																														
506	Identification of Skill and Operational Requirement of Field Staff with Priorities for Phased Training Programmes and Challenges Linked, if any?	3.0, AW																														
507	Develop, Facilitate, Execute, Implement of Rolling Staff Training Programme Covering all Categories of Staff	12.0, AW																														
508	Evaluation and Mid-course Assessment of Imparted Training to Apply Corrections	1.00																														
509	Prepare HRD Policies, Activities for its Sustenance, Movement/Promotions, Retention, Output/Delivery Linked Performance Management, Internal HR Roles, i.e. Grievance, Appraisal, Supported with Internal/External Training Programmes	12.00																														
510	Prepare ISO Certification Processes to include Quality Management, Contracts / Procurement, Planning, Design, Environment and Social Management to Enable OWD to get ISO Certified Status	12.00																														
511	Prepare HRD Policy Documents and Action Plan of Core Functionaries of OWD at Head Quarter and Field Level	12.00																														
512	Organize Phased Consultations and Workshop to Discuss Draft HR Policies with OWD and Review Committee	AW																														
513	Timely Submission of Deliverables Duly Integrating Inputs from HRM Specialist, Training & HRD Specialist & Legal Specialist	18.00																														
TASK GROUP VI: ROAD SAFETY ENGINEERING AND PLANNING (As per Proposal & Contract)																																
601	Review Engineering Functions for Existing Road Infrastructure Safety, Regulatory and Legal Set Up, as well as Institutional Framework of OWD/GOO	3.00																														
602	Review Road Infrastructure Safety Management Initiatives and Engineering Functions for Pre-Selected Corridors of OWD in accordance with Codal Provisions	3.00																														
603	Conduct of Workshops with OWD, GOO, World Bank and Review Committee Participation to Explore Concerns, Aims, Priorities on Road Safety Management for its Implementation on Ground	6.0, AW																														
604	Collection of Data & Safety Assessment of 2000 km of Identified Roads in Different Urban and Non-urban areas and various Districts of Odisha	3.0, AW																														
605	Review and Establish the requirements of Technical Capacity Building on Road Safety Design; Develop Institutional Framework for Technical Capacity Building on Road Safety Norms, Designs and Training of Staff and various Sections of Road Users	2.0, AW																														
606	Organize Field / Institutional Visit of GOO Officials to various Organizations dealing with Road Safety	2.0, AW																														
607	Assessment of Current Road Safety Framework and Development of New Regulatory System Framework for Road Safety responsibility for OWD and GOO	3.0, AW																														
608	Facilitation of GOO in Planning for more Multi-sectoral Measures Aimed at Enhanced Road Safety Management in Orissa	2.0, AW																														
609	Prepare Comprehensive Document on 'Orissa Road Safety Strategy and Action Plan' through Evolved Processes	1.5, AW																														
610	Assist GOO to Legally Endorse the Regulatory Framework for its Implementation by OWD and other Institutions	12.00																														
611	Submission of Deliverables	19																														
TASK GROUP VI: ROAD SAFETY ENGINEERING AND PLANNING (As per ground assessment & analysis of Key Professional)																																
7.1.	Collect and analyse State level crash data																															
7.1.1.	State level accident data from State Crime Records Bureau																															
7.1.2.	Crash data from Trauma Care Centre in Cuttack and others																															
7.1.3.	Crash data from insurance companies																															
7.1.4.	Collect data from vehicle operators, if available																															
7.2.	Identification of the sample network																															
7.2.1.	Analyse state level accident data																															
7.2.2.	Determine the hazardous groups and hazardous locations																															
7.2.3.	Consultation with Stakeholders																															
7.2.4.	Identify 2000 km long sample road network																															
7.3.	Safety assessment of the sample road network																															
7.3.1.	Road Safety Assessment of 2000 km of selected road network																															

Task No.	Description of Activity	Activity Duration (in Months)	Assignment Duration (Months)																																		
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30					
1107	Assist in Overall Coordination and Monitoring of ISAP Implementation Process	AW																																			
1108	Knowledge Sharing and Skill Transfer	AW																																			
1109	Establishment of Orissa Road Development Corporation, Merits / Demerits	AW																																			
1110	The Schedule of various reports on Medium-to-Longer Term Strengthening of the Institutional Framework / Structures of Orissa's Roads Sector	24.00																																			
TASK GROUP XII: Schedule of Workshops and Visit to Other States with Indicative Block Programme																																					
1201	Workshop No-1 (General / Inceptive, Covering scope of work and involving all Road User Groups of GOO)	October																																			
1202	Workshop No-2 (Revision of Works Code & Manual)	December (3rd Week)																																			
1203	Workshop No-3 (Road Sector Policy & Strategy) ,however could be combine with Workshop No-2.	Dec/Feb																																			
1204	Workshop No-4 (Reorganisation Strengthening of OWD)	January (2nd Week)																																			
1205	Workshop No-5 (OWD Staff Training & HRD)	March (3rd Week)																																			
1206	Workshop No-6 (Road Safety Engineering & Planning)	To be finalised later (Refer Note-5 below)																																			
1207	Workshop No-7 (Road Network Master Planning)																																				
1208	Workshop No-8 (Future Roads Management Funding)																																				
1209	Workshop No-9 (Rad Toll Collection & Management)																																				
1210	Workshop No-10 (Vehicle Axle Load Regulation & Management)																																				
1211	Workshop No-11 (Future Road Sector Institutional Options)																																				
1212	Visit - 1 (Andhra Pradesh & Karnattak)	November (3rd Week)																																			
1213	Visit - 2 (Gujurat & Maharastra)	February																																			
1214	Visit - 3 [Institutes, Central Institute of Road Transport(CIRT), Pune and Automotive Research Association of India(ARAI), Pune]	May/June																																			
1215	Visit - 4 [Institutes, CRRI, New Delhi, NIMHANS, New delhi, Institute of Road Traffic Education(IRTE), New Delhi and HO-ICT]	August/September																																			

Legend:

- Continuous Activity
- - - - - Intermittent Activity
- Revised Continuous Activity
- - - - - Revised Intermittent Activity
- ▽ Submission of Interim and Draft Report
- ▼ Submission of Final Reports
- Workshop
- ◌ Optional
- * Subject to available of GIS Maps
- ◇ Visit

Task No.	Description of Activity	Activity Duration (in Months)	Assignment Duration (Months)																																			
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30						
			9th April, 2012																														8th October, 2014					

DELIVERABLES / MILESTONES

Deliverable	Tentative 'Due Timing'
Inception Report (IR)	End of week 8
Quarterly Progress Reports (QPR) x 7	End of each calendar quarter
Workshops: associated Presentations / Working Papers / Materials) – up to ten (10) workshops	Timings to be resolved in IR
Working Paper on Short-to-Medium Term OWD Re-structuring & Reorganization	End of month 8
Interim Report on Revision of OPWD Code & Manual (Structuring, Content, Issues, Timing)	End of month 8
Interim Report on Revision of Contract Procurement Manual for Works, Goods and Services	End of month 9
Final Report on Revision of Contract Procurement Manual for Works, Goods and Services	End of month 12
Final OPWD Code & Manual	End of month 13
Report on Training Needs Assessments (TNA) Results, Proposed TNA-Based Program(s) and OWD 'Training' Role	End of month 9
Draft Report on Orissa Road Sector Policy and requirements for its implementation	End of month 10
Interim Report on Preparations for Inaugural Master Plan for Main Road Network in Orissa	End of month 10
Report on Road Infrastructure Safety Management Review	End of month 12
Final Report on Orissa Road Sector Policy	End of month 12
Report on Management of Out-sourced Road Toll Collection & Maintenance / Operations	End of month 14
Mid-Term Status Report (MTSR)	End of month 14
Report on Vehicle Axle Load Regulation & Management	End of month 16
Preliminary Report on Study of Main Roads Funding Options & Possible Road Fund	End of month 16
Draft Report on Proposed 'Orissa Road Safety Action Plan'	End of month 16
Final Report on Proposed 'Orissa Road Safety Action Plan'	End of month 19
Completion Report on Inaugural Master Plan for Main Road Network in Orissa	End of month 22
Final Report on Study of Main Roads Funding Options & Recommendations on Road Fund	End of month 22
Draft Report on Medium-to-Longer Term Strengthening of the Institutional Framework / Structures of Orissa's Roads Sector	End of month 24
Final Report on Strengthening of the Institutional Framework / Structures	End of month 26
Draft Final Report (DFR)	End of month 28
Final Report (after OWD / GOO response to DFR)	End of month 30

Note:

1. The Deliverables/ Milestones have also been incorporated in main Work Plan with defined Primary and Secondary Responsibilities.
2. The above list to strengthen the stated requirements of deliverables further for their timely submission.

STAFFING SCHEDULE

Sl. No.	Name of Staff	Position	Man-Months (Up to 31.August)	Home / Field	Duration (30 Months)																														Total Staff Month Input		
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Home	Field	Total
Key Personnel																																					
1	N. B. Cacal	Road Agency Management (Institutional Development) Specialist-cum- Team Leader	NA	Home																															-		25.00
				Field	[Red dotted line from month 5 to 30]																															25.00	
				Home	[Blue solid line from month 9 to 10]																														2.00		
				Field	[Blue solid line from month 6 to 9, 11 to 22, 23 to 30]																															23.00	
2	Dr. Chandra Prakash Bohra	Organizational Development Specialist-cum-Deputy Team Leader	1.0	Home																															-		18.00
				Field	[Red dotted line from month 1 to 30]																															18.00	
				Field	[Blue solid line from month 1 to 30, with dots at months 1, 2, 4, 7, 20, 21]																																
3	Amitava Basu	Financial Analyst & Business Planning Specialist	0.4	Home																															-		6.00
				Field	[Red dotted line from month 1 to 30]																															6.00	
				Field	[Blue solid line from month 1 to 30, with dots at months 2, 3, 4, 10, 12, 19, 20, 21]																																
4	Chandi Ganguly	Transport Planning (Roads) Specialist	0.36	Home																															-		6.00
				Field	[Red dotted line from month 5 to 30]																															6.00	
				Field	[Blue solid line from month 4 to 9, 18 to 19]																																
5	Boominathan Muthuthevar	Transport Economics Specialist	0.1	Home																															-		6.00
				Field	[Red dotted line from month 1 to 30]																															6.00	
				Field	[Blue solid line from month 1 to 30, with dots at months 1, 8 & 9, 11, 15, 18 & 19]																																
6	Dr. P. K. Nanda	Senior Highways Engineer (Pavements Management & Planning)	0.5	Home																															-		6.00
				Field	[Red dotted line from month 1 to 30]																															6.00	
				Field	[Blue solid line from month 1 to 30, with dots at months 2, 3, 9, 10, 14 & 16, 17, 18]																																
7	D. Vasudevan	GIS Applications (Master Planning) Specialist	NA	Home																															-		3.00
				Field	[Red dotted line from month 10 to 30]																															3.00	
				Field	[Blue solid line from month 9 to 18]																																
8	Dr. Prabeer Kumar Sikdar	Road Safety (Infrastructure Design & Management) Specialist	0.83	Home																															-		6.00
				Field	[Red dotted line from month 1 to 30]																															6.00	
				Field	[Blue solid line from month 1 to 30, with dots at months 3, 9, 10, 14 & 16, 17]																																
9	Deepak Narayan	PWD Sector Domain Specialist	0.8	Home																															-		6.00
				Field	[Red dotted line from month 1 to 30]																															6.00	
				Field	[Blue solid line from month 1 to 30, with dots at months 3, 4, 5, 6]																																
10	Baldev Raj Suri	Procurement Specialist	0.56	Home																															-		6.00
				Field	[Red dotted line from month 1 to 30]																															6.00	
				Field	[Blue solid line from month 1 to 30, with dots at months 2, 3, 5, 6, 12]																																
11	Sandeep Jagota	Training & Human Resources Development (HRD) Specialist	0.6	Home																															-		9.00
				Field	[Red dotted line from month 1 to 30]																															9.00	
				Field	[Blue solid line from month 1 to 30, with dots at months 4, 7, 11, 12, 14 & 17, 20]																																
12	Sachchida Nand Swaroop	Human Resources Management (HRM) Specialist	0.06	Home																															-		9.00
				Field	[Red dotted line from month 1 to 30]																															9.00	
				Field	[Blue solid line from month 1 to 30, with dots at months 4 & 7, 11, 12, 14 & 17, 20]																																
13	Dipak Rao	Legal Specialist	0.13	Home																															-		6.00
				Field	[Red dotted line from month 1 to 30]																															6.00	
				Field	[Blue solid line from month 1 to 30, with dots at months 11, 12, 20, 21]																																
14	Col. S.P. Tomar	Adhoc Technical Specialist Institutional restructuring and training	1.6	Home																															-		5.00
				Field	[Red dotted line from month 1 to 30]																															5.00	
				Field	[Blue solid line from month 1 to 30, with dots at months 8, 11]																																

Sl. No.	Name of Staff	Position	Man-Months (Up to 31.August)	Home / Field	Duration (30 Months)																														Total Staff Month Input			
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Home	Field	Total	
Key Personnel																																						
15	Tony Mathew	Adhoc Technical Specialist Road Network Planning & Road Safety	2.16	Home																																-		
				Field									5.00	5.00							
				Field	■		■		■		■			Inv.	9	10					16	17																
												Sub Total																				122.00						
Technical Support Staff																																						
1	D.Laxmi Narayan	Assistant Highway Engineer (Codes / Manuals / Policy)		Home																																-		
				Field	—————																															30.00	30.00	
2	Chandan Kumar Dey	Assistant Highway Engineer (Road Network & Master Plan)		Home																																-		
				Field	—————																															30.00	30.00	
3	Jitendra Wadhvani	Road Safety Engineer		Home																																-		
				Field																																	24.00	24.00
4	Pradip Kumar Patra	Surveyor		Home																																-		
				Field																																	20.00	20.00
5	Chandrakanta Maharana	CAD Engineer - 1		Home	—————																														6.00			
				Field																																	24.00	30.00
6	Niharika Ojha	CAD Engineer - 2		Home	—————																														6.00			
				Field																																	9.00	15.00
7	Abhaya Kumar	HR Manager (OD, HRM & Training)		Home																																-		
				Field																																	9.00	9.00
												Sub Total																		12.00	146.00	158.00						

- Legend:**
- Original Continuous Activity
 - Original Intermittent Activity (as and when required)
 - Inv. Investigation
 - Revised Continuous Activity
 - Revised Intermittent Activity (as and when required)

STAFFING SCHEDULE

I. Deliverables			II. Tasks as per ToR		III. Interlinkages		
Sl.No.	Report	Due	Sl.No.	Tasks	Names	Task Nos.	Deliverable Nos.
1	Inception Report (IR)	End of week 8	1	Revision of Works Code & Manual	N. B. Cacal (Team Leader)	All Tasks	All Inclusive
2	Quarterly Progress Reports (QPR) x 7	End of each calendar quarter	2	Road Sector Policy & Strategy	Dr. C. P. Bohra (Dy. Team Leader)	3,4	4,7,20,21
3	Workshops: Presentations/Working Papers/Materials) up to ten (10) workshops	Timings to be resolved in consultation with OWD	3	Reorganisation Strengthening of OWD	Amitava Basu (Financial Analyst)	4,7,8,10	4,10,12,19,20,21
4	Working Paper on Short-to-Medium Term OWD Re-structuring and Reorganization	End of month 8	4	OWD Staff Training & HRD	Chandi Ganguly (Transport Planning (Roads) Specialist)	2,6,7	9,18
5	Interim Report on Revision of OPWD Code and Manual (Structuring, Content, Issues, Timing)	End of month 8	5	Road Safety Engineering & Planning	Boominathan Muthuvevar (Transport Economics Specialist)	2,6,7	8,9,11,15,18,19
6	Final OPWD Code and Manual	End of month 13	6	Road Network Master Planning	Dr. P. K. Nanda (Senior Highways Engineer)	5,6,9	9,10,14,16,17,18
7	Report on Training Needs Assessments (TNA) Results, Proposed TNA-Based Program(s) and OWD 'Training' Role	End of month 9	7	Future Roads Management Funding	D. Vasudevan (GIS Applications Specialist)	6	9,18
8	Draft Report on Odisha Road Sector Policy and requirements for its implementation	End of month 10	8	Rad Toll Collection & Management	Dr. P. K. Sikdar (Road Safety Specialist)	5,9	10,14,16,17
9	Interim Report on Preparations for Inaugural Master Plan for Main Road Network in Odisha	End of month 10	9	Vehicle Axle Load Regulation & Management	Deepak Narayan (PWD Sector Domain Specialist)	1	5,6
10	Report on Road Infrastructure Safety Management Review	End of month 12	10	Future Road Sector Institutional Options	B. R. Suri (Procurement Specialist)	1,8	5,6,12
11	Final Report on Odisha Road Sector Policy	End of month 12			Sandeep Jagota (HRD Specialist)	3,4	4,7,20
12	Report on Management of Out-sourced Road Toll Collection and Maintenance/Operations	End of month 14			S. N. Swaroop (HRM Specialist)	3,4	4,7,20
13	Mid-Term Status Report (MTSR)	End of month 14			Dipak Rao (Legal Specialist)	1,2,3,5,7,8,9	6,11,20,21
14	Report on Vehicle Axle Load Regulation and Management	End of month 16			Col. S. P. Tomar (Adhoc Technical Specialist)	2,4	8,11
15	Preliminary Report on Study of Main Roads Funding Options and Possible Road Fund	End of month 16			Tony Mathew (Adhoc Technical Specialist)	5,6	9,10,16,17,18
16	Draft Report on Proposed 'Odisha Road Safety Action Plan'	End of month 16					
17	Final Report on Proposed 'Odisha Road Safety Action Plan'	End of month 19					
18	Completion Report on Inaugural Master Plan for Main Road Network in Odisha	End of month 22					
19	Final Report on Study of Main Roads Funding Options and Recommendations on Road Fund	End of month 22					
20	Draft Report on Medium-to-Longer Term Strengthening of the Institutional Framework/Structures of Odisha's Roads Sector	End of month 24					
21	Final Report on Strengthening of the Institutional Framework/Structures	End of month 26					
22	Draft Final Report (DFR)	End of month 28					
23	Final Report (after OWD/GOO response to DFR)	End of month 30					

Notes:

- 1 The Mobilisation of Key Professionals for conduct of Workshop & visit to other state shall be need based and will be finalized in consultation with Client.
- 2 The Staffing Schedule has been worked out keeping in view the number of trips to Project Sites as specified in Contract and available Man-Months.
- 3 The interlinkages are based on deliverables and connected Tasks of ToR.
- 4 For Investigations additional staff from other resources will be mobilised as required. The concerned Key Professionals, however will be available for guidance as required .
- 5 First five Workshops and Visit to two of the States have been tentatively indicated for their Block Programme. Balance Workshops will be finalised with the progress of Assignment.