

Road Sector Institutional Development

Draft Report on Odisha Road Sector Policy and Requirements of its Implementation

March 2014



Odisha Works Department

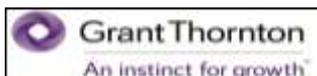


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ISSUE AND REVISION RECORD

Status	Date	Remarks
Original	June 2013	Draft report for review by OWD & World Bank
Revision A	Dec 2013	Draft report after incorporating comments from OWD & World Bank (October 2013 mission) & OWD
Revision B	Mar 2014	Draft report after incorporating comments from Stakeholder Workshop, OWD & World Bank (February 2014 mission)

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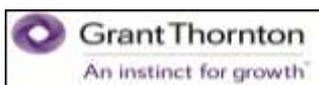
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Executive Summary

Road transportation demand has increased significantly in recent years due to phenomenal growth in vehicle population. The growth in vehicles has primarily been due to significant increase in large scale mining and industrial activities in addition to installation of new economic hubs and growth in services sector. However, the road network has not been enhanced to keep pace with such significant land-use improvements.

Major issues/deficiencies in the current road network are:

- the density of “surfaced” roads is only 140 km per 100,000 population, which is much below the national figure and other States like Punjab, Gujarat and Karnataka;
- Length of State Highways per million population is only 89 Km in the State, while all India average is 135 Km;
- approximately 25% of the major road network i.e. approximately 4,260 km road have been operating under capacity constrained conditions;
- Approximately 40% of the villages/habitations does not possess any all-weather road connection with the existing road network;
- Approximately 40 percent of the existing urban roads are unpaved, resulting in reduced operating width of major city roads;
- Almost constant declination of road safety situation over the years with a recorded 3,500 fatalities in recent past year that amounts to average 10 fatalities per day; and
- about 90 percent of the commercial vehicles plying on the road network are overloaded;
- Significant maintenance backlog on the major road network resulting in poor road surface condition and increased vehicle operating costs

The forecast indicates considerable rise in urban population, substantial growth in agricultural, services and industrial sector and simultaneous increase in vehicular demand. With business as usual scenario, about 10,000 km of the major road network will become capacity constrained by the year 2018. Though GOO has initiated the flagship programme ‘State Highway Development Project’ with an aim to convert all State Highways to Two Lane standards, the gap in funding for objective requirements of road development, network maintenance and connectivity will become critical. The resulting constraint on objectively-necessary new works and maintenance will lead to congestion, poor road condition, increase in road accidents, higher vehicle operating costs and constrained socioeconomic development.

The **Road Sector Vision 2021 by Government of India** stipulates for up-gradation of all State Highways and at least 40% of MDRs to two lane with paved shoulder standards by 2021, provision of two lane roads with adequate capacity to all major centers of tourism, industry and mines and all weather road connectivity to all habitations irrespective of the population, which is a major challenge to GOO. Other challenges faced by the State in the road sector are:

- Low infusion of private sector investments
- Capacity constraints of local construction industry

- Lack of awareness on implementing environmental mitigation measures
- Need for coastal highways cum surge embankments to mitigate the consequences of natural calamities i.e. cyclones, floods etc.

To meet the above multi-faceted road sector challenges, Government of Odisha (GOO) has been pursuing various reform initiatives in the road sector administration to accelerate infrastructure development in the State. The reform initiatives are formulated with an objective to improve the quality of lives in addition to achieving sustained socio-economic growth.

As an expression of the above thinking, a comprehensive Policy statement has now been framed, to be referred as “The Odisha Road Sector Policy, 2014”. The proposed Policy provides a detailed ‘statement of intent’ focusing on the management, operation and development of the road sector on a rational and strategic basis. It addresses the emerging road sector challenges with due consideration to budgets, priorities of functions, formulation of strategies, enhancing safe and equitable accessibility and connectivity with reduced cost of travel and improved opportunities improving the quality of life for the people of Odisha.

The proposed Policy is framed for a period of 10 years and aims to guide the provision of an adequate and safe road network to support equitable socio-economic development of the state in a coordinated and integrated manner, by addressing emerging challenges. It has been developed by drawing on the experiences of other state governments, by consultation with various road sector stakeholders and by integration of views of road sector experts.

The draft of the proposed Road Sector Policy 2014 is enclosed in Annexure 1 of this report and the body of the report explains the process and consultations followed in the development of the proposed Road Sector Policy.

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1 Introduction

1.1 General

The improved road network has been considered as the one of the major development agenda of the State of Odisha towards poverty eradication and development of the State. The major onus of achieving this strategic objective has been entrusted to Works Department (OWD) of GOO. To carry forward its laid strategic objectives, Government of Odisha (GOO) conceived a plan to upgrade major roads in the State and sent a proposal for Loan Assistance to The World Bank (WB) during the year 1997–98. As per WB advice, GOO undertook an ‘Institutional Development Strategy’ (IDS) Study during 1998–99 by engaging a Consultant. The study identified several key result areas to be addressed within OWD and other concerned road sector institutions over short (0–2 years), medium (2–5 years) and long term (5–10 Years) horizons. Based on the recommendations of the IDS Study, the GOO decided to undertake Road Sector reforms, update its policies and enhance the capacities in planning and efficient management of Road Sector.

As an integral part of the project with the assistance of The World Bank, GOO agreed to undertake development of an integrated Institutional Strengthening Action Plan (ISAP) in a phased manner during the proposed Odisha Road Sector Project (OSRP). The GOO constituted a ‘Task Force’ to revise the IDS, update its vision and findings where appropriate, and to develop an ISAP. Based on the WB suggestions on Road Sector Reforms, the Task Force inputs and GOO requirements, the ISAP was formulated in 2007 with focus on Institutional Strengthening and Capacity Building of OWD. The ISAP suggested undertaking various activities over the period 2008-2018. The ISAP identified major works under following areas:

- 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 (ICT) and MIS; and
- vi. Human Resource Development (HRD) and Capacity Building.

As a follow up action, the implementation of ISAP activities in the road sector as suggested under ISAP 2008–2018, was endorsed by the State Government in 2009. In order to carry forward the objectives of ISAP on reforms in Road Sector in general and the OWD in particular, OWD procured the services of a Consultant for Road Sector Institutional Development (RSID), as per WB guidelines on procurement. M/s Intercontinental Consultant Technocrats Pvt. Ltd. (ICTPL) in joint venture with Grant Thornton Advisory Pvt. Ltd. (GTAPL)

in association with ARKITECHNO Consultants (India) Pvt. Ltd. have been retained by OWD to provide such services over a period of 30 months (April 2012-Oct 2014).

1.2 Project Objectives

The specific objectives of the RSID consultancy are:

- to enhance the institutional capacity of OWD and where appropriate, as well as other concerned GOO road sector agencies engaged in road infrastructure development
- to improve the engineering aspects and planning for the road network along with the road safety management in the State
- to initiate mechanism for sustainable future growth of the road sector with the resources dedicated to roads infrastructure development

1.3 Specific Works under this Task

The Scope defined vide Appendix A of Contract Agreement under the task of Road Sector Policy and Strategy is as follows:

- Review and assessment of current policies relating to roads development and management including legislation, regulation and other statutory mechanisms;
- Analysis of known and projected road sector demands, challenges and GOO aims/targets;
- Identification of limitations and gaps for authority/powers/policies of GOO for road sector management;
- Options and opportunities for strengthening the road sector framework for future requirements; and
- Draft Policy and Vision Document for 5–10 years horizon.

Accordingly, a team of experts from the consultancy firm (M/s ICT Pvt. Ltd in joint venture with M/s GTA and in association with M/s ARKITECHNO Pvt. Ltd.) have been identified to complete respective tasks as per ToR of the consultancy assignment. The presented report on Draft Road Sector Policy is a required deliverable under the task of “Road Sector Policy and Strategy”.

1.4 Presentation of the Report

The present draft report on Odisha road sector policy covers situational analysis, review of various state government policies including 2004 draft policy of Government of Odisha, consultation process and a draft of the proposed road sector policy and strategy for Odisha along with an implementation plan.

2 Situational Analysis

2.1 Road Network – Issues & Concerns

The available information indicates that the State possesses approximately 250,000 Km road network. The existing network primarily comprises National Highways (NH), State Highways (SH), Major District Roads (MDR), Other District Roads (ODR), Village Roads (VR) etc. Urban Roads exist within the City limits and some additional roads exist in the form of Forest Roads and Irrigation Roads etc. All these different categories of roads are owned by various agencies working under different Departments of the Government.

Out of the entire road network approximately 3,900 km of road are two lanes or multilane, approximately 4,000 km are intermediate lane and the remaining are single lane to accommodate two way traffic. Besides, only about 20% of the road network is paved. It has been noted that the total length of the major road network that comprises of NHs, SHs, MDRs and ODRs constitutes 18,000 Km only which is about eight (8) per cent of the total road network, although carries more than 80 per cent of the traffic demand within the State. The major issues/deficiencies in the current road network are:

- the density of “surfaced” roads is only 140 km per 100,000 population, which is much below the national figure and other States like Punjab, Gujarat and Karnataka;
- Length of State Highways per million population is only 89 Km in the State, while all India average is 135 Km;
- approximately 25% of the major road network i.e. approximately 4,260 km road have been operating under capacity constrained conditions;
- Approximately 40% of the villages/habitations does not possess any all-weather road connection with the existing road network;
- Approximately 40 percent of the existing urban roads are unpaved, resulting in reduced operating width of major city roads;
- Almost constant declination of road safety situation over the years with a recorded 3,500 fatalities in recent past year that amounts to average 10 fatalities per day; and
- about 90 percent of the commercial vehicles plying on the road network are overloaded;
- Significant maintenance backlog on the major road network resulting in poor road surface condition and increased vehicle operating costs

2.2 Policy and Administration of Road Transport

Odisha is one of the leading States in India to enunciate the State Transport Policy, 2007. The main objectives of this policy include increasing competition, efficiency, transparency, accessibility and adequate availability of transport services in the State; ensuring user

friendly road transport and evolving an improved urban transport system. To institutionalize various features of the policy, it stresses on formation of institutional and regulatory mechanisms by constituting Odisha Transport Infrastructure Development Authority (OTIDA) and Odisha Transport Regulatory and Advisory Council (OTRAC). The policy has also identified special thrust areas to modernize railways, waterways and airways in the State.

2.3 Present Institutional Mechanism

The road sector responsibilities in Odisha are shared between several entities.

- **OWD** is responsible for planning, design and construction/improvement of SH, MDR and ODR as well as maintenance works of NH, SH, MDR and ODR in line with IRC guidelines.
- **OBCC** is responsible for construction of bridges and toll collection.
- **NHAI** is responsible for planning, design and construction/improvement of NHs and EHs. A substantial part of NHs is now maintained by **OWD**.
- **Municipal Corporations, Municipalities and Notified Areas** are responsible for maintenance of urban roads
- **Rural Works** Divisions under the Rural Development Department, GOO, is responsible for construction and maintenance of rural roads. RD Department executes the road projects under PMGSY, and also roads constructed under RIDF in Odisha.
- **Panchayati Raj** Department, GOO is responsible for the construction and maintenance of *Gram Panchayat* and *Panchayat Samiti* roads. The ownership of these roads is with respective *Panchayats* as no land acquisition is undertaken by GOO.
- **Transport Department** is responsible for regulation of motorized road users (vehicles and drivers) and for collection of road tax (including border toll), registration of vehicles, etc.

While broadly the design standards and specifications followed by various road sector entities are compliant with IRC standards, there is significant difference in their approach to implementation and maintenance of roads, and also in the contract administration across these different entities. In particular, there is a need for spelling out clearly the roles and responsibilities of these different entities with respect to ownership and maintenance of the high value road assets.

The other drawback in the present set up is the lack of a central planning and regulatory authority for the sector. The planning functions are shared between OWD, RD and PR departments, whereas the regulatory aspects of road and vehicle usage are shared between OWD, Department of Transport, Department of Home (Police), Environment, etc.

Road safety has been “officially” led by Motor Vehicle Department, but is largely ineffective in bringing tangible improvements. District Road Safety Councils, with District Collectors as the Chairman, has been set up in all districts, but is largely dysfunctional. The security of road assets is not explicitly delegated to any particular entity, but OWD is the notional owner of all roads in the state. The need for a single authority to oversee all road sector planning and regulatory functions seems imminent (highly desirable).

3 Review of Road Sector Policies

3.1 Introduction

Different states have taken different approach while formulating their road policies. While Karnataka has adopted the objectives, strategies and Policy Actions to achieve the objectives, Kerala aligned their policy to comply with the road development vision (2021) of Government of India and has developed specific performance indicators to achieve the objectives. Gujarat’s road policy dates back to 1996, and followed the method of setting up objectives followed by strategies and approach to achieve these objectives.

For the States’ the policies, the strategic plans have been mixed up with policy. **It shall be noted that the policies are the *what* and *why*, while plans are the *how*, *who*, *when* and *where*.**

3.2 Review of Karnataka Roads Policy 2009

Referring to New Infrastructure Policy (2007), a roads policy was developed in 2008 to align the development of road sector to achieve the vision outlined in the Infrastructure Policy. The vision outlined by GoK is to develop 25,000 km of road network (SH, NH) and upgrade 35,000 km of feeder roads (MDR) and provide 150,000 km of village connectivity roads by the year 2020. The scope of the new roads policy include village roads managed by rural development department, besides the roads managed by PWD. To achieve the above vision, a set of 7 objectives, 8 strategies and corresponding policy framework were included in the roads policy, as illustrated in **Table 3-1**.

3.3 Kerala Road Development Policy 2009–21

Kerala does not have a stated ‘vision’ in its policy document, but has developed a set of objectives and 35 numbers of actions to achieve these objectives, as shown in **Table 3-2**.

The objectives of the Kerala Road Development Policy are to:

- Develop a sustainable road network which would meet the traffic requirement of the future;

- Maintain the road network at a desirable serviceability level all through the life of the road;
- Mobilise market resources along with increased generation of internal resources for joint development of road projects (Construction/Maintenance) with private participation;
- Adopt better standards and specifications in design and construction of roads;
- Enhance quality of road network with a view to reduce the transportation, Vehicle Operating Costs (VOC) and maintenance costs;
- Professionally manage highways assets and resources;
- Ensure road safety and mitigate ribbon development;
- Mitigate negative environmental impacts and provide safeguards;
- Acquire land with better Resettlement and Rehabilitation policies;
- Adopt innovative and improved methods of road construction and maintenance;
- Provide quicker access to essential services, thereby improving the quality of life in rural areas;
- Improve the functional capability of roads (Speed, Safety);
- Improve Inter modal Connectivity (Water – Air – Road);
- Improve Industrial Connectivity;
- Improve access to Major and Minor Pilgrim and Tourist Centers;
- Improve Urban links and access Roads to Highways; and
- Improvement of quality of construction through Quality Control Mechanism.

At the time of developing this policy, Kerala had already established various acts and implemented most of the ISAP recommendations. The following supporting actions have already been initiated/ implemented by the Kerala State at the time of development of this policy:

- Kerala Tolls Act (1983) has been enacted
- Kerala Road Fund Act (November 2001) has been enacted, establishing the Kerala Road Fund administered by a Road Fund Board
- Road Safety Authority Act (2007) has been enacted and a Road Safety Authority has since been established
- The Roads and Bridges Development Corporation of Kerala (RBDCK) was created to corporatize some traditional PWD functions
- Kerala Highway Protection Act (1999) enacted to protect highway corridors from encroachments

- Implemented 80 per cent of ISAP recommendations
- Kerala State Transport Project (KSTP) was launched in 2002

The Kerala road development policy is aligned to meet the stated objectives of the Gol's Road Development Plan – Vision (2001-21) document. The policy document outlines the needs to have a road development policy and seeks to outline the short term (2009-11) and medium term (2011-21) targets for development of State roads that are in the domain of the Kerala PWD.

3.4 Gujarat Road Policy – December 1996

The Road Policy of Gujarat available in public domain was drawn as back as in 1996. The road policy has listed 7 objectives and has defined strategies and approaches to meet these objectives. The implementation arrangements have not been mentioned in the road policy document, but rather noted that the implementation of the road policy would be done by the R&B Department.

The stated **objectives of the Gujarat road policy** are:

1. To provide connectivity to all villages by all-weather roads by the end of 1997, and thus further improve the quality of life in rural areas, in terms of quick access to health services, better education social services, etc.;
2. To provide an adequate and efficient road system encompassing all transportation needs so as to ensure smooth and uninterrupted flow of goods and passenger traffic both within the State as well as on Inter-State routes;
3. To constantly upgrade technology by introducing superior and quicker construction and maintenance methods with a view to reducing the total transportation costs as well as to reduce the overall life cycle cost of roads;
4. To induct more scientific principles of resource allocation for maintenance and new construction programmes; and
5. Overall, to set high standards of road safety and travel comfort.

In order to meet the above objectives, **strategy and approach** has been developed. These strategies aim to upgrade the efficiency and effectiveness of road transport system by,

1. Removing the deficiencies in the existing road length by an optimal combination of widening and strengthening of selected corridors;
2. Providing new links particularly in areas of concentrated industrial growth and to speed up the movement of agricultural and daily products;
3. Providing missing bridges and cross drainage structures;
4. Connecting the remaining villages by all-weather roads;

5. Replacement of existing level crossings by rail over bridges;
6. Improvement of road geometric and safety provisions; and
7. Removing regional imbalances in the availability of network.

Various funding mechanisms to achieve the above have been mentioned which include private sector participation and external funding opportunities.

Table 3-1: Karnataka Roads Policy 2009

Objectives	Strategies	Framework for Policy Actions
<ol style="list-style-type: none"> 1. Develop core road network (NH, SH & MDR) to IRC Standards with a minimum 2-lane width 2. Connect all villages having population less than 500 to the nearest MDR through an all-weather 2-lane road 3. Provide an integrated road network to connect all growth centres (SEZs, Industrial hubs etc.) 	<ol style="list-style-type: none"> 1. Develop the CRN master plan 	<p><u>Integrated Road Development</u></p> <p>Specific action plans were developed to achieve this objective and strategy.</p> <p>For example, one action plan is “to provide ROB/RUBs at all rail road crossing”</p> <p>However, general guidelines were also provided under the action plan to achieve this objective. For example, “develop a master plan for the phased improvement of road network in the State”.</p>
<ol style="list-style-type: none"> 4. Strengthen institutions 	<ol style="list-style-type: none"> 1. Restructure the road sector and bring together the planning and regulatory functions under a single empowered authority 2. Improve sector efficiency (upgrading of technical skills) through training. 	<p><u>Restructuring Karnataka Road Sector</u></p> <p>A note on existing institutional arrangements is mentioned. A new planning and regulatory body (Karnataka Highway Traffic and Transport Authority) is defined, and its functions are articulated.</p> <p><u>Capacity building and institutional strengthening of the road sector</u></p> <p>Existing PWD arrangements are explained; Salient features of the proposed arrangements as follows:</p>

Objectives	Strategies	Framework for Policy Actions
		<ul style="list-style-type: none"> • PWD will be responsible for the maintenance of the CRN up to village roads • KSHTTA will be the owner of all road assets within the RoW of CRN and will be responsible for planning and regulatory functions and capacity building of road sector professionals • KSHTTA will also be the single-window agency to obtain all clearances • KRDC and KSHTTA will exclusively focus on implementing road construction, upgrading and improvement projects • KPWD – separate buildings and roads <p>Measures to improve sector efficiency like use of computerized applications, modern construction technologies and training of road sector professionals are also briefly noted.</p>
5. Create funding mechanism to finance road sector development	<ol style="list-style-type: none"> 1. Establish dedicated Karnataka Road Fund 2. Establish Tolling of all State Highways 	<p><u>Establish a dedicated Karnataka Road Fund</u></p> <p>Sources of funds identified and detailed to certain extent</p> <p>Tolling of State Highways</p> <p>Emphasize the need for converting all SHs to toll</p>

Objectives	Strategies	Framework for Policy Actions
		roads; Needs for a Tolling Policy is articulated; Suggested that the funds generated from tolls shall proceed to dedicated road fund.
6. Attract private sector	Establish PPP for maintenance and development of roads	<p><u>Facilitating PPP in road sector</u></p> <p>Need for a proper framework of legal, regulatory and policy environment is articulated;</p> <p>Performance based maintenance management contracts in PPP mode is mooted;</p> <p>A framework for risk management is suggested;</p> <p>Development of an effective contractual mechanism is suggested;</p>
7. Improve road safety	Improve road safety and ensure security of road assets	<p><u>Road Safety & Security</u></p> <p>Creation of separate Karnataka Road Security Force (KRSF) to provide round the clock patrolling of CRN roads; recommended to empower KRSF for checking overloading of trucks;</p> <p>Institutions responsible for road safety is recommended to be under the overall coordination of KSHTTA</p>
	1. Ensure adequate mechanisms for quality control and quality assurance.	

Objectives	Strategies	Framework for Policy Actions
Implementation Plan –		
<ul style="list-style-type: none"> • Not given along with the policy document; suggested that detailed implementation plan for each ‘Policy Action Plan’ will be elaborated in separate working documents; • Dates to implement the above ‘Policy Action Plans’ are included; • Suggested necessary legislative actions and appropriate amendments/executive orders under the Karnataka State Highway Act. 		

Table 3-2: Kerala Road Policy, 2009 - 21

Objectives	Strategies	Actions
Road Development (Cost is defined to achieve this same)	Improve Existing Roads	<ol style="list-style-type: none"> 1. In cooperation with the NHAI/MoRTH, the PWD shall develop and improve the NH network in the State <p><i>The above is detailed in figures and has costs mentioned to achieve the same in a specific period</i></p> <ol style="list-style-type: none"> 2. In keeping with the 11th Plan strategies and the road development requirements, the following shall be achieved over the period 2009-21. <p><i>Detailed specific actions are mentioned to achieve the above. For example:</i></p> <p><i>“All SHs shall be designed and converted into two lane carriageway with paved shoulders and the pavement shall be strengthened appropriately.”</i></p>
	Improve Urban Links (Urban road scenario is briefly defined)	<ol style="list-style-type: none"> 1. Bypasses shall be provided at all urban conglomerations with a population of over 1 lakh 2. Project preparation works shall be initiated for all the 15 locations and completed by 2011. 3. Projects shall be implemented and completed by 2021.
	New road corridors	Initiation and implementation of the following new road projects shall be undertaken over the

Objectives	Strategies	Actions
		<p>period 2009-21.</p> <ol style="list-style-type: none"> 1. Development of the North-South road transport corridor. This has the potential for private sector participation. Extent of private participation needs to be ascertained by a techno-economic feasibility study and this shall be initiated immediately 2. Development of missing links and improvement of existing roads along the Hill Highway 3. Development of Coastal Roads 4. Project preparation work for identification and prioritization of new roads shall be initiated immediately and completed by 2011 5. New roads shall be implemented and completed by 2021.
Road Maintenance		<p>The following shall be the road maintenance action programs:</p> <ol style="list-style-type: none"> 1. All PWD roads shall be maintained as per IRC standards. 2. Maintenance plans and programs shall be formulated on the basis of RMMS 3. Priority shall be given to make the RMMS fully functional by 2010 4. Backlog of maintenance works shall be brought down to zero by the year 2021 5. Performance based maintenance contract shall be adopted as a preferred procedure for road maintenance programs
Funding	Fund Requirement	<i>Cost estimates for all the above requirements have been identified in this section.</i>
	Mobilization of Funds	<p><u>Financing the improvement of existing roads</u></p> <ol style="list-style-type: none"> 1. The Government shall amend the KRF Act to enable KRF to function and operate as an autonomous financial institution.

Objectives	Strategies	Actions
		<p>2. Enact legislation to tap additional sources of funds</p> <p><u>Financing new roads</u></p> <p>3. Undertake techno-economic feasibility study of North South Corridor and understand the extend of possible private sector participation</p> <p><u>Financing maintenance of roads</u></p> <p>4. Government shall ensure that sufficient funds are allocated in the budget for road maintenance.</p>
Land Acquisition		All road development projects undertaken as part of this road development policy shall adopt the fast track land acquisition process and the Government shall notify these accordingly.
Project Implementation	Project Procurement	Approve the revised PWD Code and Manual
	Project Management	Identify appropriate institutions which can provide training on project management techniques to the engineering staff and the training programs shall be initiated immediately.
	Quality Control	<p><u>Periodic Quality Audit</u></p> <p>1. The Kerala Highway Research Institute (KHRI) shall be made autonomous and upgraded to the standards of CSIR laboratories and subsequently shall be authorized to provide the Quality Audit of road works under implementation.</p> <p><u>Accreditation of Contractors</u></p> <p>2. The minimum eligibility criteria for Contractors to register with the PWD for undertaking road development and maintenance works would be to provide proof of their having undergone a training program which certifies their familiarity with the IRC and MoRTH standards and specifications.</p>

Objectives	Strategies	Actions
		<p><u>Construction Practices</u></p> <p>3. Adoption of mechanized construction procedures supplemented with finished work measurement should become the standard procedure for approval and payments.</p>
Asset Management and Control	Asset Inventory and MIS	<ol style="list-style-type: none"> 1. Priority shall be given to fully establish and operate the RMMS within the next 12 months. Towards this, all the necessary data shall be collected and compiled for the entire PWD road network and associated planning software tools shall be acquired and operationalized. 2. Using the RMMS, PWD's planning wing shall prepare the prioritized list of missing links and the program of implementation in the short term and these should be implemented by 2021. 3. Land use planning should be used as a tool to regulate and control traffic generation so that intersections, access roads, parking lots, road widening requirements, ribbon development etc could be managed more effectively. 4. Standard right of way (ROW) shall be acquired and established as part of this road development program
	Monitoring and Control	<ol style="list-style-type: none"> 1. The Government shall frame the rules for the Highway Protection Act and shall ensure effective enforcement by providing support to the Highway Authority in terms of manpower and funds for the removal of encroachments, regulate and control access and to co-ordinate activities with other agencies. 2. Use of low axle weight but heavy haul multi-axle trucks which are more fuel-efficient shall be monitored and enforced by the Highway Authority.
Training and		<ol style="list-style-type: none"> 1. The education and training needs identified under the ISAP of KSTP shall be implemented on a priority basis and a training needs assessment in the context of this road development

Objectives	Strategies	Actions
Education		policy requirement shall be initiated.
Institutional Restructuring		<ol style="list-style-type: none"> 1. An autonomous Highway Development Authority shall be established within the PWD to implement the road development plan. 2. The KHRI shall be made autonomous and adequately strengthened to handle additional functions such as organizing and conducting education and training programs and undertaking quality audits on a continuing basis.
Stakeholder Participation and Transparency		<ol style="list-style-type: none"> 1. The HDA shall ensure that the projects and programs are taken through a process of public consultation and such information is available for public access through electronic media.

4 Stakeholder Consultation

For the purpose of consultation, the first exercise was to identify various stakeholders in the road sector. The stakeholders include central government organizations, state government organizations, private sector (contractors) and road users (bus and truck operators, public, etc.). A review was undertaken to identify statutory roles and responsibilities of each stakeholder. A list of such stakeholders is presented in **Table 4-1**.

Table 4-1: Major Stakeholders in Road Sector

Stakeholders	Focus Areas
Law Department	Formulation of bills, Acts
Finance Department	Funding, Revenue generation, Accounting, Plan allocations
Planning and Co-ordination	Plan approvals, Fund allocation
Forest and Environment	Clearances
General Administration	HR, Policies
Commerce and Transport	Licensing, Design standards
Works	Planning, Construction, Management and regulation of roads
Industries	Roads- Industrial
Urban Development	Municipal roads
Rural Development	Rural roads
<i>Panchayat Raj</i>	<i>Panchayat Raj</i> Roads
Mining (Mining Corridor)	Master planning, Vehicle load
Tourism(Development Plans, Buddhist Corridor)	Master planning
Revenue, Land Records	Land acquisition
Education	Road safety
Transporters/Trucker's and Passenger Buses Representatives	Road safety, Vehicle load
Road Users, Public	Road safety
Irrigation, Water Resources	Irrigation roads
Railways	Development and operations of rail roads, Level crossings
Ports and Shipping	Development and operations of ports, Port connectivity
Home/Traffic Police	Data on road accidents, Management of traffic in Commissionerate area

Consultations were held with these stakeholders both at individual level as well as through **stakeholder workshops, which was conducted on Nov 09, 2012 and Feb 19, 2014.**

From the consultations and interactions, it emerged that for the development of road sector in the State, not only the OWD, but other Departments of the GOO (mainly Transport, Rural Development, *Panchayati Raj*, Planning, Finance, Revenue, Forest and Environment, etc.) shall have to work under an integrated framework for effective, time bound development of the sector.

A number of issues mainly related to standardization, planning and project clearances, design, construction and contracts, quality management, asset management and regulation of road sector had emerged, besides monitoring, institutional and capacity building issues, which were identified. The support of the Policy for resource generation and its proper management were strongly advocated. These have been duly addressed during development of Road Sector Policy and Strategy.

5 Necessity of a Road Sector Policy

The forecast indicates considerable rise in urban population, substantial growth in agricultural, services and industrial sector and simultaneous increase in vehicular demand. With business as usual scenario, about 10,000 km of the major road network will become capacity constrained by the year 2018. Though GOO has initiated the flagship programme 'State Highway Development Project' with an aim to convert all State Highways to Two Lane standards, the gap in funding for objective requirements of road development, network maintenance and connectivity will become critical. The resulting constraint on objectively-necessary new works and maintenance will lead to congestion, poor road condition, increase in road accidents, higher vehicle operating costs and constrained socioeconomic development.

The **Road Sector Vision 2021 by Government of India** stipulates for up-gradation of all State Highways and at least 40% of MDRs to two lane with paved shoulder standards by 2021, provision of two lane roads with adequate capacity to all major centers of tourism, industry and mines and all weather road connectivity to all habitations irrespective of the population, which is a major challenge to GOO. Other challenges faced by the State in the road sector are:

- Low infusion of private sector investments
- Capacity constraints of local construction industry
- Lack of awareness on implementing environmental mitigation measures
- Need for coastal highways cum surge embankments to mitigate the consequences of natural calamities i.e. cyclones, floods etc.

To meet the above multi-faceted road sector challenges, development of a road sector vision and road sector policy is required, which can guide, coordinate and prioritize the development of road sector.

6 Development of Draft Road Sector Policy 2014

Based on discussions and stakeholder consultations, a proposed VISION for road sector of Odisha has been developed, which is **“To provide and maintain a quality road network which is safe, sustainable and adequate for efficient transportation of goods and people meeting the socio-economic development needs of the state”**.

Further, a comprehensive Policy statement has now been framed, to be referred as “The Odisha Road Sector Policy, 2014”. The proposed Policy provides a detailed ‘statement of intent’ focusing on the management, operation and development of the road sector on a rational and strategic basis. It addresses the emerging road sector challenges with due consideration to budgets, priorities of functions, formulation of strategies, enhancing safe and equitable accessibility and connectivity with reduced cost of travel and improved opportunities improving the quality of life for the people of Odisha.

The proposed Policy is framed for a period of 10 years and aims to guide the provision of an adequate and safe road network to support equitable socio-economic development of the state in a coordinated and integrated manner, by addressing emerging challenges. It has been developed by drawing on the experiences of other state governments, by consultation with various road sector stakeholders and by integration of views of road sector experts. The proposed Policy includes a strong focus on monitoring of the desired objectives, which makes it a vibrant instrument to promote sustainable roads development in the State.

7 Draft Road Sector Policy 2014

(Enclosed in Annexure 1)

GOVERNMENT OF ODISHA

ROAD SECTOR POLICY

2014 - 2024

1. Road Sector Vision

To provide and maintain a quality road network which is safe, sustainable and adequate for efficient transportation of goods and people meeting the socio-economic development needs of the state.

2. Objectives of Road Sector Policy

The specific objectives of the Road Sector Policy are:

1. Develop a state road network to provide adequate capacity for traffic demand and to meet the mobility and accessibility needs of all road users
2. Provide adequate and sustainable funding for road asset management and maintain the road assets at an adequate level of serviceability
3. Improve safety of the road network and traffic to reduce accidents and fatalities
4. Strengthen road sector organizations' capacity and practices in planning, design, procurement, construction, maintenance, operation and project management
5. Attract and sustain private sector participation in the road sector
6. Ensure sustainable road development in the state with minimal social and environmental impacts and with increased public support and participation.

3. Policy Directions

3.1 Develop a state road network to provide adequate capacity for traffic demand and to meet the mobility and accessibility needs of all road users

- All villages/ habitations shall be connected by an all-weather sustainable road by the year 2021
- Annual and multi-year road development plans shall be developed utilizing a transportation 'master planning' model, at least two years in advance of the project implementation/ commencement
- All State Highways, District Roads and major Urban Roads shall be designed to achieve an operating speed of 80 km/hour, 65 km/hour and 50 km/hour respectively;
- The major road network (National Highways, State Highways, Major District Roads and Other District Roads) shall operate at all times at an optimum level of service as prescribed in the IRC Standards
- Road planning for disaster prone areas shall emphasize sustainable solutions
- Ownership of different roads shall be periodically updated and clarified publicly
- Modern technology and construction practices (equipment intensive) shall be adopted for construction and maintenance of all paved roads
- In the case of limited funding, priority shall be given for the maintenance of the existing road assets pending capital improvements.

3.2 Provide sustainable funding for road maintenance and maintain the road assets at an adequate level of serviceability

- GOO shall provide and dedicate adequate funds to meet the objective cost of maintenance of roads in Odisha and shall establish a dedicated “Odisha State Road Fund” for road maintenance.
- Minimum acceptable ‘levels of service’ shall be defined for pavement condition and other road assets (drainage, traffic signs, road markings, street lights, shoulders, curbs) and shall be adopted for annual performance monitoring.
- Maintenance plan and budgets of major roads (SH, MDR and ODR) shall be prepared using Orissa Road Asset Management System (ORAMS)
- For all rural roads, maintenance standards set out in the PMGSY guidelines shall be followed and in due course rural road maintenance management shall use ORAMS
- Performance based maintenance contracts shall be adopted for preservation of the assets on the core road network.

3.3 Improve safety of the road network and traffic to reduce accidents and fatalities

- An Odisha Road Safety Council shall be established and equipped with adequate resources for more effective action on Road Safety Management throughout the state
- The Council will take up the ‘Odisha Road Safety Action Plan 2014’ as a basis for action and business plans between the Council, concerned GOO departments/agencies and (where appropriate) NGOs or other community bodies
- Dedicated funds shall be set apart for road safety improvement works and road safety schemes shall be taken up annually for implementation
- All blackspot locations on the NH, SH and MDR network shall be identified and improved by 2019.
- Road Safety Audits shall be carried out at feasibility, detail engineering, during construction, pre-opening and operational stages of all major road improvement projects
- Safety of all workers engaged in the construction and maintenance of roads shall be ensured through adequate contractual provisions for implementation of traffic management plans and construction zone safety guidelines

3.4 Strengthen road sector organizations’ capacity and practices in planning, design, procurement, construction, maintenance, operation and project management

- Adequate Training shall be provided to all staff in the road sector agencies as envisaged in the Training Plan and HRD Policy
- Premier institutions such as CRRI, IRTE, IITs and IAHE shall be engaged through a partnership mechanism for collaborative technology transfer and capacity building

- The road agencies shall optimize the use of Information communication Technology (ICT) on all planning, design, construction, maintenance and operation processes
- A Construction (skills training) Academy shall be established with GOO support to meet the training requirements of the road development (construction and maintenance) work force
- For training and capacity building of Contractors and its supply chain, 0.5% of Project costs shall be set aside by incorporating suitable provisions (item head) in the tender forms
- E-procurement process and Standard Bidding Documents shall be used in the procurement of works, goods and services in all road sector projects
- Contracts for road projects shall be awarded only after ensuring acquisition of at least 75% of the earmarked land/RoW and obtaining required environmental clearances
- The road sector organizations engaged in project execution shall employ project management practices adhering to Project Management Institute (PMI) guidelines
- Consultants shall be engaged for design, quality and construction supervision of major road and bridge projects
- RoW shall be marked for all categories of roads and their records shall be maintained by respective road sector agencies and an IT-based ROW management system shall be developed to avert potential encroachments
- Modern 'Highway Management' legislation shall be enacted to empower road sector departments/agencies in their ROW management responsibilities
- Project Coordination Unit(s) should be set up within each 'executing department/agency' to undertake advanced coordination with all stakeholders for utility relocation before construction may start.

3.5 Attract and sustain private sector participation in the road sector

- GOO shall facilitate infusion of private sector finances and skills in road sector development and maintenance through existing PPP Policy, 2007
- Where appropriate, GOO will set up Special Purpose Vehicles (SPV) with private sector parties (PSP) with equity participation for the development and maintenance of road projects
- Provision of additional land to Concessionaires/SPVs engaged in road sector development through PPP, for commercial exploitation on non-viable transport routes shall be permitted on case to case basis
- The present Tolling policy for setting and revising user charges for State Highways shall be periodically reviewed at 3-yearly intervals considering user charging and funding options
- Partial support of industries/mining/tourism establishments (or groups of them) in financing "specific" industrial/mining/tourism road corridors shall be promoted.

3.6 Ensure sustainable road development in the state with minimal social and environmental impacts and with increased public support and participation

- Environmental and social impact assessment shall be carried out on all major road sector projects, based on the guideline National Environmental Policy (2006) or similar and other legislations promulgated by the Government of India
- A contractual mechanism shall be developed to encourage the use of recycled materials in road construction
- Resettlement and Rehabilitation shall be done with the objective that after a reasonable transition period, the affected families improve or at least regain their previous living standards, earning capacity and production levels
- The road agencies shall publicize any major road works through print and electronic media to inform the public and shall disseminate all required information concerning planning, procurement, construction, maintenance and progress of works in their respective web portals
- Participation of important stakeholders shall be ensured in various road sector official bodies, committees etc
- Apart from public consultation, road user surveys shall be periodically conducted to receive feedback from the users regarding quality and safety of the major road network
- Research Partnerships shall be established by road sector departments/agencies (under OWD 'nodal' leadership) with reputed institutes for adopting environmentally sustainable materials, technology and 'best practices' in road works.

4. Implementation

The implementation of the road sector policy shall require not only administrative actions but enabling legislations. These are described below:

4.1 Enabling Legislation, Regulatory and Other Mechanisms

For effective implementation of the proposed road sector policy, existing Acts and Policies has to be improved and few Acts and Policies need to be framed and promulgated. The following require further review and further amendments:

- Periodic review of Toll Policy (Amendments in Existing Toll Act)
- Amendments under Motor Vehicle Act (vehicle axle load management in Odisha)
- Amendments in Land Acquisition Act, to consider special requirements of LWE areas and rights of tribal and indigenous people; as also to expedite the LA processes for new alignments/additional land for widening etc.

The following new Acts/Policies shall be framed and promulgated:

- A comprehensive 'Highway Management' Act for effective ROW and traffic management encompassing control/regulation of ribbon development, prevention of encroachments, etc.
- A 'Road Safety Policy' to guide GOO actions on reduction in road accidents and fatalities.

Enabling Budgetary Reforms:

- a. Separate "item head" for Training under Establishment costs
- b. Specific provision for payment of labour wages and salaries of work charged staff
- c. Provision for funding of strengthening, widening and conversion of WBM roads into black topped roads to be treated as "Capital Expenditure" – Plan
- d. Separate "items head" for State-level Road Safety schemes/activities.

Enforcement of vehicle axle loads shall be strengthened with the support of modern technology to protect the State's road infrastructure.

4.2 Performance Indicators (PIs)

For the monitoring and reviewing of the implementation and results of this Road Sector Policy, the following PIs shall be used:

- Number of villages/ habitations connected with an all-weather road
- Increase in length of 2-lane State Highways and Major District Roads
- Increase in paved roads as a percentage of road network
- Increased investment in the road sector as a % of GSDP
- Increase in quantum of road sector investments through PPP mode
- Reduction in number of axle load violations
- Reduction in annual number of road accidents and fatalities.

Systems, processes, responsibility distribution and overall performance of road sector organizations in Odisha shall be assessed using Performance Indicators (PIs) featuring measures of efficiency and effectiveness appropriate to road sector operations and services.

4.3 Monitoring and Reviewing Mechanism

A High Level GOO Committee with members from Planning and Coordination, Works, Rural Development, Panchayat Raj, Irrigation, Forest, Transport, Home, Housing & Urban Development, Finance and Law will be established to monitor the progress on the implementation of the policy. The proposed committee shall be chaired by the Chief Secretary of GOO and the Secretary-cum-EIC of the Works Department will carry the responsibility of Member/Secretary in this Committee.

The monitoring shall be done by using specific quantifiable measures based on the above-mentioned Performance Indicators, which shall focus particularly on upgradation of the Core

Road Network, maintenance of road assets, reduction in road accidents and fatalities, and creation/operationalisation of a maintenance-dedicated Road Fund. The Committee shall meet once in six months to review and suggest means for enhanced effectiveness.

The proposed road policy shall be in force initially for a period of 10 years (2014-2024). There shall be a mid-term review of the Policy and its implementation (i.e., five years after launch), to consider any significant deficiencies and/or major issues arisen in the Policy during its implementation and to initiate appropriate improvements consistent with the main aims of the Policy.

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