Road Sector Institutional Development

Final Report on

Study of Main Roads Funding Options and Recommendations on Road Fund

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Odisha Works Department

The World Bank

Intercontinental Consultants and Technocrats Pvt. Ltd.

In joint venture with

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List of Abbreviations

ACA	:	Additional Central Assistance
ASRF	:	Assam State Road Fund
CAG	:	Comptroller & Auditor General
CEO	:	Chief Executive Officer
CP	:	Central Plan
CRF	:	Central Road Fund
C/S	:	Central Support
CSP	:	Centrally Sponsored Plan
EAP	:	Externally Aided Project
E&I	:	Economic Importance
FYP	:	Five Year Plan
GOI	:	Government of India
GON	:	Government of Nepal's
GoO	:	Government of Odisha
HUDCO	:	Housing and Urban Development Co.
IBRD	:	International Bank for Reconstruction and Development
IDFC	:	Infrastructure Development Finance Co.
ISC	:	Inter State Connectivity
KBK	:	Kalahandi, Nuapada, Bolangir, Sonepur, Koraput, Rayagada, Malkangiri and Nawarangpur
KSRF	:	Kerala State Road Fund
MDRs	:	Major District Roads
MoRD	:	Ministry of Rural Development
MoRTH	:	Ministry of Road Transport &Highways
MPWT	:	Ministry of Public Works and Transport
MP	:	Madhya Pradesh
MPPW	:	Ministry of Planning and Public Works
NABARD	:	National Bank for Agriculture and Rural Development
NHAI	:	National Highways Authority of India
NHs	:	National Highways
NRA	:	National Road Authority
NRB	:	National Roads Board
O&M	:	Operation & Maintenance
ODR	:	Other District Roads
OSRP	:	Odisha State Road Project

OWD	:	Odisha Works Department
PMGSY	:	Pradhan Mantri Gram Sadak Yojana
PPP	:	Public-Private Partnership
PWD	:	Public Works Department
RA	:	Road Agencies
RAMD	:	Road Asset Management Directorate
RBN	:	Roads Board Nepal
RF	:	Road Fund
RFA	:	Road Fund Administration
RIDF	:	Rural Infrastructure Development Fund
RMA	:	Road Maintenance Account
RMF	:	Road Maintenance Fund
RMI	:	Road Maintenance Initiative
RMLF	:	Road Maintenance Levy Fund
RLTAP	:	Revised Long-Term Action Plan
ROBs	:	Railway Over Bridges
RR	:	Rural Roads
RSDP	:	Road Sector Development Program
SH	:	State Highways
SRF	:	State Road Fund
S/S	:	State Support
URF	:	Uganda Road Fund

EXECUTIVE SUMMARY

Background

The main objective of Road Sector Institutional Development Study is to enhance the capacity of the Odisha Works Department (OWD) and other road agencies of GoO to carry out road infrastructure development, effective and efficient management, improved engineering planning for road safety, and to initiate mechanism for sustainable future growth in the resources dedicated to road infrastructure management.

Objective

As part of the Road Sector Institutional Development Study, future roads management funding is an important component. This component entails –

a) Study of various options available or likely to become available to GoO to generate new or increased funding for road maintenance and asset development; and

b) Provide assistance to GoO in deciding and implementing the preferred institutional arrangement and mechanism for the administration of new roads dedicated revenues, such as a dedicated Road Fund.

Approach & Methodology

In carrying out the study, the exercise involved following three stages – **Stage 1: Study "As Is Situation"; Stage 2: Suggest Options;** and **Stage 3: Support – Implementation Plan.**

During the course of this exercise, interactions and consultations have been held with officials concerned of OWD, and other relevant departments, road agencies and stakeholders through one-to-one discussions, group discussions and workshop.

Report Content

This is a preliminary report presenting the main options of road funding and examining the rationale and feasibility for setting up of a road fund for Odisha. The report also provides a road map for major transition from current arrangement to operation of the recommendations presented herein.

Present Funding Status

Roads constitute an important backbone for economic progress. GoO has provided significant importance to development of roads in the state and improved connectivity. The investments in the road sector of the state are described in the succeeding paragraphs.

Sources of Fund

The major sources of fund for the road sector of Odisha are –

1. State Budgetary Allocation for plan and non-plan outlays including RLTAP and Tourism;
2. Central Grants from Central Road Fund;
3. Funds under Pradhan Mantri Gram Sadak Yojana (PMGSY);
4. National Bank for Agriculture and Rural Development NABARD) – Rural Infrastructure Development Fund (RIDF) loan assistance; and
5. Funds from Ministry of Road Transport &Highways (MoRTH), Government of India, for National Highways (NHs) passing through the state.

In addition, there are different specific schemes and project such as –

1. Economic Importance (E&I) Scheme of Government of India (GOI); and
2. Externally Aided Projects such as Odisha State Road Project of the World Bank.

Key Issues in Current Road Financing in Odisha

Based on the analysis of historical trends in resource allocation and actual expenditure, it emerges that

1. The majority of schemes for development of the road sector in the state are capital works (construction/up-gradation) oriented. Various schemes such as PMGSY, RIDF, State Plan and Central Plan Assistance, etc. are in place to finance the capital requirements of the road network. However, currently no specific schemes or policies are in place dedicating a sustainable source of funding for maintenance of road assets. It is also not possible to divert funds from specified schemes to other activities as and when the need arises.
2. The road sector in Odisha currently lacks dedicated and sustainable source of funding for maintenance. The financial resource allocation for the road sector forms a part of the resource allocation in the overall state budget. The current sector financing provides that the primary source of funding the road sector is the Consolidated Fund of the State. It is fairly understood that the State Government has various social and political obligations, which affect the overall budgetary allocations to various sectors. Since the allocation mechanism has to strike a balance between these obligations, the road sector needs are neglected in absence of dedicated and sustainable source of funding for the road sector.
3. It is likely that in future the maintenance requirements would surpass the capital works requirements; and if corrective action is not taken in time then the needs of the road network would not be addressed appropriately in the years ahead.

4. Further, given the importance of the development of the road sector for the overall development of the state, it is imperative that a long-term strategy to improve the sector governance should be formally put in place. Also, since the development of the road sector affects a larger section of stakeholders (including government and non-government stakeholders), a formal platform to address the concerns of all the stakeholders needs to be institutionalized.

5. The current sector governance is further affected since only the government plays all the key roles including the policy maker, the funding agency, the allocating agency etc. Therefore, some form of an independent institutional set-up that focuses on the development of the road sector and provides a platform for all the stakeholders to raise their views, needs to be structured. Such an institutional set-up would contribute to improve sector governance and would also bring transparency and efficiency in financial resources management for the road sector.

6. Assessment of "as is situation" broadly indicates that the fund availability for the maintenance of core network of State Highways, MDRs and ODRs is lower as compared to the funding requirements. However, on completion of the master plan, a confirmed picture would emerge.

The issues discussed above can be clubbed into two core issues - one is there is lack of dedicated funding for the road maintenance; and another is need for enhanced sector governance. Hence, it may be concluded that in order to improve road sector financing in Odisha, the focus should be on the following two core parameters - a) **Dedicated Funding**, and b) **Improving Governance**. Dedicated funding would ensure the stable and sustainable source of funding and governance would ensure the overall management of that fund.

Road Funds

A number of countries and States in India have set up commercially managed road funds under existing legislation or administrative order. However, weak legal basis of road funds is aggravated by unclear or lack of implementing regulations.

Another disadvantage observed is that the road fund revenues continue to be collected under unclear arrangement. Some of the road funds set up under decrees also provide for direct deposit of the revenues, which generally means they must first be credited to the government's consolidated fund and then transferred to the road fund. This has frequently caused problems. The Ministry of Finance sometimes allocates part, or all, of the revenues for other purposes and there may be long delays before the funds collected from road users are finally deposited into the road fund. Some countries have nevertheless managed to solve this problem. The Ministry of Finance sometimes agrees to handle the deposit into the consolidated fund as a paper transaction and deposits the cash directly into the road fund bank account. For instance, Sierra Leone has set up such road fund, although this does not necessarily prevent the Ministry of Finance from diverting the road fund revenues for other purposes.

However, as growing number of commercially managed road funds are being established under new legislation, this puts them on a firmer legal basis and enables the road fund administration to be set up as a separate public enterprise. The revenues can then be collected from road users in the form of a road tariff, rather than as part of the government's tax revenues, and the proceeds can be deposited directly into the road fund bank account without having to transit − whether as cash or a paper transaction – through the government's consolidated fund. For example, Malawi and Namibia have already legislated to collect the road fund revenues in the form of public enterprise tariff and several other road funds are planning to do the same.

Guiding Lessons

The key lessons from other countries and States, which could be used while working out the case of a Road Fund in the State of Odisha are:

- When sustained lack of financing of road maintenance has led to a severe deterioration of the road network, the establishment of road fund may be a valid course. However, pursuing such a course requires strong commitment to off-budget financing of maintenance and to the commercially oriented reforms of road management implied by the road fund, including an independent board.
- Private sector participation in the road fund board is an effective way to involve the users and improve transparency and accountability in the use of road maintenance funds and facilitate independence and autonomy.
- To make the road fund board effective and accountable, roles and responsibilities of each agency has to be clearly defined.
- There has to be strong legal basis for setting up of road fund.
- Improved governance at the country or state level is one of the key success factors for effective performance of a road fund. Analysis of the several road funds in Africa, New Zealand and South-East Asia show that the legal instrument, whether an Act, or Rule, or Notification is not important, but good governance is what decides the success of a road fund. As the Nepal experience shows, although Road Board of Nepal is established through an Act, its status is vulnerable and decisions are not always implemented properly in compliance with the legal framework because of lack of good governance. Governance mechanism must be enhanced to secure soundness of the road fund's legal basis and its proper implementation.

- Size of the road fund and capacity of the executing and implementing agencies should be matching with the size of the road fund to avoid capacity constraints;
- Procedures for fund allocation need to be clearly defined to avoid delay and irregularity.
- When the funds are operated as an extra budgetary public fund without adequate supervision and transparency, the main risk is the misuse of the funds for purposes unrelated to roads. Hence, appropriate system for supervision and transparency is imperative.
- In order to gain better insights of the performance and impact of road fund, monitoring and evaluation systems need to be put in place, starting with credible assessments of road condition, trends in yearly allocation for road maintenance, and efficiency of road maintenance operations;
- Multi-annual performance contracts for road maintenance, while they may be equally applicable under the budget or the user pays approach, may be especially useful to improve road maintenance funding under the budget approach.

Capital Works

Odisha has a total length of 250,415 km of road of which around 60,000 km is paved. Out of the total road network 8% is managed by OWD which carries around 80% of the traffic.

Budgetary Allocation for Capital Works

The allocation for capital works has been on an increasing trend and with focus of GOO on infrastructure development, as well as with the current financial position of GOO, this trend is likely to continue. The budgetary allocation for Works Department for State Highways, Major District Roads and Other District Roads is projected based on the allocation proposed by OWD for the year 2015-16 is given in Table below. The projection is calculated at the incremental rate of 8% after deducting inflation factor of 6%. The overall budgetary projection from the year 2015-16 till 2019-20 on an average ranges around 0.8% of the GSDP (at current prices).

Projected Budgetary Allocation for Capital Works

Year	Budget Allocation for Capital Works (Rs in Crore)
(2015-20)	
2015-16	2,589
2016-17	2,796
2017-18	3,020
2018-19	3,261
2019-20	3,522

Estimate of Capital Works Requirement

The estimate for capital investment over the next 5 years is Rs. 24, 006 crore as detailed in the Road Network Master Plan (RNMP) prepared under the current study. The cost estimate for capital works in short term is considered for State Highways, Major District Roads, Other District Roads and Village Roads for five year, that is, 2015-16 to 2019-20[1]. The capital works proposed in the road master plan will spread over the years and it is likely that fund estimated for the capital work commencing in a particular year is assumed to be expended in the ratio of 25%, 50% and 25% over the three year implementation period. In addition to the proposition contained in the road master plan prepared under the current study, it is reasonable to expect that capital improvement for the other programs going on in the road sector in Odisha will continue.

In addition, 6 Flyovers at the rate of Rs. 80 crore per flyover and 44 ROBs at the rate of Rs. 30 crore per ROB is estimated to be constructed each year for a period of 5 years in the ratio of 25%, 50% and 25% over the three year implementation period. Further, Biju Expressway costing Rs. 3200 Crores is estimated to be expended in the ratio of 15%, 20%, 25%, 25% and 15% over the five year implementation period. Also, 700 Kms of Improvement in MDRs and ODRs is estimated with construction of 140 km each year at the rate of Rs. 2 Crore per Km over 5 years. Besides, 10 kms of New Bypass Lane at the rate of Rs. 10 Crore per km is estimated to be constructed each year for a period of 5 years in the ratio of 25%, 50% and 25% over the three year implementation period. The estimated requirement of capital works based on the proposition in the RNMP and assumptions stated above is given in Table below**.**

Estimated Fund Requirement for Capital Works

(for SH, MDR, ODR and Village Roads only)

Year	Estimated Requirement (Rs in Crore)
(2015-20)	
2015-16	2,684
2016-17	6,043
2017-18	8,250
2018-19	7,923
2019-20	7,102

Source: *RNMP Report*

[1] National Highways are excluded because these are usually funded by NHAI or MoRTH.

Funding Gap

By comparing the figures of budgetary allocation and capital works requirements, it is evident that there is a gap in fund allocation and requirement as presented in Table below.

Gap/Surplus (for SH, MDR, ODR and Village Roads only)

Year	Budget Allocation for Capital Works (Rs in Crore)	Estimated Requirement (Rs in Crore)	Total (Gap) / Surplus
(1)	(2)	(3)	(4 = 2-3)
2015-16	2,589	2,684	**(95)**
2016-17	2,796	6,043	**(3247)**
2017-18	3,020	8,250	**(5230)**
2018-19	3,261	7,923	**(4662)**
2019-20	3,522	7,102	**(3580)**

Potential Sources of Funding

The potential sources of fund for recommended capital improvements of roads are,

- Budget allocation,
- Public Private Partnership (PPP),
- Central Government Schemes, and
- External Borrowing

The sections of roads, which are likely to qualify for taking up under PPP mode of implementation, were identified based on the traffic volume of Sambalpur-Rourkela Road Project being implemented under this mode in Odisha. The Sambalpur – Rourkela Road (SH-10) is 161km long with three toll plazas and the tollable traffic is 13,500 PCU per day (Total traffic being approximately 15,000 PCUs). This has been adopted as threshold traffic to identify projects likely to be viable on PPP mode among the road improvements recommended by RNMP. Table below gives length and cost of such road sections under the three time horizons: short, medium and long term.

Length and Cost of Road Improvements that Qualify PPP Mode of Implementation

Year of implementation	SH, MDR, and ODR (with PPP mode)	
	Length (km)	Funding for Road Improvement (Rs. in Crore)
1st Year	54	382
2nd Year	42	279
3rd Year	33	221
4th Year	-	-
5th Year	-	-
Total of Short term	**129**	**882**

Source: *RNMP Report*

Considering the financing of projects likely to be viable under PPP mode, the gap between the budgetary allocations and funds required for capital works in the short term horizon has been given in Table below. It is to be noted that only the State Highways under PPP mode have been considered as the MDRs and ODRs despite having tollable traffic more than 13,500 PCU may not attract private investment due to various reasons, such as more proportion of local traffic, short distance trips, etc.

Gap/Surplus between Budgetary Allocation and Capital Works Requirement after considering Investment under PPP Mode (Rs in crore)

Year	Budgetary Allocation (Gap)/Surplus (Refer Table 5.3)	Funding of SHs Viable under PPP mode (Refer Table 5.4)	(Gap)/Surplus
(1)	**(2)**	**(3)**	**(4 = 2-3)**
2015-16	(95)	382	**287**
2016-17	(3247)	279	**(2968)**
2017-18	(5230)	221	**(5009)**
2018-19	(4662)	-	**(4662)**
2019-20	(3580)	-	**(3580)**

Note: Assumed grant component as 0%

The funding gap for capital works, after considering budgetary allocation and PPP mode, can be met from external borrowings and multilateral institutions.

Public-Private Partnership (PPP) constitutes a sustained collaborative effort between the public sector (government agencies) and private enterprises to achieve a common objective (e.g., the road project) while they pursue their own individual interests. Private participation increases the efficiency in project execution, reduces costs, enhances implementation capacity, mobilizes private financial resources and frees scarce public resources.

Globally, the governments across the world are encouraging PPP initiatives to promote efficiency in the road sector. Certain specific objectives of PPP can include, for example:

a) Bridging the funding gap: Investment requirements are high but the public sector already faces a large fiscal deficit. Private finance could supplement public funding and postpone the cost of road investment to the taxpayer and/or road user.

b) Increased expenditure and revenue efficiency: The private sector has stronger incentives to operate efficiently, minimize revenue leakage, adjust resources to changing situations, and adopt a comprehensive life cycle approach to road investment and maintenance.

c) Unbundling and reallocating risk: Overall costs may be reduced by allocating individual risks to those parties best able to control them.

Chile and Argentina promoted PPPs significantly for the development of their country's road sector. For example, two-fifths of the main roads in Chile, and about a third in Argentina are toll roads with private participation. China, Indonesia, Mexico and Malaysia are other developing economies where there has been significant private investment in highways. Latin American countries have had the highest share of their national roadway funded and operated by the private sector.

Odisha has a PPP Policy and Guidelines, which allows and encourages road development with private sector participation. Therefore, initiatives can be taken to involve the private sector in construction and maintenance of specific roads under PPP mode and specifically with provision in contract for warranty for maintenance of roads constructed under PPP for five year period by the private sector partner. This will facilitate to supplement the government funding of the road sector.

Roads that are critically important and with potential of high volume traffic may be identified for private sector participation ensuring viability of such PPP road ventures.

Another source of fund relevant for capital works is through external borrowings from bilateral and multilateral international funding agencies. This source of funding is commonly used by many states and GoO is also accessing funds from international agencies. A special route for sourcing external fund is the state partnership technical assistance arrangement with an international development financial institution with specific purpose of road development, maintenance and management as part of program to alleviate poverty and facilitate inclusive growth by providing connectivity and accessibility to all.

Further, funding under various schemes of the Central Government is a potential source of financing capital works. In this context, it may be mentioned that under the 12th. Five-Year Plan, funds allocated for road sector of Odisha under different schemes such as Development of Roads in the Left Wing Extremism Areas, Development of State Roads Segments in the State of Odisha on the Vijawada-Ranchi Route, Special Package for Development of Roads under Tribal Sub-Plan, etc.

Maintenance

The budgetary allocation for the year 2015-16 to 2019-20 has been projected on the basis of past budgetary allocations of years 2012-13 (RE), 2013-14 (RE) and 2014-15 (BE) and is presented in Table below.

Works Department Maintenance Budget Allocation

Rs. in Crore

Department	**2012-13 (RE)**	**2013-14 (RE)**	**2014-15 (BE)**
Works Department	666	741	849

Source: *Budget Documents (Revised Estimates), Government of Odisha for 2012-13 to 2013-14 and Budget Estimate for 2014-15.*

Note: *The budgetary allocation for maintenance includes provision for establishment expenditure*

Estimate of Maintenance Requirement

In accordance with the Road Sector Policy proposal, road financing, with focus on maintenance of State Highways (SH), Major District Roads (MDR) and Other District Roads (ODR) carrying major traffic, is important because:

i. Preservation of assets created needs to be given priority;

ii. If not properly maintained, roads deteriorate faster resulting in increased vehicle operating cost, travel time and maintenance backlog.

It is proposed that initially focus may be given on maintenance of major road network of the State (i.e. SH, MDR and ODR) that carries significant traffic and requires attention on a priority basis.

The funds required to objectively meet the maintenance requirements was assessed from Odisha Road Asset Management System (ORAMS). The requirement of funds for maintenance of major road network is given in Table below.

Maintenance Requirement

Year	Maintenance of SH, MDR and ODR (Rs in Crore)
	Requirement
2015-16	897
2016-17	1025
2017-18	1259
2018-19	1519
2019-20	1783
Total	**6483**

Note: *Maintenance activities include - routine, periodic.*

The budgetary maintenance allocation for rural roads is, by and large, adequate. Majority of the Panchayat roads are earthen roads and, are excluded from estimation of the maintenance requirement.

Assumptions for Estimation of Maintenance Requirement of funds for Major Road Network

i. Due to reclassification, 3000 km will be added every year to OWD network until the additional length reached 20,000 km.

ii. At any given year, length of periodic renewal will be 20% of the total network after deducting the length considered for capital works, strengthening and periodic renewal until the given year and the length of periodic renewal considered during the preceding 3 years.

iii. At any given year, the entire length of the road network was considered for routine maintenance.

Maintenance

By comparing the figures of budgetary allocation and maintenance requirements, one can see that there is a gap in fund allocation and requirement. The table below presents the maintenance gap, which is the case if the major road network only receives funding from budgetary allocation.

Maintenance Requirement and Gap

Year	Maintenance of SH, MDR and ODR (Rs. in Crore)		
	Requirement	Budget	Gap
2015-16	897	921	24
2016-17	1025	998	(27)
2017-18	1259	1082	(177)
2018-19	1519	1174	(345)
2019-20	1783	1272	(511)
Total	**6483**	**5447**	**(1036)**

Meeting the Maintenance Funding Gap

Allocation from VAT on fuel, which has a strong link with road use and is quasi user charge (or, indirect charges) for road infrastructure; and earmarking part of VAT on fuel for allocation for major road network maintenance, has a merit. The present revenue from VAT on fuel @ 20% if used for major road network maintenance and the required percentage of allocation from VAT for major road network maintenance is given in table below.

Allocation of VAT on Fuel @20% for Maintenance

Rs. in Crore

Year	Total VAT on Fuel	Total Maintenance Requirement	Surplus/Gap	Requirement as % of VAT
2015-16	2693	897	1796	33
2016-17	2883	1025	1858	36
2017-18	3086	1259	1827	41
2018-19	3305	1519	1786	46
2019-20	3541	1783	1758	50
Total	**15508**	**6483**	**9025**	**42**

Two scenarios showing increase in rate of VAT from the present 20 per cent to 22 per cent as 2% additional levy and 28.25% as 8.25% surcharge over VAT are given in below tables respectively**.**

Incremental Revenue @2% on Existing VAT Rate

Rs. in Crore

Year	Revenue From VAT on Fuel @ 20%	Revenue from Incremental VAT @ 2%	Total Maintenance Requirement
2015-16	2693	221	897
2016-17	2883	236	1025
2017-18	3086	253	1259
2018-19	3305	271	1519
2019-20	3541	290	1783
Total	**15508**	**1271**	**6483**

Incremental of 2% besides existing VAT on fuel, amounting to + 250 crores per annum for next 5 years and earmarking of this incremental amount can be considered to meet the emerging requirements for road maintenance, over and above the normal budgetary provisions.

Earmarking of Surcharge @ 8.25% over Existing VAT for Road Maintenance

Rs. in Crore

Year	VAT on Fuel @ 20%	Surcharge 8.25%	Total Maintenance Requirement	Gap excluding Surcharge	Gap, If only Surcharge is considered
2015-16	2693	1111	897	1796	214
2016-17	2883	1189	1025	1858	164
2017-18	3086	1273	1259	1827	14
2018-19	3305	1363	1519	1786	-156
2019-20	3541	1461	1783	1758	-322
Total	**15508**	**6397**	**6483**	**9025**	**-86**

Earmarking of additional Surcharge for road maintenance to meet the road maintenance requirements, works out to @ 8.25% on fuel. This is estimated to yield adequate revenue amounting to about Rs. 6400 crore (For next 5 years) for meeting the total requirements for road maintenance.

The funding gap for road maintenance can be fulfilled by 'ring-fencing' the revenue from VAT on fuel and allocating it for the exclusive purpose of road maintenance for major road network. This would facilitate to preserve the road asset created, improve road journey service, and reduce road accidents and strengthen road safety.

It may be mentioned that in Odisha there is a trend of increase in consumption of petrol and diesel, implying increased use of road by vehicle owners and drivers. Hence, considering increased road use, the consequent necessity for proper road upkeep, assumes more significance and allocation of part of VAT on fuel is merited for road maintenance.

Additionally, new charges as suggested hereinafter (e.g. utility license fee, betterment levy, one-time vehicle registration fee, charges on insurance premium, etc.) may be introduced. Though initially these sources of revenue may generate small amount of income but with gradual public acceptance of the rationale and benefit of payment of these charges coupled with improved road conditions, the revenue generation would increase and charge rates that have been conservatively proposed can be suitably revised to enhance income.

1. **Toll Fees:** Toll Fee being a road user charge is directly linked with proper upkeep of tolled roads and the amount should be spent for road maintenance purpose

2. **Utility License Fees:** Motels, garages, parking plazas and other wayside facilities are indirect beneficiary from development of the roads. Once the roads are operational, traffic starts commuting and such facilities starts growing providing revenue to these service providers. Hence, Government can consider imposition of license fees on these utility services.

3. **Levy on Land Registration Fee:** This charge is based on the assumption that lands adjacent to roads have higher market value than the other places. The reason for higher prices is due to development of roads near the land. Government makes investment for the development of the road sector; hence all beneficiaries from the development of road sector should contribute certain percentage of their gains for the development of the road sector. So, to generate fund for the road sector government can put extra levy on registration fee on land transactions near the roads that have been constructed or upgraded or widened. It may be mentioned that the Karnataka Highways Act, 1964 provides levy for betterment charges.

4. **Levy on transport of minerals and agri-based industrial produce in the State**: Odisha is rich in mineral resources and mining is one of the main economic activities being performed in the state. However, there is limited scope to increase tax on these commodities. Additional revenue generation through increasing vehicle registration fee for heavy vehicles deployed for mining activities and which contribute to damage of roads, is an option.

5. **Pre-constructed ducts under or along new roads:** This could be taken up for all up-gradation projects – especially those which are predominantly cement concrete roads. The usage of these ducts could be rented out to telecom companies and other users – and the revenues could flow for use for the road sector.

The other suggested sources of funds are: (i) one time vehicle registration fees and (ii) charges on insurance premium.

Premised on 'user pay' principle estimation of revenue from three suggested sources of funding is given in table below. The computation of revenue from VAT on fuel, charges on Insurance Premium and one time vehicle registration charges is provided in **Annexure 5.1, 5.2 and 5.3** respectively.

Estimated Revenue from Three Sources

Revenue Sources	**Revenue (Rs. in Crore)**				
	2015-16	**2016-17**	**2017-18**	**2018-19**	**2019-20**
VAT on Petrol	550	610	677	752	834
VAT on Diesel	2144	2272	2409	2553	2706
Total	**2693**	**2883**	**3086**	**3305**	**3541**
One-time Vehicle Registration Fee	3.86	4.24	4.45	4.54	4.62
5% of Insurance Premium	4.64	5.08	5.34	5.45	5.56
Total Revenue	**2701.50**	**2892.32**	**3095.79**	**3314.99**	**3551.18**

It may be underlined that in identifying the sources of fund, the existing sources of revenue of other departments like driving license fees, vehicle registration fees (that are administered by the Transport Department) are not affected.

However, the most significant share of revenue will emanate from part of VAT on fuel. It may be underlined that in Odisha there is a trend of increase in consumption of petrol and diesel, implying increased use of road by vehicle owners and drivers. Hence, considering increased road use, the need for road development, and consequent necessity for proper road upkeep, assumes more significance and allocation of VAT on fuel is merited for road sector.

Sources of Fund

However, currently there are no such well-defined state policy initiatives in Odisha that cater to the specific needs of road sector.

It is envisaged that finances can be raised through the following sources:

- **i) Existing Sources:** Earmarking of certain percentage of existing Road User Charges such as VAT on fuels, toll fees collected by the government and which currently forms part of general budgetary resources.
- **ii) Other Sources:** The other sources of funding could be –one-time vehicle registration fees on new vehicle registrations; and, charges on vehicle insurance premium.

➢ **Existing Sources**

Earmarking of Certain Percentage of Existing Road User Charges:

Under this mechanism the Finance Department would earmark pre-decided percentage of Road User Charges, which are currently part of state government's consolidated fund.

Advantage of such an approach is that it ring fences road user charges for funding road maintenance and mitigates the risk associated with budgetary funding given the demand on the state exchequer from different sectors.

The options which could be considered for addressing the road sector financing mechanism in the State of Odisha are:

Option 1: Status Quo: This option of road sector funding essentially assumes that the state continues to fund the sector in the same way as present: through the budgetary allocations under Plan and Non-Plan activities. The existing schemes meant to address specific sector needs like PMGSY etc. are assumed to continue.

Option 2: Earmark a portion of funds for the sector under the existing institutional framework of budgetary resource allocation: This option essentially assumes that the sector financing is done through budgetary resources (Consolidated Fund and PMGSY) and earmarking of a portion of funds is done by the State Government specifically to ensure committed funds.

Some examples of the suggested resources that can be earmarked include earmarking certain percentage of charges on road users, earmarking certain percentage of collections in the Consolidated Fund etc. However, the funding would be managed under the existing budgetary mechanism and the earmarking would essentially provide the road sector a definite and a committed source of funding.

Option 3: Set up a new Institutional Framework (Road Fund): This option assumes that the state creates a dedicated Road Fund similar to the Road Funds discussed. This Road Fund would be based on the principles of the Second Generation Road Funds and would fund specific investment requirements of the state road sector, especially the maintenance requirements.

The evaluation of funding options indicates that compared to other options, creating a new Road Fund has distinct advantages for the state road sector. Option 1- Status Quo does not ensure adequate financing for the core road networks. Also, this option provides a limited scope to improve governance in sector financing. Similarly, Option 2 has some advantages over Option 1. Option 2 would ensure that dedicated financing would be available for the road sector through earmarking of funds. Option 2 would also ensure that the allocation mechanism offers flexibility. However, again this option provides a limited opportunity to improve governance in sector financing. On the other hand creation of a new financing mechanism – Road Fund mechanism would ensure both adequate funds and improvement in governance. Provided the Road Fund mechanism has an independent legal status and has appropriate oversight and audit arrangements, delivering improved governance would be possible.

The road fund, by setting rules with which the road agencies are required to comply, can make implementation more effective. Also, by requiring financial and technical audits, the road fund can introduce better transparency and accountability in operations. This helps to have value for money, which is a prime concern for financial management. Besides, when GoO is in a well-funded position as at present, it may be desirable as a strategic measure to increase the present budget allocation of dedicated funds for road maintenance to meet the requirements in the event of a GoO financial situation that may not necessarily be as healthy as at present.

The finance department is the primary government agency concerned about value for money, and its primary goal is to promote economic efficiency and effective implementation. Examined from this perspective, the finance department is as much concerned as the road agencies about sustainable roads. Examined in this light and considering the factors stated in the preceding paragraph, the proposed road fund is expected to accomplish the goals of the finance department and the suggested road fund is closely allied to the finance department. Hence, the finance department can lead to promote the proposed road fund. Road Funds in other states are formed through various methods – (i) legislation (e.g. Kerala, Rajasthan), (ii) Gazette Notification (e.g. Madhya Pradesh, Uttar Pradesh). However, to provide sustainable support and empowerment legislation is the preferred mode. It has been observed that in certain instances, the road fund has become a overriding agency above the road departments. This is not desirable and can be avoided by mandating the road fund and preparation of rules to allocate funds in an agreed formula and oversee the utilization of funds allotted.

Available Options

The options that may be considered for Funding Mechanism are –

Option 1: Budgetary Allocation

Option 2: Earmarking of Funds

Option 3: Dedicated Road Funds managed by a Board

The Merits and demerits of each of the above option are outlined below in Table below.

Merits and Demerits of 3 Options

Option	Merits	Demerits
Budgetary Allocation	• Provides flexibility in fiscal management.	• On account of growing demands on the sate exchequer for social sector needs, at times, the priority of maintenance expenditure may be lowered. • Road maintenance is expenditure driven, rather than on actual physical requirements. • The maintenance does not take into account the road user expectations/or any condition indicators

Option	Merits	Demerits
Earmarking of Funds	• Pre-commitment of taxes to fund maintenance expenditure, and may be channeled through the Consolidated Fund of the State.	• Since taxes form part of the general budget, these resources may be considered to be reassigned for other purposes.
Dedicated Non-Lapsable Road Fund Managed by a Board	• Dedicated and stable source of funding for maintenance. • Cognizance of stakeholders' views and interests through their inclusion in governing body. • Monitors performance as an independent body.	• Carries the potential of duplicating the road agencies' functions, if not appropriately structured and mandated.

Way Forward

Immediate and Short Run

1) Ring-fencing proposed surcharge or levy over VAT on fuel (petrol & diesel) for road maintenance;
2) Introduction of road user charges (e.g. toll fees, one-time vehicle registration fee, charges on vehicle insurance premium, etc.) on 'user-pay' principle as recommended in the preceding chapter to fund road maintenance;
3) Initiation of process to ring-fence road user charges for road maintenance.

Medium Term

Setting up a dedicated non-lapsable road fund, which entails –

- Preparation and enactment of legislation for State Road Fund similar to Central Road Fund Act, Kerala Road Fund Board Act, etc.;
- Creation of State Road Fund Board;
- Setting up of Road Fund Executive Committee; and
- Development of operating management, administrative, accounting and auditing process.

CHAPTER 1 : INTRODUCTION

Background

Institutional Development is a part of Orissa State Roads Project funded from out of the proceeds of loan received from the International Bank for Reconstruction and Development (IBRD). The purpose of institutional development is to assist Government of Odisha (GoO) to improve its road sector policy, institutional capacities and legal framework to align it with the rapidly changing environment and context.

Under this exercise, GoO is aiming for building more effective capabilities and performance in the road sector to provide improved services to road users and assist the state's economic development. To meet this goal, GoO is implementing various reforms and modernization measures to strengthen the institutions and policy framework in the sector. GoO is pursuing a strategy based on incremental approach matching the state's priorities, circumstances and resources.

The main objective of Road Sector Institutional Development Study is to enhance the capacity of the Odisha Works Department (OWD) and other road agencies of GoO to carry out road infrastructure development, effective and efficient management, improved engineering planning for road safety, and to initiate mechanism for sustainable future growth in the resources dedicated to road infrastructure management.

Future Roads Management Funding

As part of the Road Sector Institutional Development Study, future roads management funding is an important component. This component entails –

a) Study of various options available or likely to become available to GoO to generate new or increased funding for road maintenance and asset development; and

b) Provide assistance to GoO in deciding and implementing the preferred institutional arrangement and mechanism for the administration of new roads dedicated revenues, such as a dedicated Road Fund.

The overall objectives of this component of the Road Sector Institutional Development Study can be broken down broadly into four specific tasks as briefly mentioned below –

a) **Task 1 – Define the Road Financing Challenge:** The purpose of this task is to define the road funding challenge in the state by assessing the present financial resource availability and utilization.

b) **Task 2 – Articulate the Case for or against the Road Fund:** The objective of this task is to highlight the merits and demerits of the option of establishing a road fund in the state.

c) **Task 3 – Identify Feasible Options and Recommend Solutions for Improving Road Financing:** The aim of this task is to identify different options for road financing and recommend the most preferred solution.

d) **Task 4 – Preparing an Implementation Plan:** This task intends to draft a plan for implementing the preferred option.

Approach & Methodology

In carrying out the tasks listed above, the exercise involved following three stages –

Stage 1: Study "As Is Situation"

The different sources of fund for different categories of roads (viz. National Highways, State Highways, Major District Roads, and Other District Roads) in the state have been identified. Further, allocation of funds for different categories of roads and pattern of expenditure for construction of new roads, strengthening and widening of roads, and maintenance have been studied for the past three years. In addition, levy, collection and utilization of toll fees for the roads sector of the state has been reviewed.

This stage of the exercise has provided inputs for understanding and assessing the present situation of road financing in the state, and the issues faced in terms of fund sourcing, allocation and utilization.

Stage 2: Suggest Options

Based on the findings emanating from Stage 1, and the trend of economic growth of Odisha, potential sources of road finance have been listed. In preparing the list of potential sources of road finance, reference has been made to other states of the country such as Gujarat, Karnataka, Kerala, Madhya Pradesh, Maharashtra and others.

Following the listing and analysis of existing and potential sources of road financing, the listed sources of finance have been studied and reviewed in terms of sourcing mechanism, social acceptability and administrative and financial viability.

Under this stage, the rationale and feasibility of setting up of a road fund for Odisha has been examined.

Stage 3: Support – Implementation Plan

At this stage, recommendations for preferred options for road sector financing, including setting up of a dedicated road fund, have been carried out. Also, an implementation plan has been prepared for undertaking appropriate action by GoO in this regard.

General Approach

During the course of this exercise, interactions and consultations have been held with officials concerned of OWD, and other relevant departments, road agencies and stakeholders through one-to-one discussions, group discussions and workshop.

Objective of This Report

This is the final report presenting the main options of road funding and examining the rationale and feasibility for setting up of a road fund for Odisha. The report also provides a road map for major transition from current arrangement to operation of the recommendations presented herein.

Structure of the Report

This **Report on Study of Main Roads Funding Options & Possible Road Fund** contains six chapters.

Chapter 1 gives an introduction in the form of presenting the background and objective of the finance component of the assignment and the work methodology followed. **Chapter 2** presents the existing situation of road financing in Odisha and the issues in road sector financing. **Chapter 3** describes case examples of initiatives taken by governments across the world and in India (at center and state levels) to address road financing issues by setting up road fund. **Chapter 4** incorporates the findings and lessons learned from experiences of other countries and states of India. Using these as guiding principles, various options of road financing are evaluated to select the preferred option of funding. **Chapter 5** describes the parameters involved with structuring of state road fund. **Chapter 6** outlines the suggested way forward.

CHAPTER 2 : CURRENT SCENARIO OF ROAD FINANCING IN ODISHA

Introduction

Roads constitute an important backbone for economic progress. GoO has provided significant importance to development of roads in the state and improved connectivity. The investments in the road sector of the state are described in the succeeding paragraphs.

Present Funding Status

2.1.1 Sources of Fund

The major sources of fund for the road sector of Odisha are –

1. State Budgetary Allocation for plan and non-plan outlays including Revised Long Term Action Plan (RLTAP) and Tourism;
2. Central Grants from Central Road Fund;
3. Funds under Pradhan Mantri Gram Sadak Yojana (PMGSY);
4. National Bank for Agriculture and Rural Development (NABARD) – Rural Infrastructure Development Fund (RIDF) loan assistance; and
5. Funds from Ministry of Road Transport & Highways (MoRTH), Government of India, for National Highways (NHs) passing through the state.

In addition, there are different specific schemes and projects such as –

1. Economic Importance (E&I) Scheme of Government of India (GOI); and
2. Externally Aided Projects such as Odisha State Road Project of the World Bank.

2.1.2 Road Sector Development during 11th FYP

Eleventh Five Year Plan

During the 11th Five Year Plan (FYP) period (2007–08 till 2011–12), OWD formulated its target for improvement of 4,500 km of road stretches and construction of 52 bridges with a financial outlay of Rs. 1,945.84 crore. Under zero based budgeting procedure, OWD had undertaken projects under different schemes on priority basis, which as conceived were supposed to provide quick results to the satisfaction of the users as well as completion of substantial number of major on-going bridges and road projects.

The physical and financial achievements during the year 2007–08 to 2011–12 of 11th FYP are presented in **Table 2-1** and **Table 2-2** respectively. During this plan period construction of 64 Bridges, 3 Railway Over Bridges (ROBs) and improvement of 3,354 km length of road in different stretches have been completed. The annual plan for 2012–13 and 2013-14 provided an allocation of 1,063.9 Crore and Rs.1200 Crore respectively for OWD.

2.1.3 Road Development Programme (State Plan Normal)

Under normal State Plan, funds have been provided for construction of ROBs, flyovers, bridges, improvement of important roads, provision for land acquisition, capacity building, etc. During 11th FYP construction of 18 numbers of Bridges, 3 ROBs and improvement of 224.9 km road have been completed. The anticipated expenditure during this period was Rs. 851.73 Crore. During 12th FYP, it is proposed to improve 1,075 km of road length and completion of 25 numbers of Bridges, 10 numbers of ROBs and Flyovers at cost of Rs. 2,400 Crores.

Table 2.1: Physical Achievements during 11th FYP relating to Road and Bridge Projects

Target: Completion of Bridge: 52 Nos. Improvement of Road: 4,500 km

Sl. No.	Scheme	NABARD		General State Plan		CRF		KBK		ISC and E&I	ACA		ROB	EAP	Total	
	Year	No. of Bridge	Road in km	No. of Bridge	Road in km	No. of Bridge	Road in km	No. of Bridge	Road in km	Road in km	No. of Bridge	Road in km	No.	Road in km	No. of Bridge	Road in km
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	2007–08	10	351.225	2	0.000	1	118.11	3	28.400	58.690	0	48.960	0	0.000	16	605.385
2	2008–09	12	265.134	0	0.000	0	102.06	2	55.600	39.700	0	72.200	1	0.000	14	534.694
3	2009–10	5	295.905	4	45.000	2	113.614	0	5.000	50.000	0	60.000	2	0.000	11	569.519
4	2010–11	5	637.882	4	81.136	1	87.279	1	17.580	35.850	0	94.914	0	31.360	11	986.001
5	2011–12	2	364.851	8	98.778	0	42.55	1	20.755	18.530	1	81.906	0	31.640	12	659.01
	Total	**34**	**1,914.997**	**18**	**224.914**	**4**	**463.613**	**7**	**127.335**	**202.770**	**1**	**357.980**	**3**	**63.000**	**64**	**3,354.609**

Source: *Draft 12th FYP Document, GoO*

Table 2.2: Financial Achievements during 11th FYP relating to Road and Bridge Projects

Financial target for 11th FYP Period: Rs. 1,94,584 Lakhs

Rs. in Lakhs

Sl. No.	Scheme	2007-08	2008-09	2009-10	2010-11	2011-12	Total
1	2	3	4	5	6	7	8
	PLAN						
1	Rural Infrastructure Development Fund (RIDF)	16,603.21	19,483.05	28,132.03	35,551.61	32,871.77	1,32,641.67
2	General State Plan	1,357.52	25,618.33	12,735.86	24,241.56	21,220.16	85,173.43
3	Central Road Fund (CRF)	6,656.48	15,184.79	7,391.11	5,218.04	4,856.56	39,306.98
4	One Time Additional Central Assistance (ACA)	3,424.34	4,852.95	4,819.21	6,796.61	6,181.39	26,074.50
5	State Support (S/S) of CSP (E&I)	669.84	1,357.46	3,330.55	5,246.22	5,330.31	15,934.38
6	EAP	1,405.57	5,001.09	3,369.69	9,402.97	7,495.63	26,674.95
	Sub-Total	**1,405.57**	**71,497.67**	**59,778.45**	**86,457.01**	**77,955.82**	**3,25,805.91**
7	KBK	840.10	1,444.20	142.38	1,003.00	1,320.56	4,750.24
	Total	**30,957.06**	**72,941.87**	**59,920.83**	**87,460.01**	**79,276.38**	**3,30,556.15**
8	Central Support (C/S) for CSP (E&I)	3,160.41	1,957.49	2,199.96	2,660.58	3,302.04	13,280.48
9	Central Plan (ISC)	1,696.08	1,451.92	700.98	671.97	274.18	4,795.13
	Total	**4,856.49**	**3,409.41**	**2,900.94**	**3,332.55**	**3,576.22**	**18,075.61**
	Grand Total	**35,813.55**	**76,351.28**	**62,821.77**	**90,792.56**	**82,852.60**	**3,48,631.76**

Source: *Draft 12th FYP Document, GoO.*

2.1.4 NABARD – RIDF Assistance

Loan assistance from NABARD through its Rural Infrastructure Development Fund (RIDF) has been a major source of funding of the road and bridge projects in the State. By end of December 2011, a total road length of 2,665 km has been improved under NABARD – RIDF assistance. During 11th Five Year Plan 125 number of road projects with potentiality of 1,811.070 km at an estimated cost of Rs. 1,465.67 Crore and 35 numbers of Bridges at an estimated cost of Rs. 690.20 Crore were sanctioned. Out of this 43 number of road projects with 560 km at Rs. 372 Crore and 5 numbers of Bridge projects with expenditure of Rs. 21.41 Crore have been completed. During the 12th Five Year Plan, it is proposed to complete 40 numbers of Bridges and to improve 1,750 km road length in different roads with allocation of Rs. 3,000 Crore under NABARD assistance. During 2012-13 till the end of February 2013, 7 nos. of Bridge projects & 41 no. of road projects covering a length of 561.00 km have been sanctioned. By the end of December, 2012 during the year 2012-13, 2 bridge projects and 12 no. road projects covering a length of 210.00 km in different stretches have been completed. During 2013-14, there is budget provision of Rs.450.00 crore for 30 ongoing and 9 new bridge projects, 50 ongoing and 43 new road projects covering a length of 1095.00 km. Besides, there is provision for 09 no. bridge projects and 28 no. road projects which are in pipeline as cleared by HPC on RIDF but awaiting NABARD sanction.There is target for completion of 4no. of Bridges and completion of 25 no. of road project covering total length of 350 km in different stretches during 2013-14.

2.1.5 Road Improvement in KBK Districts

KBK Districts of Odisha consists of – K – Kalahandi, Nuapada; B – Bolangir, Sonpur; K – Koraput, Rayagada, Malkanagiri and Nawarangpur. The KBK Districts account for 19.80% population (as per 2011 Census) and 30.60% geographical area of the state. 89.95% people of this region still live in villages. Tribal communities dominate this region.

In order to boost the socio-economic condition of people of KBK Districts, GoO has taken effective steps to provide better connectivity as well as to improve existing roads. OWD has been entrusted to take up road connectivity programme under RLTAP for KBK Districts. The details of projects taken up and achievements under RLTAP are given in the **Table 2-3**. During 11th Five Year Plan 41 numbers of road projects with potentiality of 113.450 km and 4 numbers of bridge projects, 8 numbers of culverts at a provision of Rs. 99.52 Crore have been taken up. Out of this, 40 numbers of road projects with 111.45 km., 8 numbers culvert works with an expenditure of Rs. 96.94 Crore have been completed. All 4 numbers bridge projects are in progress as on March 2012. It is proposed to complete 5 numbers of bridges and improvement of 75 km road length with an allocation of Rs. 84.05 Crore in 12th Five Year Plan. There is budget provision of Rs. 36.81 crore for the year 2013-14 for 4 nos. ongoing bridges, 18nos. ongoing roads,1no. new bridge and 19nos new road projects. Physical target is for completion of 2 bridges and 18 nos. ongoing road projects with improvement of 40.00 km road length during 2013-14.

Table 2.3: Achievements under RLTAP for KBK Districts

Sl. No.	RLTAP (KBK)	Rs. Crore	No. of Bridges	Road (in km)
1	Project taken up with financial allocation from 2001–02 to 2010–11	119.23	30	606.90
2	Financial and Physical Achievement up to 2010–11	113.68	24	515.58
3	Financial and Physical Target for 2011–12	16.81	2	23.00
4	Financial and Physical Achievement made up to December 2011 during 2011–12	4.32	0	6.44

Source: *Activity Report, 2011-12,OWD, GoO*

2.1.6 Rural Roads under PMGSY

PMGSY was launched on 25 December 2000 as a fully funded Centrally Sponsored Scheme to provide all weather road connectivity in rural areas of the country. The State has completed 5,566 roads of 21,398 km length out of the sanctioned length of 29,875.12 km with an expenditure of Rs. 7,913.92 Crores as on 31st March 2011. Out of 21,398 km of completed roads, 15,841 km were blacktopped and 4,073 km concrete roads. These roads provided all weather connectivity to 7,448 habitations. During 2001–02, 27.84 km road were constructed with an expenditure of Rs. 36.3 crore, whereas during 2010–11, 1,486 roads of 4,941 km length were completed with an expenditure of Rs. 1,924 crore. There has been almost five-fold increase in fund utilisation over last five years. While in 2001–02 the financial achievement under the scheme was Rs. 36.34 crore, it reached Rs. 377.37 crore in 2005–06 and Rs. 1,924.25 crore in 2010–11. There has been a steady increase in investments over last ten years indicating a 53 fold increase by 2010–11. PMGSY became a part of '***Bharat Nirman'*** in 2005–06 to provide all weather connectivity to unconnected habitats with a population of 1,000 or more in plane areas and 500 or more in hilly and tribal areas.

2.1.7 Central Road Fund

Funds are also available from Government of India (GoI) as Central Grants. Road and bridge projects sanctioned under Central Grants and progress attained are presented in the **Table 2-4.** During 11th FYP 39 numbers of road projects with potentiality of 347.105 km at estimated cost of Rs. 489.44 Crore and 1 number of bridge at estimated cost of Rs. 3.44 Crore was sanctioned. Out of this, 27 numbers of road projects with 229.210 km at Rs. 240.47 Crore and 1 number of Bridge project with expenditure of Rs. 3.78 Crore have been completed. It is targeted to improve 300 km road length at an allocation of Rs. 603.26 Crore proposed for the 12th FYP. There is budget provision of Rs. 70.00 Crore for the year 2013-14 for 8 nos. ongoing road projects and 4 nos. new road projects and 3nos. New projects which are in pipe line. Physical target is for completion of 6 nos. ongoing road projects with improvement of 30.00Km road length during 2013-14.

Table 2.4: Central Road Fund Allocation

Sl. No.	Central Road Fund	Estimated Cost (Rs. In Crore)	No. of Bridges	Road (in km.)
1	Project sanctioned under Central Road Fund from 2001–02 to December 2011	717.72 (Government of India Sanction)	21	151
2	Financial and Physical Achievement made up to 2010–11	478.20 (Expenditure)	20	131
3	Financial and Physical Target for 2011–12	83.18 (Budget Provision)	1	9 (Completion of 50 km of road length)
4	Financial and Physical Achievement made up to December 2011 during 2011–12	22.19	0	2 (Completion of 28.100 km of road length)

Source: *Activity Report, 2011–12, OWD, GoO*

2.1.8 Centrally Sponsored Scheme of State Roads

GOI has sanctioned 9 road projects under this scheme with 50:50 share of State and Central Government with an estimated cost of Rs. 333.69 Crore till end of December 2010. Out of the 9 projects, 7 projects have been completed by the end of December 2010. Till the end of 2009–10, 98.18 km road length with an expenditure of Rs. 136.64 Crore was completed. During 2010–11, 16.50 km road length has been completed with an expenditure of Rs. 53.31 Crore.

Economic Importance (E&I)–(CSP)

During 11th FYP 5 numbers of road projects with potentiality of 135.680 km at estimated cost of Rs. 361.46 Crore were sanctioned. Out of this, 3 numbers of road projects with 19.700 km at Rs. 17.51 Crore have been completed during this period and other 2 projects are in progress. Out of above, 1 road project of 91.180 km with estimated cost of Rs. 302.09 Crore was expected to be completed during the year 2012–13. It is targeted to complete 74 km of road if commensurate grant amounting to Rs. 150 Crore is received from Central Government for different roads during 12th FYP period. There is budget provision of RS. 10.00 Crore (State share) and RS. 10.00 Crore (Central share) for the year 2013-14 for 2nos. of ongoing projects. Physical target is for completion of 1no. road project with improvement of 20.00km road length during 2013-14.

One Time Additional Central Assistance (ACA) for Tourism Importance Road

Odisha is an attractive Trove House of cultures, customs and traditions, languages and literature, art and architecture. Odisha truly bears the essence of India. Its ancient grandeur is un-matched. While contemporary scene is encouraging, the future holds great promise on several counts. Vigorous pursuit on tourism activities in the state shall not only help in economic progress of the state but also provide employment to its youth on sustained basis. For providing a better connectivity to places of tourist importance and cultural heritage and to attract the tourists from various parts of the world, Government have taken conscious steps for improvement and strengthening of the roads connecting such places by providing one-time assistance under this scheme.

During 11th FYP 84 numbers of road project with potentiality of 465.990 km at estimated cost of Rs. 314.07 Crore and 2 numbers of Bridges at estimated cost of Rs. 8 Crore was sanctioned. Out of this, 37 numbers of road projects with 236.456 km at Rs. 158.63 Crore have been completed and 1 bridge project with cost of Rs. 2 Crore has been completed. Other projects are in progress. It is targeted to improve or maintaining 350 km road length at a cost of Rs. 600 Crore proposed to be allocated in the 12th FYP.

There is budget provision of RS. 94.00 crore for the year 2013-14 for 44nos.ongoing road projects and 31 nos new road projects. Physical target is for completion of 24nos. road projects with improvement of 70.00km of road length during 2013-14.

Inter State Connectivity – ISC (CP)

During 11th FYP 3 numbers of road projects with potentiality of 23.300 km at estimated cost of Rs. 19.65 Crore were sanctioned. All the 3 projects involving improvement of road of 23.300 km with an expenditure of Rs. 19.84 Crore have been completed.

Under Special Central Assistance during 11th FYP period, 4 numbers of road projects were taken up for improvement of 51.70 km of road length at a sanctioned cost of Rs. 100 Crore. All the projects were part of Vijayawada Ranchi Corridor which has been completed. There is budget provision of RS. 0.0002 Crore for the year 2013-14 for 1no. of new road project which is in pipe line.

Odisha State Road Project (OSRP)

Under the World Bank loan agreement for the OSRP, an amount of US$ 250 million has been provided. The loan has a funding ratio of 80:20 between the World Bank and the State Government. The major funding is for construction, improvement and strengthening of roads. About 461 km of busy corridors of the state have been identified under OSRP in the first phase at an estimated cost of Rs. 1,431 crore.

National Highway (NH)

Construction of NH passing through the state is entrusted to the office of the Chief Engineer, National Highways. NH projects are sanctioned and funded by MoRT&H, GOI. **Tables 2-5** and **2-6** provide the number of projects sanctioned and progress achieved under the projects during 11th Five Year Plan.

Table 2.5: Projects Sanctioned during 11th FYP of Odisha

Year	Number of Jobs Sanctioned	Sanctioned Amount (Rs. in Crore)
2007-08	30	207.32
2008-09	82	548.66
2009-10	23	664.96
2010-11	10	76.21
2011-12	12	80.54
Total	**157**	**1577.69**

Source: *Office of the Chief Engineer, National Highways*

Table 2.6: Achievement on NH Sector during 11th FYP (2007–12)

Sl. No.	Nature of Works	2007-08	2008-09	2009-10	2010-11	2011-12
1	Expenditure under NH (O) Works (Rs. in Crore)	138.87	208.84	313.12	328.4	273.75
2	Widening to two lane (km)	23.35	60.71	171.126	106	74.3
3	Strengthening of existing pavement (km)	19.29	43.6	115.76	95	50.293
4	Improvement of riding quality (km)	182.95	96.25	134.81	76	80.955
5	Construction of missing link (km)	16.93	1.8	0	0	0
6	Re-construction of Bridge (Nos.)	2	5	1	1	1

Source: *Office of CE, NH*

Plan and Non-Plan Allocation

Table 2-7 provides an abstract of plan and non-plan allocation and expenditure from 2008–09 to 2010–11 for the road sector in the state from the budgetary allotment.

Table 2.7: Plan and Non-Plan Allocation and Expenditure (Rs. Lakhs)

NON-PLAN						
Head of Account	2008-09		2009-10		2010-11	
	Final Allotment	Expenditure	Final Allotment	Expenditure	Final Allotment	Expenditure
2059 ME	1,221.23	987.33	1,209.88	1,134.73	1,071.55	1,065.04
3054	40,109.15	40,986.68	43,320.61	45,180.48	49,589.89	49,740.03
5054	5,317.40	5,309.61				

NON-PLAN						
Head of Account	**2008-09**		**2009-10**		**2010-11**	
	Final Allotment	**Expenditure**	**Final Allotment**	**Expenditure**	**Final Allotment**	**Expenditure**
PLAN						
4217	476.83	474.53	99.98	99.90	100.00	93.94
5053	111.43	111.43	199.00	199.00	199.99	199.99
5054	73,250.25	72,941.85	59,954.33	59,920.84	80,708.78	85,661.78
CENTRAL PLAN						
5054	1,522.45	1,451.92	591.99	700.98	780.96	671.97
CENTRAL SPONSORED PLAN						
5054	1,957.47	1,957.49	2,199.96	2,199.96	2,660.58	2,660.58
Grand Total	**1,23,966.21**	**1,24,220.84**	**1,07,575.75**	**1,09,435.89**	**1,35,111.75**	**1,40,093.33**

Source: *Finance and Accounts Division, OWD, GoO*

The budgetary allocation for the roads sector under the administrative control of Works Department, Rural Development Department and Panchayati Raj Department for the years 2010-11 to 2013-14 are provided in **Table 2-8**.

Table 2.8: Allocation of Funds for Capital Assets – Roads Sector (Rs. Crore)

Departments	**2010-11 (RE)**	**2011-12 (RE)**	**2012-13 (RE)**	**2013-14 (BE)**
Rural Development Department	394.8	398.0	617.5	757.2
Panchayati Raj Department	125.0	200.0	617.3	905.9
Works Department	542.3	571.4	452.9	745.6
Total	1062.1	1492.8	1301.2	2013.1

Source: *Budget Documents, GoO*

Maintenance

Maintenance of extensive road network is a major pre-requisite for upkeep of capital assets. Due to increasing traffic, it has assumed significant importance to develop a well-formatted maintenance schedule for better maintenance of roads with the available resources. Besides, factors like flood, cyclone and other natural calamities damage the roads almost every year. Accordingly, considering the budget provision, annual maintenance plan for the year 2011-2012 was prepared and the targets and achievements are shown in **Table 2-9**.

Table 2.9: Maintenance Target & Achievement of 2011-12

Sl. No.	Road Category	Nature of Repair	Target for 2011-2012	Achievement of 2011-2-12 (up to end December 2011)
1	**State Highways**	Special Repair	27 Nos. Bridge & 37.75 km. length of road	27 Nos. Bridge & 25 km. length of road
		Periodical Renewal	356.00 km.	270.00 km
		Pothole Repair/Routine Maintenance	2242.100 km	2200.00 km
		Repair to CD Work	81 Nos.	76 Nos.
2	**MDR/ODR**	Improvement	120 Nos. of CD Work & 130.264 km length of road	40 Nos. of CD Work & 83.00 km length of road
		Special Repair	81.00 km length of road	56.00 km length of road
		Periodical Renewal	1115.00 km	731.00 km
		Pothole Repair/Routine Maintenance	7650.174 km	6793.00 km
3	**Core Road Network**			
	State Highways	Pothole Repair/Routine Maintenance	530.00 km & 63 Nos. of CD Works	338.00 km & 36 Nos. of CD Works
		Special Repair/Periodical Renewal	47.849 km & 22 Nos. of CD Works	25.150 km & S/R of 12 Nos. of CD Works
	MDR/ODR	Pothole Repair/Routine Maintenance	314.515 km & 12 Nos. of CD Works	241.100 km & 5 Nos. of CD Works
		Special Repair/Periodical Renewal	63.287 km & 2 Nos. of CD Works	21.830 km & CD Works in progress

Source: *Activity Report, 2011–12, OWD, GoO*

A summarised allocation of funds for operation and maintenance by departments/agency for the road sector is given in **Table 2-10**.

Table 2.10: Allocation under O&M of Capital Assets – Roads Sector (Rs. Crore)

Department	2010-11 (RE)	2011-12 (RE)	2012-13 (RE)	2013-14 (BE)
Works Department	523.4	561.5	671.9	747.8
R.D. Department	366.8	427.6	509.4	580.0
Panchayati Raj Department	50.0	100.0	113.0	117.0
Total Maintenance Allocation	940.2	1089.1	1294.3	1444.9

Source: *Budget Documents, GoO*

The funds allocated from the state budget for maintenance of roads are for carrying out routine maintenance and periodic maintenance and are not for strengthening of roads, which cannot be construed as maintenance.

Key Issues in Current Road Sector Financing

Based on the analysis of historical trends in resource allocation and actual expenditure, it emerges that:

1. The majority of schemes for development of the road sector in the state are capital works (construction/up-gradation) oriented. Various schemes such as PMGSY, RIDF, State Plan and Central Plan Assistance, etc. are in place to finance the capital requirements of the road network. However, currently no specific schemes or policies are in place dedicating a sustainable source of funding for maintenance of road assets. It is also not possible to divert funds from specified schemes to other activities as and when the need arises.

   The Chart presented below indicates various sources of funds available for different types of activities needed for road network. This Chart enforces the fact that presently focus is more on capital works compared to maintenance related works.

   Chart 1: Sources of Fund for the State Road Sector

Sources of Fund	New Development/Up-Gradation			Maintenance		
Types of Road	NH	SH	RR	NH	SH	RR
PMGSY, MoRD			x			
Central Road Fund		x	x			
MoRTH				x		
Central Plan Grants		x	x			
Central Non-Plan Grants					x	x
State's Own Revenues					x	x
State's Borrowings – NABARD			x			

2. The road sector in Odisha currently lacks dedicated and sustainable source of funding for maintenance. The financial resource allocation for the road sector forms a part of the resource allocation in the overall state budget. The current sector financing provides that the primary source of funding the road sector is the Consolidated Fund of the State. It is fairly understood that the State Government has various social and political obligations, which effect the overall budgetary allocations to various sectors. Since the allocation mechanism has to strike a balance between these obligations, the roads sector needs for maintenance are prone to be ranked lower in priority in absence of dedicated and sustainable source of funding for the road sector, with increasing demands from the social sectors.

3. It is likely that in future the maintenance requirements would surpass the capital works requirements; and if corrective action is not taken in time then the needs of the road network would not be addressed appropriately in the years ahead.

4. Further, given the importance of the development of the road sector for the overall development of the state, it is imperative that a long-term strategy to improve the sector governance should be formally put in place. Also, since the development of the road sector affects a larger section of stakeholders (including government and non-government stakeholders), a formal platform to address the concerns of all the stakeholders needs to be institutionalized.

5. The current sector governance is further affected since only the government plays all the key roles including the policy maker, the funding agency, the allocating agency etc. Therefore, some form of an independent institutional set-up that focuses on the development of the road sector and provides a platform for all the stakeholders to raise their views, may be a way forward to structure addressing this issue. Such an institutional set-up is expected to contribute to improve sector governance and would also bring transparency and efficiency in financial resources management for the road sector.

The issues discussed above can be clubbed into two core issues – one is there is lack of dedicated funding for maintenance of roads; and another is need for enhanced sector governance. Hence, it may be concluded that in order to improve road sector financing in Odisha, the focus should be on the following two core parameters – a) **Ensuring Adequacy of Funds**, and b) **Improving Governance**. Dedicated funding would ensure stable and sustainable source of funding and governance would ensure overall management of that fund.

CHAPTER 3 : ROAD FUND – CONCEPT & EVOLUTION

This chapter describes the steps taken by other countries and states in India to address the issue of lack of dedicated funding for maintenance of roads; and the need for enhanced sector governance. The purpose of this discussion is to draw lessons from experiences of other countries and states in India to focus on addressing the core issue of dedicated funding and improved governance for development of the road sector in Odisha.

Origin of Road Funds

It was way back in 1866 that the concept of Road Fund first emerged in the form of Jamaica Municipal and Road Board, followed by a similar fund in South Africa in 1935. In the early 1950s, when the New Zealand Land Transport Fund (1953) and the Japan Road Improvement Special Account (1954) and the US Federal Highway Trust Fund (1956) were established, they were set up on a “user-pay concept”[2].

First Generation Road Fund

The Road Funds were designed to address – (i) inadequate level of funding for road maintenance; (ii) uncertain future revenues and irregularity of payments making maintenance planning difficult;; and (iii) inadequate maintenance funding resulting in higher reconstruction costs. These first funds were to mainly cover new construction as well as maintenance. These Conventional Road Funds were termed as First Generation Road Funds.

The First Generation Road Funds were set up as a line item in the national budget, administered and largely delivered by government departments and allocated according to more or less pre-defined priorities. Usually, the government treasury credited certain taxes and charges under a single heading in the budget statement as in case of Japan, the United States, and some other countries. Under the First Generation Road Funds, the money was first deposited into the Consolidated Fund and then transferred to the Road Fund.

The First Generation Road Funds largely did not have special financial regulations, or they simply relied on general government financial procedures. They did not provide a stable flow of funds and had a weak financial discipline. This system often caused problems such as – (i) difficulties in collecting revenues attributable to road funds; (ii) making of unauthorized withdrawals from the road

[2] User Fee: is a charge for the use of a facility or provision of a service, the revenue of which is allocated to a provision of that service or facility; and the revenue from this charge for the use of a facility or provision of a service is allocated or earmarked to a provision of the particular specific service or facility. In case of roads, road user charges are direct charges levied for use of roads including tolls, time base fees and congestion charges.

fund; (iii) payment for goods and services which were either substandard or not delivered to the road agency; and (iv) poor financial management of accounts.

In sum, there were no clear specification of how the funds should be used; and there were no strict audit or accounting procedures; often leading to misuse of funds. The problems which the First Generation Road Funds faced were – (i) control of revenues was particularly weak and substantial sums appeared to "disappear" before reaching the road fund; and (ii) the poor financial controls weakened financial discipline.

Many countries, such as Ghana, Malawi, New Zealand, Yemen, etc. thus introduced legislations permitting for the road user charges to be deposited directly into the road fund.

Second Generation Road Fund

In late 1990s Second Generation Road Funds were set up clearly specifying the use of funds with revenues for the Road Funds managed by a Board, sometimes independent and invariably with some user representation and strict financial audit requirements. The distinguishing feature of the "second generation road funds" is that they are conceived of as commercial entities, managed by user representatives who both gain the benefits from the road facilities they provide but also bear the cost of any increase in charges which they approve.

Legal and Institutional Framework of "Second Generation" Road Funds

A critical dimension of the "second generation" road fund was creation of a specific legal and institutional framework which would assure proper management of the funds and accountability to users and government. "Second generation" road funds are thus governed by specific legislation which sets out the roles and responsibilities of a representative management board to oversee operations and a secretariat to manage the business of the road fund on a day-to-day basis. The legislation has generally sought to set up an institution, which has a unique mandate for securing resources and channeling these funds to mandated road agencies. The second generation road fund has become a significant feature of sector reform programs and strategies for improving road maintenance in several countries.

Main Differences between First Generation and Second Generation Road Funds

The main differences between the First and Second Generation Road Funds are –

i) only road user charges go into the road fund;

ii) the fund is managed by a representative board with half or more of the board members representing road users and the business community;

iii) the members are nominated by the constituencies they represent and there is an independent chairperson;

iv) the arrangements are designed to ensure that money is not diverted from other sectors – extra spending on roads is financed through extra payments by road users;

v) funds are managed pro-actively by a small secretariat with the aim of strengthening financial discipline;

vi) charges are adjusted regularly to meet agreed expenditure targets; and

vii) the road fund is subject to regular technical and financial audits.

Road Funds' Institutional Set-up – Case of a Few Countries

A brief profile of the institutional and organizational structure of the Road Funds existing in the world with a special focus on some African countries, a few South-Asian countries, and New Zealand, as well as a few states in India, is provided in **Annexure 3.1**.

Gujarat is a model in budgetary allocation of sufficient amount of funds for road maintenance and development and which has initially decreased its maintenance backlog to a large extent. However, in the subsequent years, such earmarked funding for maintenance was discontinued, and funds are being allocated through non-plan budgetary provision. An objective perspective of funding option followed in the state of Gujarat is given as a case example at **Annexure 3.2**.

Summing Up

A number of the commercially managed road funds have been set up under existing legislation, or by passing a Ministerial or Presidential decree (or equivalent). For example, Lesotho set up its road fund by publishing a legal notice in the government gazette. The notice simply stated that a special road fund account is being opened, while a separate gazette notice spelled out the financial regulations governing the way it would be managed, what it would finance and where the revenues would come from. On the other hand, Yemen set up its road fund using a Presidential Decree (which was then submitted to Parliament for ratification). The decree stated that a special road fund account is being opened, why it is being opened, the source of revenues, and how the account would be managed. The decree is also supported by detailed financial regulations.

Weak legal basis is aggravated by unclear or lack of implementing regulations.

Some of the Road Funds of South Asia are supplemented by additional Rules to clarify administrative mechanisms. Additional rules and regulations cover aspects for which more flexibility is needed to allow their revision without requiring new legislation. The other Road Funds do not really have clear and sound legal frameworks as no additional Rules were developed and enacted. This is also the case for Kerala and Rajasthan Road Funds, which though created through Legal Acts, do not have supplemental legislation and thus have several important aspects (e.g., allocation rules) that remain to be regulated.

The main disadvantage observed is that the road fund revenues continue to be collected under unclear arrangement. Some of the road funds set up under decrees also provide for direct deposit of the revenues (e.g., Yemen, and some of the Western Government's tax-making powers) and this generally means they must first be credited to the government's consolidated fund and then transferred to the road fund. This has frequently caused problems. The Ministry of Finance sometimes allocates part, or all, of the revenues for other purposes and there may be long delays before the funds collected from road users are finally deposited into the road fund. Some countries have nevertheless managed to solve this problem. The Ministry of Finance sometimes agrees to handle the deposit into the consolidated fund as a paper transaction and deposits the cash directly into the road fund bank account. For instance, Sierra Leone has set up such road fund, although this does not necessarily prevent the Ministry of Finance from diverting the road fund revenues for other purposes.

However, as growing number of commercially managed road funds are being established under new legislation, this puts them on a firmer legal basis and enables the road fund administration to be set up as a separate public enterprise. The revenues can then be collected from road users in the form of road tariff, rather than as part of the government's tax revenues, and the proceeds can be deposited directly into the road fund bank account without having to transit – whether as cash or a paper transaction – through the government's consolidated fund. For example, Malawi and Namibia have already legislated to collect the road fund revenues in the form of public enterprise tariff and several other road funds are planning to do the same.

Annexure 3.1: Road Funds – Experience of other Counties & States in India

Experience of African Countries

Country/ Name of the Road Fund	**Zambia National Roads Board (NRB)**
Year of Establishment	1994
Objectives/Major Reasons for Establishment	The National Roads Board (NRB) was established with the specific objective of administering the Road Fund. Key functions of NRB include: - ensuring public roads are maintained and rehabilitated as required at all times; - raising the required funds for adequate maintenance and rehabilitation of public roads; and - advising the Committee of Ministers on, inter alia, the preparation and efficient implementation of annual roads program.
Legal Framework **Established by a Law/Decree/ Government Order/Notification**	The NRB was established under the Roads and Roads Traffic Act Cap 464 in October 1994.
Institutional Structure	
Management Board/Composition of Board	The NRB is composed of eleven members, of whom, seven are from the private sector and road users' groups. The NRB is supported by a Secretariat, consisting of eight staff in the functional areas of administration, procurement, engineering, and finance. The Secretariat is assisted by the Management Support Services team, consisting of two full-time and two part-time consultants. The Secretariat is headed by the executive secretary, who is a fellow of the Chartered Institute of Transport, with over 30 years of experience.
Regular Financial and Technical Auditing	Quarterly technical and financial audits of the NRB are carried out.
Country/ Name of the Road Fund	**Ethiopia Road Fund Administration (RFA)**
Year of Establishment	March 1997
Legal Framework **Established by a Law/Decree/ Government Order/Notification**	The Ethiopia Road Fund Administration (RFA) was established by proclamation as an autonomous body on March 1997
Objectives/Major Reasons for Establishment	The primary objective of the Ethiopian Road Fund is financing of road maintenance work of road agencies. The strategic basis of the Road Fund is provided in the government's Road Sector Development Program (RSDP). The primary functions of the RFA include: - Administer the fund; - Issue directives to define collection and disbursement procedures;

	- Review annual road maintenance programs of the road agencies, and offer advice on coordinating design of the programs; - Submit annual proposals to the government of programs to be financed by the fund and allocate the funds; - Review management reports of the road agencies; - Initiate financial and technical audits and road safety related activities; - Make recommendations to the government for additional revenue sources and level of tariff required to finance road maintenance programs; and - Advise government on policy matters.
Institutional Structure	
Management Board/Composition of Board **Organizational Structure**	The Road Fund is managed by a Board consisting of fifteen members—the chairperson and four members are federal government representatives, six are regional and municipality representatives and four are from the private sector. The private sector is represented by a freight transport owners' representative, liquid cargo transport owners' representative, and passenger transport owners' representative. The office of the Road Fund Administration (Secretariat) opened in June 1998, and is responsible for day-to-day management of activities with an approved maximum staff of 27 (including support staff). The administrative and operating budget for the Secretariat is allocated from the Ministry of Finance and is less than one percent of the road fund collection during the current fiscal year. The Secretariat, headed by a General Manager, reports to the Board and is divided into three departments—administrative and finance; plan, program and budget; and audit and technical inspection.
Regular Financial and Technical Auditing	Technical and Financial Audits are carried out annually.
Country/ Name of the Road Fund	**Ghana Ghana Road Fund**
Year of Establishment	1997
Legal Framework **Established by a Law/Decree/ Government Order/Notification**	Parliament passed the Road Fund Act in 1997, thus, establishing the Ghana Road Fund. The Act recommended the composition of the Road Fund Board, to be supported by a Secretariat in the performance of its administrative functions, with the Minister of Roads and Transport as its chairman.
Objectives/Major Reasons for Establishment	The primary objective of the fund is to finance routine, periodic maintenance and rehabilitation of public roads in the country.

Institutional Structure	
Management Board/Composition of Board **Organizational Structure**	Under the Act, a management board for the fund, known as the Road Fund Management Board, was established to manage and administer the fund. A permanent RF Secretariat was put in place, effective from January 1997, as part of the Road Fund Board organization. The Chief Director (Roads and Transport) of the Ministry is Secretary to the Board. The secretariat resides in the Ministry under the Chief Director (Roads and Transport), supported by an engineer, two assistant engineers, an account, two assistant accountants and administrative staff. The thirteen-member Board established under the law has five members from the public sector and eight members from the private sector.
Regular Financial and Technical Auditing	Technical and Financial Audits are carried out annually.
Country/ **Name of the Road Fund**	**Malawi** **Malawi's Road Fund**
Year of Establishment	2006
Legal Framework **Established by a Law/Decree/ Government Order/Notification]**	Following the reforms that took place in the road sector in response to the Road Maintenance Initiative (RMI) studies, the National Roads Authority Act in 2006 was repealed and the enactment of two new pieces of legislation, namely the Roads Fund Administration Act and the Roads Authority Act, came into being. These two new pieces of legislation created the Roads Fund Administration (RFA) and the Roads Authority. The first Board of the RFA was appointed in December 2006. Unlike the Roads Authority which took over the structure of the old National Roads Authority, the RFA started as an entirely new and independent body. The RFA Secretariat became operational in May 2007.
Objectives/Major Reasons for Establishment	Raising, administering and accounting for funds for the construction, maintenance and rehabilitation of public roads in Malawi.
Institutional Structure	
Management Board/Composition of Board **Organizational Structure**	The National Road Authority Act 1997, apart from creating the Malawi Road Fund, also established the National Road Authority Board and the main Authority was termed the "Secretariat". The Road Fund is managed by a Director of Finance who also covers finance of works operations and reports to the Chief Executive. Also, the Operations Director who manages all roads and an Administrative Officer report to the Chief Executive. The Chairperson of the Board and three members representing the public are selected by the President. Permanent Secretaries for Works, Finance and local Government are members along with private sector

	representatives from Road Transporters Association, Taxi Drivers Association, Tobacco, Tea and Sugar Growers, National Construction Industry Council, National Road Safety Council, Chamber of Commerce, and two civil servants from Ministries of Works and Finance. The Board has two sub-committees, namely finance and technical.
Regular Financial and Technical Auditing	Technical and Financial Audits are carried out annually.
Country/ Name of the Road Fund	**Tanzania Road Fund Board**
Year of Establishment	2000
Legal Framework Established by a Law/Decree/ Government Order/Notification]	The Road Fund in its current form came into operation in 2000. The Road Fund was established in terms of the Roads Toll (Amendment) No. 2 Act, 1998 which amended the Roads Tolls Act, 1985.
Objectives/Major Reasons for Establishment	The Fund is mandated to use at least 90% of the money paid into the Fund for maintenance and emergency repair of classified roads and related administrative costs in Mainland Tanzania. Furthermore, the Fund shall use not more than 10% of the Fund's money for road development and related administrative costs in Mainland Tanzania.
Institutional Structure	
Management Board/Composition of Board Organizational Structure	The Road Fund has its own dedicated Secretariat reporting to the Road Fund Board, led by a Road Fund Manager supported by two engineers and two accountants. The Road Fund Board is appointed for a period of 3 years and has a fair mix of public and private sector representatives.
Regular Financial and Technical Auditing	Technical and Financial Audits are carried out annually.
Country/ Name of the Road Fund	**Uganda Uganda Road Fund (URF)**
Year of Establishment	August 2008
Legal Framework Established by a Law/Decree/ Government Order/Notification	The URF, established by the Act of Parliament in August 2008, is charged with ensuring adequate and stable funding for maintenance of the country's public roads. Public roads include national, district, urban and community access roads.
Objectives/Major Reasons for Establishment	The Uganda Road Funds principal objective is to finance routine and periodic maintenance of these public roads
Institutional Structure	
Management Board/Composition of Board Organizational Structure	The Board members are comprised of four members of the private sector namely; Institution of Professional Engineers, Institution of Public Accountants and Auditors, Uganda

	Freight Forwarders Association, Passenger Transport Services and three from the public sector, who include: Ministry of Finance Planning and Economic Development, Ministry of Works and Transport and Ministry of Local Government, all nominated by their respective organizations as prescribed in the Act;
Regular Financial and Technical Auditing	The Auditor General or an auditor appointed by the Auditor General on the recommendation of the Board shall, in each financial year, audit the accounts of the Fund.
Country/ Name of the Road Fund	**Kenya Road Maintenance Levy Fund (RMLF)**
Year of Establishment	July 2000
Objectives/Major Reasons for Establishment	Quality of the road network. Operational efficiency Resource allocation
Legal Framework Established by a Law/Decree/ Government Order/Notification	As part of the Road Fund Act enacted by the Parliament in January 2000, the Kenya Roads Board is established, All proceeds from the Road Maintenance Levy Fund vested in the Board, and other specified sources of revenue are also deposited in the Fund.
Institutional Structure	
Management Board/Composition of Board	The Kenya Roads Board was defined in the Kenya Roads Board Act 1999 and enacted by the Parliament in January, 2000. The Board consists of: (i) a chairman and an executive director; (ii) five Permanent Secretaries of the relevant ministries; and (iii) seven members nominated from: the Institution of Engineers of Kenya, the National Chambers of Commerce and Industry, the Institute of Certified Public Accountants of Kenya, the Automobile Association of Kenya, the Institute of Surveyors of Kenya, the Kenya National Farmers Union, the Kenya Association of Tour Operators, and the Kenya Transport Association. The chairman is appointed from the private sector.
Regular Financial and Technical Auditing	Technical and Financial Audits are carried out annually.

Experience of South Asian Countries

Country/ Name of the Road Fund	**Lao People's Democratic Republic Road Maintenance Fund**
Year of Establishment	2001
Legal Framework Established by a Law/Decree/ Government Order/Notification	The Government of the Lao People's Democratic Republic established the Road Maintenance Fund (RMF) on 15 January 2001 through Prime Ministerial Decree No.9.

Objectives/Major Reasons for Establishment	The RMF aims at financing routine maintenance, emergency and periodic maintenance work, administration renewal works, road safety projects, and other administrative costs.
Institutional Structure	
Management Board/Composition of Board	The RMF is managed and supervised by the Ministry of Public Works and Transport (MPWT). Another decree was signed for the creation of the RMF Advisory Board, which is tasked to approve decisions about RMF allocations with MPWT. The board consists of members from the public and private sectors appointed from the Ministry of Finance, MPWT, provincial authorities, Chamber of Commerce and Industry, road and passenger transport operators, and the general public. The chairperson of the board is nominated by MPWT.
Country/ Name of the Road Fund	**Nepal Roads Board Nepal**
Year of Establishment	2002
Legal Framework **Established by a Law/Decree/ Government Order/Notification**	The Nepal Roads Board was constituted by the Roads Board Act of July 2002
Objectives/Major Reasons for Establishment	The mandate is of maintaining the road network through a sustainable fund in a planned, cost efficient, and transparent manner;
Institutional Structure	
Management Board/Composition of Board	Roads Board Nepal (RBN) is a self-governing, self-sustaining and organized entity based on PPP model. The major function of RBN is to collect, manage and allocate fund for road maintenance to the Road Agencies (RA). Although RBN has more features of Second Generation Road Fund than the other Road Funds of South Asia, it lacks autonomy and independence from external interference **Administrative Autonomy:** the Executive Director is appointed by the Board mainly comprising of public sector representatives. Some of the key powers given to the Executive Committee of RBN by the Legal Act are overridden by the government rules which regulate business procedures of government organizations. **Financial Autonomy: I**ndependent from General Taxation. However, despite the Act providing RBN authority to allocate Road Fund resources, RBN has to receive authorization from Ministry of Planning and Public Works (MPPW) before allocating resources to road agencies. According to the government rules, only a sector ministry (MPPW in this case) has the authority to spend what is

	specified in Government of Nepal's (GON) Budget Book The Board is established as an autonomous corporate entity with public private partnership. Decisions of the Executive Committee are also affected by the views of the political representatives at the Board who are in a majority. The local government representatives who dominate in the Board have managed to influence the Board decisions and allocate more RBN resources for upgrading and reconstruction of local roads despite RBN's priority to financing maintenance.
Regular Financial and Technical Auditing	Financial Audit by the Office of Auditor General, Nepal. There is no arrangement for Technical Audit
Country/ Name of the Road Fund	**Pakistan Road Maintenance Account**
Year of Establishment	2003
Legal Framework **Established by a Law/Decree/ Government Order/Notification**	Government. Of Pakistan Notification of National Highway Authority Road Maintenance Account Rules 2003
Objectives/Major Reasons for Establishment	To provide an adequate, secure and stable source of funding for maintenance of national highway network
Institutional Structure	
Management Board/Composition of Board	Pakistan National Highway Authority (NHA) has been running a Road Maintenance Account (RMA) and has established a Road Maintenance Fund (RMF). The Administrative Work is carried out by the Road Asset Management Directorate (RAMD). Institutional arrangements have been put in place to improve NHA's external accountability to the road users, such as regular stakeholder consultations, clear performance indicators, and annual reports and audited accounts in the public domain. **Administrative Autonomy:** RAMD is recommended by Executive Board and approved by Federal Government **Financial Autonomy: I**ndependent from General Taxation; Financial Management System is based on international accounting standards as accepted in Pakistan for financial reporting and is maintained by the Finance Wing of NHA
Regular Financial and Technical Auditing	**Financial Audit** by chartered accountants appointed as independent auditors by the Executive Board of NHA **Technical Audit** by independent, reputable professional firm or individual hired by Executive Board

Country/ Name of the Road Fund	India Central Road Fund (CRF)
Year of Establishment	2000
Legal Framework **Established by a Law/Decree/ Government Order/Notification**	The CRF was established in 1930 and revitalized under the Central Road Fund Act, 2000. Additional resources are generated through an explicit cess on fuel (petrol and high speed diesel), and their allocation to national highways, state highways, and rural roads has been clearly defined in the Act. Central Road Fund Act, 2000 The CRF was established in 1930 and revitalized under the Central Road Fund Act, 2000
Objectives/Major Reasons for Establishment	For development and maintenance of national highways and improvement of safety at railway crossing
Institutional Structure	
Management Board/Composition of Board	**No Specific Board set-up** The CRF is at present an accounting mechanism, under the Ministry of Finance, without any capacity of its own to negotiate work programs with road agencies, scrutinize disbursement applications, or commission financial or technical audits of expenditure. **Administrative Autonomy:** Federal Government is responsible for administration and management of CRF; **Financial Autonomy:** The Fund is, part of Central Government's Financial Management System No private sector representatives
Regular Financial and Technical Auditing	**Financial Audit** by the Comptroller and Auditor General of India **Technical Audit**: There is no provision for such audit.

Experience of New Zealand

Country/ Name of the Road Fund	New Zealand New Zealand National Road Fund
Year of Establishment	Year 1995
Objectives/Major Reasons for Establishment	The principal task of the board is to allocate resources to maintain a safe and efficient road system. Approve and purchase a national road program that prioritizes funding consistently, pursue efficiency in delivering roads and alternatives to road through contestability and establish contracts with road-controlling authorities.
Legal Framework **Established by a Law/Decree/ Government Order/Notification**	History of Transfund: Restructuring of Road Management and creation of the Board. In 1989, a special operating agency, Transit New Zealand (Transit NZ), was put in charge of the main highways system. It was placed under the direction of a Board with user representation. Existing

	charges for road use were transferred to it, and it was given the authority for spending decisions on both maintenance and expansion. It was also given responsibility for joint funding of secondary roads (owned by local authorities) and for funding urban transit or alternatives to roads in other modes, if they were more cost-effective than road spending. After Transit NZ had been in place for five years or so, it was judged that the agency spending was favoring primary highways, to the relative neglect of secondary roads and alternatives to roads. In 1996, a new agency, Transfund New Zealand, was created to remedy this. The National Road Fund was established initially under the National Roads Act. 1953 and amended in 1989 and then in 1995. It was managed by the board of Transfund, which was set up under the Transit New Zealand Amendment Act. 1995.
Institutional Structure	
Management Board/Composition of Board	The board consists of five people: two representing Transit New Zealand (either employees or members of the Roads Authority), one representing local government, one road users and one representing an aspect of the public interest not represented by the other members of the board. The members are appointed by the governor-general on the recommendation of the responsible minister following consultation with people from the land, transport, industry, etc. The remaining three members are the former chairperson of the New Zealand Road Transport Association, chairperson of Transit New Zealand Authority and a further member of the Transit New Zealand Authority who is also a director of the Port of Marlborough. The board has a full-time secretary Transfund currently has 35 staff, including a CEO appointed by the board. The CEO appoints all other staff.
Regular Financial and Technical Auditing	New Zealand National Road Fund Board audits all road controlling authorities and regional councils on a timely basis to provide assurance as to the efficient and effective use of resources.

Experience of United States

Country/ Name of the Road Fund	United States Federal Highway Trust Fund
Year of Establishment	1956
Objectives/Major Reasons for Establishment	The United States established a **Federal Highway Trust Fund** to finance select federal road programs. The federal funding system involved earmarking certain road-related taxes and depositing them into a special account.

	The Federal Highway Trust Fund finances the federal-aid highway program, administered by the Federal Highway Administration (FHWA). Later amendments extended the funding to other transport programs as follows: • The Highway Safety Act of 1966 made funds available for state and community road safety programs • In 1982, the objective of the Fund was widened to permit financing of mass transit projects administered by the Federal Transit Administration • In 1991 the Intermodal Surface Transportation Efficiency Act (ISTEA) provided the new role of the Highway Trust Fund as an "Intermodal Fund" by extending support to high speed rail lines and bike trails.
Legal Framework **Established by a Law/Decree/ Government Order/Notification**	The Federal Highway Trust Fund was created by the Highway Revenue Act of 1956. The Act provided that revenues from certain highway user taxes would be credited to a Highway Trust Fund to finance the highway program enacted in the Federal-Aid Highway Act of 1956. Since then, legislation has periodically extended the imposition of the taxes and their transfer to the Highway Trust Fund. The Trust Fund exists only as an accounting mechanism. The taxes earmarked for the Trust Fund are deposited into the general fund of the US Treasury and a paper transfer of these taxes is made to the Trust Fund twice every month as liabilities are incurred. Earmarked tax revenues in excess of those required to meet current expenditures are invested in public debt and interest earned is credited to the Trust Fund.
Institutional Structure	
Management Board/Composition of Board	There is no independent oversight board. Oversight was provided by two committees of the Congress: one in the House of Representatives and the other in the Senate. Their main role is to handle the authorizing legislation which regularly continues the Federal-Aid Highway Program.
Regular Financial and Technical Auditing	Audits are normally carried out by external auditors and cover financial matters, compliance and internal control procedures. Each state participating in the scheme was required by law to have an annual audit carried out.

State Road Funds in India

State/ Name of the Road Fund	Assam Assam State Road Fund (ASRF)
Year of Establishment	2000
Legal Framework **Established by a Law/Decree/ Government Order/Notification**	No Act/Law; As the decision was taken by State Cabinet

Objectives/Major Reasons for Establishment	To meet huge financial requirements for maintenance and upgrading of existing roads.
Institutional Structure	
Management Board/Composition of Board	**The ASRF is registered as a society and is chaired by the Chief Minister of the State.** **Administrative Autonomy:** High level PWD officials and staff constitute the General Body (acting as a Road Fund Board); **Financial Autonomy: D**ependent on general taxation; and there are two Private Sector Representatives
Regular Financial and Technical Auditing	Rules and Regulations: (i) financial audit by chartered accountant or the Auditor (ii) Bylaws and Rules require technical audit It is understandable to some extent why Assam SRF which is mainly a repository of several schemes (e.g., PMGSY) does not need supplemental rules, as regulations of these schemes are already defined in their respective legal frameworks. However, the regulation for one of its revenue sources – fuel levy – is not stipulated in any legislative document related to the RF.
State/ Name of the Road Fund	**Karnataka** **Karnataka Chief Minister's Rural Road Development Fund** (Chief Minister's Mukhya Mantri Rasthe Abhivridhi Nidhi)
Year of Establishment	2004
Legal Framework **Established by a Law/Decree/ Government Order/Notification**	Not created through an Act or Law; Created through secondary-level legislation: Government Order
Objectives/Major Reasons for Establishment	Karnataka Chief Minister's Rural Road Development Fund, which was created to support "maintenance and upkeep of rural roads", allocates 70% of its revenues to major maintenance and upgrading of Major and Other District Roads and 30% for rural roads.
Institutional Structure	
Management Board/Composition of Board	No administrative and institutional autonomy because there is **no specific Board.** Rural Road Development Committee at the State level has a mandate to review and monitor maintenance and upgrading of rural roads funded by the Karnataka Chief Minister's Rural Road Development Road Fund. There is no autonomy for financial management. The PWD and Rural Development and Panchayat Raj Department are responsible for carrying out administrative work of Road Fund's decisions. No Private sector representatives
Regular Financial and Technical Auditing	No requirements on auditing stipulated in the Order

State/ Name of the Road Fund	**Kerala Kerala State Road Fund (KSRF)**
Year of Establishment	2001
Legal Framework **Established by a Law/Decree/ Government Order/Notification**	It was established by the Kerala Road Fund Act, 2001
Objectives/Major Reasons for Establishment	To meet the need for establishment of a statuary board and a fund for investments in the transport facility projects
Institutional Structure	
Management Board/Composition of Board	Chaired by the Chief Minister of the State (Kerala); Since Chairmen are top level public officials they are first accountable to their governments and second to the RF Boards. As a result, there is a risk that decisions taken by Boards have political influence and reflect the interests of the high ranking politicians or line ministries. No **Administrative Autonomy** because Principle Secretary of PWD as Executive Director of RF Board; No **Financial Autonomy** because dependent on General Taxation Private Sector Representatives, 3 in number; including representatives of State bank, Infrastructure Development Finance Co. Ltd. (IDFC), and Housing and Urban Development Co. Ltd. (HUDCO)
Regular Financial and Technical Auditing	Financial audit by chartered accountants is conducted annually; No requirement on technical audit stipulated.
State/ Name of the Road Fund	**Madhya Pradesh The original name is Madhya Pradesh Kishan Sarak Nidhi**
Year of Establishment	2000
Legal Framework **Established by a Law/Decree/ Government Order/Notification**	Created through Secondary level legislation – vide Govt. Notification
Objectives/Major Reasons for Establishment	To support development, maintenance and upgrading of roads in rural areas
Institutional Structure	
Management Board/Composition of Board	Management of MP Road Fund is entrusted with the State Department of Finance. MP Road Fund is a financing instrument without any specific governance mechanism built in the legal framework other than the usual procedures for managing Government resources: it has no management board, no involvement of road users, no transparency in decision making and no disclosure of information;

	Does not have a Management Board No institutional/administrative autonomy No Financial Management autonomy
Regular Financial and Technical Auditing	Financial audit as part of Road Development Authority by chartered accountant No technical audit, but internal audit control

Annexure 3.2: Gujarat – A Model of Budgetary Allocation

Apart from having separate institutional mechanism for funding road development and maintenance, there have been instances of a few Indian States which have proven that the problem of inadequacy of funds and accumulating maintenance backlogs can be combated by excellence in governance and strong implementation framework. The subsequent section provides an insight into the road reforms which took place in the State of Gujarat.

The reforms undertaken in the Gujarat road sector during late 1990s and early 2000s had a major impact on a number of critical areas, in particular, administrative costs, maintenance backlog, maintenance funding, and efficiency of service delivery.

The Gujarat Model is essentially the product of excellent sector governance and the very successful implementation of the Gujarat State Highway Project (GSHP) (phases I and II), a World Bank Funded Project, the focus of which was Institutional Reforms which resulted in higher budgetary allocations and increased maintenance funding.

The major reform which affected the way doing business in Roads & Bridges Department (R&BD) was the move from the role of "provider" to "manager" of road infrastructure. It enabled R&BD to embrace a 'whole-of-network' approach to planning and managing the road network development and maintenance, and to take a more integrated approach in the budgeting and funding processes for different road categories in the state, previously managed separately. As part of this reform, the following actions were undertaken.

Creation of a Policy & Planning Unit: The Government of Gujarat's 'road asset management' and 'governance' capacities were substantially improved through the Policy and Planning initiative. The Policy & Planning Unit (PPU) set up in the R&BD was assigned a responsibility to prepare annual budget plans for the department by using a computer-based Gujarat Road Management System (GRMS). That was quite a noteworthy achievement for effective and efficient road planning and management, compared to the past practice by which all the budget plans were prepared manually, with lack of data support or thorough analysis.

Use of Gujarat Road Management System: Operational for approximately 20,000 km of the state's highest priority major roads, the GRMS has helped the R&BD to address maintenance funding issues which are typically difficult for most of road agencies in the developing countries (or PWDs in India) and has facilitated a more effective dialogue with the Finance Department about maintenance funding.

Budgetary Allocation: In relation to State Domestic Product (SDP) at constant prices, the road sector allocation increased from 0.3% of SDP in 1995-96 to 0.54% in 2002-03 growing further to 0.6% in 2005-06. The percentage allocation for roads in the overall annual plan in the state thus grew from 4.9% in 1995-96 to 8% in 2007-08 and 9.3% in 2008-09.

Investment in new roads increased 6 times compared to the pre-reform times. Funding for routine and periodic maintenance which typically receives less attention and support from politicians also increased, though to a less extent, but still doubled by 2008-09 compared to 1998-99. Comparative statistics on annual road maintenance expenditure in other states during 2001-2005 shows that Gujarat paid more attention to maintenance than any other state in India. It spent US$884 per km, which is over 15 percent more than the second highest spending on maintenance by any Indian state (Kerala). However, in the subsequent years, such earmarked funding for maintenance was discontinued, and funds are being allocated through non-plan budgetary provision. Hence, there is a serious disadvantage of this system.. While budgetary allocation provides flexibility, the option offers limited scope to improve the governance in financing. There remains large scope of non-compliance with allocation and consequent release of the earmarked funds for the roads sector.

CHAPTER 4 : FINDINGS AND LESSONS LEARNED

Findings

The previous chapter elaborated how different countries and states in India have devised various institutional frameworks in the form of an independent Road Fund or clear allocations in budget to develop and sustain the road sector. A common objective of setting up such framework is to ensure adequate and stable flow of funding for the road sector and also improving sector accountability and governance.

From the time when first generation road funds were prevalent, it has been found that it is rather difficult for any government to secure adequate and stable flow of funds for the road sector through the existing government budgetary allocation procedure. The different cases examples discussed about Road Funds across the world show that setting up a Road Fund ensures that the road sector gets an adequate and stable flow of funds. Road Fund also enhances the transparency between revenues collected from road users and the spending on the road network and therefore improves the overall governance.

The main findings which emerge out of the analysis of various road sector financing mechanisms are as follows –

1. **Reasons for Creation of Road Fund:** To ensure adequate and stable sources of maintenance funding was the main reason for establishing a Road Fund. In reality, however, there are different focus areas of the road funds that have been set up. For example, the road funds in Nepal and Pakistan are dedicated to financing maintenance and give priority to routine maintenance. On the other hand, some other road funds finance either development of roads or major improvement works, and not routine maintenance.

   Out of the road funds set up in different states in India, some finance development and/or major improvements of roads, partial funding of PPP projects, capital investment for new initiatives such as bypasses, ring roads, flyovers, etc. (e.g. Kerala) while some others are established to fund maintenance.

2. **Sound Legal Basis:** Many of the road funds were established through a Legal Act, such as the road fund of Nepal, India, and state road funds of Kerala and Rajasthan. Other road funds have more fragile legal status as they are created through secondary-level legislation, such as by government order in Karnataka, by notification in Pakistan, Madhya Pradesh and Uttar Pradesh, and by decision of the State Cabinet in Assam.

3. **Sources and Channeling of Revenue:** Practically in all cases, funding for the road boards is generated mainly by a fuel levy, complemented by other sources such as tolls and other

charges. Generally, the fuel levy is set as a fixed amount per liter, but in some countries it is set as a percentage of the fuel wholesale price. In this case, the risk exists that with variations in the wholesale price, the amount collected may differ significantly (higher or lower) from the road maintenance needs. In many cases, notably when levies are channeled via the Ministry of Finance, leakages exist and sometimes are significant. For example, in case of Zambia 59 percent of the fuel levies intended for the Zambia Road Fund did not reach the fund in 2003;

Thus, potential sources of revenues for most of the road funds are very diverse. In addition to traditional fuel levy and budgetary support a major source of revenue is road toll fees. All road funds receive their revenues transferred through national or state treasuries, except for road tolls collected by Pakistan Road Management Authority and Road Board of Nepal.

4 **Fund Allocation:** Funds allocated to road funds are usually channeled through road fund accounts before being transferred to road departments and road agencies. Only in the case of Road Board of Nepal, despite the legal provision for funds to be channeled through Central Bank of Nepal, they are allocated directly by Ministry of Finance to road agencies.

Rarely do road funds use commercial bank accounts. Most bank accounts are in public sector banks, which often is a limitation in terms of efficiency and quality of services. For example, some public sector banks in India do not provide consolidated statements as required by financial auditors.

5 **Autonomy of the Road Fund Boards:** The Boards of the road funds are not autonomous from the governments and are potentially at risk of political interference, as they are chaired by a high ranking public official and public sector representatives constitute a majority. As a result, it leads to weak decision-making process further aggravated by limited representation from a truck or transportation-related association with restricted contributive capacity.

Guideline Lessons

Some of the key lessons which could consider in the current exercise – Main Roads Funding Options and Possible Road Fund – for the State of Odisha are:

- When sustained lack of financing of road maintenance has led to a severe deterioration of the road network, the establishment of road fund may be a valid course. However, pursuing such a course requires strong commitment to off-budget financing of maintenance and to the commercially oriented reforms of road management implied by the road fund, including an independent board.
- Private sector participation in the road fund boards is an effective way to involve the users and improve transparency and accountability in the use of road maintenance funds and facilitate independence and autonomy.

- To make the road fund board effective and accountable, roles and responsibilities of each agency has to be clearly defined.
- There has to be strong legal basis for setting up of road fund.
- Improved governance at the country or state level is one of the key success factors for effective performance of a road fund. Analysis of the several road funds in Africa, New Zealand and South-East Asia show that the legal instrument, whether an Act, or Rule, or Notification is not important, but good governance is what decides the success of a road fund. As the Nepal experience shows, although Road Board of Nepal is established through an Act, its status is vulnerable and decisions are not always implemented properly in compliance with the legal framework because of lack of good governance. Governance mechanism must be enhanced to secure soundness of the road fund's legal basis and its proper implementation.
- Size of the road fund and capacity of the executing or implementing agencies should be matching with the size of the road fund to avoid capacity constraints;
- Procedures for fund allocation need to be clearly defined to avoid delay and irregularity.
- When the funds are operated as an extra budgetary public fund without adequate supervision and transparency, the main risk is the misuse of the funds for purposes unrelated to roads. Hence appropriate system for supervision and transparency is imperative.
- In order to gain better insights of the performance and impact of road fund, monitoring and evaluation systems need to be put in place, starting with credible assessments of road condition, trends in yearly allocation for road maintenance, and efficiency of road maintenance operations;
- Multi-annual performance contracts for road maintenance, while they may be equally applicable under the budget or the user pays approach, may be especially useful to improve road maintenance funding under the budget approach.

CHAPTER 5 : EVALUATION OF FUNDING OPTIONS & ROAD FUND

State Budget Allocation

Odisha has a total length of 250,415 km of road of which around 60,000 km is paved. Out of the total road network, 8% is managed by OWD which carries around 80% of the traffic.

Budgetary Allocation for Capital Works

The allocation for capital works has been on an increasing trend and with focus of GOO on infrastructure development, as well as with the current financial position of GOO, this trend is likely to continue. The budgetary allocation for Works Department for State Highways, Major District Roads and Other District Roads is projected based on the allocation proposed by OWD for the year 2015-16 is given in **Table 5.1**. The projection is calculated at the incremental rate of 8% after deducting inflation factor of 6%. The overall budgetary projection from the year 2015-16 till 2019-20 on an average ranges around 0.8% of the GSDP (at current prices).

Table 5.1: Projected Budgetary Allocation for Capital Works

Year	Budget Allocation for Capital Works (Rs in Crore)
(2015-20)	
2015-16	2,589
2016-17	2,796
2017-18	3,020
2018-19	3,261
2019-20	3,522

Estimate of Capital Works Requirement

The estimate for capital investment over the next 5 years is Rs. 24, 006 crore as detailed in the Road Network Master Plan (RNMP) prepared under the current study. The cost estimate for capital works in short term is considered for State Highways, Major District Roads, Other District Roads and Village Roads for five year, that is, 2015-16 to 2019-20[3]. The capital works proposed in the road master plan will spread over the years and it is likely that fund estimated for the capital work commencing in a particular year is assumed to be expended in the ratio of 25%, 50% and 25% over the three year implementation period. In addition to the proposition contained in the road master plan

[3] National Highways are excluded because these are usually funded by NHAI or MoRTH.

prepared under the current study, it is reasonable to expect that capital improvement for the other programs going on in the road sector in Odisha will continue.

In addition, 6 Flyovers at the rate of Rs. 80 crore per flyover and 44 ROBs at the rate of Rs. 30 crore per ROB is estimated to be constructed each year for a period of 5 years in the ratio of 25%, 50% and 25% over the three year implementation period. Further, Biju Expressway costing Rs. 3200 Crores is estimated to be expended in the ratio of 15%, 20%, 25%, 25% and 15% over the five year implementation period. Also, 700 Kms of Improvement in MDRs and ODRs is estimated with construction of 140 km each year at the rate of Rs. 2 Crore per Km over 5 years. Besides, 10 kms of New Bypass Lane at the rate of Rs. 10 Crore per km is estimated to be constructed each year for a period of 5 years in the ratio of 25%, 50% and 25% over the three year implementation period. The estimated requirement of capital works based on the proposition in the RNMP and assumptions stated above is given in **Table 5.2.**

Table 5-2: Estimated Fund Requirement for Capital Works
(for SH, MDR, ODR and Village Roads only)

Year	Estimated Requirement (Rs in Crore)
(2015-20)	
2015-16	2,684
2016-17	6,043
2017-18	8,250
2018-19	7,923
2019-20	7,102

Source: *RNMP Report*

Funding Gap

By comparing the figures of budgetary allocation and capital works requirements, it is evident that there is a gap in fund allocation and requirement as presented in **Table 5.3**.

Table 5-3: Gap/Surplus (for SH, MDR, ODR and Village Roads only)

Year	Budget Allocation for Capital Works (Rs in Crore)	Estimated Requirement (Rs in Crore)	Total (Gap) / Surplus
(1)	**(2)**	**(3)**	**(4 = 2-3)**
2015-16	2,589	2,684	**(95)**
2016-17	2,796	6,043	**(3247)**
2017-18	3,020	8,250	**(5230)**
2018-19	3,261	7,923	**(4662)**
2019-20	3,522	7,102	**(3580)**

Potential Sources of Funding

The potential sources of fund for recommended capital improvements of roads are,

- Budget allocation,
- Public Private Partnership (PPP),
- Central Government Schemes, and
- External Borrowing

The sections of roads, which are likely to qualify for taking up under PPP mode of implementation, were identified based on the traffic volume of Sambalpur-Rourkela Road Project being implemented under this mode in Odisha. The Sambalpur – Rourkela Road (SH-10) is 161km long with three toll plazas and the tollable traffic is 13,500 PCU per day (Total traffic being approximately 15,000 PCUs). This has been adopted as threshold traffic to identify projects likely to be viable on PPP mode among the road improvements recommended by RNMP. **Table 5.4** gives length and cost of such road sections.

Table 5-4: Length and Cost of Road Improvements that Qualify PPP Mode of Implementation

Year of implementation	SH, MDR, and ODR (with PPP mode)	
	Length (km)	Funding for Road Improvement (Rs. in Crore)
1st Year	54	382
2nd Year	42	279
3rd Year	33	221
4th Year	-	-
5th Year	-	-
Total	**129**	**882**

Source: *RNMP Report*

Considering the financing of projects likely to be viable under PPP mode, the gap between the budgetary allocations and funds required for capital works has been given in **Table 5.5**. It is to be noted that only the State Highways under PPP mode have been considered as the MDRs and ODRs despite having tollable traffic more than 13,500 PCU may not attract private investment due to various reasons, such as more proportion of local traffic, short distance trips, etc.

Table 5-5: Gap/Surplus between Budgetary Allocation and Capital Works Requirement after considering Investment under PPP Mode (Rs in crore)

Year	Budgetary Allocation (Gap)/Surplus (Refer Table 5.3)	Funding of SHs Viable under PPP mode (Refer Table 5.4)	(Gap)/Surplus
(1)	**(2)**	**(3)**	**(4 = 2-3)**
2015-16	(95)	382	**287**
2016-17	(3247)	279	**(2968)**
2017-18	(5230)	221	**(5009)**
2018-19	(4662)	-	**(4662)**
2019-20	(3580)	-	**(3580)**

Note: *Assumed grant component as 0%*

The funding gap for capital works, after considering budgetary allocation and PPP mode, can be met from external borrowings and multilateral institutions.

Public-Private Partnership (PPP) constitutes a sustained collaborative effort between the public sector (government agencies) and private enterprises to achieve a common objective (e.g., the road project) while they pursue their own individual interests. Private participation increases the efficiency in project execution, reduces costs, enhances implementation capacity, mobilizes private financial resources and frees scarce public resources.

Globally, the governments across the world are encouraging PPP initiatives to promote efficiency in the road sector. Certain specific objectives of PPP can include, for example:

a) Bridging the funding gap: Investment requirements are high but the public sector already faces a large fiscal deficit. Private finance could supplement public funding and postpone the cost of road investment to the taxpayer and/or road user.

b) Increased expenditure and revenue efficiency: The private sector has stronger incentives to operate efficiently, minimize revenue leakage, adjust resources to changing situations, and adopt a comprehensive life cycle approach to road investment and maintenance.

c) Unbundling and reallocating risk: Overall costs may be reduced by allocating individual risks to those parties best able to control them.

Chile and Argentina promoted PPPs significantly for the development of their country’s road sector. For example, two-fifths of the main roads in Chile, and about a third in Argentina are toll roads with private participation. China, Indonesia, Mexico and Malaysia are other developing economies where there has been significant private investment in highways. Latin American countries have had the highest share of their national roadway funded and operated by the private sector.

Odisha has a PPP Policy and Guidelines, which allows and encourages road development with private sector participation. Therefore, initiatives can be taken to involve the private sector in construction and maintenance of specific roads under PPP mode and specifically with provision in contract for warranty for maintenance of roads constructed under PPP for five year period by the private sector partner. This will facilitate to supplement the government funding of the road sector.

Roads that are critically important and with potential of high volume traffic may be identified for private sector participation ensuring viability of such PPP road ventures.

Another source of fund relevant for capital works is through external borrowings from bilateral and multilateral international funding agencies. This source of funding is commonly used by many states and GoO is also accessing funds from international agencies. A special route for sourcing external fund is the state partnership technical assistance arrangement with an international development financial institution with specific purpose of road development, maintenance and management as part of program to alleviate poverty and facilitate inclusive growth by providing connectivity and accessibility to all.

Further, funding under various schemes of the Central Government is a potential source of financing capital works. In this context, it may be mentioned that under the 12th. Five-Year Plan, funds allocated for road sector of Odisha under different schemes such as Development of Roads in the Left Wing Extremism Areas, Development of State Roads Segments in the State of Odisha on the Vijawada-Ranchi Route, Special Package for Development of Roads under Tribal Sub-Plan, etc.

Maintenance

The budgetary allocation for the year 2015-16 to 2019-20 has been projected on the basis of past budgetary allocations of years 2012-13 (RE), 2013-14 (RE) and 2014-15 (BE) and is presented in **Table 5-6**.

Table 5.6: Works Department Maintenance Budget Allocation

Rs. in Crore

Department	2012-13 (RE)	2013-14 (RE)	2014-15 (BE)
Works Department	666	741	849

Source: *Budget Documents (Revised Estimates), Government of Odisha for 2012-13 to 2013-14 and Budget Estimate for 2014-15.*

Note: *The budgetary allocation for maintenance includes provision for establishment expenditure.*

Estimate of Maintenance Requirement

In accordance with the Road Sector Policy proposal, road financing, with focus on maintenance of State Highways (SH), Major District Roads (MDR) and Other District Roads (ODR) carrying major traffic, is important because:

i. Preservation of assets created needs to be given priority;

ii. If not properly maintained, roads deteriorate faster resulting in increased vehicle operating cost, travel time, vulnerability to road accident and maintenance backlog.

It is proposed that initially focus may be given on maintenance of major road network of the State (i.e. SH, MDR and ODR) that carries significant traffic and requires attention on a priority basis.

The funds required to objectively meet the maintenance requirement was assessed from Odisha Road Asset Management System (ORAMS). The requirement of funds for maintenance of major road network is given in **Table 5.7**.

Table 5.7: Maintenance Requirement

Year	Maintenance of SH, MDR and ODR (Rs in Crore)
	Requirement
2015-16	897
2016-17	1025
2017-18	1259
2018-19	1519
2019-20	1783
Total	**6483**

Note: *Maintenance activities include – routine and periodic only.*

The budgetary maintenance allocation for rural roads is, by and large, adequate. Majority of the Panchayat roads are earthen roads and, are excluded from estimation of the maintenance requirement.

Assumptions for Estimation of Maintenance Requirement of funds for Major Road Network

iv. Due to reclassification, 3000 km will be added every year to OWD network until the additional length reached 20,000 km.

v. At any given year, length of periodic renewal will be 20% of the total network after deducting the length considered for capital works, strengthening and periodic renewal until the given year and the length of periodic renewal considered during the preceding 3 years.

vi. At any given year, the entire length of the road network was considered for routine maintenance.

Funding Gap

Maintenance

By comparing the figures of budgetary allocation and maintenance requirements, it can be observed that there is a gap in fund allocation and requirement. **Table 5.8** presents the maintenance gap, which is the case if the major road network only receives funding from budgetary allocation.

Table 5.8: Maintenance Requirement and Gap (Rs. in Crore)

Year	Maintenance of SH, MDR and ODR		
	Requirement	Budget	Gap
2015-16	897	921	24
2016-17	1025	998	(27)
2017-18	1259	1082	(177)
2018-19	1519	1174	(345)
2019-20	1783	1272	(511)
Total >>	**6483**	**5447**	**(1036)**

Meeting the Maintenance Funding Gap

Allocation from VAT on fuel, which has a strong link with road use and is quasi user charge (or, indirect charges) for road infrastructure; and earmarking part of VAT on fuel for allocation for major road network maintenance, has a merit. The present revenue from VAT on fuel @ 20% if used for major road network maintenance and the required percentage of allocation from VAT for major road network maintenance is given in **Table 5.9**.

Table 5.9: Allocation of VAT on Fuel @20% for Maintenance

Rs. in Crore

Year	Total VAT on Fuel	Total Maintenance Requirement	Surplus/Gap	Requirement as % of VAT
2015-16	2693	897	1796	33
2016-17	2883	1025	1858	36
2017-18	3086	1259	1827	41
2018-19	3305	1519	1786	46
2019-20	3541	1783	1758	50
Total	**15508**	**6483**	**9025**	**42**

Two scenarios showing increase in rate of VAT from the present 20 per cent to 22 per cent as 2% additional levy and 28.25% as 8.25% surcharge over VAT are given in **Tables 5.10 & 5.11 respectively.**

Table 5.10: Incremental Revenue @2% on Existing VAT Rate

Rs. in Crore

Year	Revenue From VAT on Fuel @ 20%	Revenue from Incremental VAT @ 2%	Total Maintenance Requirement
2015-16	2693	221	897
2016-17	2883	236	1025
2017-18	3086	253	1259
2018-19	3305	271	1519
2019-20	3541	290	1783
Total	**15508**	**1271**	**6483**

Incremental of 2% besides existing VAT on fuel, amounting to + 250 crores per annum for next 5 years and earmarking of this incremental amount can be considered to meet the emerging requirements for road maintenance, over and above the normal budgetary provisions.

Table 5.11: Earmarking of Surcharge @ 8.25% over Existing VAT for Road Maintenance

Rs. in Crore

Year	VAT on Fuel @ 20%	Surcharge 8.25%	Total Maintenance Requirement	Gap excluding Surcharge	Gap, If only Surcharge is considered
2015-16	2693	1111	897	1796	214
2016-17	2883	1189	1025	1858	164
2017-18	3086	1273	1259	1827	14
2018-19	3305	1363	1519	1786	-156
2019-20	3541	1461	1783	1758	-322
Total	**15508**	**6397**	**6483**	**9025**	**-86**

Earmarking of additional Surcharge for road maintenance to meet the road maintenance requirements, works out to @ 8.25% on fuel. This is estimated to yield adequate revenue amounting to about Rs. 6400 crore (For next 5 years) for meeting the total requirements for road maintenance.

The funding gap for road maintenance can be fulfilled by ‘ring-fencing’ the revenue from VAT on fuel and allocating it for the exclusive purpose of road maintenance for major road network. This would facilitate to preserve the road asset created, improve road journey service, and reduce road accidents and strengthen road safety.

It may be mentioned that in Odisha there is a trend of increase in consumption of petrol and diesel, implying increased use of road by vehicle owners and drivers. Hence, considering increased road use, the consequent necessity for proper road upkeep, assumes more significance and allocation of part of VAT on fuel is merited for road maintenance.

Additionally, new charges as suggested hereinafter (e.g. utility license fee, betterment levy, one-time vehicle registration fee, charges on insurance premium, etc.) may be introduced. Though initially these sources of revenue may generate small amount of income but with gradual public acceptance of the rationale and benefit of payment of these charges coupled with improved road conditions, the revenue generation would increase and charge rates that have been conservatively proposed can be suitably revised to enhance income.

1. **Toll Fees:** Toll Fee being a road user charge is directly linked with proper upkeep of tolled roads and the amount should be spent for road maintenance purpose

2. **Utility License Fees:** Motels, garages, parking plazas and other wayside facilities are indirect beneficiary from development of the roads. Once the roads are operational, traffic starts commuting and such facilities starts growing providing revenue to these service providers. Hence, Government can consider imposition of license fees on these utility services.

3. **Levy on Land Registration Fee:** This charge is based on the assumption that lands adjacent to roads have higher market value than the other places. The reason for higher prices is due to development of roads near the land. Government makes investment for the development of the road sector; hence all beneficiaries from the development of road sector should contribute certain percentage of their gains for the development of the road sector. So, to generate fund for the road sector government can put extra levy on registration fee on land transactions near the roads that have been constructed or upgraded or widened. It may be mentioned that the Karnataka Highways Act, 1964 provides levy for betterment charges.

4. **Levy on transport of minerals and agri-based industrial produce in the State**: Odisha is rich in mineral resources and mining is one of the main economic activities being performed in the state. However, there is limited scope to increase tax on these commodities. Additional revenue generation through increasing vehicle registration fee for heavy vehicles deployed for mining activities and which contribute to damage of roads, is an option.

5. **Pre-constructed ducts under or along new roads:** This could be taken up for all up-gradation projects – especially those which are predominantly cement concrete roads. The usage of these ducts could be rented out to telecom companies and other users – and the revenues could flow for use for the road sector.

The other suggested sources of funds are: (i) one time vehicle registration fees and (ii) charges on insurance premium.

Premised on 'user pay' principle estimation of revenue from three suggested sources of funding is given in **Table 5.12**. The computation of revenue from VAT on fuel, charges on Insurance Premium and one time vehicle registration charges is provided in **Annexure 5.1, 5.2 and 5.3** respectively.

Table 5.12: Estimated Revenue from Three Sources

Revenue Sources	Revenue (Rs. in Crore)				
	2015-16	**2016-17**	**2017-18**	**2018-19**	**2019-20**
VAT on Petrol	550	610	677	752	834
VAT on Diesel	2144	2272	2409	2553	2706
Total	**2693**	**2883**	**3086**	**3305**	**3541**
One-time Vehicle Registration Fee	3.86	4.24	4.45	4.54	4.62
5% of Insurance Premium	4.64	5.08	5.34	5.45	5.56
Total Revenue	**2701.50**	**2892.32**	**3095.79**	**3314.99**	**3551.18**

It may be underlined that in identifying the sources of fund, the existing sources of revenue of other departments like driving license fees, vehicle registration fees (that are administered by the Transport Department) are not affected.

However, the most significant share of revenue will emanate from part of VAT on fuel. It may be underlined that in Odisha there is a trend of increase in consumption of petrol and diesel, implying increased use of road by vehicle owners and drivers. Hence, considering increased road use, the need for road development, and consequent necessity for proper road upkeep, assumes more significance and allocation of VAT on fuel is merited for road sector.

Leveraging the Road Fund as mechanism to generate additional revenue:

In the long term, if a Road Fund is considered for setting up, the Road Fund can leverage its capital to raise cheaper fund from market and can also raise capital through issuance of bonds etc. Given the complexities in the financing mechanisms for funding the Road Fund and their relative advantages and disadvantages, it would be advisable that the allocation should be made through the budgetary sources which would take care of such complexities. However, this should be followed by a specific provision to institutionalize the funding for Road Fund from budgetary sources, if the Road Fund is considered to be setup. At this stage to further provide a credible financing mechanism, the option of making Road Fund Board as a ‘collection arm’ can also be built into its financing arrangement.

Options for Funding Mechanism for the Road Sector

In view of the funding gap as described in the preceding paragraphs, the mechanism of funding is a critical dimension. The box below indicates some of the measures that are being taken by other states to generate extra revenue for the road sector.

Generating Extra Revenue

Some states levied additional tax on road users in various ways to generate extra revenue for road development:

Uttar Pradesh: Cess @ Rs. 500 per KL and OMC Transaction @ 5%

Maharashtra: Cess of Rs.1 per liter on petrol and diesel.

Punjab: Additional Tax on VAT @5%

Tamil Nadu: Cess Rs. 3 per Litre

Source: *Highway Sector Financing in India, WB, Secondary Research*

However, in this context it must also be remembered that the current policy framework of Odisha does not ensure that the road user charges collected in the state are being dedicated to fund the state road sector (presently the user charges are not earmarked for the road sector).

Various states in India as well as some countries abroad have taken well defined policy initiatives to push road sector development. A snapshot of some of the recent benchmark policy initiatives and their description is presented below:

States/Countries	Policy Initiatives for Road Sector Development
Tamil Nadu	Tamil Nadu Rural Road Fund was set up by Government of Tamil Nadu by amending Motor Vehicles Act. The objective of this road fund is to emphasis on maintenance related work and to generate revenue for the same. The road fund is created in view of fiscal stringency, funds required for road maintenance and up-gradation not likely to be available from normal budgetary sources. The sources for the road fund are: Transfer from CRF, Existing Rural Road Fund, and Fuel cess/levy of Rs. 1/liter on petrol and Rs. 0.50/liter on diesel, Sales tax on fuel and vehicle road tax and special levies on vehicles and spares. Out of the fund 70% would be deployed towards the maintenance of roads, 20% would be used for leveraging fund from the private sector and 10% would be used for project development, capacity building and road safety. In order to catalyze private sector participation and investment in road sector and to initiate commercialization of operations and maintenance of road assets, Government has set up Tamil Nadu Road Development Company Ltd. (TNRDC), a 50: 50 joint venture between TIDCO and Infrastructure Leasing & Financial Services Ltd (IL&FS).
Kerala	The Government of Kerala has set up a State Road Fund as per the Kerala Road Fund Act 2001. The objective of setting up the Road Fund is to finance the routine, periodic maintenance, development of existing network and construction of new network. Kerala Road Fund enables the government to collect higher user charges through tolls and other levies. These funds are in addition to the state share from the Central Road Fund.
Uttar Pradesh	The objective of setting up road fund in the state is to fund maintenance expenditure. Sources of fund for the road fund are increase in sales tax on petrol (from 14 to 20%) and diesel (from 16 to 20%). Fund collected in this way is dedicated only for maintenance of work. Current accruals are estimated to be about Rs 4 billion. Consequently, there has been a significant increase in allocations for road maintenance.

States/Countries	Policy Initiatives for Road Sector Development
Maharashtra	In order to enable the road development projects through private sector participation Government of Maharashtra amended the Bombay Motor Vehicle Tax Act, 1952 to enable toll collection by private players.
Madhya Pradesh	In order to facilitate private sector participation in road sector, state government has amended the Indian Tolls (MP) Act, 1932, which permits the levy of toll on newly constructed as well as improved roads and bridges. Also, Government has passed Highway Bill, 2001 to improve village connectivity, development of existing network, development of urban roads, creation of road maintenance fund and to encourage private sector participation in the road sector.
Karnataka	Karnataka Government framed a Road Development Policy in order to improve the road infrastructure in the state over 1998-2012. The main objectives of this policy are to expand capacity and improve quality of the State Highways. The policy also encourages private sector participation in developing road infrastructure. Of the total fund allocated to PWD for repairs and maintenance, 80% is earmarked for resurfacing.
New Zealand	In 1996 Government has set up a separate road fund by amending Transit New Zealand Amendment Act called Transfund Zealand (Transfund). Government decides the charges which determine the inflow of road fund but outflow is managed by road fund. The revenue of the fund comes from (i) a fuel excise added to the price of gasoline; (ii) weight-distance charges paid by diesel vehicles; (iii) motor vehicle registration fees (iv) interest earned on the road fund account; (v) revenues earned from sale of surplus property; and (vi) refund of GST (the NZ equivalent of VAT). The main objectives of the board are to "allocate resources to achieve a safe and efficient roading system".
India	The Indian Central Road Fund (CRF) was created as per the Central Road Fund Act, 2000. The objective of the fund is to augment the capacity of National Highways, improving State Highways, and providing access to unconnected habitations with all-weather roads. The present sources of funding for CRF is an additional cess (currently Rs. 2 per litre on Petrol and Diesel) levied on petrol and diesel production and imports. The allocations of the receipts are statutorily pre-determined. 50 percent of cess collected on diesel allocated to Rural Road development (PMGSY), the balance 50% of the cess on diesel and entire amount collected on petrol is distributed on - 57.5% goes for construction & maintenance of the National Highways under NHDP, 12.5% for construction of Rail & Road over bridge, 27% for construction & maintenance of State Highways and 3% for the construction of inter-state & economically important road.
United States	The United States established the Highway Trust Fund in 1956 to finance the inter-state highway network and highway projects. The funding system involved earmarking certain road-related taxes and depositing them into a special account and the qualifying expenditure may be limited to highway construction, maintenance and operation, or may be used for other transportation modes such as mass transit, rail, etc. (as per the above amendments). Trust Fund revenues are derived from (i) motor fuel taxes on gasoline and diesel; (ii) a graduated tax on tires weighing 40 lbs. or more; (iii) a retail tax on selected new trucks and trailers; (iv) a heavy-vehicle use tax on all trucks with a gross vehicle weight (GVW) over 55,000 lbs; and (v) interest on the Trust Fund balance. Tax rates are adjusted as part of the regular budgetary process.

Sources of Fund

However, currently there are no such well-defined state policy initiatives in Odisha that cater to the specific needs of road sector, and the funding of the road sector is primarily dependent on state budgetary allocation.

It is envisaged that finances can be raised through the following sources:

i) **Existing Sources:** Earmarking of certain percentage of existing Road User Charges such as VAT on fuel, toll fees collected by the government and which currently forms part of general budgetary resources.

ii) **Other Sources:** The other sources of funding could be –one-time vehicle registration fees on new vehicle registrations; and, charges on vehicle insurance premium.

- **Existing Sources**

Earmarking of Certain Percentage of Existing Road User Charges:

Under this mechanism the Finance Department would earmark pre-decided percentage of road user charges, which are currently part of state government's consolidated fund.

Advantage of such an approach is that it ring fences road user charges for funding road sector and mitigates the risk associated with budgetary funding given the demand on the state exchequer from different sectors.

There are some examples where the State Government has created a separate financing mechanism by earmarking specified taxes and road user charges for financing specific needs of the Road Sector. The box presented below briefly summarizes such mechanism for the State of Maharashtra.

Legislation in Maharashtra Budget Manual

Under Section J- "Reserve Fund not bearing interest" of the State Public Account, State Road Fund (SRF) is a minor head under the major head 825- State Road and Bridges Funds. The State Road Fund is built from taxes levied under the Bombay Sales of Motor Spirit Taxation Act 1958 and the Bombay Motor Vehicles Tax Act 1958. Proceeds from these taxes are credited to the revenue heads "0040-Sales Tax" and "0041- Taxes on Vehicles". Certain portion from the proceeds of these taxes is thereafter transferred to the State Road Fund by debit to the heads "240-Sales Tax" and "241- Taxes on Vehicles".

All expenditure which is finally met from the State Road Fund should initially be debited to the Consolidated Fund of the State and thereafter transferred to the SRF account by "deduct" entry under the head concerned. The expenditure on construction, maintenance and repairs, including special repairs of roads and grants to Zilla Parishads (District Councils) for construction maintenance and repairs of roads classified under the major head "259- Public Works" is transferred to the SRF by deduct entry. The expenditure on original works should be classified under the capital heads only and should not be met from the SRF.

Similar to the stipulations provided in the Maharashtra State Budget Manual, the Odisha Budget Manual, 1963 can also be amended to create a financing mechanism dedicated to fund road sector needs. Under the provisions in the Budget Manual, the financing mechanism would be a part of the existing Consolidated Fund of the State and some earmarking of taxes and road user charges would be utilized to specifically finance the road sector.

Grants-In-Aid from Thirteenth Finance Commission

The Thirteenth Finance Commissions has provided a grant of Rs. 1022 crores from 2011 to 2015 for the maintenance of roads & bridges in Odisha. This grant is available to the State Government only if certain conditions provided by the Finance Commissions are fulfilled. Conditions for release of grants-in-aid are described below:

Recognizing the vital importance of road infrastructure for economic development and better delivery of services such as education and health, FCXIII has recommended grant-in-aid for maintenance of roads. This grant covers both Pradhan Mantri Gram Sadak Yojana (PMGSY) roads and non-PMGSY roads. The grant is available for four years, beginning 2011-12.

Conditions for release of Grants

i) The grant will be released in a single annual installment in the month of July during the four year period from 2011-12 to 2014-15;

ii) State Governments should make budget provisions and spend this grant for maintenance of roads and bridges only, under Major Head-3054, Non-Plan side;

iii) The grant will be released subject to Budget Estimate (BE)/Revised Estimate (RE)/Actual under Major Head-3054, meeting following conditions:-

2011-12: (a) 2011-12 (BE) net of grants should not be less than the projected NPRE for 2011-12. In case a State has not made the required provision in 2011-12 BE, but makes it good in 2011-12 RE, the grant will be released on a commitment from the State's Finance Secretary to this effect. This release will be subject to verification of RE provision from the revised Budget and Finance Accounts. A release made on the basis of this commitment that is not reflected in the RE and Finance Accounts will be liable to be recovered; and (b) 2010-11 (RE) net of grants should not be less than the projected NPRE for 2010-11.

2012-13: (a) 2012-13 (BE) net of grants should not be less than the projected NPRE for 2012-13; (b) 2011-12 (RE) net of grants should not be less than the projected NPRE for 2011-12;and (c) 2010-11 (Actuals) net of grants should not be less than the projected NPRE for 2010-11

2013-14: (a) 2013-14 (BE) net of grants should not be less than the projected NPRE for 2013-14; (b) 2012-13 (RE) net of grants should not be less than the projected NPRE for 2012-13;and (c) 2011-12 (Actuals) net of grants should not be less than the projected for 2011-12

2014-15: (a) 2014-15 (BE) net of grants should not be less than the projected NPRE for 2014-15; (b) 2013-14 (RE) net of grants should not be less than the projected NPRE for 2013-14;and (c) 2012-13 (Actuals) net of grants should not be less than the projected NPRE for 2012-13

The State Government may ensure that their Budgets and Finance Accounts are sent to the Department of Expenditure by the first week of June every year.

Evaluation of Options for Funding Mechanism

Having discussed the sources of funding for capital works and maintenance, the different options to address the road sector financing issues are described in the subsequent paragraphs.

Different Options

The options which could be considered for addressing the road sector finance requirements in the State of Odisha are:

a) Option 1: Status Quo;

b) Option 2: Earmark a portion of funds for the sector under the existing institutional framework of budgetary resource allocation

c) Option 3: Set up a new Institutional Framework (Road Fund)

A brief description of the above options is given below:

Option 1: Status Quo

This option of road sector funding essentially assumes that the state continues to fund the sector in the same way as present: through the budgetary allocations under Plan and Non-Plan activities. The existing schemes meant to address specific sector needs are assumed to continue.

Option 2: Earmark a portion of funds for the sector under the existing institutional framework of budgetary resource allocation.

This option essentially assumes that the sector financing is done through budgetary resources (Consolidated Fund and PMGSY) and earmarking of a portion of funds is done by the State Government specifically to ensure committed funds.

Some examples of the suggested resources that can be earmarked include earmarking certain percentage of charges on road users, earmarking certain percentage of collections in the Consolidated Fund etc. However, the funding would be managed under the existing budgetary mechanism and the earmarking would essentially provide the road sector a definite and a committed source of funding.

Option 3: Set-up a new Institutional Framework (Road Fund)

The Road Fund would be based on the principles of the Second Generation Road Funds and would fund specific investment requirements of the state road sector, initially focusing especially on the maintenance requirements.

Guiding Principles for Evaluation of Options

The guiding principles for evaluating the preferred financing options could be broadly divided into the following parameters– “Financial Parameters”, “Institutional Parameters”, “Stakeholder Interests Parameters”, “Social and Political Parameters” and “Legislative Parameters”.

A brief description of these guiding principles is provided in **Table 5.13.**

Table 5.13: Guiding Principles

Guiding Principles for Funding Options		Description
Financial Parameters	Ability to leverage Additional Financial Resources	This principle indicates the ability of the funding option to leverage additional sources of revenue for road sector.
	Ability to provide Adequate Sources of Finance	This principle indicates the ability of the funding option to ensure that the sector gets stable & adequate source of finance.
	Dedicated Source of Finance	This principle indicates the ability of the funding option to ensure that the resource allocation is de-linked from budgetary resources and is dedicated for the road sector.

Guiding Principles for Funding Options		Description
Institutional Parameters	Accountability & Governance	This principle indicates the ability of the funding option to ensure that the accountability & governance as a part of the policy is improved.
	Transparency in Resource Allocation	This principle indicates the ability of the funding option to ensure that enough autonomy is given to the management so that representation from all the stakeholders is provided in the road fund management. This would help improve transparency and accountability of the funding option.
	Flexibility in Allocation	This principle indicates the ability of the funding option to ensure that the funding option would de-link the resource allocation from government's political & social obligations and therefore offer flexibility in allocation of resources.
Stakeholder Interest Parameters	Accommodate the interests of all stakeholders	This principle indicates the ability of the funding option to ensure that the interests of different stakeholders are addressed optimally and the benefits to the stakeholders are maximized
	Optimal representation of different stakeholders	This principle indicates the ability of the funding option to provide an opportunity of representation of views of different stakeholders.
Social & Political Parameters	Enjoys Political Support	This principle indicates the ability of the funding option to ensure that the political and bureaucratic set-up of the state is extending its support for the efficient and timely implementation of this option.
	Accommodates Social Objectives of the Government	This principle indicates the ability of the funding option to accommodate some social objectives of the government. This possibility would enhance the political and bureaucratic support of the government.
Legislative Parameter	Clear Legal Basis	This principle indicates that the funding option is based on a sound legal basis so that it has a strong legal framework for proper implementation of the Road Fund Provisions. E.g. Mizoram Road Fund Act.

The following section presents the pros and cons of each of the options above. The options are then critically evaluated with respect to the guiding principles that have been formulated for evaluation. The analysis would help identify the preferred option for the state.

5.1.1 Evaluation of Option 1: Status Quo

The analysis on existing road sector funding in Odisha provides that funding for capital works gathers more importance than maintenance works. Analysis estimates that the state road sector would witness a funding gap for maintenance related activities. Also, it was estimated that maintenance requirements of the state road network would remain un-addressed. Therefore, this funding option would not be able to effectively address the principle of continued adequate funding, especially for proper maintenance of road assets created. Further, with the increased amount of funds required for capital works as estimated in the road master plan, there will be shortfall in budgetary allocation for capital works assuming the current trend of fund allocation as discussed earlier. This is likely to further affect allocation of fund for road maintenance.

The budgetary allocations for the road sector are made through the Consolidated Fund of the State. The state needs to strike a balance between various social and political commitments through scarce financial resources. Therefore, the flexibility of resource allocation for the road sector could suffer. Such budgetary allocations also limit the autonomy of road sector financing as the sector financing is directly affected by allocations for other obligations.

The budgetary funding does not provide an opportunity for representation of different government and non-government stakeholders. Although the interests of key government departments are addressed, the views and interests of non-government representatives normally do not get due attention. The budgetary allocation mechanism does enjoy political support due to its ability to accommodate programs with government's social commitments.

The summary of advantages and disadvantages of this option with respect to the guiding principles described earlier is presented in **Table 5.14**

Table 5.14: Option 1

Option 1: Status Quo		
Guiding Principle	**Advantages**	**Disadvantages**
Ability to leverage Additional Financial Resources	In case of a political consensus additional budgetary allocation for the sector possible. However, ability to leverage the Consolidated Fund for raising additional resources would be limited	The possibility of generating additional financial resources, especially for the road sector is limited
Ability to provide Adequate Sources of Finance	Limited ability to address the sector funding requirements	The maintenance requirements (non-plan) would be in-adequately addressed
Dedicated Source of Finance	The Budget Provisions of Odisha could allow dedicating certain sources of finances. However, political and social priorities of the Government would need to be considered before earmarking is done	It would be difficult to ensure dedicated funds for the road sector from the Consolidated Fund unless earmarking is done
Accountability & Governance	The existing set-up offers a limited advantage to improve the sector governance	The current sector financing leaves a small cushion to improve the accountability of resource allocation and to improve the overall governance in the sector

Option 1: Status Quo		
Guiding Principle	**Advantages**	**Disadvantages**
Transparency in Resource Allocation	The allocation and actual expenditure of finances are in public domain. However, the basis of allocating resources to a sector is not transparent	Since resource allocation is done on an overall basis for all the different sectors (social, administrative and economic sector), the transparency of resource allocation is limited
Flexibility in Allocation	Higher flexibility in allocation is one of the significant advantages of this option	Government's priority to social and political commitments can reduce flexibility at times
Accommodates the interests of all stakeholders	The interests of key government stakeholders (different departments) are addressed to some extent	However, the interests of key nongovernment stakeholders like transporters association, cement manufacturers association etc. are not addressed effectively.
Optimal representation of different stakeholders	The composition of "Road Funds Board" ensures that different stakeholders get an opportunity to represent their views and interests and the flexibility in resource allocation ensures that the stakeholder interests are optimally addressed	The Road Fund Board would bring professionalism in governance of the Fund, still it would be difficult to ensure that the interests of general public would be adequately addressed through such a mechanism
Enjoys Political Support	Given that currently the state lacks a dedicated institutional funding set-up for road sector, it would not be difficult to gather political support for this option by the decision makers	Ensuring that some additional budgetary support is available for the Road Fund would need a political consensus
Accommodates Social objectives of the government	This option would ensure that the decisions of resource allocation are taken on a commercial consideration than on social consideration	The possibility to promote social agenda of the government through this option could be limited

The Table above indicates that although this option offers few advantages, still this option would not improve the sector governance. Also, the efficacy of the above option to ensure adequate fund availability for the road sector is limited.

5.1.2 Evaluation of Option 2: Earmark a portion of funds for the sector under the existing institutional framework of budgetary resource allocation

This option essentially assumes that the sector financing is done through budgetary resources and earmarking of a portion of funds is done by the State Government specifically to ensure committed funds.

Some examples of the suggested resources that can be earmarked include earmarking certain percentage of charges on road users, earmarking certain percentage of collections in the Consolidated Fund etc. However, the funding would be managed under the existing budgetary mechanism and the earmarking would essentially provide the road sector a definite and a committed source of funding.

The summary of advantages and disadvantages of this option with respect to the guiding principles described earlier is presented in **Table 5.15** below.

Table 5.15: Option 2

Option 2: Earmark a portion of funds(through earmarking certain percent of total road user charges etc.) to finance the sector requirements		
Guiding Principle	**Advantages**	**Disadvantages**
Ability to leverage Additional Financial Resources	In case of a political consensus additional budgetary allocation for the sector possible. However, ability to leverage the Consolidated Fund for raising additional resources would be limited	The possibility to generate additional financial resources, specifically for the road sector is limited.
Ability to provide Adequate Sources of Finance	Earmarking portion of resources would increase the ability to provide adequate sources of finance	As fund is earmarked from general government budgetary resources, there is always a risk of inadequate fund allocation to the road sector
Dedicated Source of Finance	By earmarking funds for the sector, some dedicated financing can be made available.	Providing dedicated source of finance will also not ensure that adequate sources are allocated for the sector
Accountability & Governance	The existing set-up offers a limited advantage to improve the sector governance	On the other hand, since the primary source of funding is through budgetary mechanism, improving accountability and governance would be difficult
Transparency in Resource Allocation	The allocation and actual expenditure of finances are in public domain. However, the basis of allocating resources to a sector is not transparent	Budgetary funding would reduce the transparency in resource allocations
Flexibility in Allocation	Flexibility in allocation can be provided by not limiting the scheme of resource allocation to any particular type of roads	Although it is possible to provide flexibility in resource allocation, providing adequate resources for maintenance activities can be an issue
Accommodates the interests of all stakeholders	The interests of key government stakeholders (different government departments) are addressed to some extent.	However, the interests of key nongovernment stakeholders like transporters association, cement manufacturers association etc. are not addressed effectively
Optimal representation of different stakeholders	Assembly approval of resources allocation is an indirect way of ensuring representation of stakeholders. However, the allocation priorities are governed more by political considerations than by commercial considerations	The resource allocation and planning process does not give a significant opportunity to nongovernment stakeholders to put their opinions and interests in front of the government

Option 2: Earmark a portion of funds(through earmarking certain percent of total road user charges etc.) to finance the sector requirements		
Guiding Principle	**Advantages**	**Disadvantages**
Enjoys Political Support	This option would enjoy political support as it does not require significant additional changes in existing institutional set-up	Allocation decisions are governed more on a political consideration than professional consideration
Accommodates Social objectives of the government	Possible to accommodate social objectives of the government	Difficult to provide adequate funds for other requirements like maintenance and up-gradation

The Table above indicates the various advantages and disadvantages offered by the option. Whereas budgetary allocation provides flexibility and earmarking of sources would ensure that dedicated funds are available, the option would offer limited scope to improve the governance in financing. It is difficult to prioritize the choice between flexibility and governance. In the longer term it is important that the financing mechanism is administered professionally.

5.1.3 Evaluation of Option 3: Creating a Non-Lapsable Road Fund

This option essentially assumes that the state creates a dedicated Road Fund similar to the Central Road Fund (CRF) of India or other State Road Funds (like Kerala, Tamil Nadu, etc.) to fund specific needs of the road sector. Such a road fund presently does not exist in the State.

Road Funds are set up with an objective of funding specific road sector needs. Similar to CRF, the Odisha Road Fund would normally be a separate, autonomous fund separated from the kitty of "general revenue" of the state government. Revenues are transferred or collected automatically and directly to the Road Fund, rather than through any Consolidated Fund. For example, the revenues accruing to the CRF are generated by levying a cess of Rs. 2 per liter on petrol and diesel. Therefore, the revenue accrued to the Road Fund is specific and sustainable in the long-term.

A Road Fund is generally managed by a separate entity which can be named as the "Roads Board". This Board normally has representatives from the government and other stakeholders. For example, the Kerala Road Fund is managed by the Kerala Road Fund Board with the State Chief Minister as the ex-officio chairman of the Board. It can be seen from the above discussions that creating a Road Fund would provide comfort to the State Government to ensure that road sector needs are adequately and timely addressed. Also, an independent management of the Road Fund would help the State Government to ensure that all the key government and non-government stakeholders are represented effectively.

Strict procedures are established for the allocation of funds between activities and the approval of work programs submitted by the various road agencies. Also, regular financial and technical audits are undertaken. Such strict procedures ensure that the accountability of sector financing is improved to a larger extent.

The summary of advantages and disadvantages of this option with respect to the guiding principles described earlier is presented in **Table 5.16.**

Table 5.16: Option 3

Option 3: Creating an Autonomous Road Fund		
Guiding Principle	**Advantages**	**Disadvantages**
Ability to leverage Additional Financial Resources	The assets under Road Fund could be used to leverage additional financial resources like raising bonds, getting access to cheaper borrowings etc.	The Road Fund would be able to leverage additional resources only in the long term when all the operations are stabilized and there is a consistent flow of funds in the Road Fund
Ability to provide Adequate Sources of Finance	Since the sources of Road Fund are determined on a logical "pay-for-the-use" basis, it increases the ability of this option to provide adequate and credible sources of finance	A possible disadvantage is that raising additional funds from road-users would require a consensus among the road users and the key government decision makers
Dedicated Source of Finance	The Road Fund would be created with the main objective to ensure a dedicated flow of funds to implementing agencies and monitor the funds utilization for sustainable road maintenance	Providing dedicated source of finance will also not necessarily ensure that adequate sources are allocated for the sector
Accountability & Governance	The Road Fund is a distinct institutional mechanism which is autonomous and independent from the existing mechanism. The funding and administrative set up of the Road Fund separate from the general government funding and therefore accountability and governance would be improved by setting up this option	Accountability and Governance could be improved if all the conditions like providing a clear legal status, providing an oversight arrangement, providing audit arrangements etc. are ensured for the suggested mechanism
Transparency in Resource Allocation	Road fund is generally managed by a separate entity which can be named as the "Road Fund Board". This Board has representatives from key government departments and non-government stakeholders. Therefore such a constitution ensures transparency in resource allocation	Allocation and Expenditure reports would be published and audited. Therefore there are no significant disadvantages of the Road Fund mechanism in this parameter
Flexibility in Allocation	Depending upon the decisions of the Road Fund Board, flexibility in resource allocation can be achieved	Limited disadvantage owing to pre-defined purpose of resource allocation and for particular types of roads
Accommodates the interests of all stakeholders	The composition of "Road Funds Board" ensures that different stakeholders get an opportunity to represent their views and interests and the flexibility in resource	The approval of resource allocation by the Assembly ensures that public representatives are having a consensus over the government decision. In the Road Fund

Option 3: Creating an Autonomous Road Fund		
Guiding Principle	**Advantages**	**Disadvantages**
	allocation ensures that the stakeholder interests are optimally addressed	mechanism, it would be difficult to ensure that the interests of general public would be adequately addressed owing to a smaller representation of the public
Optimal representation of different stakeholders	The composition of "Road Funds Board" ensures that different stakeholders get an opportunity to represent their views and interests and the flexibility in resource allocation ensures that the stakeholder interests are optimally addressed	The Road Fund Board would bring professionalism in governance of the Fund, still it would be difficult to ensure that the interests of general public would be adequately addressed through such a mechanism
Enjoys Political Support	Given that currently the state lacks a dedicated institutional funding set-up for road sector, it would not be difficult to gather political support for this option by the decision makers	Ensuring that some additional budgetary support is available for the Road Fund would need a political consensus
Accommodates Social objectives of the government	This option would ensure that the decisions of resource allocation are taken on a commercial consideration than on social consideration	The possibility to promote social agenda of the government through this option could be limited

Framework for structuring the Road Fund is provided in **Annexure 5.4.**

Summary of Option Evaluation

The evaluation of funding options presented above indicates that Option 1- Status Quo does not ensure adequate financing for the core road networks. Also, this option provides a limited scope to improve governance in sector financing. However, as discussed earlier, Option 2 has some advantages over Option 1. Option 2 would ensure that dedicated financing would be available for the roads sector through earmarking of funds. Option 2 would also ensure that the allocation mechanism offers flexibility. However, again this option provides a limited opportunity to improve governance in sector financing. There remains large scope of non-compliance with allocation and consequent release of the earmarked funds for the road sector.

Options 1 and 2 described above underlines that the funding for roads sector could be through the budgetary allocation. However, this entails discretion and flexibility, which can impede the desired allocation of funds for road maintenance; and more so on account of demands on the state exchequer for social sector needs. Also, there is a possibility that the linear progression trend of budgetary allocation for maintenance may not necessarily continue in future.

An alternative, in the present financial situation as an interim measure is setting up of a road maintenance trust (RMTF) fund as in Sri Lanka, which can later be transformed into a road fund. The RMTF may be financed from government budget. However, this carries a risk of the ultimate objective of road maintenance funding not being complied with, especially in times of stringent financial situation and pressuring demand from social sectors.

On the other hand creation of a Road Fund mechanism would ensure both dedicated funds and improvement in governance. Provided the Road Fund mechanism has an independent legal status and has appropriate oversight and audit arrangements, delivering improved governance would be possible.

The road fund, by setting rules with which the road agencies are required to comply, can make implementation more effective. Also, by requiring financial and technical audits, the road fund can introduce better transparency and accountability in operations. This helps to have value for money, which is a prime concern for financial management. Besides, when GoO is in a well-funded position as at present, it may be desirable to create and dedicate funds for road development and maintenance to meet the requirements in the event of a financial situation that may not necessarily be as healthy as at present.

The finance department is the primary government agency concerned about value for money, and its primary goal is to promote economic efficiency and effective implementation. Examined from this perspective, the finance department is as much concerned as the road agencies about sustainable roads. Examined in this light and considering the factors stated in the preceding paragraph, the proposed road fund is expected to accomplish the goals of the finance department and the suggested road fund is closely allied to the finance department. Hence, the finance department can lead to promote the proposed road fund. Road Funds in other states are formed through various methods – (i) legislation (e.g. Kerala, Rajasthan), (ii) Gazette Notification (e.g. Madhya Pradesh, Uttar Pradesh). However, to provide sustainable support and empowerment legislation is the preferred mode. It has been observed that in certain instances, the road fund has become an overriding agency above the road departments. This is not desirable and can be avoided by mandating the road fund and preparation of rules to allocate funds in an agreed formula and oversee the utilization of funds allotted.

Available Options

The options that may be considered by GoO for Funding Mechanism are –

Option 1: Budgetary Allocation

Option 2: Earmarking of Funds

Option 3: Dedicated Road Funds managed by a Board

The merits and demerits of each of the above option are outlined below in **Table 5.17**

Table 5.17: Merits and Demerits of 3 Options

Option	Merits	Demerits
Budgetary Allocation	• Provides flexibility in fiscal management.	• On account of growing demands on the sate exchequer for social sector needs, at times, the priority of maintenance expenditure may be lowered. • Road maintenance is expenditure driven, rather than on actual physical requirements. • The maintenance does not take into account the road user expectations/or any condition indicators
Earmarking of Funds	• Pre-commitment of taxes to fund maintenance expenditure, and may be channeled through the Consolidated Fund of the State.	• Since taxes form part of the general budget, these resources may be considered to be reassigned for other purposes.
Dedicated Non-Lapsable Road Fund Managed by a Board	• Dedicated and stable source of funding for maintenance. • Cognizance of stakeholders' views and interests through their inclusion in governing body. • Monitors performance as an independent body.	• Carries the potential of duplicating the road agencies' functions, if not appropriately structured and mandated.

Annexure 5.1: VAT on Fuel

The Petrol and Diesel retail selling prices and VAT rates across major cities in India and Odisha are provided as per table below:

Petrol and VAT Rates across States (2014)			
States	State Capitals	RSP Petrol	VAT (% Rate)
Andhra Pradesh	Hyderabad	69.19	27%
Delhi	New Delhi	63.33	24.5%+10%SC
West Bengal	Kolkata	70.73	25.00%
Maharashtra	Mumbai	70.95	26%+Re1/Litre
Tamil Nadu	Chennai	66.05	20%+Rs.3/Litre Cess
Odisha	Bhubaneswar	63.65	20.00%
Diesel and VAT Rates across States (2014)			
States	State Capitals	RSP Diesel	VAT (% Rate)
Andhra Pradesh	Hyderabad	57.19	21.43%
Delhi	New Delhi	52.51	16%+10%SC
West Bengal	Kolkata	57.08	21%, Rebate 1230 per KL
Maharashtra	Mumbai	60.11	26%+Re1/Litre
Tamil Nadu	Chennai	55.93	12%+Rs.3/Litre Cess
Odisha	Bhubaneswar	56.49	20.00%

Source: *Retail Selling Prices from IOCL as on 3.12.2014 and VAT prices from Indian Petroleum & Natural Gas Statistics, Ministry of Petroleum & Natural Gas, GoI as on 1.04.2014*

Existing Scenario of VAT rates as 20% on Petrol and Diesel. The amounts collected as VAT rates on petrol and diesel is as per tables below:

On Petrol

Rs. in Crore

	Petrol (in '000 tonnes)	Petrol in Litres	Current Retail Sale Price without VAT	Existing VAT %	Fund to State=Litres*current retail sale price without VAT*existing VAT %
Year	**1**	**2**	**3**	**4**	**(5=2*3*4)**
2015-16	509	518181682.6	53.04	20.00%	549.70
2016-17	565	575181667.7	53.04	20.00%	610.17
2017-18	627	638451651.1	53.04	20.00%	677.29
2018-19	696	708681332.7	53.04	20.00%	751.79
2019-20	772	786636279.3	53.04	20.00%	834.49

Source: *Consumption Figures of Petrol are taken from the Ministry of Petroleum and Natural Gas*

On Diesel

Rs. in Crore

Year	Diesel (in '000 tonnes)	Diesel in litres	Current Retail Sale Price of Diesel without VAT	Existing VAT %	Fund to State=litres*current retail sale price without VAT*Existing VAT %
	1	2	3	4	(5=2*3*4)
2015-16	2236	2276936162	47.08	20.00%	2143.74
2016-17	2370	2413552332	47.08	20.00%	2272.36
2017-18	2512	2558365472	47.08	20.00%	2408.70
2018-19	2663	2711867400	47.08	20.00%	2553.22
2019-20	2823	2874579444	47.08	20.00%	2706.42

Source: *Consumption Figures of Diesel are taken from the Ministry of Petroleum and Natural Gas*

Therefore, in the existing scenario, i.e. the base case, the amounts which are collected as VAT are as follows:

Rs. in Crore

Year	Revenue from Petrol	Revenue from Diesel	Total Revenue
2015-16	550	2144	2693
2016-17	610	2272	2883
2017-18	677	2409	3086
2018-19	752	2553	3305
2019-20	834	2706	3541

Annexure 5.2: Charges on Insurance Premium

The charges on insurance premium have been considered as 5% of premiums collected from third party motor vehicle insurance as IRDA notification:

Type of Vehicle	Premium Rates	Number of Vehicles								
		2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
2W	422	379425	417368	459105	505016	555518	583294	594960	606859	618996
Auto	4098	15611	17172	18889	20778	22856	23999	24479	24968	25468
Car/Taxi	3424	46362	50998	56097	61708	67879	71273	72700	74155	75638
Buses	7843	1297	1427	1570	1727	1900	1995	2035	2076	2118
LGV	13968	8383	9221	10143	11157	12273	12887	13145	13408	13676
HGV	14873	12442	13686	15054	16559	18215	19125	19508	19898	20296

Thereafter, collections from charges on insurance premiums in the subsequent years have been shown as per table below:

Type of Vehicle	Insurance Premium (Rs. in Crore)								
	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
2W	16.01	17.61	19.37	21.31	23.44	24.62	25.11	25.61	26.12
Auto	6.4	7.04	7.74	8.51	9.37	9.83	10.03	10.23	10.44
Car/Taxi	15.87	17.46	19.21	21.13	23.24	24.4	24.89	25.39	25.9
Buses	1.02	1.12	1.23	1.35	1.49	1.56	1.6	1.63	1.66
LGV	11.71	12.88	14.17	15.58	17.14	18	18.36	18.73	19.1
HGV	18.5	20.36	22.39	24.63	27.09	28.44	29.01	29.59	30.19

Type of Vehicle	5% of Insurance Premium (Rs in Crore)								
	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
2W	0.8	0.88	0.97	1.07	1.17	1.23	1.26	1.28	1.31
Auto	0.32	0.35	0.39	0.43	0.47	0.49	0.5	0.51	0.52
Car/Taxi	0.79	0.87	0.96	1.06	1.16	1.22	1.24	1.27	1.3
Buses	0.05	0.06	0.06	0.07	0.07	0.08	0.08	0.08	0.08
LGV	0.59	0.64	0.71	0.78	0.86	0.9	0.92	0.94	0.96
HGV	0.93	1.02	1.12	1.23	1.35	1.42	1.45	1.48	1.51
Total >>	**3.48**	**3.82**	**4.21**	**4.64**	**5.08**	**5.34**	**5.45**	**5.56**	**5.68**

Annexure 5.3: One-Time Vehicle Registration Fees

The number of vehicles getting registered each year in the state of Odisha has been projected from the year 2014-15 to 2020-21. The fee rates for vehicle registration for different categories of vehicles have been derived from those practiced in states of Kerala and Tamil Nadu. The calculation basis has been shown as per table below and thereafter collections from this particular source are detailed thereafter.

Type of Vehicle	Rate	Number of Vehicles							
		2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
2W	50	417368	459105	505016	555518	583294	594960	606859	618996
Auto	50	17172	18889	20778	22856	23999	24479	24968	25468
Car/Taxi	100	50998	56097	61708	67879	71273	72700	74155	75638
Buses	150	1427	1570	1727	1900	1995	2035	2076	2118
LGV	150	9221	10143	11157	12273	12887	13145	13408	13676
HGV	250	13686	15054	16559	18215	19125	19508	19898	20296
Total in Nos.		**509872**	**560858**	**616945**	**678641**	**712573**	**726827**	**741364**	**756192**

Source: *for figures on new vehicles – RTO, GoO*

Thereafter, collections from vehicle registration fees in the subsequent years have been shown as per table below:

Type of Vehicle	Rate	One Time Registration Fee (Rs in Crore)							
		2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
2W	50	2.09	2.3	2.53	2.78	2.92	2.97	3.03	3.09
Auto	50	0.09	0.09	0.1	0.11	0.12	0.12	0.12	0.13
Car/Taxi	100	0.51	0.56	0.62	0.68	0.71	0.73	0.74	0.76
Buses	150	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03
LGV	150	0.14	0.15	0.17	0.18	0.19	0.2	0.2	0.21
HGV	250	0.34	0.38	0.41	0.46	0.48	0.49	0.5	0.51
Total Amount		**3.19**	**3.5**	**3.86**	**4.24**	**4.45**	**4.54**	**4.62**	**4.73**

Therefore the amounts of revenue accruing from the three new sources of funding are as per table below:

Revenue Sources	Revenue (Rs. in Crore)				
	2015-16	2016-17	2017-18	2018-19	2019-20
VAT on Petrol	550	610	677	752	834
VAT on Diesel	2144	2272	2409	2553	2706
Total	**2693**	**2883**	**3086**	**3305**	**3541**
One-time Vehicle Registration Fee	3.86	4.24	4.45	4.54	4.62
5% of Insurance Premium	4.64	5.08	5.34	5.45	5.56
Total Revenue	**2701.50**	**2892.32**	**3095.79**	**3314.99**	**3551.18**

Annexure 5.4: Structuring Proposed Odisha State Road Fund

Key Issues and Options in Structuring Odisha State Road Fund

If setting up of a Non-Lapsable Road Fund is considered, the key issues that emerge in structuring and operationalizing a Road Fund in the context of the State of Odisha, are discussed in the section below based on the review of global best practices and experiences of other states of the country.

These key issues critical for structuring and operationalizing Road Fund are -

a) **Roles and Objectives**

b) **Institutional and Legal Framework**

c) **Funding Mechanism**

d) **Administrative Setup**

Each of these issues is enunciated and associated options discussed in detail below:

Roles and Objectives of Creating a Road Fund

The analysis of several road funds existing in the world, especially the ones which are created on the principles of the Second Generation Road Funds highlight different objectives of Road Funds, but the common factor is Fund for Maintenance, both routine and periodic. The common practices of usage of road fund mechanism in other states of the country are for – (i) road maintenance; (ii) road safety; (iii) partial financing of PPP projects; (iv) capital investment for new initiatives such as bypasses, ring roads, flyovers, etc.

The Key Objectives – Odisha Road Fund

In view of the importance of road maintenance requirement and the funding gap projected, it is suggested that the key objective of the proposed Road Fund for Odisha will initially be to meet the road maintenance requirements (both periodic and routine) for state highways, major district roads, and other district roads. The Road Fund should state clearly which items the Road Fund can finance and should give some indication of relative priority.

Proposed Institutional Framework

One of the key issues in structuring the road fund relates to its positioning within the larger institutional set up for the road sector in the state. The key lessons learnt from the institutional analysis of other Second Generation Road Funds were autonomy of institution; effective governance and a smooth fund flow mechanism.

Internationally good practices for setting up a road fund suggest that road funds should be set up under their own separate legislation with very high degree of autonomy in financing, decision making and representation from the users. For the institutional framework of setting up the Road Fund for the

State of Odisha it could be considered to enact a legislation for setting up the proposed Odisha Road Fund under its own Board, independent from Odisha Works Department and other departments and agencies and administered through its own bye-laws.

Separate legislation: Under this option, Road Fund can be structured and set up through a new legislation for the road sector. This option is similar to the international practices that have been followed in some countries and in Kerala. The legislation can provide for setting up a new Board with its separate administration and clearly earmarked sources of funding. The **Figure 1** thematically presents the option of setting up Road Fund under its own Board.

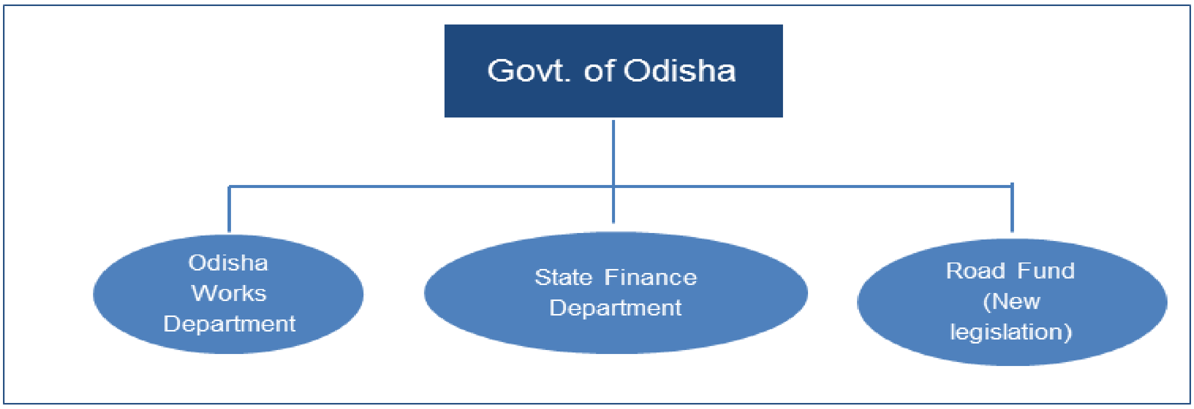

Figure 1: Separate Legislation

The key advantage of this approach is that the financing function i.e., funding, fund administration and management and disbursement is clearly separated from the planning and implementation functions by having separate organizations separately carrying out these functions.

Also, since a separate Road Fund Board would be constituted under its own legislation the autonomy and accountability in financing function as well as in the sector would be greatly enhanced.

However, though this option is close to the best practice approach that has emerged in the roads sector for structuring and setting up such road funds, the operationalization and implementation would require new set of legislation to be drafted, consensus of key decision makers on such changes and actual process of passing such legislation in the legislature.

It is recommended that a new bill should be introduced in the State Assembly to create a separate and an autonomous Odisha State Road Fund.

Funding Mechanism

The mechanism of funding is the other critical dimension of structuring and operationalizing the Road Fund. In view of the roles and objectives of the Road Fund discussed above, and an assessment of the maintenance requirement of the major state road network, the intended size of non-lapsable Odisha State Road Fund for different types of activities in a 10-year time frame should be reasonably adequate to meet the requirements.

Administrative Set up and Autonomy

The fourth dimension of structuring and operationalizing Road Fund relates to its administrative set up and the overall autonomy in its decision making. As discussed earlier, the overall administrative set up and autonomy in decision making is largely a function of the institutional arrangement and legal framework. There is usually a two-tier organization format – Road Fund Board and Executive Committee supported by a small team of officers and staff.

Road Fund Board: It is suggested that a road fund board may be constituted as policy making body chaired by the Chief Minister with ministers in-charge of Finance, Works, Rural Development, Panchayati Raj, Planning, Law, Transport, and the Chief Secretary as its members; and Secretary, OWD as the convener.

Pursuant to the objective of the proposed Road Fund, the broad functions of the Road Fund Board Members are indicated below:

a) Improve arrangements for collecting all the fees and charges assigned to the Road Fund to minimize avoidance and evasion;

b) Institute an integrated and coordinated approach to the planning of road works by establishing the form and content of the Annual Road Program;

c) Establish and publish the criteria used to divide Road Fund revenues among the different road agencies entitled to draw on the Road Fund;

d) Recommend to the Finance Department the level of fees and charges required to finance the recommended road maintenance program for inclusion in the government's annual or supplementary budget;

e) Mobilize a publicity program to inform the public about the maintenance programs being financed from the Road Fund, assure the public that the Road Fund is well managed, and seek their support for possible increases in the level of the road user charges as and when such increases are needed; and

f) Establish procedures for disbursing funds for works forming part of the approved Annual Expenditure Program.

Executive Committee: It is further suggested that an executive committee may be formed for guidance and oversight of operations under the chairmanship of Chief Secretary with members from the stakeholder government departments and nominees from non-government organizations such as Road Transport Operators' Association, Bus and Taxi Operators' Association, Chambers of Commerce and Trade Associations, and financial institutions

Day to day operations: It is essential to have a strong, independent administrative set-up to manage the day-to-day affairs of the road fund. To maintain a lean organization structure of the Odisha Road Fund, staff should be limited to 8 to 10 persons to manage the Road Fund. The staff needs to have skills in accounting, administration, planning and engineering. These staff may be appointed by the Executive Committee to ensure his/her independence and to ensure that they work effectively. Terms and conditions for the appointment of these staff should be approved by the Executive Committee. Alternatively, as in the case of the Kerala Road Fund Board, a team of officers from various departments with proven track record, relevant expertise and reliability in their respective areas of functioning could be seconded for managing the Odisha Road Fund effectively. For effective operation rules for administration, accounting and auditing have to be developed.

Accountability and Transparency

Apart from maintaining books of account and preparing an Annual Financial Statement in such form and manner as may be specified in the regulations of the Road Fund, and carrying out of audit of the accounts by an independent auditor, the audited accounts along with the audit report should be placed before the state legislative assembly.

The accounts and other financial statements of the Road Fund would be audited annually by the Comptroller Auditor General of India (CAG) as per the provisions of the audit requirements. The auditor will present a report to the Board that will give an opinion on the accuracy of the records and financial accounts of the Road Fund.

CHAPTER 6 : SUGGESTED WAY FORWARD

Introduction

This report estimates the fund requirement for maintenance of major road network in the state, and provides an overview of what other states in India and other countries in the world have done to ensure dedicated funds for road development and maintenance. Based on the experiences of other states and countries, as well as, considering the socio-economic situation of Odisha, possible financing options are suggested for road sector in the state. The merits and demerits of various options are also described.

The previous chapter discussed the options available for financing of road maintenance. This chapter suggests the way forward for consideration of GoO.

Suggested Actions

The discussions in the preceding chapter clearly show the funding gap for capital works and maintenance. It needs to be underlined that earmarking or 'ring-fenced' funds generated from sources that provide revenue on application of 'user-pay' principle should be considered to meet the gap.

In this background, the suggested actions are –

6.1.1 Immediate and Short Run

1) Ring-fencing proposed surcharge or levy over VAT on fuel (petrol & diesel) for road maintenance;
2) Introduction of road user charges (e.g. toll fees, one-time vehicle registration fee, charges on vehicle insurance premium, etc.) on 'user-pay' principle as recommended in the preceding chapter to fund road maintenance;
3) Initiation of process to ring-fence road user charges for road maintenance.

6.1.2 Medium Term

Setting up a dedicated non-lapsable road fund which entails –

- Preparation and enactment of legislation for State Road Fund similar to Central Road Fund Act, Kerala Road Fund Board Act, etc.;
- Creation of State Road Fund Board;
- Setting up of Road Fund Executive Committee; and
- Development of operating management, administrative, accounting and auditing process.