Himachal Pradesh Road Sector Finance Study

Final Road Fund Report

March 2007

PricewaterhouseCoopers

Table of Contents

List of Exhibits

Abbreviation

HP- PWD	Himachal Pradesh Public Works Department
RIDF	Rural Infrastructure Development Fund
CRF	Central Road Fund
PMGSY	Pradhan Mantri Gram Sadak Yojana
NABARD	National Bank for Agriculture and Rural Development
NH	National Highways
SH	State Highways
MDRs	Major District Roads
GoI	Government of India
MoSRTH	Ministry of Shipping, Roads Transport and Highways- GoI
MoRD	Ministry of Rural Development
TFC	Twelfth Finance Commission
WB	World Bank
TOR	Terms of Reference
HPIDB	Himachal Pradesh Infrastructure Development Board
HPRIDC	Himachal Pradesh Road and Other Infrastructure Development Corporation Ltd.
RF	Road Fund
AoA	Article of Association
MoA	Memorandum of Association
CAG	Comptroller Auditor General of India

1 Introduction

1.1 Need for the Assignment

1.1.1 Given its predominantly hilly terrain, the absence of any other suitable and viable mode of transportation like railways (except for two narrow gauge railway lines of around 200 kms.), waterways and airways, road transport plays a vital role as a mode of transportation in the state.

1.1.2 To provide an impetus to the development of the state, it is all the more important for the state to provide critical links to the industries and also to the high value fruit and vegetable crop producing areas. The State Highways, MDR's, Rural Roads and other important roads that provide the required accessibility, therefore, play a pivotal role in the overall development of the state.

1.1.3 In light of the importance of the road sector for the State's overall economic growth and connectivity, the Government is planning to further augment and strengthen the road sector. Some of the important planning perspectives of the State Government for the development of the state road sector include:

a) To provide connectivity to all habitations with population greater than 500 by 2009.

b) To upgrade identified State Highways and MDR's for improving service levels.

c) To upgrade important existing roads bordering adjoining states and roads in industrial/tourism/horticulture belts by the year 2012.

d) Institutionalize data base collection, storage, analysis and retrieval system, maintenance of road/ bridge inventory, road condition data, bridge inspection reports, traffic data, axle load spectrum, material sources and their characterization and unit cost, etc.

1.1.4 It is a big challenge for the state to increase the connectivity of habitations, to expand and maintain the existing network. In this context state is currently facing various problems like lack of financial resources for development & maintenance, in-adequate and sub-optimal allocation of available resources, institutional and governance constraints etc.

1.1.5 With the above background, the State Government supported by the World Bank has appointed PricewaterhouseCoopers Private Limited (PwC) to identify the overall road sector financing problem and then develop options to address the identified problems. Based on this assessment and options identified, an implementation plan for the option that is most preferred and would also be suggested.

1.1.6 As per the terms of reference of the assignment, the overall objectives of the assignment are broken down broadly into four specific tasks briefly mentioned below:

a) **Task 1 – Define and demonstrate the Road Financing Problem**: The objective of this task is to define and demonstrate the road funding problem in the state by assessing the cost recovery regime and the existing mechanism used to allocate financial resources for the road sector. This task also requires estimation of the future financial requirement for the road sector to meet the demand arising from the economic development of the State.

b) **Task 2 - Articulate the Case for or against the Road Fund:** The objective of this task is to clearly highlight the pros and cons of the debated option of establishing a road fund in the State.

c) **Task 3 – Identify Feasible Options and Recommend Solutions for Improving Road Financing:** The objective of this task is to identify different options for the road funding problem and recommending the most preferred solution. In this task, feasible options (various feasible options including a Road Fund) that would help the Government address the current road financing problem would be generated and evaluated.

d) **Task 4 – Drafting an Implementation Plan for Preferred Options:** The objective of this task is to draft a plan for implementing the preferred option.

1.2 Objective of Final Road Fund Report

1.2.1 The Assessment Report submitted earlier addressed **Task 1** of the assignment. The Assessment report identified the key issues in current road sector financing. A stake-holder workshop was also conducted to understand the views and opinions of key government and non-government stakeholders for the development of the road sector.

1.2.2 In continuation with the above deliverables, the Final Road Fund Report addresses the remaining tasks (**Task 2 to Task 4**) of this assignment. The objective of this report is therefore to identify different options that would be suitable to address the key issues in sector financing as presented in the Assessment Report.

1.2.3 These options are then assessed on guiding parameters to recommend the most preferred option. An implementation plan detailing a realistic plan showing major transition from the current arrangements to full operation of the preferred option has also been presented in this report.

1.3 Structure of the Final Road Fund Report

1.3.1 The Final Road Fund Report is structured to address all the tasks and deliverables specified in the Scope of the Assignment. This report focuses on **Task 2 to Task 4** of the assignment highlighted above.

1.3.2 The **Chapter 1** gives an introduction in the form of presenting the background and the objective of the present assignment. The **Chapter 2** presents a summary of the key issues in road sector financing identified already in the Assessment Report.

1.3.3 The **Chapter 3** describes case studies of various initiatives taken by governments across the World and in India (at Centre and the State levels) to address similar funding issues. Key learnings from the case studies in the context of the problems faced by the state have also been highlighted in the chapter

1.3.4 **Chapter 4** logically incorporates the above experiences to generate possible funding options for the state road sector. Using guiding principles, these options are evaluated to select the preferred option of funding

1.3.5 The **Chapter 5** then describes various parameters involved with structuring of State Road Fund and the last chapter, **Chapter 6** details the suggested Road Map for implementation of Road Fund followed by the Way Forward.

2 Key Issues in Road Sector Financing

2.1 Overview

2.1.1 The Assessment Report identified the key issues in the current state road sector financing. These key issues in the sector financing pertain to low emphasis on the needs of core road networks (State Highways/MDR's), adequacy of funds and the improvement required in governance of sector financing.

2.1.2 Given the hilly geological features of the state, various areas of the state are prone to soil erosion, landslides and snow avalanches. Therefore, the average cycle time for a particular road network in the state needing maintenance is lesser compared to other states in plain areas. In this context, maintenance of road assets is significantly important for the state to ensure smooth and efficient traffic management.

2.1.3 The Assessment Report also pointed out that the road network maintenance needs are normally taken care by the State's own revenues (through the non-plan expenditure) and the new development/up-gradation needs are normally financed through the Plan expenditure & PMGSY. Various schemes are in place to finance the capital requirements of road networks of the state, however, no specific dedicated scheme funds the maintenance requirements.

2.1.4 It was also observed that the current sector financing doesn't adequately address the specific requirements of the state core roads network (State Highways/MDR's). A recent Strategic Options Study (SOS Study) conducted by the HP-PWD also endorsed this observation. This requires dedicated financial resources and the low emphasis paid to such needs result in postponement of such urgently required works.

2.1.5 With the above context, the objective of this chapter is to summarize the key issues in road sector financing, as identified in the Assessment Report. These issues would then be used as a basis to formulate different options to improve sector financing.

2.2 Key Issues in Current Road Sector Financing

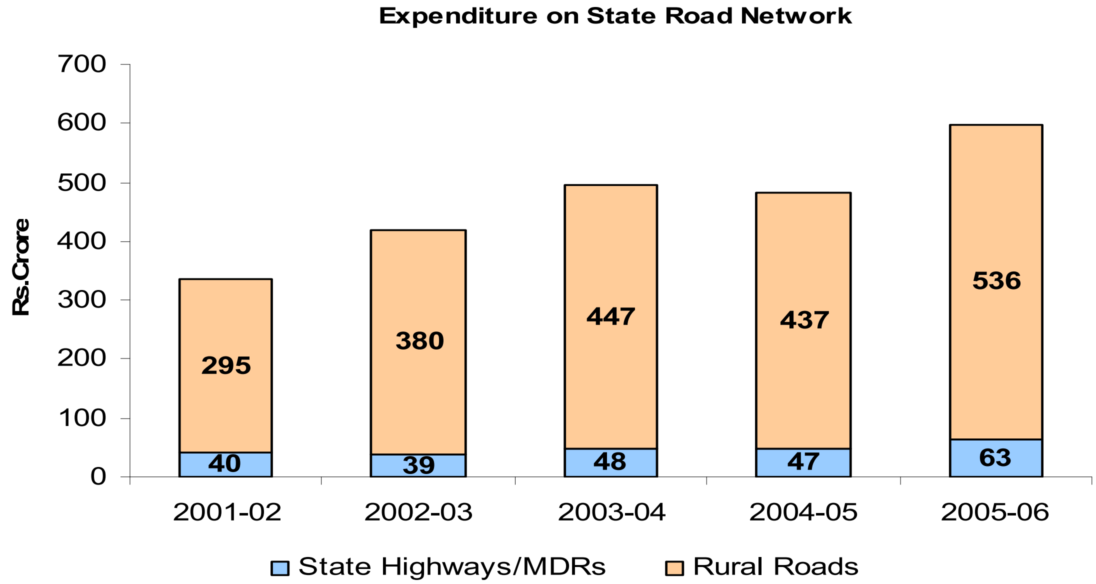
2.2.1 A summary of the key issues in the current road sector financing as identified in the Assessment report is presented below:

a) Core Road Network needs are in-adequately addressed

2.2.2 Based on the analysis of historical trends in resource allocation and actual expenditure by different types of road networks over the past few years, it can be observed that the fund availability for the core network (comprising of State Highways/ MDR's) is lower as compared to the funding requirements.

2.2.3 Whereas, it is understood that given the dominance of rural areas in the state the emphasis on Rural Road networks could be higher, still the State Highways/MDR's provide vital links to tourism and trade centres of the state and therefore the core road networks requirements should also be duly addressed.

Exhibit 1: Expenditure on State Road Sector (Rural Roads and State Highways)



Source: Assessment Report, HPPWD

2.2.4 A recent study done by the HP-PWD (Strategic Options Study 2005) indicated that nearly 1600 kms of State Highways need urgent up-gradation and therefore they require huge capital investments. The SOS Study also indicated around 75% of State Highway networks carry more traffic compared to their capacity and therefore need urgent up-gradation. This requires huge capital investments and the low emphasis paid to such needs results in postponement of such urgently required works.

2.2.5 This delay in addressing urgent needs result in a high opportunity cost for the state that would otherwise have contributed to the overall development of the state.

b) Higher focus on capital works compared to maintenance works

2.2.6 Majority of the schemes for the development of the road sector in the State are capital works (construction/upgradation) 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 networks. However, currently no specific schemes/policies are in place dedicating a sustainable source for funding maintenance of road assets. It is also not possible to divert funds from specified schemes to other activities as and when the need arises.

2.2.7 The funding gap analysis shows that in future it is likely that maintenance requirements would surpass the capital works requirements and if corrective action is not taken urgently then the needs of the road network would not be addressed appropriately in future.

2.2.8 The exhibit presented below indicates various sources available for different types of activities required for road network. This exhibit also enforces the fact that capital works are preferred compared to maintenance related works.

Exhibit 2: Sources of Fund for State Road Sector

Sources of Funds	New Development/Up-gradation			Maintenance		
Type of Roads →	NH	SH	RR	NH	SH	RR
PMGSY, MoRD			✓			
Central Road Fund		✓	✓			
Ministry of Roads - GoI				✓		
Central Plan Grants		✓	✓			
Central Non-Plan Grants					✓	✓
State's Own Revenues					✓	✓
State's Borrowings- NABARD			✓			

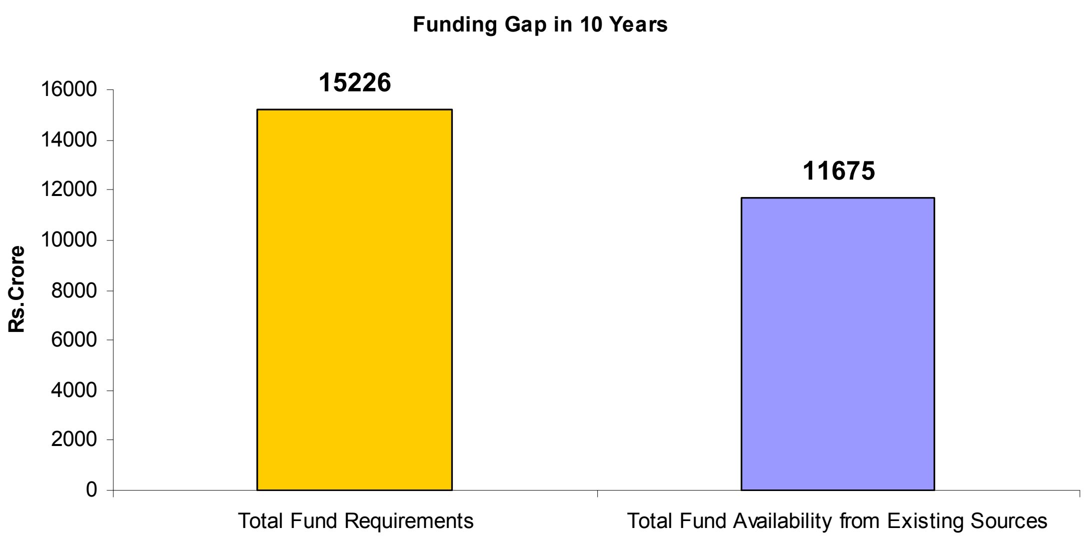
Source: Assessment Report, HPPWD

c) Overall gap in Sector Funding

2.2.9 The Assessment Report projects the requirements of the state road network for the future 10-year period. It is estimated that the state road sector would witness a funding gap and the fund availability would be in-adequate to address the requirements. The gap in funding was estimated by comparing the requirements in investments and the availability of funds.

2.2.10 As per the analysis presented in the previous report, it is estimated that the state Government would face a funding gap of approximately **Rs. 3552 crores** in the time frame 2006-16. This means that the current resources can fulfill around 76% of the total fund requirements. This calls for a provision of raising additional financial resources for the road sector in future.

Exhibit 3: Total Funding Gap in 10 years



Source: HPPWD, PwC

d) Lack of dedicated and sustainable source of funding

2.2.11 The road sector in the state 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 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 road sector needs are neglected in absence of dedicated and sustainable source of funding for the road sector.

2.2.12 The total outstanding debt liabilities of the State are close to Rs. 19,000 crores compared to the GSDP of around Rs. 20,000 crores (in 2005) which clearly indicates that the State is highly debt-stressed. This high level of debt limits the capability of state to service the debt. The Planning Department of the State estimates that the existing interest burden would be more than Rs. 1700 crores per annum.

2.2.13 As a result any further increase in debt would be alarming and therefore this causes the State to be dependent on Central grants-in-aid for financing the State Plan's and non-plan expenditure. Also, likely pay increases following recommendations of the 6^{th} Pay Commission can adversely affect the current levels of fiscal management.

2.2.14 In such a scenario, road sector can suffer as the state would attach priorities to its prior committed liabilities and political obligations. Also due to limitations on State Government's borrowings (as per the 12^{th} Finance Commission recommendations) it is likely that market borrowings can be limited. This situation, therefore, calls for a dedicated and a sustainable source of funding for the road sector through alternate mechanism or innovative approach to sector financing.

e) Need to improve Sector Governance

2.2.15 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.

2.2.16 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.

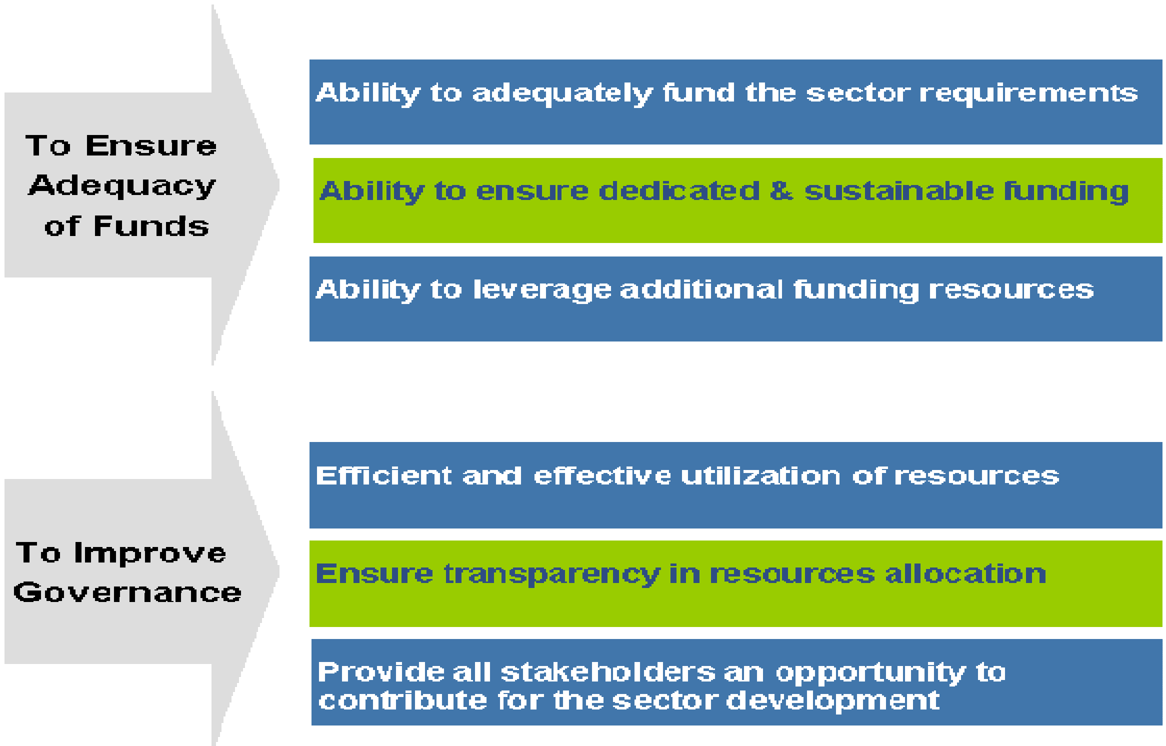
2.2.17 Therefore, some form of an independent institutional set-up that focuses on the development of the road sector and provides a platform for all the stakeholders to raise their views, needs to be structured. Such an institutional set-up would contribute to improve sector governance and would also bring transparency and efficiency in financial resources management for the road sector.

2.2.18 The issues discussed above can be clubbed into two core issues, one is there is lack of adequate funding for the road sector and another is lack of sector governance. In the other way it can be concluded that in order to improve sector financing for the road sector in the state, the focus should be on the following two core parameters.

a) Ensuring Adequacy of Funds

b) Improving Governance

2.2.19 Adequacy of the fund would ensure the stable and sustainable source of funding and governance would ensure the overall management of that fund. The exhibit presented below shows components of these parameters.



2.2.20 In the similar situation, Governments across the world have taken various initiatives to ensure funding adequacy and to improve governance in the road sector. Experiences of these initiatives taken by various countries and states within India are discussed in the next section.

3 National and International Experiences in Sector Financing

3.1 Overview

3.1.1 The previous section presented a summary of key issues in the current road sector financing. Given, the sector financing issues and the requirements of the state road networks, it is now important to look at how similar problems have been addressed in different countries and various states within India.

3.1.2 Road development is considered crucial for the sustained growth of an economy. However, general experience suggests that funds available to the road sector through government budgetary allocations are often in-adequate to fund road network requirements. Also road maintenance is less politically attractive than new road construction, road rehabilitation and social programmes which are more "visible" and therefore attract more political patronage. In addition, the lack of clarity regarding the economic consequences of poor maintenance, further reduces the government's focus on maintenance of road assets.

3.1.3 To provide sustainable funding for the road sector, different countries across the world have levied additional charges/taxes on road users to generate extra revenue or earmarked certain percentage of budgetary allocation. However, experience suggests that providing sustainable funding alone is not enough to ensure holistic development of the sector. For example, some countries in Latin America financed road development and maintenance programs through earmarked charges, especially by levying additional charges on motor fuels. However, none of these funds could be sustained in the long run. It was later figured out that owing to lack of transparency and accountability, these financial resources were being utilized by the Government for purposes other than road development. Therefore, it is also important to ensure that due attention is paid to the overall governance of road sector financing.

3.1.4 Therefore, various countries have set-up separate institutional frameworks in the form of an independent Road Fund to develop the road sector. A common objective of setting up such an institutional framework is to ensure adequate and stable flow of funding for the road sector and also improving sector accountability and governance.

3.1.5 With this context, the main objective of this chapter is to highlight experiences of different initiatives for road development that various countries across the world have taken. Similar policy initiatives that various states in the country undertook have also been highlighted in the subsequent sections of this chapter. A summary of key learnings from the national and international experiences in the specific context of the key issues in HP Road Sector financing is presented at the end of the chapter.

3.2 Issues faced by other countries in road sector financing

3.2.1 Given the importance of the development of the road sector for every country, experiences across the world suggest that both developed and developing countries face certain common issues in road sector financing. Some of the issues that different countries across the world face are summarized below:

(a) Experience suggests that funds available through general government budgetary allocation are often in-adequate to meet the sector funding needs. For example, a United Nations Economic and Social Commission for the Asia and the Pacific (UN ESCAP)report titled “Transport and Communications Bulletin for Asia and the Pacific- 2005” points out that in Latin America the countries were losing anywhere between 1% to 3% of their annual GNP owing to in-adequate funding support and attention to their road assets.

(b) It is observed that owing to the fiscal constraints, funds allocated for maintenance of the road assets are lower compared to funds allocated for capital requirements. A political agenda across various countries suggest that road maintenance is usually less attractive than new road construction / development since development works are more “visible” compared to maintenance works. The UN ESCAP report referred above also indicated that towards the end of the last decade various countries in Latin America spent less than 20% of the amount required to maintain their road networks in serviceable condition.

(c) It is normally observed that Government’s are not consciously aware of the economic consequences of poor maintenance. For example an ADB report indicates that Rs.100 spending on maintenance of road assets saves Rs.200 to Rs.300 of vehicle operating cost. Some developed countries including the USA, Japan and European countries are exceptions to this. These countries are consciously allocating sufficient resources for maintenance of their road assets through institutionalizing formal funding mechanisms like a Road Fund, Federal Highway Trust Fund etc.

(d) Federal Governments across the world are normally responsible for the management of road assets. The government machinery introduces certain inefficiencies in the form of lack of transparent and efficient road sector governance. Although various agencies like the World Bank advise certain degree of participation of the road users and non-government stakeholders for the development of the road sector, such platforms are not highly prevalent across the world. Again, some countries like Japan, New Zealand and some African countries like Tanzania etc. have created formal platforms to encourage stakeholder participation to improve sector governance.

3.2.2 It can be observed that the above issues are similar to the issues that have been discussed in the previous chapter. The initiatives that other countries took can therefore serve as good examples of best practices adopted for the development of the road sector across the world.

Sustainable Financing & Management of Road in Latin America

For the last several years, roads have been the backbone of Latin America’s freight and passenger transport system with road networks continuing to grow rapidly throughout most of this period. However, in recent years the rate of expansion has slowed and ageing of road networks has proceeded rapidly. Scarcity of resources, has contributed to an ever-decreasing amount of money allocated to road maintenance. Towards the end of the decade many countries in the region spent less than 20 per cent of the amount necessary to maintain their road networks in serviceable condition.

Road conditions in the region vary from country to country. However, generally only one third of the paved main road network is in good condition, one third in regular and one third in poor condition. The condition of unpaved roads is even worse. These conditions have not changed much over the last 10 years. Past efforts to increase financing levels for road maintenance either failed or were not sustained.

Some of the countries used to finance road construction, rehabilitation and maintenance through earmarked taxes, especially on fuels used by motor vehicles. However, none of these funds could be sustained in the long run. The main problem was that Governments began utilizing these funds for other purposes. This was especially true in times of crisis. As many of these crises were never resolved, dedicated road maintenance funds have effectively been permanently reallocated.

Also the government departments carry out the management of road infrastructure. While most of the construction, rehabilitation and some maintenance projects are contracted out, the government departments are responsible for planning, contracting, and supervising these projects in addition to performing most of the road maintenance works. Internal inefficiencies of government departments also act as a major hindrance to sustainable road maintenance at a reasonable cost.

The main lessons learned are clear. An appropriate institutional arrangement for adequate financing and management of road maintenance can make a substantial improvement in road conditions. It is necessary to address the two main underlying causes related to financing mechanisms and institutional arrangements for road maintenance.

Source: UN ESCAP Report 2005

3.2.3 The subsequent section describes case studies of some of the international experiences and national experiences of different initiatives taken by governments for the development of the road sector.

3.3 Case Studies of International Experiences

3.3.1 The section above highlighted some of the issues that different countries faced in sector financing. To address those issues, governments across the world have taken various measures to secure road sector funding. These measures can be classified under the following broad categories:

- Setting up of New Institutional Framework (in the form of a dedicated Road Fund)
- Raising additional revenues under existing institutional set-up to finance road sector requirements
- Encouraging Public Private Partnerships, etc.

3.3.2 Some examples in the form of case studies are presented below.

a) Case Study examples of Setting-up new institutional framework- Dedicated Road Fund

3.3.3 The literal definition of a Road Fund can be a distinct institutional mechanism for the diversion of sources of income from the Road Sector and the sources of expenditure for the Road Sector. However, “sources of income from the road sector” constitutes various forms of direct and indirect taxes that require complete consensus and clarity both from the Government’s perspective as well as from the user’s perspective. It is not necessary that the basic objective of a road fund is generation of incremental finances for the sector. Various developed and developing countries are increasingly adopting the concept of a “Road fund” to finance the requirements of the road sector, to regularize accounting mechanism and also to achieve good governance.

3.3.4 *First-generation road funds* were established in the 1970s as extra-budgetary arrangements through which an earmarked/clearly apportioned stream of tax revenues collected by the Government was put at the disposal of a road department or agency. Emerging from this concept, a *Second-generation road fund* moved away from using apportioned tax revenues in the 1990s. Instead, they are funded by certain levies/surcharges designated as "user charges" and these levies/surcharges were identified separately from general taxation. Some cases of setting-up a new Road Fund are discussed below.

Case Study on Japan Road Improvement Special Account

Background

To address the poor state of the road network, Japan introduced a special funding system for roads in 1954. This funding was designed to bring the Japanese road system into the 20th century and to cater for the rapid growth in motor vehicles.

The special funding system was introduced to meet the needs of the post-war road improvement program and was "based on the concept that road users who enjoy the benefits of improved roads should bear the burden for their improvement" (i.e., it was based on the user pay concept). The new funding system for roads involved earmarking certain road-related taxes and depositing them into a special off-budget account similar to a Road Fund.

Objective of the Special Account

The road improvement special account finances the maintenance, improvement and construction of national, provincial and local roads. It finances direct expenditures by national government on national roads, transfers some revenues to local governments to finance their road programs on a cost-share basis, finances purchase of construction equipment, provides finance for toll roads (in the form of equity and subsidies for interest payments), and makes loans to local governments.

Legal Status

The road improvement special account was set up under the existing budget law. The first law was passed in 1953 and was known as the Temporary Measure Law for the Budget for Road Improvement. In 1958 this was replaced by the Road Improvement Special Account Law which was more specific. This law defined a national account; identified the sources of revenues and defined the qualifying expenditures. This law designated the Minister of Construction as the person responsible for managing the account; and specified that the draft annual budget would be submitted to the Cabinet for approval and subsequently endorsed by the Parliament.

Source of Revenues

The road fund employs an elaborate system of earmarked *national* and *local* taxes to mobilize revenues. It collects some revenues at the national level, pays them into the road improvement special account and then transfers designated revenues to local governments. At the local government level, the revenues transferred from the road improvement special account are then supplemented by other local taxes.

At the *national* level, the tax revenues earmarked for roads are as follows:
(i) All the revenue from the gasoline tax is transferred to the road improvement special account.
(ii) Half the motor vehicle LPG tax is paid into the special account. The remainder is transferred to local government as motor vehicle LPG transfer tax.

(iii) Seventy-five percent of the motor vehicle tonnage tax is paid into the special account. The remainder is transferred to local government as motor vehicle tonnage transfer tax.
At the *local* government level, additional revenues are collected from two further taxes:
(i) A diesel fuel tax which is collected at the local level only; and
(ii) A motor vehicle purchase tax, also collected at the local level (5 percent of purchase price for private motor vehicles).

The tax levels are revised at the start of each 5 year road improvement program and remain constant throughout the 5 year period.

Exemptions for Non Road Users

The law does provide stipulations to exempt non-road users from paying road charges. Exempt users apply for a certificate from the provincial government. They are required to submit evidence showing which off-road machinery uses diesel fuel and how much they are likely to consume during the year for which exemption is sought. Based on this information, the government issues a Certificate of tax exempted Diesel Fuel User.

Administration and Oversight

The road improvement special account was originally supervised by an advisory board known as the Japan Road Council. The role and duties of the Council were laid down in article 77 of the Road Law which provides for a Road Council to be established by the Ministry of Construction at the request of the Minister.

The Council was established in 1952 and consisted of a chairperson and twelve other members. The members were proposed by the Director General of Roads and are appointed by the Minister of Construction. Board members included representatives of the motor industry, business community, trades unions, academia and local government. Much of the substantive work of the Council was carried out by three sub-committees: one committee deals with road policy, one with toll roads, and the other with environmental issues. The Council had no permanent secretariat, but was serviced by staff from the Roads Bureau of MOC.

The Road Council has recently been converted into a Roads Committee under a broader Infrastructure Council. The Committee works in much the same as before, although there is now greater emphasis on collaboration with NGOs and more dialogue with stakeholders interested in – and affected by -- the road improvement program.

Cost Sharing Arrangements

Funds from the Road Improvement Special Account are provided to road authorities on a cost-share basis. Central government finances 50-55 percent of the costs of maintaining directly managed national highways. The remaining costs are financed by provincial governments and designated large cities. Central government also finances two-thirds of the costs of improving directly managed national highways, 70 percent of the national expressway network, and half the costs of subsidized national highways, main local (provincial) roads and main local (municipal) roads.

Auditing Arrangements

All work financed from the road fund is subjected to an audit by the Japanese Institute of Audits which is independent from the government and influential amongst the public. The audit is done on a sample basis and they target several specific works per office. The audit team visits the work office, examines control procedures and financial records, and dispatch civil engineers to inspect the selected work sites. Problems and queries are resolved with MOC and the audit report is then submitted to the Parliament.

Case Study on Transfund New Zealand (Transfund)

Background

The original Road Fund in New Zealand was established in 1953. In 1989 the management of the portion of the fund dedicated to roads (the National Roads Account) was transferred to Transit New Zealand (TNZ) account. However, since the road fund was used to finance TNZ's road program, as well as those of the Regional Councils (for urban passenger transport) and District and City Councils, there was thought to be a conflict of interest. So, on 1 July 1996, the Transit New Zealand Amendment Act came into effect and created a separate road fund administration called Transfund New Zealand (Transfund). Management of the road fund was therefore separated from TNZ and placed under the jurisdiction of a separate road fund administration.

Objective of the Transfund

The Road Fund helps to finance all public roads. The first objective of the road fund is for road safety. Certain percent of overall revenues was transferred to the Land Transport Safety Authority (LTSA) to pay for the costs of police road safety enforcement and the costs of operating the LTSA (mainly educational and publicity programs). A small amount is channelled by Transfund to support passenger transport and the remainder is used to support roads. It finances the entire costs of the national road network (State highways) managed by Transit New Zealand and part of the costs of local authority roads which are supported on a cost-share basis.

Legal Status

The road fund was initially established under the 1953 National Roads Act. The sources of revenues were amended in 1979 and the Transit New Zealand Act in 1989 created the Land Transport Fund and assigned management of the fund to Transit New Zealand. Finally, in July 1995, the Transit New Zealand Amendment Act was passed which provided for the establishment of an independent Road Fund Administration (Transfund) to manage the road fund.

Source of Revenues

The revenue for the road 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 State Highway property; and (vi) refund of GST (the NZ equivalent of VAT).

The collections are deposited into the Treasury’s bank account, but the government pays interest on the balance to recognize that it is a separate account and not part of the government’s general tax revenues.

Administration and Oversight

The operations of Transfund are overseen by a management board which consists of five members: (i) two members represent TNZ (either employees or members of the TNZ Authority); (ii) one member represents local government; (iii) one represents road users; and (iv) one represents other aspects of the public interest.

Members are appointed by the governor-general on the recommendation of the Minister, following consultations with people from the land transport industry and elsewhere. The Chairman is appointed by the governor-general from among the existing members of the board. The key functions of the management board are to:
(i) Approve and purchase a national roading program from the various road agencies, including capital projects;
(ii) Approve the competitive pricing procedures applicable to the roading program;
(iii) Audit the performance of TNZ and Local Authorities against their respective road programs;
(iv) Provide advice and assistance to Local Authorities in relation to the new Transfund Act.

Exempting Non Road Users

Non road users are exempted from paying the gasoline levy and weight-distance charges through an ex post reimbursement system (i.e., the user first pays the road user charges and then claims it back later). The scheme is administered under contract by the LTSA who, in turn, use New Zealand Post Ltd. as their agents. Applications for refunds have to be accompanied by invoices covering the purchases on which refunds are being claimed and random audits are undertaken by the LTSA's Audit Unit to discourage fraud.

Cost Share Arrangements

The Road Fund finances 100 percent of the costs incurred by Transit for State Highways, but on average only finances 50 percent of the costs incurred by local authorities for local roads. The actual proportion financed depends on: (i) the size of the local authority road program; and (ii) the financial resources available to it.

Auditing

The Review and Audit Division carries out systematic reviews and appraisals of activities wholly or partly funded from the Road Fund. It reports through the CEO to the board and, in exceptional circumstances, may report directly to the chairman. One of the conditions for providing funds to the road authorities is that they provide all the information and cooperation necessary to enable the division to review and audit the correct application of these funds. The aim of the audits is to ensure that the funds have been used in an efficient and effective manner.

Technical and economic audits are made on a regular planned basis about every five years, while procedural audits are made every three years. The purpose of the procedural audits is to assess the accuracy of the financial assistance claims made by the road authorities and the extent to which the road authorities are complying with Transfund's policies with regard to the custody, recording and utilization of road fund resources.

Case Study on United States Federal Highway Trust Fund

Background

The United States established a Federal Highway Trust Fund in 1956 to finance selected federal road programs. The federal funding system involved earmarking certain road-related taxes and depositing them into a special account. The special account was initially introduced to finance construction of the interstate highway network and was based on the user-pay concept.

Objective of the Federal Highway Trust Fund

The Federal Highway Trust Fund finances the federal-aid highway program, administered by the Federal Highway Administration (FHWA), and supports most other federal-aid highway projects. 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 the 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 Status

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. In the original Highway Revenue Act, the financing mechanism was set to expire at the end of Fiscal year 1972. Since then, legislation has periodically extended the imposition of the taxes and their transfer to the Highway Trust Fund.

The last Transportation Efficiency Act, which re-authorized the Trust Fund, extended the imposition of the user taxes through September 2005. 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 per 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.

Source of Revenues

The user fees are identified as separate revenue streams and include: (i) motor fuel taxes on gasoline, diesel, and gasohol; (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.

Administration and Oversight

There is no independent oversight board. Oversight is 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.

Exemptions for Non Road Users

Some vehicles, like school buses and state, local government and non-profit vehicles are exempted from paying Federal Highway motor fuel taxes. In addition, fuels used in off-highway uses are exempt from these taxes (e.g., agriculture and industry). Off-highway uses are dealt with by coloring un-taxed diesel and testing non-exempt diesel vehicles to ensure they are using regular (taxed) fuel.

Cost Share Arrangements

Allocations from the Federal Trust Fund do not cover all costs, except in exceptional circumstances. They generally cover a fixed 80 percent of costs, except for inter-state construction and maintenance, where they cover 90 percent of costs.

Auditing

The audits are normally carried out by outside auditors and cover financial matters, compliance and internal control procedures. Each state participating in the scheme is required by law to have an annual audit carried out.

Case Study on States in Brazil

Four Brazilian states have created autonomous road funds – Mato Grosso in June 1999, Mato Grosso do Sul in March 2000, Paraná in December 2000 and Goiás in January 2001. The road funds in the Mato Grosso and Mato Grosso do Sul have similar characteristics. Both states have boards with a majority of members coming from the public sector and finance the fund through a levy on motor vehicle fuels and agricultural goods. The boards are responsible for construction, rehabilitation and maintenance of roads. Since both states were predominantly agricultural and needed to expand their road networks, it was deemed necessary to include road construction and rehabilitation as well. In order to meet the additional financial requirements for road construction and rehabilitation, the financial base of the road fund was broadened through levies on agricultural goods.

The road fund in Paraná is a more traditional road maintenance fund. Funding is provided exclusively by a levy on motor vehicle fuels. The board consists of 2 representatives of the state government, 1 representative of the parliament, 1 representative of the municipalities, and 10 representatives of direct and indirect road users. In Goiás, the Road Fund is financed through vehicle licensing fees. The board concentrates on road maintenance, and the majority of its members are from the private sector.

b) Examples of PPP Initiatives

3.3.5 A 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, reduce costs, enhance implementation capacity, mobilize private financial resources and free up scarce public resources.

3.3.6 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.

3.3.7 A World Bank Report on Highway Sector Financing in India published in June 2004 points out that between 1992 to 2003, global private investments in highways represented a small fraction of total expenditure on the World's highway network. A large number of countries have experimented with contracts that allow different degrees of private participation in the road sector, transferring different risks and to different degrees, particularly for maintenance.

3.3.8 The report pointed out that countries like Chile and Argentina promoted PPP's 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 during the above period.

Example of PPP Initiative in France

In France, limited access, grade-separated inter-urban expressways, known as 'Autoroutes', have been developed over the last few decades. Such expressways account for only 4 percent of the national road network, and carry 40 percent of the road traffic. It is estimated that around 72 percent of total expressway network in France is tolled. In the initial stages, the Government extended concessional finance up to 70 percent of the total project costs to private concessionaires; 52% from the Central Government and 18% from local governments. The balance was met through equity contribution of private concessionaires. In the second phase of development, government assistance was less than what it provided in the initial stages of expressway development, with construction advances (interest-free loans) being offered only for segments that the Government deemed unprofitable.

Financing Road Development by Local Residents

Some countries – Sweden and Finland being the most notable examples – have adopted an institutional and ownership structure for their road networks that leaves the lowest levels of the network in the hands of local residents. In other words, government encourages local residents to own the local road network and, through that, transfers responsibility for building, operating and maintaining these roads to local communities. The local communities form themselves into some form of legal entity – either a cooperative or Roads Association – that comprises the land-owners who live alongside the road. The land owners therefore "own" the roads and take full responsibility for looking after them, usually with advice from a higher level road agency. There is invariably some cost sharing. Government meets part of the costs of road works (typically around 50 percent), while the balance of the (private) finance comes from payments made by local residents. The above arrangement is both efficient and also reduces the need for government finance. In Sweden, studies have confirmed that the costs of operating and maintaining private roads of equal standards – even when in-kind contributions are valued – is less than half the cost of comparable publicly managed roads. This means that, with 50:50 cost sharing and costs at half the level of the official road agency's costs, government ends up only spending 25 percent of what it would have paid had the roads formed part of the public road network. The private road cooperatives (or Roads Associations) therefore offer an attractive way of accessing private sector finance at the local level.

3.4 Case Studies of National Experiences

3.4.1 The previous section highlighted various different initiatives that federal governments across the world have taken to ensure a sustainable and a dedicated financing to the road sector. Similar cases exist in India as well which highlight some of the initiatives that the Indian Governments at various levels (State as well as Central) have taken to address similar funding issues in the road sector.

3.4.2 Some of the states have set up their own dedicated road funds and others have generated resources by levy of cess on agricultural and horticulture produce, motor fuels etc. Efforts are also being made to strengthen the institutional arrangements for proper planning of maintenance interventions and their effective delivery on the ground. Such examples in the form of case studies are illustrated below:

a) Case Study examples of setting-up new institutional framework- Dedicated Road Funds in India

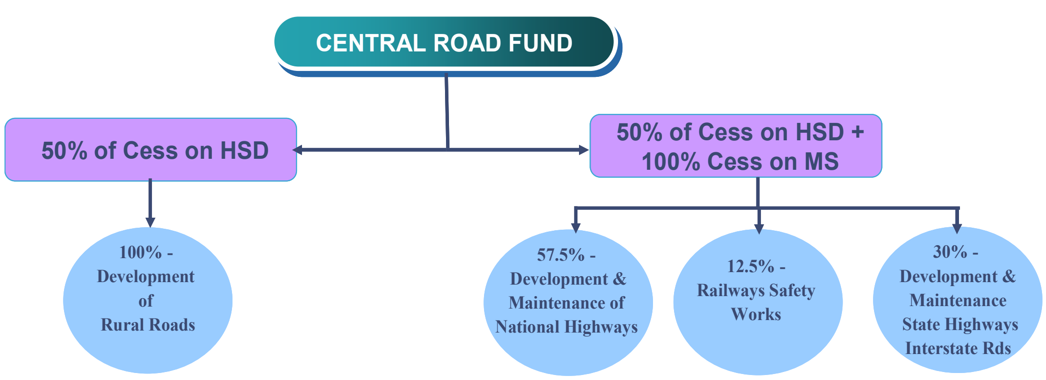
Case Study on Central Road Fund in India

Background

The Indian Central Road Fund (CRF) was created under the Central Road Fund Act 2000. The CRF Act was promulgated in November 2000 by the Government of India and as per the provisions of this Act; an additional cess (currently Rs.2 per litre on Petrol and Diesel) was levied on petrol and diesel sale. The revenues collected through the cess were routed to the CRF through the Consolidated Fund of India. The CRF is managed by the Ministry of Finance, Government of India.

Allocation of Revenues

The allocations of the receipts are statutorily predetermined. The mechanism of allocation of the cess through CRF is described in the diagram below:



It is also important to mention that the receipts from the fuel cess are allotted to states on the basis of fuel consumption (60% weight-age) in a state, and its total area (40% weight-age).

For example: Maharashtra, Andhra Pradesh, Uttar Pradesh and Rajasthan accounted for nearly 36% of the total funds allocated to the states and UT's through CRF for the development and up-gradation of State Highways in 2005-06.

Case Study on Kerala Road Fund

Background

The state of Kerala created the Kerala Road Fund in 2001. The Fund's objective was to mobilize non-budgetary resources for the development and maintenance of the state road network. The Kerala Road Fund was created to demonstrate greater commitment to the development and maintenance of the PWD road network and to mobilize greater non-budgetary resources (user charges, private sector involvement and external funding). It was constituted under the Kerala Road Fund Act 2001, which became law on 23 November 2001. The sources of uses of revenue generated from Road fund are presented in the table below.

Sources of Funds

The sources of funds for the Kerala Road Fund are mentioned below:

- All moneys received from the Central Road Fund
- The user fees collected under the following Acts
  - Kerala Road Fund Act
  - Kerala Highway Protection Act
  - Kerala Tolls Act
  - Kerala Motor Vehicles Taxation Act
- Grants or loans or advances made by the Central Government, State Government or other institutions
- All payments made by the concessionaire as per the concession agreement.

Applications of Funds

The uses of funds for the Kerala Road Fund are mentioned below:

- Routine and periodic maintenance of the state roads
- Development/upgradation of existing road network & construction of new roads wherever necessary
- Research related to maintenance and development of roads
- Development of such safety projects for safe and smooth traffic;

Any cost-sharing for donor-funded projects intended for any or all of the purposes mentioned above.

Case Study on Fund for Rehabilitation and Maintenance in Karnataka

The state of Karnataka has recently created a dedicated fund for rehabilitation and maintenance of rural roads. The fund is called Chief Minister's Grameen Raste Abhivrudhi Nidhi (CMGRAN). An amount of Rs 300,000 per km for periodic renewal and Rs 40,000 per km per year for routine maintenance for black-top rural roads is allocated to the Zilla Parishads (district-level local bodies). For water-bound macadam and gravel roads, the norms for routine maintenance are Rs 25,000 and Rs 20,000 per km per year.

b) Cases of raising additional revenues for the Road Sector through Mandi Boards, market committees etc.

3.4.3 Some states in India levy cess on food grains through their market committees and the proceeds are utilized for the construction of link roads and their maintenance in rural areas. This is because there is a general understanding among farmers that a good road network in their areas allows them to fetch a better price for their produce. This gives them an incentive to increase production as the size of the market increases due to a well maintained road system. It also helps them to obtain their consumer goods and other inputs more cheaply and improves their access to schools, health care and market facilities.

3.4.4 The states of *Punjab* and *Haryana* started these practices in the early 1970s. *Rajasthan* followed immediately thereafter. *Uttar Pradesh* and *Madhya Pradesh* have also joined such moves. Funds in such cases are managed by market committee boards. In the sugar-cane belts of some states, sugar cooperatives contribute funds for repair and maintenance of roads. Similarly, in coal field areas, mining authorities contribute towards road rehabilitation and maintenance. Experiences of some states are discussed below in details.

Case Study on Mandi Boards for Development of Road Sector in Madhya Pradesh

Background

To address the acute shortage of funds for repair and maintenance of roads, in September 2001 the Government of Madhya Pradesh decided to utilise the Mandi Funds (created for development of roads for Krishi Upaj Mandi Market area) for repair and maintenance of State roads. An amount of Rs. 1.2 billion (US$ 28 million) per year is available out of this fund.

Levy of Market Fee

The Government of Madhya Pradesh (GOMP) issued a Gazette notification on 15 March 2000 to levy a market fee of 2 per cent on every sale of "agriculture produce" brought from outside the State or that were sold in the State. The fees was to be collected by Mandi Committees and were to deposit 85 per cent of the fee to the MP State Agriculture Marketing Board (Board) under the head "Kisan Sadak Nidhi" (Mandi Funds) for development of roads of Krishi Upaj Mandi Market area and balance 15 percent was to be retained by the board for agriculture research and infrastructure development.

Planning and Implementation

The planning and implementation of the scheme was the responsibility of the Engineer-in-Chief (E-in-C), PWD. The up-gradation and improvement of roads were being executed through 52 out of 94 divisions of PWD in the State, each headed by an Executive Engineer (EE) under the administrative control of Chief Engineers (CE). The Mandi funds were collected by the Board and were deposited with Madhya Pradesh Rural Road Development Authority (MPRRDA) for execution of works under the scheme on the basis of demands made by the CE. These funds were released by MPRRDA directly to executing divisions of PWD for execution of work.

The Impact

Under this arrangement 323 roads of different category with length of 5840 km were taken up for up-gradation/improvement by the Public Works Department (PWD) in phased manner for completion of work at an estimated cost of Rs.649 crore. During the period 2001-05 Rs.570 crore were released by MPRRDA against which Rs.569 crore were expended by the PWD in the up-gradation and improvement of roads through these funds.

Case Study on development of link roads by Mandi Boards in Punjab

The Punjab Agricultural produce is being regulated under the Punjab Agriculture Produce Markets Act, 1961. The primary object of Punjab Mandi Board and Market Committees is to establish modern Markets for efficient marketing of agricultural produce by providing modern facilities in the mandis. Market Committees are service rendering agencies and their main source of income is market fee. The existing rate of market fee on purchase or sale transactions of all agricultural produce specified in the schedule is 2%. In addition to this, the State Govt. has also levied 2% Rural Development Fund on the purchase or sale of agricultural produce under the Rural Development Fund Act, 1987 which is executed by Punjab Rural Development Board. In 1998-99 collection of market fee was Rs.351 crores and in 1999-2000 it was Rs.458 crores.

The State of Punjab has been gainfully utilizing the funds collected from levy of market fee and rural development fee for construction and repair of rural link/approach roads. At present the total length of rural link roads is 42000 kms. All the villages of the State are linked with the Mandis through this vast network of rural link roads which are carpeted with the premix. The success of agricultural marketing operation in the State owes much to the efficient road network of the State and its good maintenance. The annual expenditure on the link roads is about Rs.250 Crores for repair and maintenance. The funds are provided from PSAMB and Rural Development Board

Case Study on Toll based Maintenance in Madhya Pradesh

Under this arrangement Government opens certain stretches to private entrepreneurs for toll-based operation and maintenance. This brings improvement in the level of service, higher productivity of road transport and savings in vehicle operating costs.

The state government of Madhya Pradesh has taken this initiative of toll-based maintenance of state highways through private financing. Under this arrangement responsibility of private operators is to improvement of minor works like culverts; routine and periodic maintenance; renewal of road by premix carpet on 28 km length per year; construction of toll booths at two locations; bringing berms into proper condition etc. For the funding operators are allowed to collected toll from road users (Car-Rs.10, Bus-25 and Trucks-Rs.35).

Examples on generating extra revenues through levying additional taxes/charges

Some states levy additional charges on road users in various ways to generate extra revenue for the road development:

Uttar Pradesh: Entry tax of 4 per cent on value of goods brought in state territory. Additional sales tax of 4 per cent on diesel and 6 per cent on petrol for road sector.

Maharashtra: Cess of Rs.1 per litre on petrol and diesel.
West Bengal: Cess of Rs.1 per litre on petrol and diesel
Madhya Pradesh: Surcharge of 15 per cent on petrol and diesel

3.5 Key challenges faced by Road Funds

3.5.1 As presented in the previous sections, various national and international governments have created Road Fund to provide sustainable funding for the sector and to improve sector governance. In most of the cases road fund has been able to address the funding issues faced by the road sector. However, in some countries it has been observed that road fund has not been able to fulfill its objective.

3.5.2 Some of the common challenges faced by road fund across the world are highlighted below.

(a) **Unclear legal basis:** In few countries road fund has been created without any published rules and regulations. This has resulted in functional overlap with the road agencies, lack of clarity in roles and responsibilities of the board members and prioritizing expenditure across various road networks etc. It has also been observed that without a clear legal basis, the fund is often diverted for other purposes and the road fund is unable to do anything about it.

(b) **Lack of effective oversight:** Among the countries which have created road fund, few are not functioning well because there is lack of effective oversight. Lack of effective oversight board resulted in issues like ineffective fund utilization and unauthorized borrowings on behalf of road fund etc.

(c) **Inadequate institutional capacity:** Some of the road fund has not been able to perform because of inadequate institutional capacity of the road agencies. In few countries road funds are created without giving much attention to capacity of the executing/implementing agencies. As a result size of fund increased without matching the increasing in the capacity of the executing/implementing agencies and causes delay in executing the projects on time. For, example in Nepal due to capacity constraints, the road fund board are not able fulfill the objective of road fund due to capacity constraints as a result neither the Board nor the road users are satisfied with the performance of the road agencies.

(d) **Lack of sustainable flow of funding:** Getting sustainable flow of funding for the road fund is quite difficult especially when it is routed through general budgetary resources. Since taxes form part of the general budget, governments and legislators often consider them to be resources that can be easily reassigned for other purposes. For example, in 1998 the Government of Guatemala had to fight off an initiative of the parliamentary opposition to divert the dedicated fuel tax to education. In Zambia, existing procedures of fund allocation creates delay and irregular supply of funds to the road fund because of cumbersome procedures of collection of fuel levy and allocation of fund is routed through budget.

(e) **Lack of rigorous technical and financial audits:** Some of the road funds do not carry out rigorous technical and financial audits to ensure that all revenues attributable to the road fund have been collected and paid into the road fund and that the funds have been disbursed to finance approved road works.

3.5.3 Some of the particular cases where road fund has faced the above problems are discussed below.

Nepal

Background

In Nepal, Road Fund has been established under Road Board Act in 2002. The objective of the road fund is to provide adequate and sustainable funding for road maintenance. Now the board is facing institutional problems concerning management and utilization of the funds generated and capacity constraints in road agencies that implement the actual maintenance work. Some of the major issues which the road fund is facing are discussed below.

Institutional Issues

Among the most important problems are institutional problems. Institutional issues are related to management and utilization of the fund and capacity constraints in road agencies. It has been found that while creating road fund, attention has not been given to capacity of the executing agencies. Ideally capacity of the executing agencies should increase with increase in size of the road fund, but that has not happened. So, the agency has not been able to satisfy the road users with their performance mainly due to capacity constraints.

Ambiguities in the Legal Provisions

In addition to the capacity constraints of the road agency, there are several problems are stemming from ambiguities in the legal provisions that govern the Board. Currently, the demarcation of authority between different levels and entities is not clear in legal provisions. The ambiguous legal provisions cause friction in board operations. For example, a common problem faced by the Board is the conflict between the purpose for which local authorities request RBN (Road Board Nepal) funds and the purpose for which RBN was established. Often, local authorities request funds for rehabilitation of roads in non-maintainable condition, whereas the RBN priority of funding is for regular maintenance of roads in maintainable condition. Resolution of this problem is not easy as the local agencies have significant political influence.

Contradiction between the objectives of routine, recurrent, periodic and emergency maintenance and the inclusion of rehabilitation, reconstruction and upgrading in other sections of the Roads Board Act are creating problems at the operational level. Ambiguous phrasing of various clauses in the Road Board Act has often caused confusion regarding the Board's authority.

Resource Constraints

As Road Fund has been created without giving much attention to the future funding requirements of road maintenance. Currently board is facing resource constraints. Road Board Nepal funds only satisfy about 20 per cent of the total maintenance funding needs for Strategic Road Network and less than 10 per cent of Local Road Network.

Zambia

Background

The National Roads Board (NRB) was established in 1994 by regulation under a Ministerial Order to administer and manage the Road Fund for maintenance and rehabilitation of roads. The NRB and the Road Fund have a weak legal framework, being established under a Ministerial Order rather than an Act. Some of the issues faced by the road fund are discussed below.

Weak Legal Basis

In Zambia, National Road Board and Road Fund have been established under a ministerial order rather than an Act. As a result, there exists inadequate action on the part of the government with respect to providing adequate definition, clarification, separation, assignment of responsibilities with matching authority, and control over rates and collection of proceeds to the National Road Board.

Functional Overlap between Agencies

Due to weak legal basis and lack of defined role and responsibilities of the road fund board, functional overlap has been observed within the road agencies. The management functions of the NRB, including coordination with various agencies involved in the road sector development has created inconsistency between its advisory and executive roles as reflected in the Statutory Instrument. For example, under road fund act NRB has been given power to make policy and operational decisions, however these powers are also with the road department as per Roads and Road Traffic Act. This conflicts and overlaps the function of NRB.

Delays and Irregularities in Fund Allocation

Past experience with the Road Fund in Zambia suggests that, while maintenance funding has improved, however, the flow of funds continue to be impacted by budget allocations by the government. The existing procedure for crediting revenues from fuel levy proceeds into the Road Fund account creates delays and irregularities. For example, the fuel levy flow proceeds from the Zambia National Oil Company (ZNOC) to the Zambia Revenue Authority, which in turn credits a "budgeted" amount to Road Fund through the Ministry of Transport and Communications. Often the budgeted amount is much less than the proceeds from the fuel levy, creating arrears due to the Road Fund and undermining the fundamental principle of the fuel levy as a user fee. Within the existing legislative arrangements, the NRB is not able to redress erratic and delayed remittance of the fuel levy proceeds from the Ministry of Finance.

Latin America

In June 2000, Nicaragua passed a law creating its Road Maintenance Fund. This Road Maintenance Fund is governed by an autonomous board. The board has two members representing the national Government, one representing local governments, and three representing direct and indirect road users. The Road Maintenance Fund is responsible for the periodic and routine maintenance of the national road network.

As per legal provision all works and services under the road fund must be contracted out to the private sector. Besides having internal audits, the Fund is audited annually by an independent auditor. In addition, it is planned to regularly inform road users about the Fund's performance.

In order to win public support, the Government initiated an extensive public awareness campaign prior to creating the Road Maintenance Fund and decided not to increase fuel prices in the initial stage of creating the Fund. To provide the initial funding, it was proposed that a part of the existing fuel taxes would be converted to a dedicated fuel tax. Ultimately this measure was not approved due to objections raised by the Ministry of Finance. This left the financing of the Road Maintenance Fund to the Government's normal budgetary process. The Road Maintenance Fund continues to be financed through the general budget. This has left it under-financed and unable to maintain the national road network to as per the defined objectives.

World Bank Survey – A Review of World Bank Assistance

World Bank has conducted a survey of 14 road funds in the following countries: Croatia, Ghana, Guatemala, Honduras, Kenya, Lao, Lesotho, Malawi, Mozambique, Nepal, Philippines, Tanzania, Yemen and Zambia. The main shortcoming present in several of the Road Funds considered, are the following:

- RF resources too much concentrated on main roads to the detriment of low traffic roads
- Part of the RF resources are taken away by the Ministry of Finance
- Allocation of RF resources to uses is often too political
- There is little accountability in the use of RF resources
- In Road Boards chaired by a government official, there is tendency to use RF resources for road improvement rather than road maintenance.

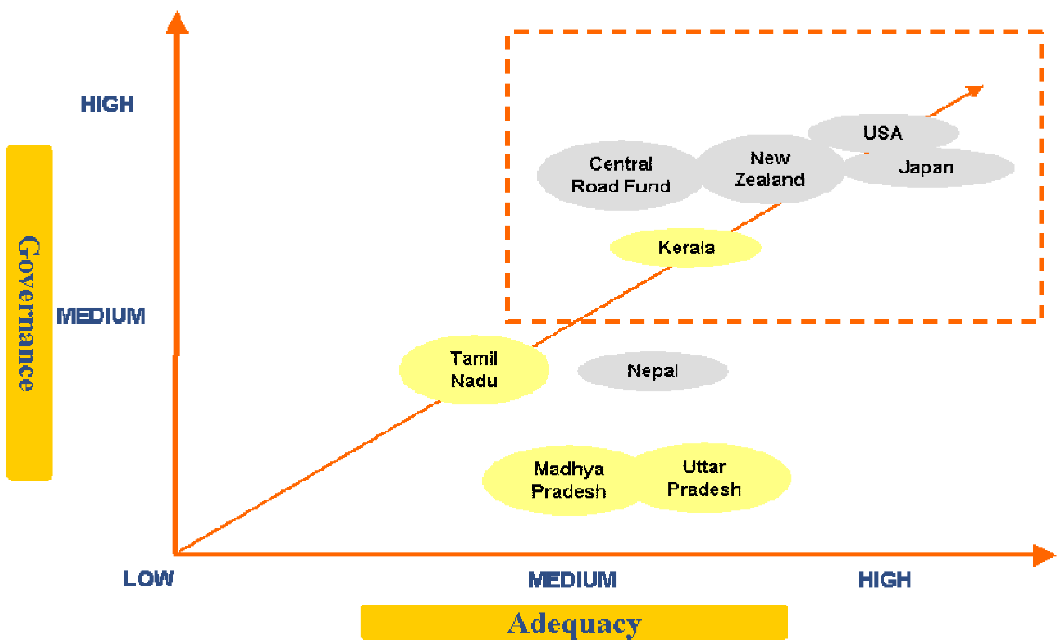
Other important shortcoming cited includes:

- Road Fund Boards not clear about selection of performance indicators, monitoring and programming, making the Board unable to judge the performance of the road agency
- The reputation of Road Fund Boards is generally good, but expectations are too high. The Board lacks sufficient authority to set tariffs affecting their revenues
- The RF law generally allows too much politics to intervene in the allocation of RF resources.

3.6 Key Learning from National & International Experiences

3.6.1 The different national and international experiences discussed above suggest that it would be difficult for the state to secure an adequate and a stable flow of funds for the road sector through the existing government budgetary allocation procedure. The different cases studies 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. In addition to that, 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.

3.6.2 To draw the key learnings from the initiatives discussed in the previous sections, it is important to analyze the initiatives on the selected parameters i.e. adequacy and governance parameters discussed in previous section. As can be seen from the graph below the places where road fund has been created, in some places it has been able to fulfill the adequate funding needs for the road sector but failed to improve the governance, while in some cases it has been able to improve both adequacy and sector governance.



3.6.3 As discussed above in order to provide stable and adequate funding and to improve sector governance road fund initiative is the most preferred option for most of the countries and states within Indian as well. However, in order to make this initiative successful Himachal Pradesh needs to learn the kind of challenges a road fund can face. Some of the key learning for the Himachal Pradesh while creating Road Fund 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 government 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 not chaired by a government official.

- A road fund should not be established under some conditions, including a high level of corruption, little likelihood of having independent audits and that transparent procurement will be put in place, and a Ministry of Finance that is relatively strong.
- Financing of road maintenance should be viewed in the broader context of road management. Necessary road management reforms can be achieved under the budget approach or the user pays approach, provided the flow of funds for maintenance is adequate and stable.
- 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.
- 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.
- 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.
- There has to be strong legal basis for setting up of road fund
- To make the road fund board effective and accountable, roles and responsibilities of each agency has to be clearly defined.
- Size of the road fund and capacity of the executing/implementing agencies should be matching with the size of the road fund to avoid capacity constraints
- Procedures for fund allocation needs to be clearly defined to avoid delay and irregularity

3.6.4 Other important features of road fund that emerge from different cases discussed earlier are mentioned below:

- A Road Fund is normally a separate, autonomous fund which is separated from the kitty of “general revenue”
- A Road fund is generally managed by a separate entity which can be named as the “Roads Board”. This Board has representatives from government as well as non-government stakeholders.
- The Road user charges are determined on a “pay-for-the-use” basis and are specific.
- Revenues are paid automatically and directly to the Road Fund, rather than through any Consolidated Fund.
- Strict procedures are established for the allocation of funds between activities and the approval of work programs submitted by the various road agencies;
- Regular financial and technical audits are undertaken and all reports are published.

3.6.5 However, the different cases discussed earlier present a learning that can be replicated for the state, subject to fulfillment of certain guiding principles. The generation of the guiding principles necessary to evaluate the feasible options is discussed in the next chapter.

3.6.6 A summary of the key learning's that can be derived from the above examples in the context of the state of HP is discussed below.

Key Issues	Key Learning for the State
Core Network needs are in-adequately addressed	Similar to initiatives by states like UP, Kerala etc., the state should ensure that adequate resource allocation for core network is done.
Capital works are more emphasized than maintenance related works	Similar to the initiatives taken by countries like New Zealand, Japan etc., the state should take some policy initiative that would focus on ensuring that adequate resource allocation is provided for maintenance related activities.
In-adequate fund availability is projected for the road sector in future	Similar to the examples discussed in Alternative 2 wherein states like Punjab, MP etc. have taken initiatives to raise additional resources through Mandi Boards/Agriculture committees, HP should take some initiative to tap such resources for generating additional revenues. These additional resources can then be used to bridge the projected funding gap.
Lack of Dedicated & Directed Funding	The current budgetary allocation doesn't ensure earmarking of financial resources for road sector. Examples discussed above indicate that governments across the world have earmarked certain sources (like levy of cess on petrol/diesel etc.) for funding the road sector. Therefore the state should put a framework that insulates the budgetary allocation risks through institutionalizing **"Dedicated and Directed Funding"**.
Lack of accountability & need o improve sector governance	The budgetary allocation through the Consolidated Fund brings a lack of transparency and accountability for resource allocation. It becomes difficult to account for the road sector revenues owing to the pooling of consolidated state's revenues.
Lack of flexibility of resource allocation for the road sector.	The current budgetary allocation restricts the flexibility of resource allocation for the road sector owing to various political and social obligations of the government. Therefore there is a need to ensure that the sector financing should be **independent** and **autonomous**.

3.6.7 These learnings are used as a basis to formulate guiding principles to generate funding options for the state. A description of the guiding principles and the different funding options is discussed in the next chapter.

4 Generation and Evaluation of Funding Options

4.1 Background

4.1.1 Given the key issues in the backdrop of State Road Sector financing, the previous chapter described various case studies detailing the key national and international experiences of different governments to address funding problems for their road sector.

4.1.2 The key learnings highlighted in the previous chapter indicate some of the urgent initiatives that the State Government should take to address its problems. The next step is to use the findings from the previous chapter and apply them to generate different funding options for the state. Having understood the nature of state's road sector funding issues, various options which ensure that the issues are adequately addressed need to be generated. Some of the important characteristics of the preferred funding option for the State are listed out briefly:

a. The Funding Option should ensure that dedicated & sustainable funds are provided to the road sector

b. The Funding Option should ensure that funds should be adequate and sufficient to address the road sector investment requirements

c. The funding option should enable the government to leverage additional financial resources for the road sector

d. The option should ensure efficient and transparent fund allocation

e. The option should ensure flexibility in resource allocation and therefore improve sector governance

f. The funding option should fit the interests of all the major stakeholders (including government and non-government representatives)

g. The funding option should be able to accommodate political and social objectives of the government

4.1.3 It is therefore important to generate options that address various dimensions of funding requirements and also fit the political and social context of sector funding. With the above background, the objective of this chapter is to generate feasible options that would address the sector financing issues. These options are then analyzed on identified guiding principles to arrive at the preferred option.

4.2 Options for funding the State Road Sector

4.2.1 Based on the key learnings from the national and international experiences state in the previous chapter and the analysis of the Assessment Report, the following options could be generated for addressing the road sector finance requirements.

(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)

4.2.2 A brief description of the above options is given below:

a) Option 1: Status Quo

4.2.3 This option of road sector funding essentially assumes that the state continues to fund the sector through the current sector budgetary allocations under Plan and Non-Plan activities. Also, existing schemes meant to address specific sector needs like PMGSY etc. are assumed to continue.

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

4.2.4 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.

4.2.5 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.

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

4.2.6 This option assumes that the state creates a *Dedicated Road Fund* similar to the Road Funds discussed in the previous chapter. This Road Fund would have characteristics similar to Road Funds discussed earlier and would fund specific investment requirements of the state Road Sector.

4.3 Guiding principles for evaluation of options

4.3.1 The different issues affecting the current road sector financing in the state have already been discussed. Based on the relevant issues and also understanding the different policy initiatives that other governments have taken across the world, possible options in the context of the state would be generated. However, to generate and analyze the funding options, a set of guiding principles needs to be formulated to provide a logical basis to the analysis.

4.3.2 Some of the important characteristics of the preferred Funding Option have been highlighted in the previous section. These characteristics would form as a basis to generate guiding principles for evaluation of options. The guiding principles could be broadly divided into the following parameters– "Financial Parameters", "Institutional Parameters", "Stakeholder Interests Parameters" and "Social and Political Parameters".

4.3.3 The "Financial Parameters" indicate the strength of the option to generate/leverage additional sources of finance for the road sector. The "Institutional Parameters" indicate the strength of the option to provide an independent institutional set-up.

These parameters also depict the strengths of the option to improve governance and accountability of resource allocation.

4.3.4 The "Stakeholder Interest Parameters" indicate the strength of the option to accommodate interests of different stakeholders. For example, the different stakeholders include key government departments like Public Works, Finance Department, Transport Department, Tourism Department, Planning Department etc. and some key non-government associations like HP State Transporters association, State Cement manufacturers association, Agriculture & Horticulture producers association, exporters association etc.

4.3.5 Similarly, the "Social and Political Parameters" indicate the strength of the option to enjoy political and bureaucratic support from the government and also the ability to accommodate social obligations of the government.

4.3.6 A brief description of these guiding principles is provided below:

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.
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.

Guiding Principles for Funding Options		Description
Stakeholder Interest Parameter	**Accommodates 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 it's 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.

4.4 Evaluation of Options

4.4.1 This section presents the pros and cons of each option indicated 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.

a) Evaluation of Option 1: Status Quo

4.4.2 The existing sector funding provides that funding for plan requirements (capital works) gathers more importance than non-plan requirements (maintenance works). The funding gap analysis estimates that the state road sector would witness a funding gap for maintenance related activities. It was estimated in the Assessment report that in the future 10-year time frame the total funds available under this option would be Rs.12634 crores against the total investment requirements of Rs.16539. Also, it was estimated that maintenance requirements of the state road networks would remain un-addressed. Therefore this funding option would not be able to effectively address the principle of adequacy of funding.

4.4.3 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.

4.4.4 It had already been indicated that fiscal prudence would not allow the state to continue the existing levels of borrowings to fund the plan expenditure. The implementation of 6th Pay Commission in future would also reduce the ability of Central Government to provide existing levels of Grants-in-Aid for Plan assistance. All these factors indicate that the sustainability of the budgetary allocations for the road sector is limited.

4.4.5 On the other hand, the budgetary funding doesn't 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 it's ability to accommodate programs with government's social commitments.

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

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, specially 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	Budget Provisions of HP as per the HP Budget manual allow dedicating certain sources of finances. However, political and social priorities of the Government would need to be considered before earmarking is being 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
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 non-government 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 doesn't give a significant opportunity to non-government stakeholders to put their opinions and interests in front of the government.
Enjoys Political Support	Financial resource allocation as per different schemes has to be passed in the State Legislative assembly before being approved. This gives an opportunity for political leaders to extend political support to the resource allocations.	Allocation decisions are governed more on a political consideration than professional consideration
Accommodates Social objectives of the government	The existing funding also provides an opportunity to accommodate various social objectives (like village connectivity) etc. in the road sector.	Difficult to provide adequate funds for other requirements like maintenance and up-gradation

4.4.7 The matrix 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.

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

4.4.8 As discussed in the Assessment Report, if the State continues to fund the road sector requirement under existing budgetary funding, there would be funding gap of around Rs.3906 crores.

4.4.9 Therefore this option assumes that the state continues the existing mechanism of allocating financial resources through Consolidated Fund and this remains the primary source of funding. However, a portion of funds could be earmarked for the road sector to ensure a dedicated funding. Some examples of earmarking of such funds include earmarking certain fixed percent of the total road user charges collection etc.

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

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	The possibility to generate additional financial resources, specifically for the road sector, is limited.

	additional resources would be 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 in-adequate fund allocation to the road fund.
Dedicated Source of Finance	By earmarking funds for the sector, some dedicated financing can be made available. The HP Budget manual also provides such provision	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 providing by not limited 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 has been an issue in the past
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 non-government 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 doesn't give a significant opportunity to non-government stakeholders to put their opinions and interests in front of the government.
Enjoys Political Support	This option would enjoy political support as it doesn't 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

4.4.11 The matrix 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, still in the longer term it is important that the financing mechanism is administered professionally. This option therefore is not the most preferred option as it offers limited scope to introduce professionalism and good governance.

c) Evaluation of Option 3: Creating a Road Fund

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

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

4.4.14 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 arguments that creating a Road Fund would provide comfort to the State Government to ensure that 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.

4.4.15 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.

4.4.16 It was also indicated in the Initial Stakeholder's Workshop (Ref: Stakeholder Workshop conducted on 17th January 2007) that such an initiative would enjoy a good political support and would be a welcome initiative for the development of road sector. The summary of advantages and disadvantages of this option with respect to the guiding principles described earlier is presented in the table below.

Option 3: Create a dedicated 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 RF 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

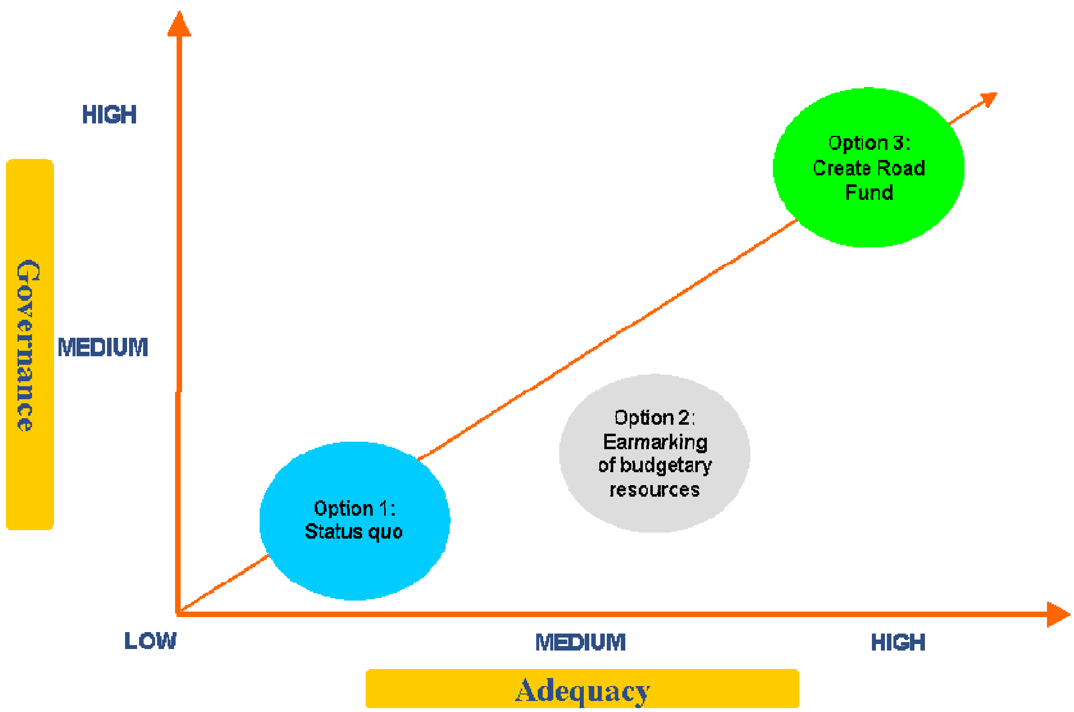
Accountability & Governance	The Road Fund is a distinct institutional mechanism which is autonomous and independent from the existing mechanism. The funding and administrative set up of the Road Fund separate from the general government funding and therefore accountability and governance would be improved 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	A 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 RF 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 allocation ensures that the stakeholder interests are optimally addressed	The approval of resource allocation by the Assemble ensures that public representatives are having a consensus over the government decision. In the RF 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 RF 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 was clarified during the Stakeholder Workshop by the key decision makers of the State Government, that it would not be difficult to gather political support for this option.	Ensuring that some additional budgetary support is available for the RF 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	Again during the Stakeholder workshop, it was clarified by the decision-makers that social commitments would be kept out of purview of this option. Therefore, the possibility to promote social agenda of the government through this option would be limited

4.4.17 The matrix above indicates that creating a Road Fund would offer significant advantages for the state road sector. Road fund would not only ensure dedicated and stable funding, but would also improve the sector governance. The next section details the advantages and disadvantages that Road Fund is expected to bring to different stakeholders.

4.5 Selection of Preferred Option

4.5.1 The evaluations of funding options presented above indicate that compared to other options, creating a new Road Fund has distinct advantages for the state road sector. The Option 1- Status Quo doesn't ensure adequate financing for the core road networks. Also, this option provides a limited scope to improve governance in sector financing. Similarly, as discussed earlier, the 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.

4.5.2 On the other hand creation of a new financing mechanism - Road Fund mechanism would ensure both adequate funds and improvement in governance. Provided the RF mechanism has an independent legal status and has appropriate oversight and audit arrangements, delivering improved governance would be possible. The graph below indicates the above arguments in terms of the ability of options to provide improved governance and adequate funds.



4.5.3 The stakeholder workshop conducted on 17th January 2006 at Shimla gave an opportunity to substantiate this analysis from the perspectives of individual stakeholders. Apart from the advantages that the state would witness by creating a

Road Fund, some other important advantages and disadvantages from the perspective of different stakeholders are detailed in the matrix below:

Key Stakeholders	Advantages	Disadvantages
Finance Department	a) Asset under Road Fund can be used in mobilization of additional resources for the development of road sector. Therefore, setting up such a fund could prove beneficial to the department to garner additional revenue. b) Can provide the department an opportunity to increase allocation for other government's social and political commitments.	a) If the Road Fund doesn't leverage additional revenue, it would create an additional liability to the government in the form of salary and other administrative expenses.
Public Works Department	a) Road Fund provides predictable sources of finance to the department, which can help them to plan their road development activities accordingly. b) Extra resources (such as issue of bonds, institutional borrowings etc.) can be mobilized by using assets under Road Fund. As sources of Road Fund is predictable in advance so, it can enhance creditworthiness of the Road Fund. c) Since Road Fund de-links financing from the general budgetary resources, in the long term Road Fund can decrease dependency of the department on the budgetary resources. d) Road Fund set up with a specific objective would increase the efficiency of the department in future. Also representation of other stakeholders in the Road Fund Board would ensure that different interests of different stakeholders are adequately addressed.	a) Possibility of funds lying un-utilized if sufficient projects are not timely identified. b) If proper control is not established, mis-use of funds and any extravagance in expenditure would be difficult to avoid. c) The role of Road Fund is limited to provide a funding mechanism. However, issues related to execution and implementation such as capacity constraints of the HP-PWD and contractors would remain unaddressed. d) Road Fund would increase the responsibility and accountability of the key department officials. e) If the budgetary resource allocation is not de-linked with the sources of funds, then dependency on government budget would continue even after creation of Road Fund. f) It would be difficult to operate the Fund on a purely commercial basis as political interference could still exist.
Road Users and Other key non-government stakeholders	a) Road Fund would give an opportunity to non-government representatives to present their views and interests for the development of the road sector. They can also be a part of the management committee. b) Accountability is enhanced through the creation of a	a) Road funds work on "fee – for – services basis". There is a possibility that that road users would need to shell out additional money to finance the Road Fund b) Such an extra burden on road users might face some initial resistance from road users.

	management board. Also it is expected that additional spending on maintenance and up-gradation of road network would improve the condition of state road network. c) There is a reduction in vehicle operating costs (VOC) due to good condition of roads. (An ADB study for road sector pointed out that Rs.100 invested on road maintenance saves Rs.200 to 300 of vehicle operating costs). d) A good quality road network provides efficiency in the transportation of goods and passengers would boost state economy, save fuel costs and help in increasing state's trade. e) Road Fund could ensure sector financing on a commercial basis. The road user charges can form the basis between quality of road service and price to be paid by the users.	
Transport Department and Tourism Department	a) Road Fund could ensure dedicated expenditure on maintenance and up-gradation, which would improve the service levels. High service levels would increase the potential of state to attract more tourists b) Road Fund could ensure that the sector financing is sustainable in the long term. This in-turn can be utilized to provide connectivity and accessibility to all the stakeholders.	

4.5.4 Putting the above arguments in perspective, it can be observed that after analyzing the options with respect to the different guiding principles Road Fund seems to provide the optimal solution to address the sector financing issues. The stakeholders matrix above also indicate that the disadvantages of creating a Road Fund is insignificant when compared with the advantages of creating the Road Fund.

4.5.5 Therefore, in consonance with the discussions at the stakeholders workshop, it is suggested that creating a Road Fund is the most preferred option for the state of HP. However, it must be pointed out again that the state should ensure that proper checks and balances are in place to avoid any mis-use or under-utilization of funds.

4.6 Key Challenges of Preferred Option

4.6.1 As per the analysis presented above creating a road fund is one of the preferred option for Himachal Pradesh. However, to make it successful some of the challenges that might the state face are discussed below.

4.6.2 **Raising additional resources:** Raising additional resources for Himachal Pradesh road fund is a challenge for the government since it is always a politically sensitive issue. It requires both political and road users support to raise additional resources for the road fund. Government might find it difficult to convince the road users to pay additional fee for road maintenance. They might argue that the government receives enough funds from taxes on motor fuels, motor vehicle, licensing fees and other fees to cover the cost of road construction and maintenance.

4.6.3 **Winning Government support:** Creation of road fund would affect various agencies directly and indirectly which are related to the development of road sector. Government might object to allocated fund to the road fund if it is outside the treasury of the government. In case the Road Fund does not leverage additional revenue, it would create an additional liability to the government in the form of salary and other administrative expenses which can be objected by the government. The creation of an autonomous road fund and the establishment of additional charges on road users may require passing new laws and amendment in existing law; governments and parliaments are often reluctant to do so due to political reason.

4.6.4 **Building Institutional capacity:** In Himachal Pradesh, HPPWD is the sole agency responsible for the development of the road sector. In future with growing responsibility of HPPWD like World Bank projects, PMGSY etc requires dedicated staff to execute the works, department might face capacity constraints. Even if separate road fund created to provide stable and adequate funding for maintenance but it might not happen due to capacity constraints. It could be big concern when absorptive capacity did not increase to match additional funding.

4.6.5 **Earmarking of taxes:** Reliance on earmarking of funds for road fund can put the sustainability of the dedicated fund at risk, especially if funds are to be channelled through the Government budget. Since taxes form part of the general budget, governments and legislators often consider them to be resources that can be easily reassigned for other purposes. Finance department might object to earmark taxes for the road fund owing to other committed liabilities. In this situation road user charges to be earmarked has to be legally defined as user fees.

5 Structuring State Road Fund

5.1 Background

5.1.1 As highlighted in the previous chapters of this report, some of the key issues facing the road sector in the State pertain to low focus on the maintenance and upgradation needs of core road networks. Though, the capital needs of the state road sector are being funded through various sources such as the allocation from PMGSY Scheme, assistance from NABARD, funding from CRF etc., maintenance needs of the road assets are relatively under-funded owing to a lack of dedicated funding.

5.1.2 Accordingly, to address this major gap in the sector, the previous sections in the report highlight different policy initiatives that governments across the world have taken. It was also discussed that to address the sector financing issues, it is recommended that the state sets up a new Road Fund to provide a credible and sustainable source of funding for the road asset management.

5.1.3 The key aim of the present section on the Road Fund is to identify key issues in operationalizing Road Fund, discuss potential options that can be considered for addressing these issues, identify optimal and implementable solution for operationalizing the Road Fund and present a road map.

5.1.4 Key issues and options have already been discussed with key stakeholders during our initial workshop. The workshop was well attended by the members of the Advisory and Review Committee and other key decision makers of the Government. As per the discussions during the workshop, setting-up a Road Fund seemed to be the preferred option for the state road sector. While structuring the road fund inputs of key stakeholders have been taken into account.

5.2 Key issues and options in structuring HP State Road Fund

5.2.1 Based on the review of global best practices associated with setting up of a Road Fund, the key issues that emerge in structuring and operationalizing a Road Fund in the context of HP State are discussed in this section.

5.2.2 These key issues critical for structuring and operationalizing Road Fund are defining:

a. Roles and Objectives

b. Institutional and legal framework

c. Funding Mechanism

d. Administrative setup

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

5.3 Roles and objectives of the State Road Fund

5.3.1 The global best practices discussed previously in this report highlight different objectives of Road Funds.

The *Road Fund* should state clearly which items the *Road Fund* can finance and should give some indication of relative priority. The usual priority ranking is:

a) Maintenance;
b) Cost of *Road Fund* administration;
c) Low cost/high impact road safety projects;
d) Counterpart funding to donor-financed road rehabilitation projects;
e) Counterpart funding to donor-financed minor road upgrading projects;
f) Counterpart funding to donor-financed improvement projects.

5.3.2 While formulating the key roles and objectives of the fund the following options need to be debated:

a) Should the fund be applied for financing the maintenance activities only or it can include other road operations like capital works etc.

b) What types of maintenance activities should the fund cover- Should the fund cover only major maintenance (periodic maintenance) or should it include both major as well as routine maintenance

c) Which category of state road network should the fund address- Should the fund address only State Highways or only Rural Roads or both

d) Should operations and maintenance contracts (and other variants) under PPPs be funded through the fund

e) Should it include Viability Gap Funding or similar mechanisms for performance based O&M contracts / PPPs

5.3.3 The guiding principles for formulating the objectives of the fund should be:

a) The Fund should meet the projected funding gap

b) The requirements of different categories of state road networks (Core Road networks, Rural Roads etc.)

c) Larger coverage of O&M related activities

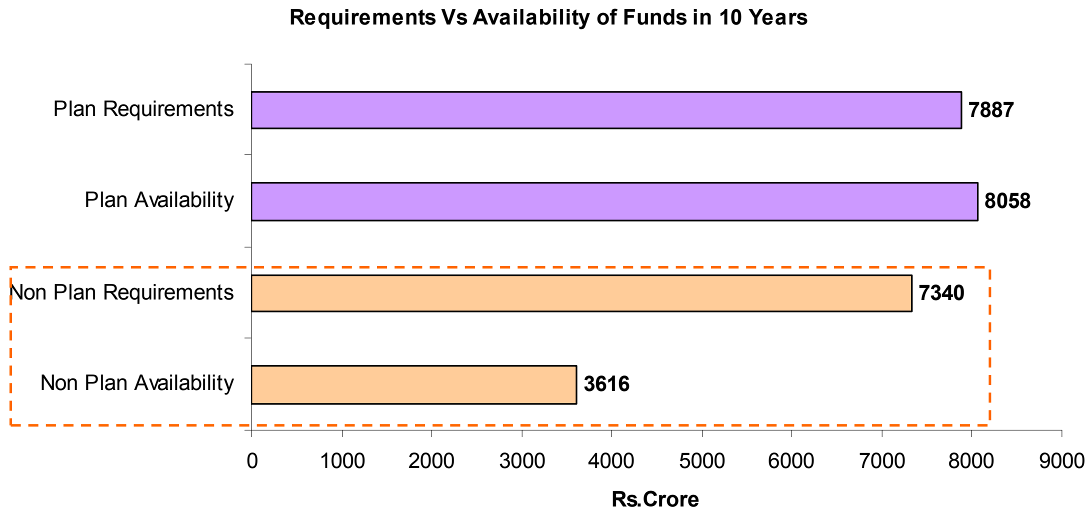
d) Flexibility in funding types of programs (counterpart funding to central govt./ financial institutions / multilateral funding agencies among others)

e) Flexibility in types of contracts / PPP concessions to be used and funded

5.3.4 The broad roles and objectives of the Road Fund can be assessed by understanding the projected funding requirements of the state road sector. The Final Assessment Report submitted earlier, details the projected funding gap for the state road sector in a future ten-year time frame (2006-2016).

5.3.5 The funding gap projections indicate that the state road sector is expected to witness a funding gap for maintenance activities in future. The exhibit below substantiates the above argument.

Exhibit 4: Projected Funding Gap in 10 Years

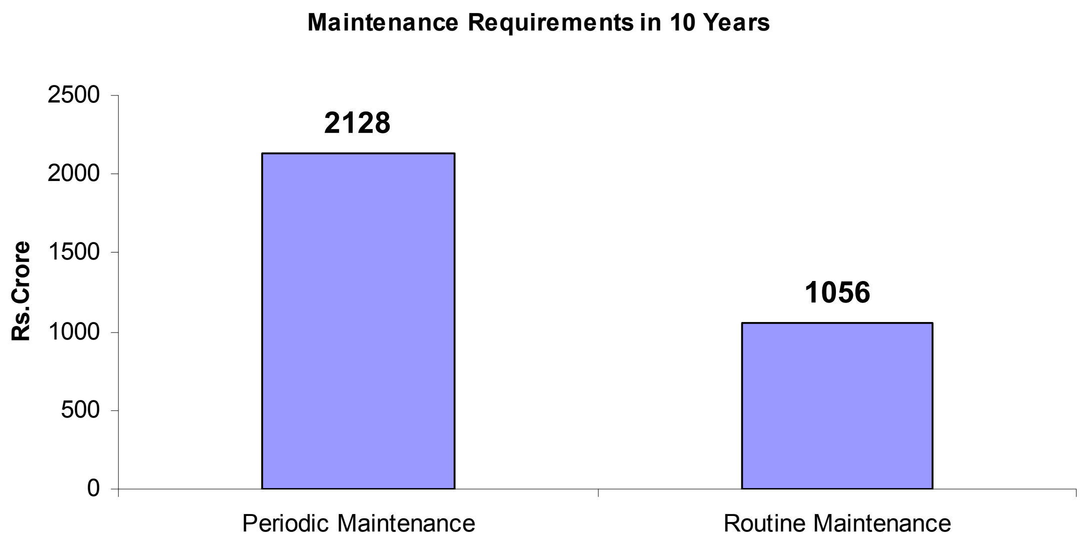


Source: HPPWD, PwC

5.3.6 As mentioned earlier road asset maintenance has been given low priority in the past. Future funding gap projections indicate that state road sector is expected to witness a funding gap in maintenance related activities. Setting up of such a fund should result in adequate maintenance of the road assets as dedicated funds would be available on a sustainable basis. Hence, the need for an institutional mechanism like a Road Fund that can address such a gap is critical and much desired.

5.3.7 Therefore, one of the objectives of the State Road Fund should be to finance the maintenance related activities. It is also important to understand whether this RF should finance only the major maintenance works (periodic maintenance) or should the RF fund both the routine maintenance as well as the periodic maintenance. The exhibit below shows the break-up of the maintenance requirements by types of maintenance.

Exhibit 5: Maintenance Requirements by types of Maintenance

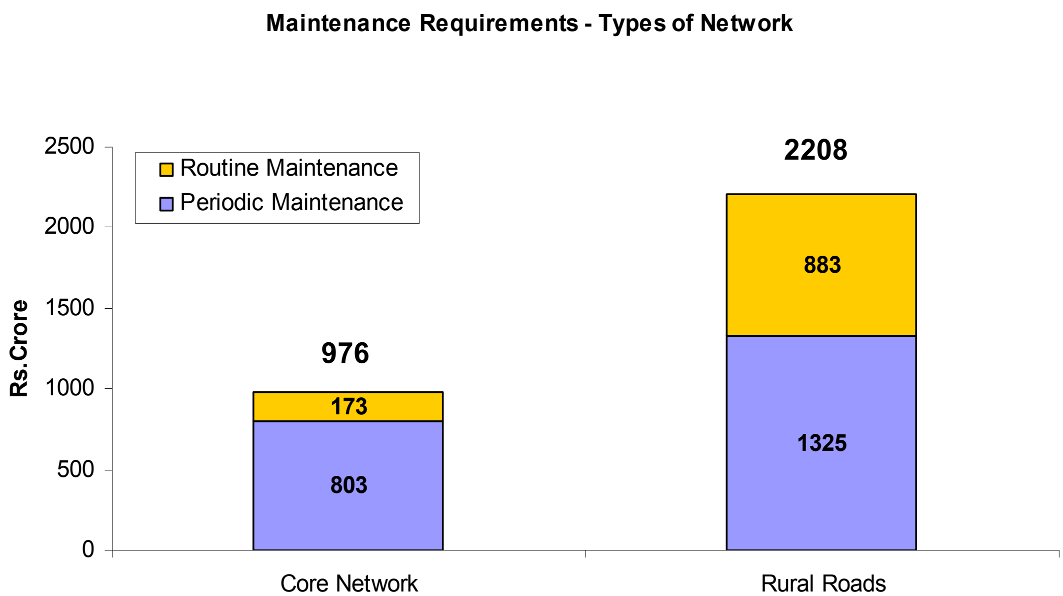


Source: HPPWD, PwC

5.3.8 Since the current sector funding does not ensure that specific funding be made available to different types of maintenance, it would be difficult to comment on the funding gap for different types of maintenance activities. For example, it would be difficult to estimate the total funding gap for periodic maintenance/routine maintenance etc. However, assuming that the requirements for Special Maintenance can be funded through the Calamity Relief Fund; the RF should focus on funding the Periodic Maintenance requirements and the Routine Maintenance Requirements of the state road network.

5.3.9 As has already been discussed, the state road networks under the jurisdiction of State Government include mainly State Highways, MDR's and Rural Roads. Whereas the State Highways and MDR's provide arterial links, Rural Roads provide connectivity from a particular habitation to the main state road network. The exhibit below summarizes the total maintenance requirements of SH/MDR's and Rural Roads.

Exhibit 6: Maintenance Requirements by Types of Road Networks



Source: HPPWD, PwC

5.3.10 As different categories of state road network serve different critical purpose, to achieve a balanced development of the state road network, it is therefore important to address the requirements of both- State Highways/MDRs and the Rural Roads. Whereas special dedicated schemes like PMGSY, RIDF are in place to provide sustainable funding for Rural Roads, there is no dedicated and directed funding for the requirements of core road networks. Considering the funding constraints (limited non plan budgetary resources), it would not be feasible for the Road Fund to meet the requirements of both the core road networks as well Rural Roads in the immediate time frame.

5.3.11 The initial stakeholder workshop provided a guiding step to substantiate the above problem. It was clearly pointed out by the key decision takers from the government that the proposed Road Fund should, in the short term, focus on the maintenance and up-gradation needs of the core road networks (comprising of State Highways/ MDR's). Therefore, in the short term objective of the Road Fund should be to finance maintenance and upgradation requirements of the core network (State Highways and MDRs).

5.3.12 In the longer term, the objectives of the Road Fund should be broad and flexible. The Road Fund should be flexible enough to provide financial support for viability gap funding or operations and maintenance contracts (under PPP's). The flexibility in financing different types of programs would ensure that the efficiency of the Road Fund to address the needs of the network is maximized.

5.3.13 Summing up, the key objectives of Road Fund in the short term should therefore be to fund the following activities on the State Roads network:

a) Operations and maintenance (both periodic and routine) of core road network.

b) Upgradation of core road network

c) Accommodate different types of operations and maintenance contracts and concessions

d) All types of financial support for viability gap funding or similar mechanisms for operations and maintenance of roads.

5.4 Positioning/Institutional Framework

5.4.1 One of the key issues in structuring the fund relates to its positioning within the larger institutional set up for the road sector in the state.

5.4.2 The institutional mechanism that needs to be put in place for the fund should fulfill the following needs:

a) Sustainable and credible source of financing for the fund that is not entirely dependant on budgetary sources. Moreover, financing even from the budgetary sources should provide certainty.

b) The funding should be made available to the implementing agencies / projects as per pre-approved / agreed time schedule and therefore should proactively support the delivery in the sector.

c) Autonomy in decision making

d) Provide a better model for sector delivery through independent and more accountable governance of the sector

5.4.3 The State has set up a wholly owned company on 10th August 1999 - **Himachal Pradesh Road and Other Infrastructure Development Corporation Ltd. (HPRIDC)** under the Companies Act 1956. The primary objective of HPRIDC is to assist the state government in developing roads, bridges and other infrastructure in the state. HPRIDC is also intended to act as a special purpose vehicle for resource mobilization for all infrastructures projects.

5.4.4 The state recently enacted the **Himachal Pradesh Infrastructure Development Act, 2001** to promote infrastructure development through private sector participation in the state. Some of the important provisions of this Act are highlighted below:

a) The broad objective of this Act is to provide for a framework for enabling private sector participation in financing, construction, maintenance and operation of infrastructure projects and to raise resources on behalf of the State Government for infrastructure projects development.

b) Under Section 3 of the Act, the state also established the **HP Infrastructure Development Board (HPIDB)** to provide for a framework for private sector participation in financing, construction, maintenance and operation of infrastructure projects and to raise resources on behalf of the State Government for infrastructure projects.

c) The Board is responsible for developmental works in the following infrastructure sectors:

   a. State Roads & Bridges Projects

   b. Irrigation and Public Health Projects

   c. Health Infrastructure

   d. Power Projects

   e. Urban Local Bodies and Other infrastructures

d) The Act also stipulates that HPIDB is empowered to administer and manage it's own fund to finance the infrastructure development projects.

e) The other details of this Act are mentioned in Annexure A

5.4.5 The state currently lacks a ready-to-operate institutional framework that would fulfill the necessary requirements for setting up an independent Road Fund. 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.

5.4.6 The powers and functions of HPRIDC and HPIDB can be used as guiding principles to formulate options for setting up a Road Fund. Accordingly, five options for the institutional setup of setting up the Road Fund can be considered for the state. The options are:

a) New legislation for setting up RF under its own Board, independent from HP-PWD, HPRIDC and HPIDB

b) Amendment to HP Infrastructure Development Act 2001, for a separate RF in addition to HPIDB Fund

c) Under HPPWD as a separate Fund. This Road Fund account will be independent of other PWD accounts and would be managed by separate Road Fund Board.

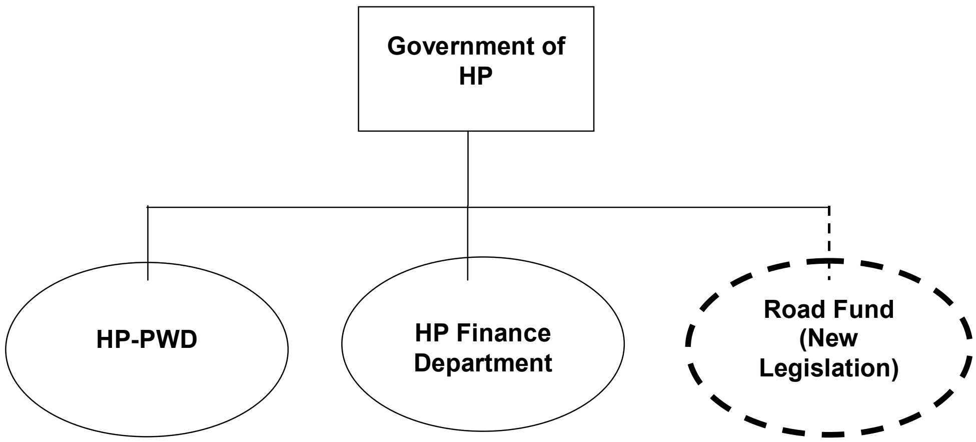
d) Under HPIDB as per HP Infrastructure Development Act 2001, but as a separate account and administered through its own bye-laws

e) Amending the Articles of Association (AoA) of HPRIDC under the Companies Act 1956, to set up a RF under the Corporation

5.4.7 Each of these options is discussed below.

5.4.8 **Separate legislation:** Under this option Road Fund can be structured and setup through a new legislation for the sector. This option is similar to the international practices that have been followed in some countries and state of Kerala.

5.4.9 The legislation can provide for setting up a new Board with its separate administration and clearly earmarked sources of funding. The figure below thematically presents the option of setting up RF under its own Board.

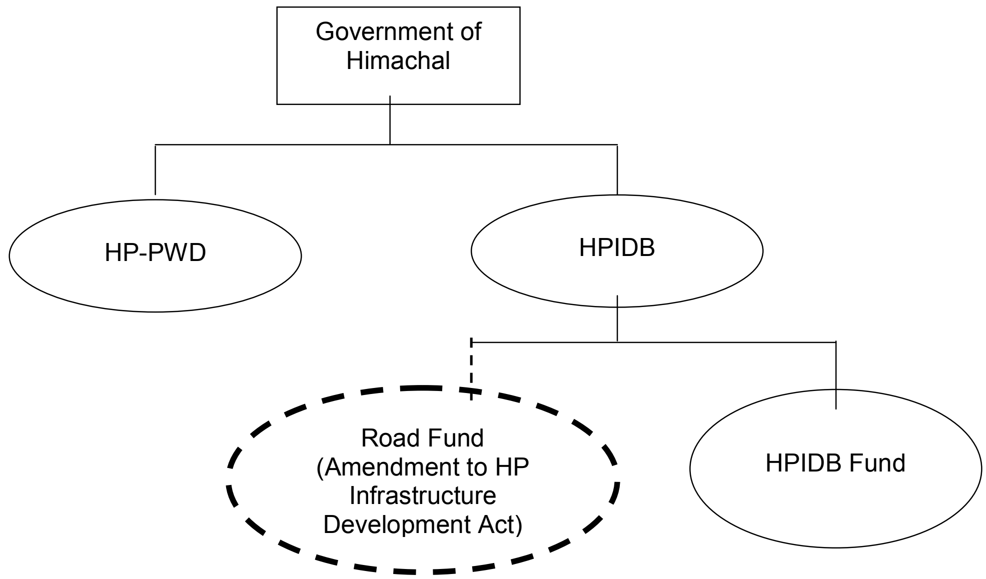


5.4.10 The key advantage of this approach is that the financing function i.e., funding, fund administration and management and disbursement is clearly separated from the planning and implementation functions by having separate organizations separately carrying out these functions.

5.4.11 Also, since the 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.

5.4.12 However, though this option is close to the best practice approach that has emerged in the sector for structuring and setting up such road funds, the operationalization and implementation is likely to take much longer. Implementation of this option would require new set of legislation needs to be drafted, as well as amendment in existing legislation, consensus of key decision makers on such changes as well as actual process of passing such legislation in the legislature.

5.4.13 **Amendment to HP Infrastructure Development Act, 2001 to incorporate RF:** This option pertains to amending the existing HP Infrastructure Development Act 2001, to incorporate institutional mechanism for setting up a new RF. The Act empowers the HPIDB to manage and administer it's own Fund which is separate from the Consolidated Fund of the State. The figure below presents the general set up for RF under this option.



5.4.14 The HPIDB is empowered to raise resources and manage funds for financing the Infrastructure Projects (classified in Schedule I of the Act). However, the HPIDB Fund does not have a specific focus on the road sector. Also, the HPIDB Fund focuses on projects which form a part of the State Plan (capital works) and therefore, the Non Plan activities (maintenance related works) would not be addressed through this setup.

5.4.15 Through an amendment to the existing HP Infrastructure Development Act, provision for a separate RF can be built that would focus on financing maintenance requirements of the state road network and the existing HPIDB Fund can keep it's focus only on the Plan requirements of the network.

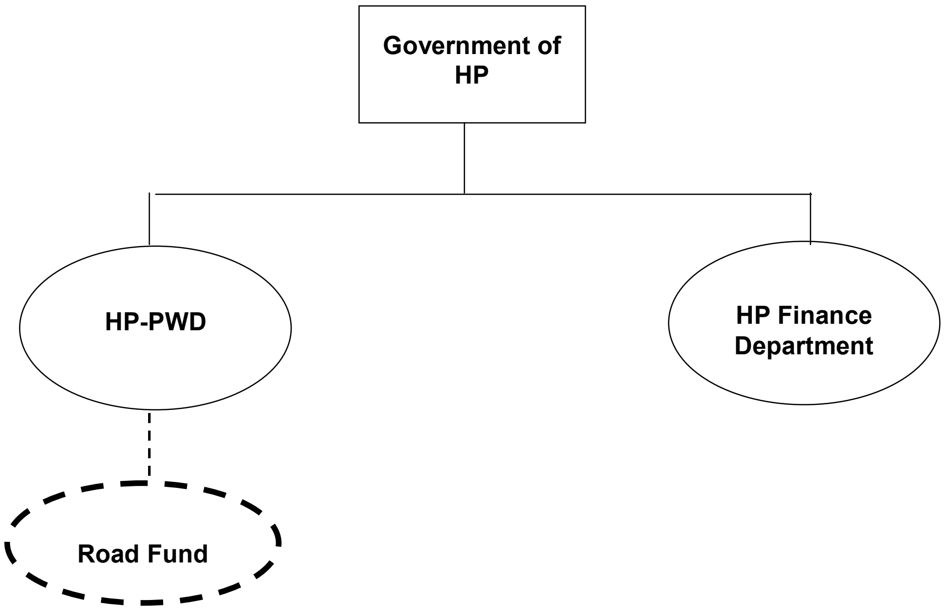
5.4.16 The advantage of this option is that the process of incorporating mechanism of RF for the sector would be relatively faster and easier as compared to the first option. However, in this case RF would become a part of HPIDB.

5.4.17 **Under HPPWD as separate Fund:** Under this option a separate Road Fund can be created and the fund would be managed by HPPWD. Account of this Road Fund would be independent of other PWD accounts and would be managed by separate Road Fund Board (Principal Secretary, PWD, Engineer-in-Chief etc.).

5.4.18 The key advantage of this option is, HPPWD would get predictable source of finance for the maintenance and upgradation of core network. Also, planning and execution of work under Road Fund would be easier as this function is currently with the department.

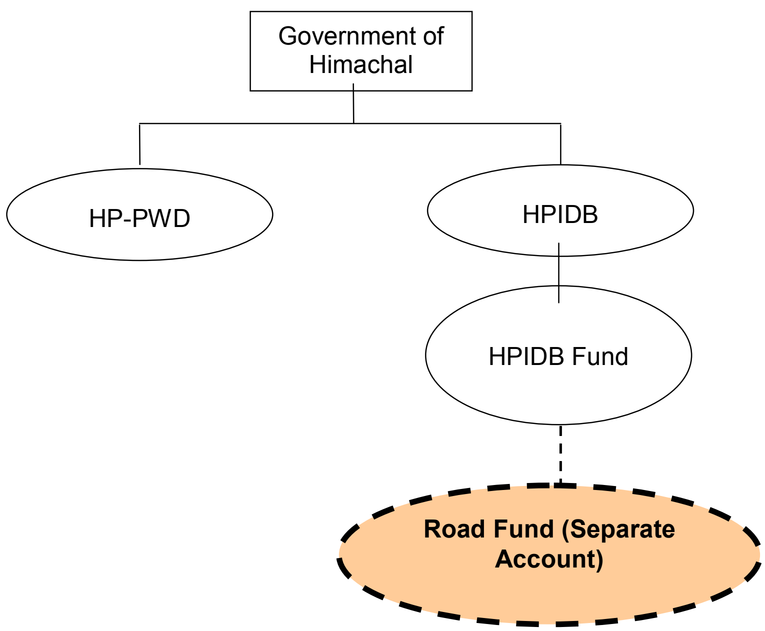
5.4.19 Major concern is, under this option accountability and governance of the fund can not be ensured. As fund would be managed under existing institutions hence there are chances that the Road Fund would not enjoy the amount of institutional strength which a fund constituted under its own provisions or legislation enjoys.

5.4.20 Option is presented in the diagram below



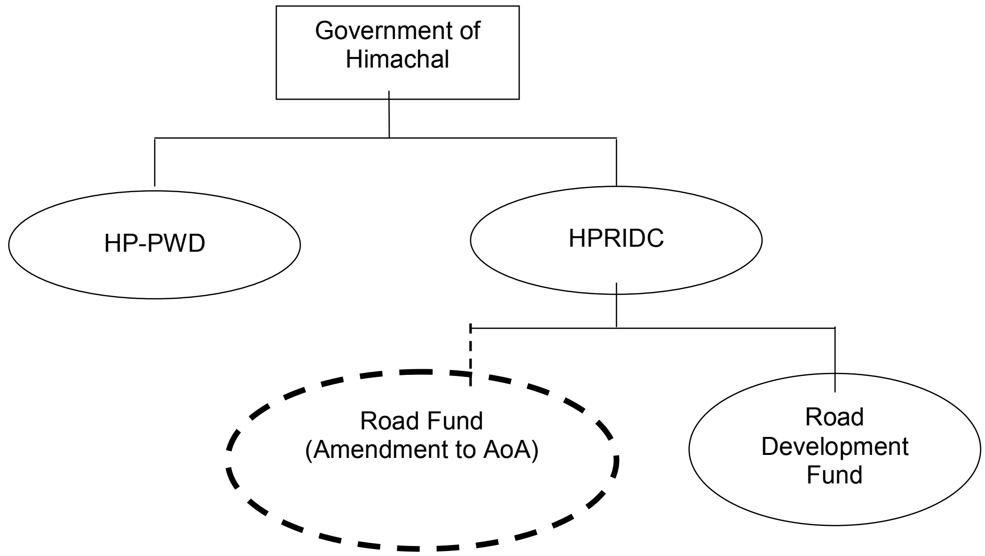
5.4.21 **Under existing HPIDB Fund as part of HPID Act 2001:** This option relates to setting up of RF as a separate fund within the HPIDB Fund, under the existing provisions of the HP Infrastructure Development Act 2001.

5.4.22 The figure below presents the general set up for RF under this option.



5.4.23 As discussed earlier, the HPIDB is empowered to administer and manage its own fund to finance infrastructure development works (mainly Plan/Capital works). Therefore, under the HPIDB Fund two separate accounts can be created, one for financing maintenance requirements for the Road Sector and the other for financing the capital requirements of Roads as well as other infrastructure.

5.4.24 **Amendment to the Articles of Association (AoA) of HPRIDC:** This option pertains to amending the AoA of HPRIDC to incorporate a RF under the existing set up of HPRIDC. The figure below presents the set up of RF under this option:



5.4.25 The key advantage of this option is that since the primary objective of HPRIDC is to promote the development of road sector, the needs of road sector would be adequately addressed. The Board of HPRIDC empowers the Principal Secretary (Public Works) to act as the Managing Director of the Company and the Engineer-in-Chief (HP-PWD) to act as one of the Directors. The composition of the company thus ensures that the governance of RF would be administered and managed by the Public Works Department and therefore the overall governance of the RF would improve.

5.4.26 The funding for these two accounts would come through the provisions of HPRIDC and allocation between these funds can be carried out through Bye-Laws for these accounts and separate Bye-Laws can be developed for the RF for carrying out the maintenance activities.

5.4.27 The key advantages of this option are that no new legislation is required for operationalizing RF and instead Bye-Laws can be developed, which the HP legislature can pass and approve. In this way RF can be operationalized very quickly with least amount of procedural delays and activities.

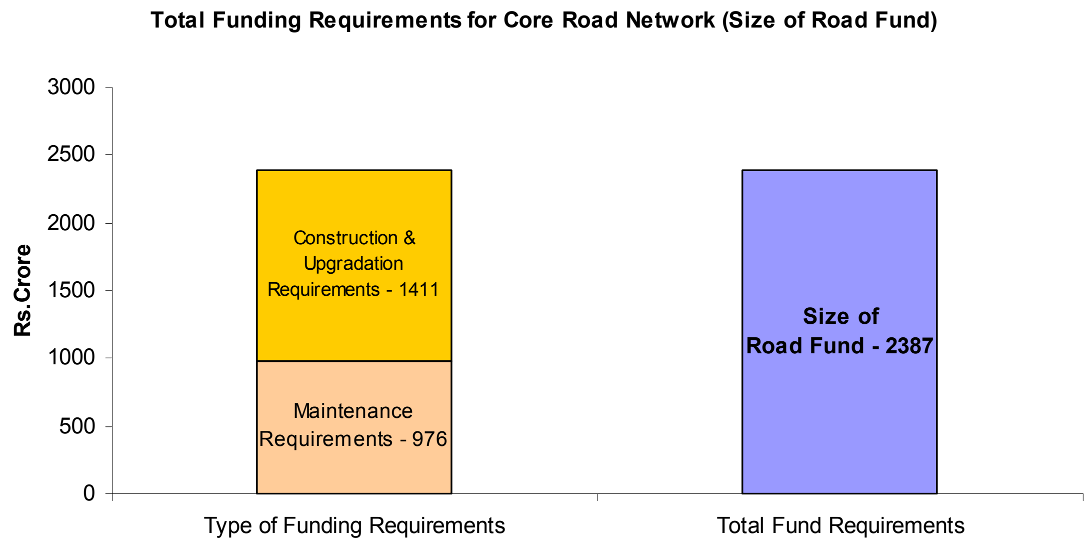
5.4.28 The drawbacks of this option are that technically and in true spirit RF is only an account under HPRIDC and hence does not enjoy the amount of institutional strength which a fund constituted under its own provisions or legislation enjoys. Also, as in the second option the decision making and governance of such a fund is within a new company that is also responsible for developing other infrastructure sectors and hence the flexibility aspects to some extent are compromised.

5.4.29 From an ideal perspective it would be advisable that RF be setup under its own comprehensive legislation, however, considering that quick operationalization of RF is one of the key priorities, **it is suggested that RF be operationalized under the provisions of HPRIDC** and initially be constituted as a separate account under HPRIDC with its separate provisions approved by the Board of Directors.

5.5 Funding mechanism for the Road Fund

5.5.1 The mechanism of funding is the other critical dimension of structuring and operationalizing the Road Fund. Based on the roles and objectives of the Road Fund discussed above, the exhibit below shows that the intended size of HP State Road Fund for different types of activities in a 10-year time frame should be Rs.2387 crores (Rs.238.7 crores per annum).

Exhibit 7: Total intended requirements of Road Fund for the period 2006-16



Source: PwC Analysis

5.5.2 Considering that at least in the short term the RF is going to be structured as a separate account under HPRIDC, the provisions of this Fund can provide a sustainable source of funding for RF. As per the objectives of HPRIDC, it is empowered to raise funds on the behalf of State Government. The sources of revenue for HPRIDC, however, are not precisely specified. But based on various discussions put in this report, it is envisaged that the Road Fund Board can raise finances through the following sources:

1) **Existing Sources:**

   (a) Earmarking of certain percentage of existing Road User Charges collected by the government and which currently part of general budgetary resources.

2) **New Sources:**

   (a) Grants-in-aid from Twelfth Finance Commission.

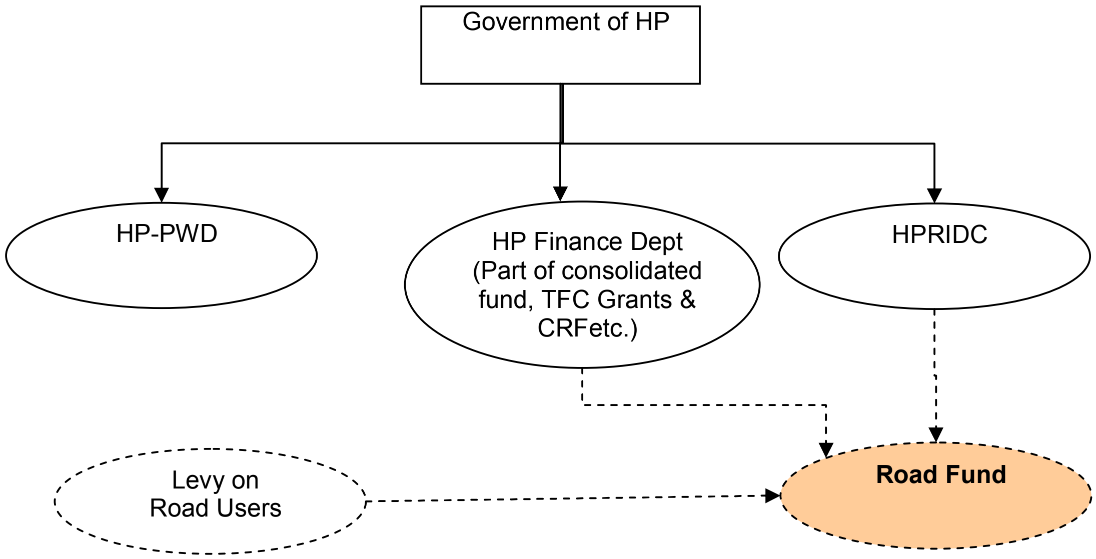
   (b) Putting new levies on Road Users.

   (c) Putting additional levies on Road Users

   (d) Leveraging assets to raise more capital etc.

5.5.3 Accordingly there are two broad funding possibilities or a combination of these possibilities that can be considered. The HP State Road Fund could have provisions for all of these sources as per the suggestions of different stakeholders.

5.5.4 The figure below presents these broad mechanisms.



5.5.5 Therefore, while identifying the mechanism of funding for RF, a balance, at least in the immediate / short term, would need to be arrived between the autonomy and sustainability objectives and minimization of administrative costs (including taxation issues).

5.5.6 **Earmarking of Certain Percentage of Existing Road User Charges.**

5.5.7 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. Total collection of Road User Charges for the year past four years is presented in the table below.

Exhibit 8: Total Collection of Road User Charges

Total Road User Charges (Rs.Crore)				
Year	2002-03	2003-04	2004-05	2005-06
1. Sales Tax on Diesel	65	74	97	124
2. Taxes on Vehicles	82	78	108	101
3. Tax on Goods Carried by Road	54	62	70	80
4. Sales Tax on Petrol	41	47	61	78
5. Fuel Cess on Diesel***	34	51	53	76
6. Sales Tax on Motor Vehicles and Spares	33	38	49	63
7. Goods Tax	22	24	28	33
8. Fuel Cess on Petrol**	7	12	12	16
9. Passenger Tax	8	9	10	8
10. Toll Tax	*13*	*13*	*15*	*17*
11. Others Taxes	4	5	10	9
12. Total Road User Charges	**364**	**413**	**511**	**605**
13. Total excluding fuel cess	**322**	**351**	**446**	**513**

*Includes all taxes and charges collected as per state motor vehicles act and the Indian motor Vehicles Act (includes Registration fee, licensing fee, route permit fee, composite fee etc.)

** This charge is calculated on the basis of cess rate multiplied by the consumption of petrol in Himachal Pradesh. This cess is debited to the account of Central Road Fund and is not a part of State's collections.

** This charge is calculated on the basis of cess rate multiplied by the consumption of diesel in Himachal Pradesh. This cess is debited to the account of Central Road Fund and is not a part of State's collections.

5.5.8 Advantage of such an approach is that it avoids the high administrative costs. However, unless a specific provision is made through a new legislation to create a new ring fenced account for collecting and funding RF there would be high risk associated with budgetary funding given the financial situation of the state government and varying stance taken by the Finance Department in such allocations.

5.5.9 There are some examples where the State Government has created a separate financing mechanism by earmarking specified taxes/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.

5.5.10 Similar to the stipulations provided in the Maharashtra State Budget manual, the HP Budget Manual also provides provisions 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/road user charges would be done to finance the Road Fund.

Provisions in HP Budget Manual

Under Chapter 14, Section T- "Deposits and Advances" of the State Budget Manual, a provision has been stipulated to create Reserve Fund for Road Sector. This provision can be a guiding principle to create Road Fund mechanism under the Consolidated Fund.

Source: HP State Budget Manual

5.5.11 The existing provisions of the HP Budget Manual could be used as guiding principle for creating a new road financing mechanism. Therefore, under this option, specific taxes collected from road users like the taxes under Indian Motor Vehicles Act or Taxes under the State Motor Vehicles Act etc. can be earmarked for financing the Road Fund mechanism.

5.5.12 Grants-In-Aid from Twelfth Finance Commission

5.5.13 The Twelfth Finance Commissions has provided an annual grant of **Rs. 65.41 crores** from 2005-06 to 2009-10 for the maintenance of roads & bridges in Himachal Pradesh. 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.

Conditions for Release of Grants-in-aid for Maintenance of Roads & Bridges

1. These grants should be spent on non-salary maintenance items for Roads & Bridges and for Buildings.

2. These grants should be budgeted and spent for meeting the Non-Plan Revenue Expenditure (NPRE) under the heads (major head 3054-sub major head 03&04 in case of Roads & Bridges, and major head 2059 –minor head 053 under various sub major heads in case of Buildings).

3. The grants may be allocated in two equal instalments in a financial year. While there will be no pre-conditions for release of the first instalment in any year, the second instalment will be released on the fulfilment of the following conditions.

    a. **2006-07:** 2006-07 BE under NPRE of the relevant major heads should not be less than the projected "total NPRE" for 2006-07. **And** 2005-06 RE for NPRE of the relevant major head should not be less than the projected "normal expenditure" for 2005-06.

    b. **2007-08:** 2007-08 BE under NPRE of the relevant head should not be less than the projected "total NPRE" for 2007-08. **And** 2005-06 (Actuals) for NPRE of the relevant major head should not be less than the projected "normal expenditure" for 2005-06.

    c. **2008-09:** 2008-09 BE under NPRE of the relevant head should not be less than the projected "total NPRE" for 2008-09. **And** 2006-07 (Actuals) under NPRE of the relevant head should not be less than the total of projected "normal expenditure" for 2006-07 plus the actual release of "grant" for 2006-07.

    d. **2009-10:** 2009-10 (BE) NPRE of the relevant head should not be less than the projected "total NPRE" for 2009-10. **And** 2007-08 (Actuals) under NPRE of the relevant head should not be less than the total of projected "normal expenditure" for 2007-08 plus the actual release of "grants" for 2007-08.

Source: Twelfth Finance Commission

5.5.14 Considering the above conditions of the Twelfth Finance Commission, it is now important to compare the requirements of total NPRE as per the Finance Commission and the actual projected total NPRE based on the past expenditure pattern in HP. As presented in the table below the projected total NPRE is greater than the Finance Commission requirement in all the years from 2005-06 to 2009-10. It can be concluded that the HP would be able fulfill these conditions and would get grant-in-aid of Rs.65 crores each year. This grant can be used to finance the Road Fund requirements for maintenance expenditure.

Exhibit 9: Conditions of TFC

Rs.Crore

Year	*2005-06*	*2006-07*	*2007-08*	*2008-09*	*2009-10*
Normal Expenditure	292.75	307.39	322.76	338.89	355.84
Grants	0.00	65.41	65.41	65.41	65.41
Total NPRE (TFC)*	292.75	372.80	388.17	404.30	421.25
*Projected NPRE (HP)***	*344.78*	*379.26*	*417.18*	*458.90*	*504.79*

Source: Twelfth Finance Commission
*TFC Projections
**PwC Projections

5.5.15 Putting New Levies on Road Users

5.5.16 As discussed during the workshop there is limited scope to increase the existing road user charges to fund the additional requirements of the Road Fund. In this context putting new levies on sources which gains directly or indirectly from development of the road. Some of these sources suggested by the key decision makers of the government are:

(a) **Extra Levy on Land Registration Fee:** This charge is based on the assumption that lands adjacent to roads haves higher market value than the other places. The reason for higher prices is due to development of roads near the land. Government puts their money 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 proposed Road Fund government can put extra levy on registration fee on land transactions near the roads.

(b) **Extra Levy on Companies putting their Hoardings by Road-sides:** Companies putting their hoardings alongside of roads for advertisement are the other beneficiary from the development of the road sector. Government can put an additional cess on companies on their monthly/annual charges paid by these companies to generate revenue for the proposed Road fund.

(c) **Extra Cess on Hotel Industry:** Himachal Pradesh is a tourist place and most of the revenues of the hotel industry come from the tourists. In absence of other viable mode of transport all tourists use roads for their transportation. Hence, hotel industry is indirect beneficiary from the development of the road sector. Government can imposed extra cess on revenue generated by the hotel industry. For example, an extra cess can be put on luxury tax collected from hotels.

5.5.17 All these suggested sources can therefore be used as sources of funds for the RF. Under such a mechanism the board of Road Fund can act as collection arm for collecting such funds under a different account and then passing them onto RF. Also, clear and non-disputable mechanisms, between the Finance Department and the RF be required to give effect to such a mechanism.

5.5.18 **Putting Additional Levies on Road Users**

5.5.19 **Extra Cess on Transport Fuels:** In most of the countries where Road Fund is created, the fuel levy is the dominant source of contribution to these road funds. As discussed in Assessment Report, sales tax on diesel and petrol are higher in Himachal Pradesh compared to the neighbouring states like Haryana and Punjab etc. Putting an additional cess on transport fuels would further increase its price. This may lead to revenue loss to the Government because vehicles coming from the inter-state borders may tend to buy fuels in the neighbouring states due to cheaper price and can easily get away without paying any sales tax for using the road networks of Himachal Pradesh. However, a broad calculation based on the fuel consumption data for the year 2005-06 indicates that if an additional cess of Rs. 1/litre is charged on fuel, then the state would be able to collect **Rs. 46 crores** per year as additional fuel cess.

5.5.20 **Additional Cess on Transport of Horticulture/Agriculture Commodities:** Himachal Pradesh is a major producer of horticulture products, in particular apples, that find markets all over the country and abroad. Most of the agricultural commodities are taxed under “Goods Carried by Road Act”. Hence there is limited scope to increase taxes on these commodities.

5.5.21 **Additional Cess on Transport of Minerals/Industrial Produce:** HP state is rich in mineral resources and mining is one of the main economic activities being performed in the state. Cement, Brick Bats and Clinker etc. are taxed under "Goods Carried by Road Act". There is limited scope to increase tax on these commodities.

5.5.22 **Additional Toll Rates:** Currently entry tax is collected by the state on vehicles entering into Himachal Pradesh. Assuming that the entry tax is taken as a proxy for toll rates and also assuming a case where entry tax is levied at the Parwanoo barrier and most of the vehicles paying tax are destined to Shimla a comparison has been done to understand the payments made by each vehicle type for use of roads across states. As can be seen in the graph below Himachal Pradesh is charging much below than the other states. Hence there is scope for the government to further increase the toll rates.

Exhibit 10: Toll Rates Rs./Km in various states

Toll Rates- Rs./km	Himachal Pradesh	Punjab	Maharashtra	Andhra Pradesh	MoSRTH Norms
Car/Jeep/Van	0.33	0.35	0.63	1.03	0.60
LCV/Mini Buses	0.44	0.53	1.00	1.52	1.04
Bus	0.67	1.05	1.89	3.05	2.08
Trucks	0.56	1.05	3.26	3.05	2.08
Heavy Trucks	0.67	1.60	4.32	4.57	3.34

Source: Excise & Taxation Department, PwC Research

5.5.23 The table above indicates that compared to other states in India or compared to the norms provided by the MoSRTH, the state is charging lower toll (Rs./km) on trucks and other heavy vehicles. These are the vehicles that impose the maximum damage on roads. The table above indicates that the state of Punjab levies Rs. 1.05/km toll on Bus and Trucks and on multi-axle trucks it levies a toll of Rs. 1.60/km. The toll levied by Punjab is almost double the levels of tolls levied by Himachal Pradesh on heavy vehicles like Bus and Trucks. However, the toll rates levied on Cars/Jeeps/Vans are at comparable levels in both the States.

5.5.24 If HP State increases the toll rates to reach comparable toll rates levied in Punjab, then it is estimated that the State would be able to increase its collections more than two times the present collections. The toll collection in 2005-06 in the State is close to Rs. 17 crores. It is difficult to estimate the toll collected by different vehicles (for example toll paid by buses, toll paid by trucks etc.) due to lack of sufficient data.

5.5.25 However, if toll rates for heavy vehicles are increased to two times the present rates and assuming the traffic remains same, it could mean an approximate additional toll collection of around **Rs. 20 crores.** Therefore, increasing toll charges is an appropriate source to raise additional funds from Road Users especially heavy commercial vehicles.

5.5.26 **Extra Fee on Vehicles**

5.5.27 Additional Road User Charges can be generated through levying additional charges/fee on vehicles. So far as the cost imposed on the road facility is concerned, the pavement deterioration is estimated with respect to the commercial vehicles (Bus, goods vehicles) only as they carry heavy loads and, in the process damage the pavement. The process is the calculation of the vehicle damage factor, by each of the modes, which is converted to MSA for design of the pavement. This is the design which can bear the load of the vehicular movement to the extent forecasted, both in terms of numbers and load being carried. In case the latter exceeds, then the pavement will give away faster.

5.5.28 The Design Consultants (Louis Berger Inc) in their HP State Road Project Feasibility Report have estimated the Vehicle Damage Factors for the roads under study. The estimates indicate that for the stretches of roads under the study the multi axle trucks and other heavy commercial vehicles are carrying more load than the design capacity.

5.5.29 This observation is substantiated in the table below that presents the estimation of vehicle damage factors for the roads under study. The table shows that 2-axle trucks and multi axle trucks are carrying more loads than their design capacity. This results in causing more damage to the road surface and therefore there is a cushion to raise charges on these vehicles.

Exhibit 11: Vehicle Damage Factor

Vehicle Damage Factors	**Vehicle Damage Factor**			
	LCV	**Bus**	**2 Axle Truck**	**Multi Axle**
Shimla Zone	0.94	0.99	3.17	2.45
Mandi Zone	0.64	0.79	3.40	2.83
Dharamshala Zone	0.74	0.79	2.36	2.44

Source: Feasibility Report- Louis Berger Inc

Broad Estimates of costs imposed on roads by Vehicles

So far as the cost imposed on the road facility is concerned, the pavement deterioration is estimated with respect to the commercial vehicles (Bus, goods vehicles) only as they carry heavy loads and, in the process damage the pavement. The estimation requires calculation of the vehicle damage factor, by each of the modes, which is then converted to MSA for design of the pavement and the total cost of which is estimated and allocated on per vehicle category basis.

We have attempted a different methodology to estimate broadly costs imposed on roads by vehicles. Broad estimates of costs imposed can be made by using total maintenance costs (periodic + routine) as a proxy for vehicle damage and then estimating the costs that different vehicles impose on the road network. These are not accurate estimations but can be used as indicative estimations of costs imposed.

The previous section estimates that the maintenance requirement of the core road networks is projected to be around Rs. 98 crores per annum. Contribution to the above requirements by different vehicles is estimated by calculating the ADT of each vehicle first, converting the ADT to Average Traffic in Passenger Car Units (PCU). Then the total PCU traffic is multiplied by the VDF of each mode to understand the relative contribution of each mode in the total maintenance requirements. Using the ADT estimated by the Design Consultants it was estimated that in PCU, trucks (both 2-axle and multi-axle) accounted for 22% of the total traffic and bus accounted for 12% of the total PCU traffic. Taking a VDF of 3.0 for trucks and 1.0 for Bus (Shimla Zone VDF data) it is estimated that the contribution of truck to the cost imposed on roads is 66% and the contribution of Bus is 12%.

The total maintenance requirement of Rs. 98 crores per annum is equivalent to a maintenance requirement of Rs. 27.2 lakhs per day. Assuming a 66% contribution broad estimates show that trucks impose a cost of Rs. 18 lakhs per day on core road networks and bus imposes a cost of Rs. 3.2 lakhs per day. Assuming that in the year 2005-06 the total number of trucks registered in the State was 26,421 and the total number of Buses registered in the State was 4,515. This indicates that the cost imposed by each truck per day on core road networks is Rs. 68/truck/day and similarly the costs imposed by each bus per day on core road networks is Rs. 38/Bus/day.

5.5.30 **Leverage Capital of the Road Fund to generate fund**

5.5.31 In the long term the Road Fund can **leverage** its capital to raise cheaper fund from market and can also raise capital through issuance of bonds etc.

5.5.32 Given the complexities in the financing mechanisms for funding the RF 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 institutionalise the funding for RF from budgetary sources. At this stage to further provide a credible financing mechanism, the option of making RF Board as a 'collection arm' can also is built into its financing.

5.6 Mapping Sources and Uses of Fund for the Suggested Mechanism

5.6.1 **Allocation Priorities of Road Fund Mechanism**

5.6.2 The above sections indicated that the primary objective of the recommended Road Fund mechanism would be to finance the maintenance and up-gradation requirements of the core road networks. However, priorities of allocating funds for the above activities need to be defined to ensure efficient fund allocation. Given the hilly terrain of the state, maintaining the existing road assets is of high importance to provide good service levels to road users. In this context the following allocation priorities are suggested:

a. Priority 1: Funding 100% requirements of periodic and routine maintenance of core road networks

b. Priority 2: Funding requirements of up-gradation of core road networks

5.6.3 A broad consensus to the above prioritization was also achieved during the stakeholder workshop, wherein the key government decision makers also suggested that the fund should give importance to finance maintenance requirements.

5.6.4 **Mapping Sources of Funds**

5.6.5 The previous section generated various sources of funds that could serve as a possible source to finance the suggested Road Fund mechanism. The above section also described the nature of these taxes/charges. The various sources of funds are summarized below:

a. Earmarking certain percent of Total Road User Charge collections in the State

b. Grants-in-Aid for maintenance of Roads from Twelfth Finance Commission

c. Additional levy on Land Registration Fee

d. Additional levies on companies putting hoardings/advertisements by the side of roads

e. Additional cess on hotel industry (cess on luxury tax etc.)

f. Additional cess on transport fuels

g. Additional levy on transport of agriculture products

h. Increase in toll rates

i. Additional levy on transport of minerals/industrial produce in the state

j. Additional revenue generation through Road Users/Vehicles through increasing vehicle registration fee etc.

k. Leveraging the Road Fund mechanism to generate additional revenues

5.6.6 The suggested various sources of generating revenue can be used to generate different options for funding the Road Fund mechanism. The possible options are discussed below:

a) Fund the suggested Road Fund mechanism by earmarking some percent of total Road User Charges collection from the Consolidated Fund of the State. This option is similar to the provisions of the Maharashtra State Budget provisions where pre-decided user charges are earmarked to be transferred to the Road Fund account.

b) Fund the suggested Road Fund mechanism by a combination of budgetary allocations as well as by generating additional revenues from Road Users. The additional revenue from road users can be generated by levying additional charges or by increasing the rates of present charges. In this option, various possibilities are suggested like increasing toll rates, increasing rates of CGCR, levying additional charges on hotel industry etc. One of these sources or a combination of these sources can be used to fund the Road Fund mechanism.

5.6.7 **Earmarking certain percent from the Consolidated Fund of the State:** The total projected maintenance requirements for the immediate 10-year time frame is estimated to be Rs. 976 crores and the projected up-gradation requirements is estimated to be Rs. 1411 crores. On an average per annum basis, the above requirements would signify an annual funding requirement of Rs. 97.6 crores for maintenance and Rs. 141.1 crores for up-gradation (Ref: Exhibit No. 7). It was also indicated that the Total Road User charges collections in the form of various taxes and charges for the year 2005-06 was Rs. 513 crores (Ref: Exhibit No.8).

5.6.8 As per the recommendations of TFC, a grant of Rs. 65 crores would be provided to the State government provided the Government meets the stipulations provided by the Finance Commission. The conditions stipulated by the Finance Commission are detailed in the previous section and past budgetary Non Plan allocations for the Road Sector (major head 3054) shows that the Government would meet the conditions of the TFC. Therefore, the grant of Rs. 65 crores from TFC can be a source to fund the Road Fund mechanism.

5.6.9 Assuming that 100% maintenance requirements of state are financed, estimates show that the State Government would need to allocate additional 6.3% of the total Road User Charges collections (at 2005-06 levels). These earmarked percent could then be transferred to the account of Road Fund mechanism.

Exhibit 12: Sources of Road Fund

Description	Rs. Crores
A. Total Road User Charges Collected by HP State for 2005-06 (Consolidated Fund)	513
B. Annual Requirement for Maintenance	97.6

C. From TFC Grants for maintenance	65.4
D. Additional Earmarking Required (B-C)	32.2
Additional % of Road User Charges to be Earmarked (D/A)	**6.3%**

5.6.10 Similarly, if the up-gradation requirements are also financed by the Road Fund mechanism, the additional earmarking would increase from 6.3% of the Total Road User charge collections (2005-06) to 34% as additional Rs. 141.1 crores would be required annually for up-gradation. However, for the short term it is suggested that the government earmarks around 6% of the Road User Charge collections which could later be increased as per consensus of key decision makers.

5.6.11 **Additional Revenue through Road User Charges:** Examples of generating additional revenues by either levying new charges/taxes on road users or by increasing the rates of existing charges/taxes on road users are indicated in this section. However, for the suggested new levies, it is difficult to quantify the collections owing to unavailability of sufficient information. The table below presents the estimates of possible collections from these sources.

Exhibit 13: Sources for additional revenue generation for Road Fund

Possible Sources of Additional Revenue Generation	Estimates of possible revenue generation
Additional cess on hotel industry (cess on luxury tax etc.)	Total Luxury Tax Collection for 2004-05 was Rs. 12.27 crores. If 1% cess levied on Luxury Tax then around Rs. 0.12 crores (at 2004-05 levels) could be generated
Additional levy on fruit exporters	Insufficient Information to estimate revenue collection
Additional cess on transport fuels	Levy Rs. 1/lt cess on MS and HSD. As per the consumption data of MS and HSD in the State, it is estimated that levying additional cess would generate around Rs. 46 crores/annum additional revenues
Additional cess on transport of agriculture products	CGCR of Rs. 0.5/10kgs is levied currently on Fruits. If an additional cess of 10ps/10kg is levied then this would result in additional generation of Rs 0.69 crores
Increase in toll rates	If toll rates are made comparable to toll rates of Punjab then approximately Rs. 20 crores could be generated.
Additional levy on transport of minerals/industrial produce in the state	CGCR is being levied currently on transport of minerals/industrial produce. However, there are different rates of CGCR for different minerals industrial products. It is therefore difficult to quantify the revenue estimates
Leveraging the Road Fund mechanism to generate additional revenues	Insufficient Information to estimate revenue collection
Additional levy on Land Registration Fee	Insufficient Information to estimate revenue collection
Additional levies on companies putting hoardings/advertisements by the side of roads	Insufficient Information to estimate revenue collection

5.6.12 Combination of Budgetary allocations and revenues generated through Road User Charges: This option assumes that the sources of financing the RF include a combination of earmarked funds from Consolidated Fund of the State and additional Road User Charges from different sources indicated in the table above. A simulation is shown to indicate how the sources of funds and the requirements of the Road Fund can be mapped for a short term period (3 years). The case assumes that the state increases the current budgetary allocation to the core road networks and earmarks funds that are transferred to the RF account.

5.6.13 It is also assumed that the up-gradation requirements may not be completely financed starting from the first year. Therefore a build-up of the up-gradation requirements is provided so that with time as the RF mechanism becomes operational then the capacity of the RF to leverage funds increases and some additional funds from new sources can be further generated. The table below presents the case. The explanation of the simulated case is provided in the paragraphs below.

RF Requirements (All figures in Rs. Crores)	**Year 1**	**Year 2**	**Year 3**
Total Maintenance Requirements	97.6	97.6	97.6
Total Up-gradation Requirements	141.1	141.1	141.1
% of up-gradation requirements to be financed	40%	50%	70%
Total Road Fund Requirements	**154**	**168**	**196**
Possible Funding sources (Rs. Crore)			
Grants from TFC	65	65	65
Additional Budgetary Support from Government	65	70	75
Additional Toll Collections (increase rates to Punjab Level)	20	21	22
Additional Vehicle Tax Collections (20% increase in Collections)	20	21	22
Total Fund Availability	**171**	**177**	**185**
Excess (+)/Shortfall (-)	**17**	**9**	**-12**

5.6.14 Financing the maintenance requirements is a priority and so it is essential that the RF mechanism ensures 100% maintenance financing every year. It is assumed that in the first year 100% maintenance requirements and 40% up-gradation requirements of the core-road networks need to be financed by the State Government. The Assessment Report indicates that the state was spending close to Rs. 4- 5 crores on up-gradation over the past few years. Therefore, in such a scenario it would be difficult for the state to immediately develop a capacity to allocate and execute larger up-gradation works. This should also be seen in the context that starting FY 07-08 there would be a major up-gradation of core road networks under the World Bank project.

5.6.15 In future, the allocation percent for up-gradation work could be increased as per the actual capability to execute such works. For example, after Year 1 of allocation, if it was observed that the state could absorb 40% allocation then the allocation could be increased more in the later years etc.

5.6.16 Regarding the sources of funds, it is suggested that in the first year of operation of RF mechanism, the State Government provides an additional earmarked support that matches the TFC grants (Rs. 65 crores).

5.6.17 This additional funding is also suggested to increase every year. In case the state government increases the toll rates to the toll levels of Punjab, an additional Rs. 20 crores could be generated which can straight-away be transferred to the RF mechanism. It is further suggested that focus should be on increasing revenue collections through Road User Charges and decreasing dependence of funds through Budgetary Allocations.

5.6.18 Similarly if the government increases the present Vehicle Tax Collections by 20%, an additional Rs. 20 crores could be generated which could be transferred to the RF account.

5.6.19 In future, the state government could further deliberate on levying various additional charges that have been suggested in the previous section. Due to in-sufficient information it is difficult to quantify the possible collections from different sources. However, the process of increasing road user charges would also involve a consensus based political and public approval which could be a time-taking process.

5.6.20 The table shows a possible scenario where funds are generated through TFC grants-in-aid, increasing budgetary support to the core road networks and levying some additional road user charges. It was also shown that the budget manual of the state also provides a provision of earmarking resources of Consolidated Fund of the State for such a Road Fund mechanism. This provision would ease operational difficulties in garnering financial resources and later on as time proceeds public and political approval should be achieved to provide sustainable sources of funds for the Road Fund.

5.7 Audit of Road Fund Accounts

5.7.1 Once the Road Fund is fully funded, the road fund will be handling large sums of money and it is important to ensure that these funds are properly accounted for. That is the purpose of the audit. The audit should normally include:

a. Examining the records of third parties responsible for collecting the revenues attributable to the road fund to ensure that all the revenues have been collected and promptly paid into the correct road fund accounts.

b. Auditing payments made from the road fund to ensure that they are supported by adequate documentation and are in accordance with the purposes allowed for in the legislation and supporting legal regulations

c. Verifying that that the work financed from the road fund was carried out according to specifications.

d. Auditing the transactions and balances of the bank accounts maintained by the road fund.

e. Reviewing the accounting and internal control procedures used by the road fund to determine their adequacy; and

f. Reviewing the accounts, files, records, and reports of the road fund to determine their adequacy.

5.7.2 The accounts and other financial statements of the Road Fund would be audited annually by the CAG (Comptroller Auditor General of India) 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.

5.8 Administrative set up and autonomy

5.8.1 The fourth dimension of structuring and operationalizing RF relates to its administrative setup and the overall autonomy in its decision making.

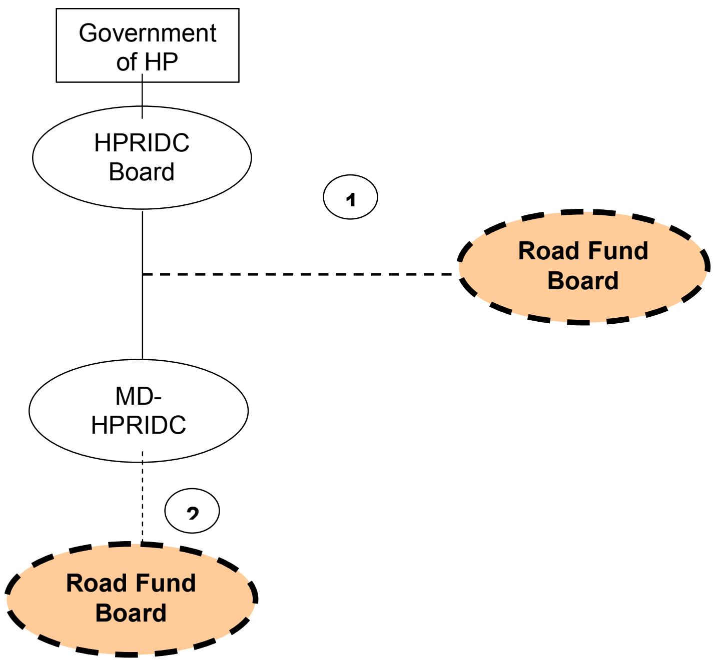
5.8.2 As discussed in the earlier section the overall administrative setup and autonomy in decision making is largely a function of the institutional arrangement and legal framework. Also, as discussed in the section on institutional and legal framework, it would be advisable, at least in the immediate / short term to setup RF under the existing set up of HPRIDC.

5.8.3 In this context there are the options in which the administrative setup for Road Fund can be envisaged. These are:

a) **Under the Board of HP Road and other Infrastructure Development Corporation (HPRIDC):** The Board is chaired by the Chief Secretary to the GoHP and it has other key Government Officers (such as the Finance Secretary, Principal Secretary (Transport) etc) as its directors. The Board is the highest decision making body of HPRIDC.

b) **Under the Managing Director of HPRIDC:** The Principal Secretary (PW) to the GoHP is the acting Managing Director of the company. The MD is the executive head of the organization. Under the proposed institutional and organizational measures, MD would be a full time position with greater degree of operational and executive decision making and control.

5.8.4 Accordingly, the above options are schematically presented in the figure below.



5.8.5 Under option 1, the RF Board is set-up under the Board of HPRIDC. As the Board is constituted by Secretaries of various government departments like Finance Department, Transport Department, Department of Forest etc., this option would offer perspective of different stakeholders in decision making. The composition of the Board is high powered and hence can provide effective independent control over the RF. However, a flip side of this option can be decreased independence as the stakeholders can have varied interests in the RF, especially in the context of allocation and generation of funds for the road sector.

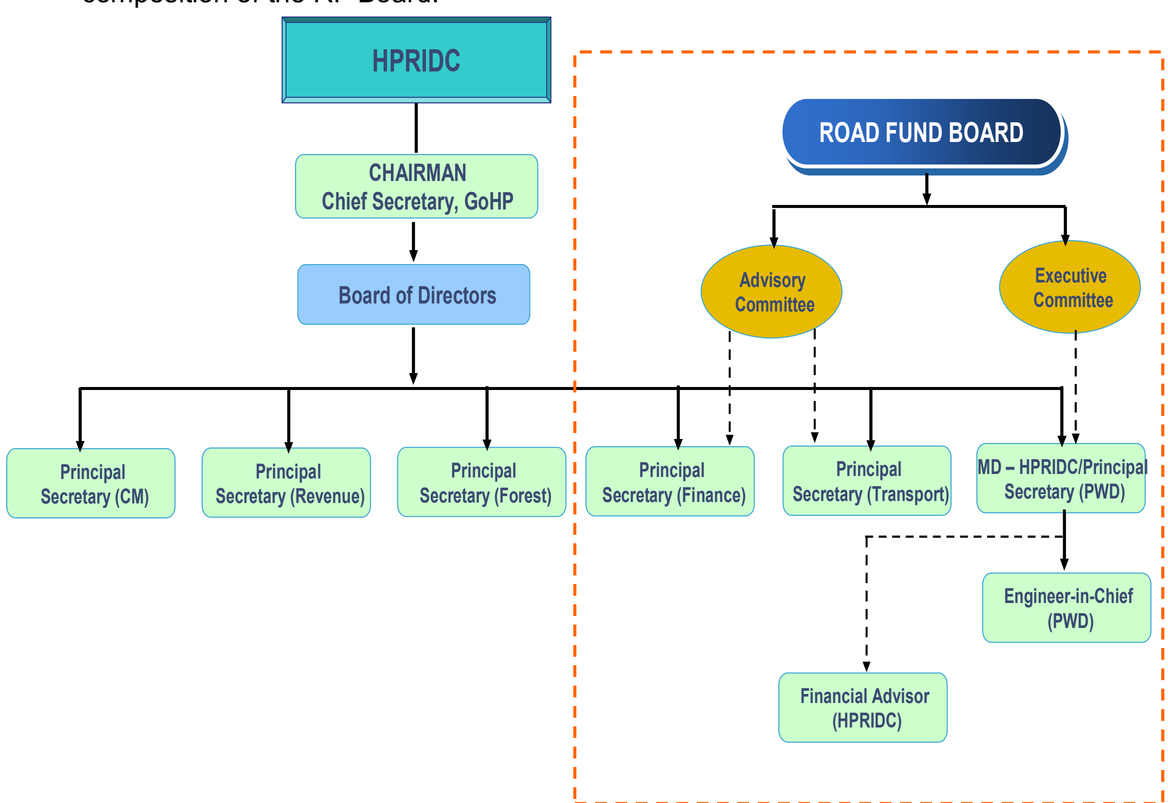
5.8.6 However, given that its members are the key government officials, the frequency at which the Road Fund Board can meet and the amount of work as well as the length to which some of the issues can be debated is constrained. Especially for a mechanism like RF that requires effective day to day monitoring.

5.8.7 On the other hand, placing the RF under the MD of HPRIDC can ensure good governance as all the key functions – planning, implementation and funding are brought under one position headed by the Principal Secretary (PW). The Engineer-in-Chief (PWD) can also assist the Principal Secretary (PW) in the planning and the budgeting of RF.

5.8.8 **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. Considering the size of the Himachal Pradesh Road Fund, staffs of 3 to 5 personnel are sufficient to manage the road fund. They need to have skills in accounting, administration, planning and engineering. These staffs should be appointed by the board to ensure his/her independence and to ensure that they work effectively with the board. Terms and conditions for the appointment of these staffs should be approved by the board.

5.8.9 However, as brought out in the 'Assessment Report, the key sectoral financing issues pertain to both quantum as well as availability of funds at the right time. Hence, having the executive control under the MD, atleast in the short term would to a large extent mitigate the 'availability' issue and might in fact help in reducing the disconnect that was found in implementing projects and making timely payments / making funding available to projects.

5.8.10 Therefore, from an immediate to short-term perspective it would be advisable that the administration of RF be brought under the MD, HPRIDC and in the short term the RF Board can be created under the MD. The figure below indicates a suggested broad composition of the RF Board:



5.8.11 The Board, as shown above, initially should comprise of Advisory Committee and Executive Committee. The Principal Secretary (Finance) and the Principal Secretary (Transport) should be a part of the Advisory Committee. The Principal Secretary (PW) can act as the Chairman of the Board Executive Committee.

5.8.12 In the long term, when the RF is set up under a separate legislation, the following members could represent the RF Board:

a) Members of Executive Committee headed by the Principal Secretary (PW)

b) Ex- officio Advisory Committee members from the following departments:

1) Finance Department

2) Public Works Department

3) Transport Department

4) Excise and Taxation Department

c) Non-governmental members, being nominees of the following organizations:

1) Road Transport Operators Association

2) Bus and Taxi Operators Association

3) Horticulture/Agriculture Producers and Exporters

4) Cement Manufacturers, Hoteliers etc.

5.8.13 The Board may establish subcommittees dealing with subjects like: road safety, environment, engineering, road fees etc. The Board with the approval of the Government could also be empowered to create posts and appoint other employees as it may consider necessary for the efficient discharge of its functions. However, the conditions of service of officers and other employees, their functions and duties shall be such as may be regulated by the regulations made by the Board.

5.8.14 **Responsibilities of the Road Fund Board:** Some of the broad responsibilities of the RF Board Members is 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) Review and approve the Annual Road Expenditure Program.

(e) 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;

(f) 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

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

5.9 Legal Status

5.9.1 The last dimension of structuring RF relates to the Legal Status that should be provided to the RF. There can be the following possible options under this dimension

a) Create a new bill to set-up the Road Fund (HP Road Fund Act)

b) Amend the existing legal bills and introduce an ordinance to set-up the RF under the existing set-up

5.9.2 Based on the arguments of structuring RF discussed in the earlier sections, in the short terms it is easier to amend the Articles of Association (AoA) of HPRIDC then to pass a new bill. However, as has been discussed earlier, in the long term it is recommended that a new bill be introduced in the Assembly to create a separate and an autonomous RF in the state.

6 Road Map for operationalizing Road Fund and Way Forward

6.1 Introduction

6.1.1 The previous chapters debated in detail all the important issues that should be considered while structuring RF. However, it is important to draft a realistic implementation plan showing the major milestones in the transition for current budgetary funding to the full operation of the RF.

6.1.2 In this context, the aim of this chapter is to prepare a road map for operationalizing the RF. The significant activities that need to be undertaken for operationalizing RF along with the time-frames of undertaking those activities are also indicated in this chapter.

6.2 Road Map for operationalizing Road Fund

6.2.1 As discussed in the previous sub-section, ideally a road fund should be setup under its own legislation and institutional framework. However, given the current constraints and objectives this may not be possible. Therefore, the implementation plan should have realistic time-lines and should highlight the important dimensions in operationalizing the RF from a short term, medium term and a long term perspective.

6.2.2 In the short term, the RF should be setup under HPRIDC and the accounts of RF should be separated from the accounts of HPRDIC. Separate Bye-Laws for this Road Fund should be formulated. In the medium to long term, a separate legislation needs to be brought in to provide an independent and strong legislative and institutional framework for RF.

6.2.3 Again in a short term perspective, some earmarking form the consolidated fund along-with a mechanism of collecting and transferring funds from Finance Department into RF needs to be adopted. In the medium to longer term, assuming a separate legislation for RF is provisioned, different funding sources described in the previous sections can be used to generate funds.

6.2.4 Similarly, the administration of RF can be under the MD, HPRIDC in the immediate short term. However, the functioning of RF should be based on its own Bye-Laws providing it with an effective and transparent administrative mechanism. This should also include provisions for independent audit and appraisal of its accounts and functioning either on behalf of the RF Board. Other similar provisions for its smooth and transparent functioning and independent oversights also need to be incorporated.

6.2.5 In the longer term, with a separate legislation, the administrative mechanism of RF can be further strengthened and broad based including other stakeholders (including other government departments & non-government representatives) as well. A summary of the activities to be done for operationalizing the RF is provided below:

Dimensions	Short Term	Medium Term	Long Term
Objectives	To fund maintenance (routine and periodic) and up-gradation of core network (Sate Highways	The objective should be enhanced in the medium-term to finance maintenance and up-	Apart from a mere financing agency, RF Board can also advise the government for planning

	& MDRs).	gradation requirements of the core network as well as Rural Roads	and policy making for the development of the sector.
Funding Mechanism	Earmark certain share of road user charges from the Consolidated Fund and also include Grants –in-Aid from the TFC for maintenance.	Extra revenues would be generated by levying extra levies as discussed. Some examples include levy on fuel, levying a registration tax on land transaction, levying additional charges on tourist vehicles etc.	Leverage additional resources from market (issue of bonds, raise cheaper capital etc.).
Administrative setup	Road Fund would be managed by the existing HPRIDC board.	Non Government agencies would be also part of the road fund board.	Separate administrative structure would be set up under new legislations. Both Government and Non-Government organization would be in board.
Legal Status	Separate Road Fund would be set by amending the Articles of Association HPRIDC. In short term RF would be managed by the MD – HPRIDC (Principal Secretary, PW)	Road Fund would be part of HPRIDC only, but the capacity of the management would be enhanced. In the medium term Non Government organizations (representatives of road users) should be included in the management of road fund.	Independent and separate Road Fund Board would be created under new legislations.

6.2.6 The table below indicates suggested time-frames of the major milestone in transition from short term to long term i.e. from current arrangement to full operation of the Road Fund.

	Timeframe (in Months)																							
Activities	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**
Operationalization of RF Mechanism under HPRIDC																								
Providing a legal status to the RF mechanism as per the mechanism objective																								
Agreement on Earmarking funds from Consolidated Fund of the State																								
Creating systems and procedures in place for operationalization of the mechanism																								
Enhancing operations of RF Mechanism																								
Public and Political Approval to levy additional road user charges																								
Efficient utilization of financial resources for achieving fund objectives																								
Prepare transition to creation of a separate RF Mechanism																								
Creation of Separate Road Fund Mechanism																								
Expanding the objectives of the Road Fund																								
Providing an independent legal status to the Road Fund																								
Setting up on Road Fund Board bringing different stakeholders together																								
Create sustainable sources of finances for the RF Mechanism and delink from Consolidated Fund																								

6.3 Way Forward

6.3.1 We have already indicated the Approach and Methodology for delivering the scope of work in the Inception Report. The Assessment report defined the sector financing problem. The different chapters of this report identified the possible funding options for the state. Based on the analysis carried out with respect to road sector financing issues, it was observed that creating a RF would be the preferred option for the state.

6.3.2 This report provided an overview of what other states in India and other countries in the world have done to ensure dedicated funds for the sector. Based on the above experiences possible funding options were generated for the state road sector. The various options were analyzed with respect to identified guiding principles and it was logically suggested that setting up RF is the preferred option for the state. Various issues related to structuring the RF were then debated.

6.3.3 This report also suggests different options for raising funds for the Road Fund mechanism. We hope that the suggestions and recommendations provided in the report would be agreed by the key decision makers of the government and implemented as per the suggested time-lines.

ANNEXURE A: FEATURES OF HP INFRASTRUCTURE DEVELOPMENT ACT 2001

A) FUNCTION OF THE HP INFRASTRUCTURE BOARD

i. The Board shall

1) Enable the private sector participation in infrastructure projects specified in Schedule-I on any of the concession agreement or arrangement specified in Schedule-II;

2) Identify suitable projects for private sector participation;

3) Under the development projects for private sector participation on its own or in association with agencies engaging in the business of project development or in pursuance of any agreement entered into for this purpose by the Government with any person;

4) Consider proposals to give exclusive rights to any person to develop project;

5) Formulate the terms of any agreement or arrangement for project development and any concession agreement for arrangements required for the implementation of projects developed under clauses (c) and (d);

6) Invite private sector participation in respect of projects developed as per clauses (c) and (d), as per the procedure laid down in this Act and make appropriate recommendations to the government in the matter;

7) Administer and manage a fund for the purpose of undertaking or assisting in project development for meeting any financial commitments envisaged under any concession agreement or arrangement and for the performance of its other functions including its own administrative expenditure and to secure contributions to this fund in the form of share capital or grants or loans from government and other sources including bilateral and multi lateral donor agencies, financial institutions and commercial banks;

8) Advise the Government or the Government Agency on all matters of policy relating to private sector participation in infrastructure projects and their mode of implementation including issues relating to privatisation or disinvestment of the existing infrastructure assets of the public sector;

9) Co-ordinate the implementation and monitor the progress of infrastructure projects undertaken in the State of Himachal Pradesh under this Act;

10) Act as special purpose vehicle to raise resources to finance development expenditure under the state Plan on behalf of the State Government and also to discharge obligations on this account on behalf of the State Government from revenue and other receipts accruing to the state Government from such development expenditure; and

11) Perform such other functions as may be entrusted to it by the state Government by notification.

B) COMPOSITION OF THE BOARD

1) The Chief Secretary to the Government shall be the Chairperson;

2) The Finance Secretary or any State Government Officer of other equivalent rank shall be the Chief Executive Officer, to be appointed by the State Government, by notification;

3) Not exceeding ten other members, which shall include Secretaries to Government in the Departments of Power, Public Works, Irrigation and Public Health, Urban Development, Town & Country Planning, Tourism, Industry, Finance and Planning, to be appointed by the Government , by notification.

C) PPROCEDURE TO RAISE RESOURCES

1) For raising resources for financing development expenditure under the State Plan in pursuance of section 14, the Board shall make procedure consistent with the need to ensure transparency and cost effectiveness.

2) The Board may take the assistance of recognized financial institutions and reputed arrangers in performing this function.

D) FUND OF BOARD

1) The Board shall have its own fund and all receipts and sums which may, from time to time, be received by the Board from the State Government or any other person or agency and the amount charged by the Board under section 21, shall be credited thereto and all payments of the Board shall be made therefrom.

2) The Board shall have the powers, subject to the provisions of this Act, to spend such sums as it thinks fit to cover administrative expenses and for the performance of its functions and such sums shall be treated as expenditure payable out of the fund of the Board.

3) All money standing at the credit of the Board which cannot be immediately applied as provided in sub-section (2), shall be deposited in the Scheduled Bank or Banks or in the Public Account of the State Government or may be deployed in such other manner and subject to such conditions as are contained in regulations framed by the Board for this purpose.

E) ADDITIONAL CAPITAL AND GRANTS TO THE BOARD BY THE GOVERNMENT

ii. The Government may after due appropriation made by Legislature by law in this behalf,-

1) Provide any capital, over and above the capital arising out of the winding up of the Government Owned Companies, that may be required by the Board for the discharge of its functions under this Act or for any purpose connected therewith on such terms and conditions as the Government may determine; and

2) Pay to the Board, on such terms and conditions as the Government may determine, by way of loans or grants such sum of money as the Government may consider necessary for the efficient discharge by the Board of its functions under this Act.

F) BORROWING POWER OF BOARD

1) The Board may, with the consent of the Government, or in accordance with the terms of any general or special authority given to it by the Government, borrow money from any source by the issue of bonds, debentures, loans or such other instruments as it may deem fit for the discharging all or any of its functions under this Act.

2) The Government may guarantee in such manner as it thinks fit for the repayment of the principal and the payment of interest thereon with respect to the loans borrowed by the Board under sub-section (1).

3) Subject to such limits as the Government may, from time to time, lay down, the Board may borrow temporarily by way of overdraft or otherwise such amounts as it may require for discharging its functions under this Act.

G) ACCOUNTS AND AUDITS

1) The accounts of the Board shall be prepared and maintained in such form and in such manner as may be provided by the regulations.

2) The Board shall cause to be prepared for each Financial year an annual statement of accounts in such form as may be provide by the regulations.

3) The accounts of the Board shall be audited by an auditor duly qualified to act as an auditor of Companies under section 226 of the Companies Act, 1956. (1 of 1956)

4) The auditor shall send copy of the report together with audited copy of accounts to the Board which shall, as soon as may be, after the receipt of the audit report forward the same to the State Government.

5) The State Government shall cause the audit report together with audited copy of accounts to be laid before the State Legislature, as soon as may be, after the receipt of the same under sub-section(4).

ANNEXURE B: PROJECTIONS OF CORE NETWORK REQUIREMENT FOR THE ROAD FUND

Periodic Maintenance Requirements										
Year	**2006-07**	**2007-08**	**2008-09**	**2009-10**	**2010-11**	**2011-12**	**2012-13**	**2013-14**	**2014-15**	**2015-16**
Core Network										
Total Road Lengths of Core Network	**4405**	**4405**	**4405**	**4405**	**4405**	**4405**	**4405**	**4405**	**4405**	**4405**
Single Lane	3054	3054	3054	3054	3054	3054	3054	3054	3054	3054
Intermediate Lane/Double Lane	1351	1351	1351	1351	1351	1351	1351	1351	1351	1351
Less: Roads Denotified as Rural Roads	**405**	**405**	**405**	**405**	**0**	**405**	**405**	**405**	**405**	**405**
Single Lane	*405*	*405*	*405*	*405*	*0*	*405*	*405*	*405*	*405*	*405*
Intermediate Lane/Double Lane	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Less: Roads Upgraded Under WB	**447**	**447**	**447**	**447**	**447**	**447**	**447**	**447**	**447**	**447**
Single Lane	*402*	*402*	*402*	*402*	*402*	*402*	*402*	*402*	*402*	*402*
Intermediate Lane/Double Lane	*45*	*45*	*45*	*45*	*45*	*45*	*45*	*45*	*45*	*45*
Net Core Network Road Lengths	**3553**	**3553**	**3553**	**3553**	**3958**	**3553**	**3553**	**3553**	**3553**	**3553**
Single Lane	2247	2247	2247	2247	2652	2247	2247	2247	2247	2247
Intermediate Lane/Double Lane	1306	1306	1306	1306	1306	1306	1306	1306	1306	1306
Road Lengths due for Periodic Maintenance	711	711	711	711	792	711	711	711	711	711
Single Lane	449	449	449	449	530	449	449	449	449	449
Intermediate Lane/Double Lane	261	261	261	261	261	261	261	261	261	261
Normative Cost Per Km (Rs.Crore)										
Single Lane	0.10	0.11	0.11	0.12	0.12	0.08	0.08	0.09	0.09	0.10
Intermediate Lane/Double Lane	0.13	0.14	0.14	0.15	0.16	0.11	0.12	0.12	0.13	0.13

Rural Road Network										
Rural Road Network	20246	20246	20246	20246	20246	20246	20246	20246	20246	20246
Single Lane	9113	9113	9113	9113	9113	9113	9113	9113	9113	9113
Unmetalled Roads	11133	11133	11133	11133	11133	11133	11133	11133	11133	11133
Add: Roads Notified as Rural Roads	**405**	**405**	**405**	**405**	**0**	**405**	**405**	**405**	**405**	**405**
Total Rural Road Network	**20651**	**20651**	**20651**	**20651**	**20246**	**20651**	**20651**	**20651**	**20651**	**20651**
Single Lane	9518	9518	9518	9518	9113	9518	9518	9518	9518	9518
Unmetalled Roads	11133	11133	11133	11133	11133	11133	11133	11133	11133	11133
Rural Road due for Periodic Maintenance										
Single Lane	1190	1190	1190	1190	1139	1190	1190	1190	1190	1190
Unmetalled Roads	0	0	0	0	0	0	0	0	0	0
Normative Cost Per Km (Rs.Crore)										
Single Lane	0.10	0.11	0.11	0.12	0.12	0.13	0.13	0.14	0.08	0.08
Intermediate Lane/Double Lane	0.13	0.14	0.14	0.15	0.16	0.11	0.12	0.12	0.13	0.13
Periodic Maintenance Cost - Core Network	**78.90**	**82.84**	**86.98**	**91.33**	**105.74**	**64.68**	**67.92**	**71.31**	**74.88**	**78.62**
Single Lane	44.94	47.19	49.55	52.02	64.47	35.95	37.75	39.64	41.62	43.70
Intermediate Lane/Double Lane	33.96	35.65	37.44	39.31	41.27	28.73	30.17	31.68	33.26	34.92
Periodic Maintenance Cost - Rural Roads	**119**	**125**	**131**	**138**	**138**	**152**	**159**	**167**	**95**	**100**
Single Lane	118.98	124.92	131.17	137.73	138.46	151.85	159.44	167.41	95.18	99.94
Unmetalled Roads	0	0	0	0	0	0	0	0	0	0
Total Periodic Maintenance Cost	**197.87**	**207.76**	**218.15**	**229.06**	**244.21**	**216.53**	**227.36**	**238.72**	**170.06**	**178.56**

Routine Maintenance Requirements

Year	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Core Network										
Total Road Lengths of Core Network	**4000**	**4000**	**4000**	**4000**	**4405**	**4000**	**4000**	**4000**	**4000**	**4000**
Normative Labour Cost (Rs.Crore/Km)	**0.001**	**0.002**	**0.002**	**0.002**	**0.002**	**0.002**	**0.002**	**0.002**	**0.002**	**0.002**
Labour Cost - Unskilled	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Labour Cost - Skilled	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Labour Cost	**5.84**	**6.13**	**6.44**	**6.76**	**7.82**	**7.45**	**7.82**	**8.22**	**8.63**	**9.06**
Machinery & Material Cost	**3.89**	**4.09**	**4.29**	**4.51**	**5.21**	**4.97**	**5.22**	**5.48**	**5.75**	**6.04**
Total	**9.73**	**10.22**	**10.73**	**11.27**	**13.03**	**12.42**	**13.04**	**13.69**	**14.38**	**15.10**
Special Maintenance Cost	3.89	4.09	4.29	4.51	5.21	4.97	5.22	5.48	5.75	6.04
Routine Maintenance Cost - Core Network	**13.62**	**14.31**	**15.02**	**15.77**	**18.24**	**17.39**	**18.26**	**19.17**	**20.13**	**21.14**
Per km Cost (Rs./km)	34060	35763	37551	39429	41400	43470	45644	47926	50322	52838
Rural Roads										
Total Rural Road Network	**20651**	**20651**	**20651**	**20651**	**20246**	**20651**	**20651**	**20651**	**20651**	**20651**
Normative Labour Cost (Rs.Crore/Km)	**0.001**	**0.002**	**0.002**	**0.002**	**0.002**	**0.002**	**0.002**	**0.002**	**0.002**	**0.002**
Labour Cost - Unskilled	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Labour Cost - Skilled	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Labour Cost	**30.14**	**31.65**	**33.23**	**34.90**	**35.92**	**38.47**	**40.40**	**42.42**	**44.54**	**46.76**
Machinery & Material Cost	20.10	21.10	22.16	23.26	23.95	25.65	26.93	28.28	29.69	31.18

Total	**50.24**	**52.75**	**55.39**	**58.16**	**59.87**	**64.12**	**67.33**	**70.69**	**74.23**	**77.94**
Special Maintenance Cost	20.10	21.10	22.16	23.26	23.95	25.65	26.93	28.28	29.69	31.18
Routine Maintenance Cost - Rural Roads	**70.34**	**73.85**	**77.55**	**81.42**	**83.82**	**89.77**	**94.26**	**98.97**	**103.92**	**109.12**
Routine Maintenance Cost - Core Network	**13.62**	**14.31**	**15.02**	**15.77**	**18.24**	**17.39**	**18.26**	**19.17**	**20.13**	**21.14**
Routine Maintenance Cost - Rural Roads	**70.34**	**73.85**	**77.55**	**81.42**	**83.82**	**89.77**	**94.26**	**98.97**	**103.92**	**109.12**
Total Routine Maintenance Cost	**83.96**	**88.16**	**92.57**	**97.20**	**102.06**	**107.16**	**112.52**	**118.14**	**124.05**	**130.25**

Construction/Upgradation										
Year	**2006-07**	**2007-08**	**2008-09**	**2009-10**	**2010-11**	**2011-12**	**2012-13**	**2013-14**	**2014-15**	**2015-16**
Rural Roads										
Total Rural Roads Requirements	**585.31**	**565.39**	**599.03**	**619.84**	**636.19**	**650.92**	**675.17**	**700.78**	**714.09**	**729.03**
Rural Roads - New Connectivity	411.22	386.12	413.70	427.49	435.76	441.28	455.07	468.86	468.86	468.86
Rural Roads - RIDF Works	94.09	91.27	88.53	85.87	83.30	80.80	78.37	76.02	73.74	71.53
Rural Roads - Upgradation	80.00	88.00	96.80	106.48	117.13	128.84	141.72	155.90	171.49	188.64
Core Network										
Km to be Upgraded	772.40									
Cost of Upgradation (Rs.Crore)	1145.78									
A. Total Base Cost	1145.78									
B. Physical Contingencies (3% of A)	34.37									
C = A+B	1180.15									
D. Construction Supervision (2.5% of C)	29.50									
E. Escalation (7% of C)	118.02									
F = C+D+E	1327.67									
G. Land Acquisition Costs	70.00		Per km cost	1.83						
H. Utilities & Environment Clearance (1% of F)	13.28									
Total Upgradation Costs (Rs.Crore)	**1410.95**									
Total Core Network Requirements	**141.09**	**141.09**	**141.09**	**141.09**	**141.09**	**141.09**	**141.09**	**141.09**	**141.09**	**141.09**
Total Rural Roads Requirements	**585.31**	**565.39**	**599.03**	**619.84**	**636.19**	**650.92**	**675.17**	**700.78**	**714.09**	**729.03**
Total Core Network Requirements	**141.09**	**141.09**	**141.09**	**141.09**	**141.09**	**141.09**	**141.09**	**141.09**	**141.09**	**141.09**
Total Construction/Upgradation requirements	**726.40**	**706.48**	**740.12**	**760.94**	**777.28**	**792.01**	**816.26**	**841.88**	**855.18**	**870.12**

ANNEXURE C: STATISTICS ON AGRICULTURE/INDUSTRIAL PRODUCE OF STATE

Horticulture Production (000 MT): 2005-06	
Fruits	**Production**
Apples	540
Other Fruits	156
Total	696

Crops Production (000 MT): 2004-05	
Commodities	**Production**
Wheat	687
Maize	636
Rice	109
Other Crops	57
Vegetables	731
Potato	152
Total	2372