PUBLIC-PRIVATE PARTNERSHIPS
TO FINANCE AND MANAGE
ROAD MAINTENANCE

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ABSTRACT

The extensive road networks of Latin America and the Caribbean, valued at over 350 billion US$, show alarming signs of neglect and decay. More than 16 billion US$ are being wasted annually due to the absence of adequate road maintenance. Individual countries in the region are losing between 1% and 3% of their annual GNP due to an unnecessary increase in vehicle operating costs and loss of road asset value alone. This devastating situation is not only true for Latin American countries, but can be found in other developing countries and some developed nations as well.

The prevailing financial and institution system of road maintenance has been clearly identified to be at the root of the problem. In most of these countries an adequate flow of funds cannot be secured by the general budgeting financing procedure. In addition, the rules and regulations of the public administrative system do not allow for an effective and efficient management of road maintenance. As it is unlikely that under the prevailing system substantial and sustainable improvements can be made a new approach is necessary to eradicate this problem.

A new public-private partnership in financing and managing road maintenance can provide an adequate solution. The two basic principles of such an approach are to put road maintenance on a fee-for-service basis and to transfer road maintenance management from a “government ministry environment” to a “company environment”.

The article provides a guideline for such a reform. Various alternatives are being discussed for securing sufficient and stable flow of funds for road conservation, for providing an adequate institutional framework to manage road maintenance on a national, state and local level, and for physically managing whole road networks in an effective and efficient manner. It furthermore gives examples of “good practice” based on experiences in New Zealand, Australia, and several Latin American and African countries.

1. INTRODUCTION

In Latin America roads have been the backbone of passenger and freight transport for the last 50 years. Since then, road networks have been growing rapidly. Several years ago the rate of expansion started to slow down and the road networks began to age fast. Scarce resources, especially in the 80’s, have contributed to an ever decreasing amount of money allocated to road maintenance. Towards the end of the decade several countries in the region spent less than 20% of the amounts necessary to maintain their road networks in adequate conditions. A typical example of how road maintenance spending has been falling steadily in those years can be seen from figure 1. In the early 90’s funding levels for the road sector slightly improved, but funds were and still are mainly used for road rehabilitation and only a little is being spent for the more cost effective routine and periodic maintenance activities. Nowadays, to raise funds for road rehabilitation is much easier than for road maintenance, due to the fact that loans to finance rehabilitation are (still) readily available from international donors, while funding for road maintenance is subject to the political debate in parliament and is normally losing ground to other politically more attractive issues. Generally between 2% and 3% of the new investment value of the road network is required for routine and periodic maintenance alone. Unfortunately, even today, countries in the region are spending normally between 20% and 50% of the funding required for adequate road maintenance only. In addition, these already insufficient funds often are being used inefficiently in a poor state. Normally, only 1/3 of the paved main road network is in good, 1/3 in regular and 1/3 in poor condition. Unpaved roads are in even worse shape. Road conditions naturally vary from country to country. These appalling figures were true 10 years ago and still hold true today, despite the huge amounts poured into road rehabilitation during recent years. Past efforts to improve the level of financing for road maintenance have either failed or were not sustained. Equally unsuccessful were most of the

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1 Rehabilitation of paved roads is defined as selective repair and strengthening of the pavement or shoulder after partial demolition of the existing structure.

4 Periodic maintenance is defined as surface treatment or surface renewal including regravelling.
countless efforts, mainly financed by multilateral or bilateral donors, to improve the performance of the public road administrations in the region.

The lesson to be learned is clear. Substantial improvements of road conditions can be made only by approaching the financing and management of road maintenance in a completely different way. Instead of trying to solve the many apparent problems frequently put forward such as:

- inadequate planning and technical execution of road maintenance
- lack of maintenance equipment in working condition
- lack of motivation of maintenance staff
- low qualifications of staff
- and many others,

it is necessary to tackle the two underlying causes, namely the present financial and the present institutional system of road maintenance.

**Cause number 1: Experiences clearly reveal that in nearly all developing and most developed countries as well, it is impossible to secure an adequate and stable flow of funds for road maintenance through general government budget financing procedures, especially if their allocation depends on the annual political budget debate.**

Road maintenance is politically unattractive; new road construction, road rehabilitation, social or education programs are more “visible” and produce more political prestige. In addition, lack of maintenance culture and little understanding of the economic consequences of poor maintenance even by those in charge of roads make it even more difficult to raise sufficient maintenance funds. Only very few countries in the world, such as Japan and some European countries have proven to be able to assign sufficient resources to road maintenance on a sustained basis. These are rather exceptions to the rule and cannot be taken as examples for the functioning of financing road maintenance through general taxes. Some countries, also in Latin America, used to finance road construction, rehabilitation and maintenance through earmarked taxes, especially on fuels used by motor vehicles. None of these funds could be sustained on a long term basis. The main problem has been that governments regard these funds as “government funds” which they can (and do) utilize for other purposes, especially in times of crises, which often continue “indefinitely”.

**Cause number 2: Rules and regulations of the public administrative system do not allow for an effective and efficient management of road maintenance, in spite of the good will of many public employees responsible for road maintenance.**

In Latin America and the Caribbean, the management of road infrastructure is mainly carried out by government departments. While most of the actual construction, rehabilitation and some of the maintenance of roads is being contracted out, the planning, contracting, supervision and most of the road maintenance works are still being undertaken by these government departments themselves, who face the typical problems of all public administrations, such as overstaffing, lack of discipline and control, lack of incentives and disincentives, and corruption.

In order to improve effectiveness and efficiency of road maintenance, e.g.

- guarantee an adequate long-term maintenance of the road network at a reasonable cost,
- optimize the cost-benefit relationship of the road transport system, and
- minimize damage to the environment
on a sustainable basis, it is paramount to reform the financing, the institutional set-up, and the management of road maintenance with the active participation of the direct and indirect road users. Any reform that does not tackle all these issues will face a high risk of failure.

2. FINANCIAL REFORM OF ROAD MAINTENANCE

The best way to secure an adequate and stable flow of funds is to charge road users a road maintenance tariff in exchange for the services of maintaining roads and not to rely on taxes. In most countries the financing of road maintenance through taxes has never worked satisfactorily and it would be at best dangerously misleading to assume that this will change for the better in the future. Road maintenance can be treated as a public service similar to water supply, telephone and electricity services, where the user pays for the services received. To be able to do so, the following conditions must be met: the road user pays in relation to road usage, the one who pays should receive adequate road maintenance services, and somebody not using the road system should not pay. In addition to these criteria the charging system should be easy and inexpensive to administer and difficult to evade. The system which best suits these criteria is an electronic tolling system covering the whole road network. Each vehicle can thus be charged individually according to its usage of any particular road. Unfortunately, this system is not readily available yet and will not be implemented on a comprehensive scale in most of the developing countries in the near future. For the time being, a shadow toll system is recommended, which mainly uses the consumption of motor fuels on roads as a “service meter” and reflects usage of roads fairly well. This implies a service charge or road maintenance tariff to be levied and collected together with the sale of motor fuels. The only disadvantage of charging this tariff together with the sale of motor fuels is psychological, as most people consider anything charged together with motor fuels as “another tax” to finance general government expenses and not necessarily the provision of road maintenance services. Therefore, it is extremely important to identify and clearly mark this charge as road maintenance tariff and to collect the receipts into a separate fund, independent of any government, departmental or municipal funds and make sure that the proceeds are used for road maintenance only. This way the pump price of motor fuel will continue to contain a tax element to finance general government budget expenses, one of which will be construction and rehabilitation of roads, and a road maintenance tariff to be paid into a separate Road Maintenance Fund to be spent exclusively on road maintenance (see figure 1).

Since motor fuels are being consumed on all roads it is also fair that all roads, e.g. interurban, urban and rural roads should participate in receiving funds from the Road Maintenance Fund. The question remains to what extent maintenance costs should be reimbursed by the Fund. This issue is especially relevant for roads with very low traffic, as the road maintenance tariff “collected” on these roads is far below the funds required for maintaining them. Most likely, the Road Maintenance Fund will have to contribute to these costs in a somewhat higher proportion than the contribution of the road maintenance tariffs collected from the motor fuels consumed on these roads. The actual amounts could be tied to a number of criteria or simply to a flat rate per kilometer. Fixing these amounts could be part of the decision process within the Fund where the road users have a stake.

Since one of the conditions of a tariff is that only road users should pay for the road maintenance services, the issue of diesel not used on roads remains to be resolved. There are several options to deal with

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3 Only heavy vehicles are an exception and require an additional charge to compensate for the greater usage of roads due to relatively higher axle loads. In New Zealand and in some of the States of the United States of America weight-distance charges are applied to heavy vehicles. As these charges are difficult to administer and fairly easy to evade in the absence of a strict control system, they are not recommended for use in most of the developing countries.

4 Economists from the Ministry of Finance often argue that this is an earmarking of taxes. To make it clear: There is a very clear cut distinction between taxes and service charges. Taxes are defined by law, do not bear a direct relation ship between source and destination of funds, and are collected by governments. Service charges are directly related to the services provided, cover their cost, and are collected by the entity which provides the services. Principally taxes are to finance public services which do not generate sufficient income to finance themselves, like basic education and health services, public administration or defense. In contrast, road maintenance services can very well be financed through user charges.
this problem. One possibility is to chemically differentiate between the two diesels by coloring the one which is not to be used in road vehicles. This method is being used in many developed countries and requires either a good control system or very disciplined road users. Another possibility is to give a rebate equivalent to the amount of the road maintenance tariff to those not using the diesel in road vehicles. This is fairly easy to handle in the case of power stations and others using big quantities of diesel, while it is almost impossible to administer for small scale users like farmers. In this case other methods of compensation could be applied like assigning more maintenance funds to farm roads than justified under a normal road maintenance cost allocation system for these roads.

How much is normally required to cover the maintenance cost of a country’s road network? Based on the analysis of various developing countries in Latin America, between 7 and 9 US cents per liter of motor fuel would be required to cover the costs of maintaining the entire road network of a country, if motor fuels were the only source of road maintenance funding and these roads were in maintainable conditions. For most countries this means that large sections of their road networks will require rehabilitation first, before they would be eligible to receive funds from the Road Maintenance Fund. If additional road maintenance tariffs for heavy vehicles are being applied, the tariffs to be raised in connection with motor fuels could be reduced accordingly.

An often asked question regarding road tariffs is: why not use the conventional toll collection system to pay for road maintenance? Unfortunately, conventional toll collection costs are fairly high. Only for roads with more than 1500 vehicles per day do these costs stay within a reasonable range of 10% - 30% of the tolls collected, depending on the level of tolls and the number of vehicles per day. Therefore, this system is economically viable for a small percentage of roads only, less than 5% of all roads in Latin America, and cannot solve the financing of road maintenance for a country’s whole road network. Tolls could contribute to recover road maintenance costs, but due to the conflict of “double charging” (tolls plus road maintenance tariffs) they are not recommended for this purpose. Tolls on toll roads should preferably be used to recover construction or rehabilitation costs while maintenance cost should be reimbursed by the Road Maintenance Fund.

It might be difficult to convince road users to pay an additional road maintenance tariff, because they will argue that the government already receives enough funds from taxes on motor fuels, motor vehicles, licensing fees, etc. to cover the cost of road construction, rehabilitation and maintenance. Probably equally difficult might be to persuade governments to renounce part of “their” taxes and thus leave room for levying road maintenance tariffs so that the pump price of motor fuels will not be affected. The fact is that road users presently face the consequences of poor road maintenance in the form of higher vehicle operating costs. Investing 1/3 of the additional vehicle operating costs now spent on bad roads in road maintenance, would save the road user the other 2/3 (see figure 2). Most road users are not aware of these facts. Knowing what they could save by paying a road maintenance tariff, most road users would be willing to pay, even if this would mean paying in addition to what they pay already in the form of fuel taxes and other road vehicle related taxes, but only if they can be sure that the funds raised through tariffs will be used for road maintenance only. On the other hand, governments very often are willing to decrease fuel taxes by the amount actually used for road maintenance when the responsibility for the funding of road maintenance shifts to the Road Maintenance Fund.

3. INSTITUTIONAL REFORM OF ROAD MAINTENANCE

In order to assure an effective and efficient management of road maintenance it is recommended to create an institution to safeguard the public interest in keeping roads in good condition, and to transfer the responsibility of road maintenance from the public to the private sector. How can we safeguard public interest in preserving roads in good condition? Presently, in most of the developing world, public road administrations and the respective ministries are responsible for keeping the road networks in good condition. But hardly anybody in those institutions cares whether this is done well or not.
None of them has to face any real consequences of not preserving roads in good condition. Often they don’t even know the conditions of the roads under their jurisdiction, even less so they know the asset value of these roads (which is often the biggest or one of the biggest assets governments are responsible for) or whether the asset value is increasing or decreasing. Any commercial enterprise neglecting its assets as governments do would be out of business soon. The ones who actually have to bear the consequences of poor road maintenance are the road users. Therefore, they are the ones who have a direct interest in maintaining roads in good condition and therefore should have a more direct control of overseeing road maintenance spending. One way of achieving such control is to create a Road Maintenance Board, a public institution with complete financial, administrative and technical autonomy and with active road user participation. Depending on the size of a country, there might be either subsidiary or independent local Road Maintenance Boards for the different categories of roads and or road administration districts. The principal attributions of such road boards should be:

- to propose the levels of road maintenance tariffs,
- to administer and manage the Road Maintenance Fund,
- to contract the planning, execution and supervision of road maintenance,
- to safeguard the investments made in roads, and
- to inform the public periodically on the effectiveness and efficiency of road maintenance spending.

Road Boards exist in various countries around the world, either with executive functions like in New Zealand (see box 1) and Zambia, or advisory functions as in Japan and Tanzania. Based upon the positive and negative experience gained from road boards/funds worldwide, certain design criteria can be established which might help to create sustainable Road Maintenance Boards/Funds, namely:

- The directors of the Board should very well represent the relevant interest groups, especially road users,
- the Board should be autonomous with a firm legal basis, and
- the tariffs should well reflect the usage of roads, should be adjustable according to needs, be collected by the Board and deposited into a Road Maintenance Fund account, and should be used primarily for road maintenance (routine and periodic maintenance including strengthening of pavements and regravelling).

In order to be effective the Road Maintenance Board/Fund has to channel and control funds to other agencies, corporations or companies for planning, executing and supervising road maintenance works. Depending on the structure of the road administration in a specific country, there are several possibilities of how the Road Maintenance Board can operate. The principal decision to be taken by an executive Board is whether or not it is going to contract out work directly or whether it wants to make use of an existing road administration or agency. The more effective and efficient these organizations are, the more likely they will be given a major role to play. If there exists an efficient road agency or corporation a performance contract between the agency and the Board might be the best choice (see figure 3) and in the case of a road administration the Board might decide to contract out maintenance works directly, while making use of the planning and contract preparation skills of the existing road administration. One ultimate administrative structure could be the Road Maintenance Board contracting all road maintenance to Road Maintenance Management Companies in charge of maintaining roads to a certain standard in a specific area on a long term basis (see figure 4). For smaller countries, having one National Road Maintenance Board might be sufficient; for bigger countries, creating Provincial and Municipal Boards as well might be the better solution.

One question still remains: Who is going to contract and pay for road construction, rehabilitation and major improvements? As long as government bodies are receiving motor fuel taxes, it seems fair that they should continue to finance these works and either contract them directly or let the Road Mainte-
nance Board(s) contract the work on their behalf. The second solution would have the advantage that it might better ensure that quality of road design and construction suits road maintenance needs.

<table>
<thead>
<tr>
<th>Box 1. Membership and Characteristics of Some Road Management Boards</th>
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<tbody>
<tr>
<td><strong>The Transit New Zealand Authority</strong></td>
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<tr>
<td>• The Board has executive functions and consists of eight members appointed for their expertise in land transport management, jointly by the Ministers of Transport and Finance.</td>
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<tr>
<td>• The chairman of the Board is also appointed jointly by the Ministers of Transport and Finance.</td>
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<tr>
<td>• The 166 staff of the Authority manage a land transport fund with all design, supervision and physical works being carried out by outside agencies.</td>
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<tr>
<td><strong>Zambia National Roads Board</strong></td>
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<tr>
<td>• The Board has executive functions and consists of five ex officio members representing government ministries (Finance, Works and Supplies, Transport and Communications, Local Government, and the National Commission for Development Planning) and seven members representing the private sector (Chamber of Commerce, road transport industry, Automobile Association, farmers, Institute of Transport, Copperbelt University). All Board members are nominated by the organizations they represent. Only the members from the private sector have the right to vote.</td>
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<tr>
<td>• The Board elects its own chairman and vice chairman.</td>
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<tr>
<td>• The Board controls a Road Fund for rehabilitation and maintenance of roads and provides technical assistance to nine local Road Boards.</td>
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<tr>
<td>• All design, supervision and execution of works is carried out by private sector contractors.</td>
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<tr>
<td><strong>Road Maintenance Fund of Honduras</strong></td>
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<tr>
<td>• The Board has executive functions and consists of seven members: three Ministers or Vice Ministers (Transport and Public Works, Finance, and Economy), one representative of the Association of Municipalities, and three from the private sector (Chamber of Commerce, Association of Transport Enterprises, and College of Engineers).</td>
</tr>
<tr>
<td>• The Minister of Transport and Public Works is chairman of the Board and appoints the members of the private sector upon nomination by the organization they represent.</td>
</tr>
<tr>
<td>• The Board contracts out all execution and supervision of road maintenance to the private sector and uses the Ministry of Transport and Works for planning purposes.</td>
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4. **REFORM OF THE MANAGEMENT OF ROAD MAINTENANCE**

Traditionally, most road maintenance has been and still is executed by public road administrations. In order to raise efficiency, road administrations are starting to contract out more and more of their road maintenance activities to the private sector. Some of them have either reached the stage where they contract out all road maintenance activities to the private sector, like Honduras, or have established clear deadlines for when they will do so, like Colombia. Planning of maintenance activities, contract letting, and supervision of works is usually still performed by the respective road administrations themselves. Contracts are mainly let on the basis of **unit prices**. Most of the countries which have gained experience with contracting out road maintenance to the private sector have clearly benefited from considerable cost savings in relation to work performed by their own administration while preserving the same maintenance standards. Recent cost comparisons made in Australia have resulted in **cost savings up to 41% per km of road maintained**. A highly competitive road maintenance market is the key element in achieving such big cost savings.

Even more savings in road maintenance costs could be realized by contracting out the entire management of the maintenance of whole road networks to private road maintenance management companies. The task of these companies is to **keep a specific road network in pre-established (good) condition** and receive as compensation a pre-established fixed fee, determined through a competitive bidding process. As for maintaining a specific road network road management companies are not paid on a unit price basis or for specific works performed, there is a strong incentive to plan and execute maintenance works at the lowest overall cost possible, **triggering incentives for new technological advances and breaking new grounds in maintenance management**. Crucial for success is to have a well qualified and highly
competitive market and to establish appropriate criteria for road conditions as well as to strictly supervise adherence to these standards. Until now little experience has been gained in this field but it can be expected that **savings of more than 50% of maintenance cost per km of road can be achieved** compared with works performed by the road administration’s own work force. So far Argentina is one of the few countries which has contracted nearly 10,000 kilometers of its paved main trunk network on a long term concessionary basis to be rehabilitated and subsequently maintained in accordance with pre-established road standards. Recently, Australia has let a 150 million Australian dollar contract to maintain several kilometers of roads in pre-established conditions for the next 10 years. Several other countries have either started to follow suit or are in the process of doing so. A joint IRF/GTZ project is presently assisting Uruguay, Brazil, Colombia, and Peru in setting up pilot projects to contract out the maintenance of their road networks to private road management firms on a long term basis.

**5. THE REFORM PROCESS**

The two basic principles of the reform concept to put road maintenance on a “fee-for-service” basis and to transfer the management of road maintenance from the “government ministry environment” to a “company environment” have been successfully applied to other infrastructure services such as water or energy supply, but are fairly new for road services. For the construction of new roads the BOT (build, operate and transfer) model has a well established history in many countries all over the world and it is still gaining momentum in many more. Of course, maintenance of these roads always forms part of this package deal. Until now, almost all of these schemes have been charging tolls to recover their cost. To apply a similar scheme to road rehabilitation and maintenance is fairly new, especially the idea to apply “shadow tolls” instead of collecting tolls at toll booths along the road. Argentina, for example, is planning to apply such a scheme for 5,000 kilometers of its trunk road system, and England is planning to use shadow tolls for some of its new DBFO (Design, Build, Finance and Operate) concessions. Instead of collecting tolls directly, the road maintenance companies are paid by the road administration (or by a road maintenance fund) on the basis of actual traffic volumes or on the basis of pre-established monthly fees.

In order to be successful, all of these **schemes require a well qualified and highly competitive private sector** able to plan, construct and maintain roads in good condition. Unfortunately, not all countries find themselves in such a favorable situation. In many countries a weak public sector as well as weak private sector is the rule rather than the exception. And to transfer the responsibility for road maintenance entirely to the private sector in such countries might even worsen the situation. Therefore, each country has to find its own way when approaching such a reform, taking into account its very specific situation and circumstances. Nevertheless, due to mounting criticism of ineffective and inefficient public administrations and a squeeze on public budgets, in many countries worldwide, there is a growing movement towards redefining the role of the government and in this respect the role of the ministries and public administrations responsible for roads as well. The aim is mainly to **reduce the role of the public sector and to transfer to the private sector those responsibilities the private sector is able to perform more effectively and more efficiently**. More generally speaking, to leave the private sector to “play” the game and let the public administration be the arbitrator who defines and controls the rules of the game. This would leave the Ministry of Transport/Public Works in charge of defining the road sector policies, in consultation with all the parties concerned, and to ensure that they are being followed. In a first stage the role of the road administrations would gradually shift from executing works by themselves to merely planning and supervising works to be contracted out, introducing more and more commercial principles into their operations. At a later stage public road administrations could be transferred into fully commercially operating publicly or privately owned corporations. The national road administration of New Zealand is a good example of having gone successfully through such a transformation process (see box 2). Several road administrations, especially in Europe and some in Latin America, are following suit. To change the present financing of road maintenance from a tax to a “fee-for-service” basis is a fairly new approach and requires the support of a wide base of road users as well as the approval of the government.
and the politicians in control of the legislative bodies. The easiest way to convince somebody to change something is to clearly demonstrate to him the advantages he would receive from doing so. This doesn’t seem to be too difficult in this case, because the road users finally will save more on vehicle operating cost than they will have to spend on road maintenance tariffs, and the government and ultimately the taxpayers will have to spend less on future road rehabilitation as well. Experiences reveal that road users very often are willing to pay more if they can be assured that the proceeds will go to road maintenance only. And the best way to ensure this is by giving road users a control over where and how to spend the tariffs collected. A few but influential people might lose from introducing the new charging system. These are mainly politicians who used or still are abusing the present system to favor political or personal friends, which certainly will be more difficult to do in a more transparent system controlled by road users. Therefore, awareness building, orientation and organization of the direct and indirect road users is essential for implementing such reform. Typical groups to involve in this process are, for example, passenger and freight transport organizations, automobile associations, farmers associations, chambers of commerce and industry, and road associations.

Box 2. A Comprehensive Re-Organization of a Road Agency. The New Zealand Experience

Pre-1987 road funding and coordination on behalf of government was managed by the National Roads Board (NRB) with the Minister of Works and Development as the Chairman. The NRB was administered by the then Ministry of Works and Development (MWD), a department of 9,600 people employed on a wide range of activities from the design of buildings, roads, irrigation schemes, and power projects. It also provided regulatory advice on many major issues including town and country planning, roading, building controls, and water and soil resource use. The MWD was a typical public works department with a mix of policy, regulatory, and commercial activities.

In 1986, the Government decided to separate the commercial activities of the MWD from the policy/regulatory function to be completed by 30 September 1987. As the date drew near, the government further decided to corporatise the commercial activities by 1 April 1988 and transfer all the policy and regulatory functions to other government departments.

The NRB’s operations and management were transferred to the Ministry of Transport with the Minister in charge taking over as Chairman of the Board.

At this time, passenger transport was funded an coordinated at a national level by the Urban Transport Council which was a quango of government. This Council was primarily responsible for the distribution of funds to local authorities and research into passenger transport activities.

On 1 April 1988 the NRB and the roading function were taken over by the Minister of Transport.

In September 1989, the New Zealand Government passed a number of laws which reformed the management of the New Zealand land transport system. The main features of the new laws were the:

- Establishment of Transit New Zealand, as a new organization designed to provide integrated nationwide planning and funding of roads, passenger transport services, and road safety.
- Establishment of the Land Transport Fund. This Fund receives all road user charges from heavy vehicles, a proportion of the fuel tax paid by light vehicles and all registration and license fees.
- Establishment of regional and territorial transport planning functions. Regional councils have a clear local responsibility to plan and implement policies for roading, passenger transport services, and road safety. As from 1 July 1991 contracts all design, supervision, and physical works associated with the state highways on the basis of competitive bidding. At the same time local authorities, who want Transit New Zealand funding for local roads and passenger transport, have been required to competitively bid all services and works except road maintenance and minor works.

Exactly five years later the funding functions were separated from Transit New Zealand creating Transfund to provide a clear separation of road funding obligations from the delivery of road maintenance, road construction, and passenger transport services. The Government’s decision to create Transfund recognized the importance of having an efficient road funding mechanism and remove potential conflict of interest that may have existed under previous systems.

Source: R. J. Dunlop

Often the question arises whether or not to include the financing of road rehabilitation in such a financial scheme as well. This depends on whether the users are willing to pay for rehabilitation too. They might argue that road rehabilitation is necessary only because the government did not maintain the roads in the first place, and thus will be reluctant to pay in form of user fees. As long as governments find enough funds or are pressed by the road users to do so, the road users might succeed with this line of argument. If public administrations are neither able nor willing to mobilize enough resources of their own, external credit organizations like the World Bank or Regional Banks might step in to assist in financing road rehabilitation (which they presently still do), or the road users will have to allow for road rehabilitation costs to be covered by road maintenance tariffs. Some countries such as Zambia allow for road re-
habilitation to be financed out of the Road Fund. Since many countries are faced with a high percentage of their road system being in poor condition, requiring rehabilitation first, before regular maintenance can take place, it might be necessary for some of them to temporarily include financing of road rehabilitation in this financing scheme as well. This of course will be reflected in the tariff levels, which for inflationary reasons should rise only gradually, to allow for a parallel saving in vehicle operating cost. A good example of how to gain support from road users for such reforms is given by the Roads Board of Zambia (see box 3).

Since in the late 80’s whole road networks were collapsing in several developing countries, as was the case in Peru for example, and since governments began to recognize that the present financial and institutional system of road maintenance is at the root of the problem, many countries, especially in the developing world, have begun to ride the road towards reform. More than five years ago, and with the help of The World Bank and bilateral donors in what was called the Road Maintenance Initiative, several countries in Africa started to reform their road maintenance systems by creating Road Boards with road user participation to oversee Road Funds to finance road maintenance and partially road rehabilitation as well. Until now Zambia, Tanzania, Sierra Leone and Ghana have successfully managed to establish Road Boards in Africa. Zambia even managed to create an executive Board where only the representatives of the private sector are eligible to vote (see box 1 on page 6).

For the road maintenance reform to take shape in Latin America and the Caribbean the reform concept developed by ECLAC was instrumental. The development of this concept and its dissemination in the whole region as well as a favorable reform climate made various countries susceptible to engage in such a reform. So far only Honduras has succeeded in creating a Road Maintenance Board which oversees a Road Maintenance Fund, but other countries like Guatemala, Costa Rica, Nicaragua, Brazil, and Colombia are well advanced in their efforts towards reforming their road maintenance systems as well. Each country is faced with a different situation and is therefore shaping its very unique solution to the problem, but all are following the basic principles which govern the reform.

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An important element in the strategy to involve road users in the management of roads and win their support, was the launching of a supplement in the two daily newspapers to inform the public about the establishment of the National Road Board. This has been followed up by monthly press releases in the form of an advertisement, to inform the public on Board activities and the funding for road maintenance by the Board. This has led to roads becoming one of the most hotly debated issues in the press. Politicians, councilors, contractors, consultants, road users and newspaper editors continuously write in the papers on road maintenance. Road users have been sensitized to the extent that no day passes without some news about roads in the daily and weekly print and electronic media.

Another initiative to inform, involve and win public support for adequate road management, has been the launching of a weekly radio program on Zambia National Broadcasting Corporation’s national service in English and seven local languages. This program informs of actions taken and progress achieved in road maintenance management through the contribution made by the public by way of the Road Tariff and the Road Fund. These programs are not funded by the Board but are sponsored by stakeholders, key players and road users.

The National Roads Board has launched a road user driven National Program of Road Maintenance in Zambia. This program is being launched through the nine Provincial Road Engineers and the 61 District councils in the country. The road users represented in the District and Provincial Coordinating Committees, and through the Provincial Roads Engineers, submit a program of maintenance of Main and Trunk roads. This program is coordinated by the Ministry of Works and Supply through the Director of Roads. Funding of maintenance of Main and Trunk roads is done by the Board on a continuous basis on submission of a program and cost estimates recommended by the Director of Roads.

The maintenance of District or Urban roads and Feeder roads is funded through the 61 District Councils. The Board believes that the District Councils are the best fora at grass the roots level for road users to participate in the management of roads. The elected representatives at the 49 District, 9 Municipal and 3 City Councils, discuss the proposed programs of road maintenance drawn up by respective Directors of Works in the Councils, agree on priorities, and thus participate actively in the management of roads. The elected representatives further participate in the formulation of procedures for inviting tenders, in the evaluation and selection of winning tenders, and approve awarding of contracts on the basis of the recommendations of consulting engineers.

Source: R. A. Jhala
**References**


**FIGURES**