

**THE FINANCING OF LAND TRANSPORT IN SOUTH AFRICA**

**A NOTHNAGEL, R A STANWAY  
R MIRRILEES, & J W M CAMERON**

**National Department of Transport, Stanway Edwards Ngomane Associates (Pty) Ltd,  
Nathan Associates (formerly of Transportek, CSIR) & TRC Africa (Pty) Ltd**

## **1. INTRODUCTION**

This paper summaries the National Department of Transport's (NDOT's) investigation into the "Financing of Land Transport" in 1998.

## **2. RATIONALE FOR A STUDY INTO THE FINANCING OF LAND TRANSPORT**

"Inappropriately designed transport strategies and programmes, however, can result in networks and services that aggravate the condition of the poor, harm the environment, ignore the changing needs of users, and exceed the capacity of public finances" (World Bank, 1995).

South Africa is currently at the end of four decades of land transport policy which has brought about all these negative conditions. Public transport in particular is very unsatisfactory, yet it plays a key role in determining the quality of life of millions of the people who are most affected by the apartheid legacy.

This study was undertaken because land transport can be used in South Africa as a catalyst for much-needed change and development. The present land transport system is, however, both financially and environmentally unsustainable, financially because it perpetuates land uses that will lead to demands for ever-growing public transport subsidies, and environmentally, because it encourages dependence on the motor vehicle. Land transport was a key element in the creation of the apartheid system and the old land-use patterns are being further entrenched because the old land transport system still exists. Both land use and the transport system need to be changed, but it is the transport system that must lead the way as a catalyst of change. There is a clear need for a major shift in land transport policy. With policies in many sectors being revised and the Moving South Africa (MSA) project and new land transport legislation aiming to restructure the entire transport sector over the longer term, a window of opportunity now presents itself. To exploit it, however, will require adequate funding which is not available at present.

If the present situation of insufficient land transport funding is maintained, the country will suffer severe consequences. There will be negative impacts on national economic growth, efficiency and competitiveness. Hidden costs to the economy, probably already very significant, will grow rapidly. The widely recognised inefficiency of city structures will worsen. While pressure for public transport subsidies increases, accessibility for the poor will deteriorate. In short, the Reconstruction and Development Programme's salient objectives for

the transport sector will not be met.

### **3. OBJECTIVE OF THE STUDY**

The study's objective was to build on sound transportation and economic principles to identify potential financing needs and sources and mechanisms for land transport funding in support of current land transport initiatives. The study also addressed the broader policy framework within which financing will take place.

It must be emphasised that the approach to financing land transport that was proposed was not worked out in fine detail. Before this is done, agreement in principle is needed by decision-makers, that the approach is logically sound and politically implementable. This paper describes the basis for a discussion that, hopefully, will lead to such agreement.

### **4. DEFINITION OF LAND TRANSPORT**

For purposes of this paper, land transport is defined as consisting of:

- urban and rural transport systems;
- road and rail infrastructure;
- transport facilities, for example passenger transport interchanges;
- public transport services;
- freight transport services in cities; and
- support services, for example, law enforcement, planning, research and training.

National roads, long distance rail services and traffic law enforcement are specifically excluded from the study, having their own sources of finance.

### **5. ANALYSIS OF URBAN AND RURAL ELEMENTS OF LAND TRANSPORT**

There are marked differences between the policies that guide the development of the urban and rural elements of land transport as defined above. In the case of urban land transport, the main concern is to improve the quality of public transport.

The improvement of public transport should be sufficient to reduce significantly the need for private transport. It is thus recognised that in urban areas there are inadequate resources to fully support both the private and public transport modes, and financing mechanisms should encourage a mode switch from the former to the latter.

In the case of rural land transport, although the improvement of the availability of public transport is also a key objective, the intention is to raise the quality of life of rural societies by providing them with a level of accessibility to social services and amenities which they currently do not have or cannot afford. Accessibility can be improved through increased mobility, so here both private and public transport should be encouraged.

## **6. RURAL TRANSPORT**

The two main tasks in providing rural transport are to maintain the unproclaimed, informal road network, and to extend and upgrade the network and provide public transport in deep rural areas.

After consideration of this matter, the conclusion that has been reached is that there is no logically sound source from which to attract finance for these purposes other than general national tax revenues. The fundamental issue that must be faced here is that the problem of rural areas is the developmental problem of poverty.

## **7. URBAN TRANSPORT**

In urban areas, it is public transport that must receive priority; road construction and maintenance obviously deserve some attention as well but this too should be better focussed to support public transport. Since the energy crisis of the mid-1970's, there has been a tendency in many cities in the world to adopt policies for the prioritisation of public transport in cities and towns. Although the car has the advantage of speed and comfort on nearly all journeys, public transport is far more efficient and cost-effective in terms of utilisation of infrastructure, available capacity, investment costs, running costs, energy consumption, noise and atmospheric pollution, safety and the use of public space. It is also the only means of transport for non-motorised households besides walking or cycling. The reasons for viewing public transport as the priority include its economic, social and environmental merits, its

contribution to savings in urban transport infrastructure and its role in urban space utilisation.

## 8. FINANCIAL NEEDS FOR URBAN TRANSPORT

For the purpose of this study, "Needs" have been defined as comprising the following three components:

- annual ongoing current expenditure (capital & operating);
- 
- an injection or intervention (mainly operating) over approximately five years to address certain of the socially-orientated strategic objectives in the White Paper; and
- 
- an injection or intervention (mainly capital) over approximately 15 years to address the backlog and to substantially upgrade the transport system.

The financing study calculated these needs to be as follows:

### Additional 1998 Rands (per annum) needed

	Existing needs	Needs for first 5 years	Needs for subsequent 10 years
Capital	7 000m	4 000m	4 000m
Operating	3 000m	1 500m	
<b>Total</b>	10 000m	5 500m	4 000m

## **9. FINANCING IN THE CONTEXT OF OVERALL URBAN LAND TRANSPORT POLICY**

The way in which urban public transport is financed will determine what incentive effects are created for its use. This means that financing cannot be considered properly outside the context of overall land transport policy. This policy currently consists of various statements in the National Land Transport Transition Bill, based on the Transport White Paper. They strongly favour the promotion of public transport. To date, however, no explicit strategies have been formulated to work towards this objective.

The adoption of a strategy consisting of the following elements was recommended:

- a judgement on the extent to which use of the urban road network should be expanded in future;
- the design of an acceptable public transport system as a complement to the urban road network;
- the introduction of physical and fiscal travel demand management (TDM) measures in cities, which is already Department of Transport policy;
- the implementation of components of intelligent transport systems (ITS) to optimise the carrying capacity of the urban road network and specifically the efficiency of public transport; and
- the establishment of a system of user charging of private vehicle use combined with government financial support of public transport that will restrict urban road traffic to the levels desired.

For South Africa, this may seem to be a far-reaching proposal. It does, however, do no more than short-cut and make explicit the planning positions towards which developed countries have groped their way over the past decade of academic, public and political debate. If it is accepted that a process along the general lines of the one described above will be inevitable sooner or later, and that delaying it holds only disadvantages, then a clearer indication emerges of what financing sources are most suitable for land transport. Clearly, they will be the

mechanisms that create incentives most in line with what is desired for the future urban transport system overall.

## **10. POSSIBLE SOURCES OF FINANCE FOR URBAN LAND TRANSPORT**

A significant finding of this study is that, because the South African government has made a commitment not to raise general tax levels in the country and because the reallocation of general national revenues in favour of the transport sector seems politically infeasible, taxation as a potential source of revenue should be ruled out.

There do, however, appear to be potentially important sources of funds in the private sector, if an innovative way can be found of mobilising them. This has been done successfully in other countries.

Funds can also be raised through cost recovery. Charging realistic levels of fares on public transport may run counter to the need to promote a mode switch away from private motor vehicles, but remains an option. Charging motorists for their use of congested road space is an attractive policy and is considered further in what follows as part of the more general approach of internalising the negative externalities caused by private motor vehicles. The latter policy has considerable merit and is strongly supported by economic principles.

At this point in the paper the discussion of finance sources for urban land transport becomes more specific.

### **10.1 South African Rail Commuter Corporation (SARCC)**

The SARCC may be funded from several different sources. These include the share capital of the corporation, money paid to the SARCC in terms of any concession agreement and money appropriated by parliament or from any national, provincial or transport authority fund. Funding shall also come from money received from the exploitation of corporation assets, loans, passenger fares and money received from any other source.

Currently these sources of funds are not adequate to achieve anything more than the maintenance of the deficit support for the existing commuter services and to provide for the bare essentials of infrastructure maintenance and the upgrading of some stations and rolling

stock. The capital required to upgrade stations, replace rolling stock and extend services is part of the urban transport financial need set out earlier. A critical need is the securing of stations both to combat crime and to eliminate fare evasion.

## **10.2 Other urban public transport**

The study took the view that, in the context of a broader cost-benefit analysis which takes social and environmental impacts into account, the benefits of cheap public transport preclude fare structures being set at levels that would make public transport profitable. Accordingly, public transport requires a source of either operating support or a significant short-term injection of finance, or both, to bring its service up to acceptable levels that will permit it to be seen as a genuine alternative to private motoring.

Around the world, an extraordinary array of revenue bases have been used to finance public transport, sometimes as dedicated sources. Some have nothing to do with transport: hotel taxes, tobacco taxes, alcohol taxes and regional general sales taxes; the proceeds of lotteries; municipal sales of gas, electricity and water. Others are argued to be linked to transport facilities: development or betterment gain; property taxes; business rates and taxes; payroll taxes; development rights above or below public transport infrastructure; contributions towards the cost of public transport from developers in return for relaxations in land use or density zonings. In many cases, the private motorist has been the source of funds through sales or excise taxes on motor vehicles; annual licence fees; fuel taxes; traffic fines; road, tunnel and bridge tolls parking charges. Central governments also contribute directly to public transport subsidies or provide concessionary loans.

Obviously, most of these funding sources are completely arbitrary, and their employment is purely ad hoc. They do not fit into any coherent, logical system of either economic or transport policy. Nor can they be justified by any cohesive line of reasoning. Therefore, although they clearly might also be used in South Africa, they do not merit further consideration until the more plausible sources of financing have been shown to be unusable in this country. There are two such sources in the list above: charges aimed at capturing increased property values resulting from the provision of public transport, and charges levied on the private motorist

- **Capturing increased property values**

The possibility of capturing increased property values was discussed in the study, but the



conclusion reached was that such capture does not seem to offer a general means of financing urban transport, although it may be feasible in some specific cases.

- **Charges on the private motorist : the externalities argument**

In urban areas, where private motor vehicles produce the major part of their negative externalities and where they also impede the improvement of public transport, the internalisation of externalities was seen above to be desirable. Given the large size of externalities, this would also provide a significant stream of revenue. *Thus it is proposed that charges on private motorists should be used as the primary financing source for urban land transport.*

If charges are accepted in principle, the next question becomes one of how to collect them from motorists and how to allocate the revenues that are raised. It is necessary to distinguish here between national, provincial and local authority positions.

From the national perspective, externalities are imposed on the entire national population, and there is thus justification for a user charge on all motorists.

The World Bank has presented persuasive arguments indicating that the fuel levy in South Africa is too low to cover both externalities and road use costs. In the light of this it is perhaps reasonable to suggest that the present levy serves more or less to internalise externalities in rural areas (World Bank, 1995).

As the externalities are suffered by society in general, there is no justification in earmarking the revenues raised by the fuel levy for use in public transport, even if the argument is accepted that the levy should be viewed as a user charge rather than a tax and so in principle could be considered for earmarking. There is also not a general, nationwide justification for public transport subsidies other than in those instances where this transport plays a strong social role and is not readily affordable. The international norm in this regard is that people should not have to spend more than ten per cent of their income on essential transport services. It has been calculated in the study that to match this benchmark in South Africa would require annual subsidies of approximately R4 500 million. Currently, the subsidies paid amount to around R3 000 million, leaving a shortfall of roughly R1 500 million. There is thus reason to reconsider at the political level whether a sufficient proportion of general tax revenues is being allocated to public transport. In

principle, however, the ways in which revenues are collected from private motorists and allotted to public transport at the national level appear to be correct, namely by way of a fuel levy and a budgetary allocation respectively.

Turning to the position of local authorities, if the fuel levy is at more or less the correct level to internalise externalities in rural areas, the internalisation of externalities is clearly incomplete in urban areas. In the study, it is estimated that externalities might amount to as much as R40 000 million per year. Limited funds precluded any accurate calculations being made in this regard. However, if it can be assumed that the R40 billion per annum referred to is overstated by 100 per cent at worst, externalities would still be some R20 000 million per year. Against this, only R11 600 million is budgeted to be internalised through the fuel levy in the 1998/99 financial year. Further charges in urban areas are thus justified. As these areas should also introduce TDM in terms of transport policy, it would be best to make fairly extensive use of direct charges such as area licences, parking fees and taxes on parking. Such charges can only be applied to quite limited geographic areas, however, so there is reason to consider an urban fuel charge to be added to the existing petrol levy.

As is the case at the national level, economic reasoning cannot justify earmarking charges levied on private motorists at local authority level for use on public transport. Given the financial pressures being experienced by local governments, there is an obvious possibility that any funds raised will be used for other purposes. It must be stressed, however, that unless adequate funding for public transport is provided, it will be inequitable and probably politically impossible to introduce these charges in the first place, because motorists will have no alternative but to pay them. Earmarking the charges would provide a useful means of ensuring that adequate funds are indeed provided, and is seen to be a key element in convincing the public of the need for and merits of the “quantum leap” that will be required to create a meaningful mode switch from private to public transport. Earmarking the charges is thus seen as essential if additional funds are to be raised for urban transport.

Levies of the type discussed above may be imposed by local authorities in terms of the Urban Transport Act of 1977.

Support for the views expressed here comes from the World Bank 1995:

*“(B)because urban congestion charges relate to the costs of the urban transport system, it would be appropriate for revenues from a congestion charge or tax to be assigned to an urban transport fund, to be spent on whatever urban expenditures (including public transport investment or revenue support) appear to be most cost-effective in improving the quality of the urban transport system.*

*Clear evidence that the proceeds of a congestion charge are being devoted to improving the situation might help to overcome the historic resistance to such new charges. Because gasoline consumption is related to the level of air pollution, fuel taxation may be viewed as a partial surrogate for efficient environmental charges; some part of the gasoline tax revenue might therefore be allocated to the general urban transport fund.”*

Finally, there is the situation of the provinces. If funds are raised at the level of local authorities, there appears to be no role for the provinces other than the essential one of integrating and co-ordinating local authorities’ efforts to implement TDM in their individual jurisdictions.

## 11. CONCLUSIONS AND RECOMMENDATIONS

The conclusions and recommendations of the study are as follows:

- As regards rural transport funding, it is concluded that the procedural status quo should be preserved although funding levels deserve to be increased.
- For urban transport, where numerous reasons have been given why public transport **must** be improved substantially, it is concluded that a strategy must include:
- a judgement on the extent to which use of the urban road network should be extended in future;
- the design of an acceptable public transport system;
- the introduction of physical TDM measures;

- the implementation of ITS; and
- the establishment of a system of user charging of private vehicle usage combined with government financial support of public transport.

The last of these elements, justified by the merits of urban public transport and the need to internalise externalities, constitutes the most appropriate available source of finance for urban land transport. Therefore *it is recommended that user charges on private motor vehicle use in urban areas be implemented as an earmarked fund for urban land transport*. These charges should consist of an urban petrol levy and TDM-related levies, and should be collected at local level. This recommendation is consistent with proposals in the White Paper on Local Government.

- Given the pivotal role played by internalisation of externalities and the estimation of funding needs in the financing structure that has been proposed, it is crucial for the quantification of externalities and funding needs to be undertaken in a scientifically justified way. Therefore *it is recommended that a study be initiated to quantify externalities and estimate urban land transport funding needs in a rigorous way in South Africa*. This need not delay the implementation of charging, however, as even the most conservative estimate of externalities seems sure to put them higher than the amounts that are currently being recovered from the users of private motor vehicles.
- Once a significant source of revenues for urban land transport has been created in the manner outlined above, *it is recommended that it be used to create a financial environment that will be conducive to the attraction of private sector investment*.
- In view of the poor performance of some public transport modes in recovering costs, *it is recommended that a study be undertaken to quantify the losses in revenue that result and devise methods to minimise them*.
- **It is recommended that attention be given to developing the complementary strategies to financing in urban areas, namely:**
  - **determining the optimum urban road network size;**
  - **planning an adequate public transport service;**

- **implementing travel demand management**
- **planning the use of intelligent transport systems;**
- **rationalising the charges on private motor vehicles;**
- **improving the use of existing funds; and**
- **planning the management of new funds.**

For the next five years, an estimated R15 500 million per annum is needed to finance urban land transport. Currently, R10 000 million of this amount is funded from various sources. *It is recommended that the amounts available from these sources be consolidated into National, Provincial and Transport Authority Land Transport Funds, and that a study be undertaken to determine how this could be done. It is recommended that user charges be employed to make up the short fall of R5 500 million per annum.* (If this full amount were to be raised by way of an urban fuel levy, the price of petrol would increase by some 40c/litre.)

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