A Review of Progress towards Agenda 21 Principles in the South African Urban Transport Sector

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ACRONYMS

EIA  Environmental Impact Assessment
NDoT  National Department of Transport
NEMA  National Environmental Management Act (No 107 of 1998)
NLTTA  National Land Transport Transition Act (No 22 of 2000)
SANRA  South African National Roads Agency
ABSTRACT

In the years since the 1992 United Nations Conference on Environment and Development (the ‘Rio’ conference), South Africa has undergone dramatic and far-reaching political and social change that has, of course, impacted on urban and transport systems. South Africa has shifted towards the development of an export-based economy and has re-orientated policy towards addressing basic needs. As a new member of the global community South Africa has also recognised its obligations to United Nations resolutions, including those encapsulated in Agenda 21.

This Background report, prepared as an input to the national government’s report to the upcoming World Summit on Sustainable Development (Johannesburg, 2002), focuses attention on the problems of the urban transport sector in South Africa; the policy and legislative developments since then 1994; the institutional arrangements now in place and provides a critical review of developments towards sustainability since Rio. It concludes with some recommendations for practical action.

Whilst there certainly have been laudable developments in the policy and legislative arrangements, progress on the ground has been slow. The arrangements of apartheid cities still largely exist, with low-income commuters forced to travel for longer and in poorer-quality transport than the high income. The transport sector continues to be a significant consumer of national resources and in some places subsidies to bus transport are equivalent to R3300 per annum per commuter. Transport externalities such as pollution and accidents place a social and economic burden on society.

There have been some moves towards increasing urban densities, as a means of reducing trip distances. Corridors have been promoted as one means of doing this, but there is insufficient regulatory or financial mechanisms to enable their uptake on a significant scale. Integrated planning is now entrenched in law through the Integrated Development Plan process, but there remain questions over the practical integration of land-use and transport professionals. Changes in metropolitan governance have conspired against meaningful change, with two major upheavals at a metropolitan level in less than 6 years.

Over-arching problems are lack of human capacity for implementing the new policy framework, and either inadequate or uncertain budgetary arrangements at all levels. Resolution of the financing problems though transport sector user-charges would be in line with national policy, and with international evidence, but there does not seem to be political will to implement. The capacity problem requires focused training interventions.

Environmental management is in its earliest stages of implementation within the sector and Environmental Impact Assessments, where they exist, are done on an ad-hoc project basis. Generally walk and cycle trips are neglected in the planning process, despite the fact that most South Africans do not possess private motor vehicles, and 13% have no affordable transport available to them.

In the taxi industry there have been concerted, and generally successful, efforts to halt violence between operators through the formalising of route permits and regulation to ensure safer vehicle operations. However, there is still much work to be done, especially if the taxi recapitalisation process is to succeed.
The report recommends the following actions to ensure sustainable development in the urban transport sector:

1. **Clarify and allocate long-term budget to local government for transport**: New legislation has highlighted a gap between responsibility (now resting largely at local level) and funding (which is not clearly demarcated in legislation). Without a reliable and long-term funding source the mandates in policy are not possible, transport road and public transport infrastructure will continue to deteriorate, and improvement of the transport system will not be possible. Metropolitan authorities and municipalities require consolidation in order that local funding issues can be resolved. Funding policy from national and provincial government to local authorities requires clarity, and a long-term budget allocation needs to be made.
   **Responsibility**: National, provincial and local government
   **Time frame**: Short-term

2. **Introduce user charges to reduce demand for private vehicle travel**: Indications are that private vehicular travel will continue to increase (and pollute) unless travel demand measures, such as congestion pricing, are applied. In general, externalities are not paid for by transport users in South Africa, resulting in economic inefficiencies and environmental degradation. The commitment of the government to reduce demand through user charges, and then to re-allocate the money raised to improve alternatives to private vehicle travel, needs clarification.
   **Responsibility**: National Department of Transport
   **Time frame**: Long-term

3. **Prioritise and undertake institutional restructuring in the public transport sector**: This is essential if sustainable transport is to be possible, as the competitiveness of public transport is compromised by the lack of institutional restructuring in rail, taxi and bus sectors.
   **Responsibility**: National Department of Transport
   **Time frame**: Short and medium-term

4. **Harmonise transport and housing subsidies for sustainable urban development**: Transport subsidies, housing subsidies, and some commercial developments are at odds with urban policy statements. These contradictions can be addressed by, for example, levies on developments which contravene policy and this requires urgent attention.
   **Responsibility**: National departments concerned with housing and transport
   **Time frame**: Short and medium-term

5. **Entrench the principles of Agenda 21 in transport planning through strategic environmental assessment rather than the project-based environmental impact assessments**: Project assessments that are in use at present do not allow for alternatives to be fully considered.
   **Responsibility**: National Department of Transport and National Department of Environmental Affairs and Tourism
   **Time frame**: Short-term

6. **Ensure a voice for customers of the transport system in local planning decisions**: In order that planning for transport is responsive to the customer there needs to be improved mechanisms for this through, for example, the support of grass-roots organizations and the more extensive use of user panels.
   **Responsibility**: Any implementers of transport programmes (but principally local departments of transport)
   **Time frame**: Short and medium term

7. **Support walking and cycling in planning and development of transport infrastructure**: Despite the high proportion of urban customers identified in the Moving South Africa (MSA) project who are either forced, or who choose to walk/ cycle, and despite the large pedestrian casualty rate, the profile of planning for vulnerable users remains very low. Supporting
walking and cycling will require improved training in planning and engineering, and investment in local area networks.

**Responsibility:** Departments of Transport at all levels  
**Time frame:** Short and medium term

8. **Research and enhance capacity building:** Capacity-building is required at many levels and in most areas of the sector, but especially where new developments have taken place in policy. For example the shift of taxis from the informal to the formal sector; the focus on providing basic access for all; and the focus on customers require new ways of working. The ability of existing education institutions to offer new forms of training is unclear, and this issue requires research plus carefully targeted international assistance.

**Responsibility:** National Department of Transport, National Department of Education and institutions of education  
**Time frame:** Short and medium term
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1. INTRODUCTION

1.1 Background

This Background Paper has been drafted at the request of the DEAT and provides transport sector specific discussion of relevance to the South African government review of progress towards the attainment of Agenda 21 principles, since the United Nations Conference on Environment and Development (the ‘Rio’ Conference) in 1992. This document will contribute to a national report being compiled in preparation for the World Summit on Sustainable Development to be held in Johannesburg in 2002.

Additionally, South Africa has committed to reviewing performance towards sustainable development as part of the development of a national strategy for sustainable development, which would build upon relevant existing legislation such as the National Environmental Management Act (2000). This background document contributes to that discussion.

1.2 Outline of report

This background report is divided into eight sections. The first two sections are introductory, outlining the overall transport sector and the urban transport problem with respect to sustainability. An historical review of the situation in 1994 is given in Part 3, whilst Part 4 considers developments in policy and legislation since then. Part 5 briefly describes institutional arrangements. The main body of the report is in Part 6, where developments since 1994 are critically reviewed in the context of progress towards Agenda 21 goals as elucidated in the national Environmental Management Act (2000). A summary, conclusions and recommendations follow in Parts 7 and 8.
2. INTRODUCTION TO THE TRANSPORT SECTOR

2.1 Transport and development

“Transport plays a significant role in the social and economic development of any country, and the Government has recognised transport as one of its five priority areas for socio-economic development.”

National Department of Transport White Paper on National Transport Policy, 1996

Since democratic elections in 1994 the South Africa has made significant political and social change. The economy has also undergone profound shifts, and all of this has impacted upon the transport sector. There has been a move from an inward looking economy with import substitution, to South Africa as part of a globalised economy. Accordingly, in the period 1994-1999 the volume of exported goods rose from 5% to 20%\(^1\). The government has called for the expansion of basic services to all citizens and this both includes, and requires, basic transport infrastructure. The apartheid system excluded many from the mainstream transport system, and also made little reference to environmental concerns. Hence, in terms of re-orientating the system towards sustainability, there is much work to be done.

The interurban transport system serves car-owners well, but if access to former homelands exists at all, it tends to focus on commuter routes. Within rural areas access routes are primarily focused on farming or commercial enterprise, and local rural accessibility is poor. Surveys of rural access indicate that over 90% of access routes are either inadequate or ‘basic’\(^2\). Hence nationally there are several major problems to be addressed, including poor capital investment in both road infrastructure and vehicles, and the problem of externality costs not carried by operators. Despite the national difficulties, and the importance of the rural sector, this report focuses on urban transport, which is particularly problematic from a sustainability perspective and which has been described by one commentator thus:

“Urban transport is a time bomb: if several issues are not treated now...it will be very difficult to recover control of the situation, which will in turn seriously impact growth and efficiency”.\(^3\)

2.2 Urban transport and sustainability

Transport has tended to take a minor place in the debate over urban sustainability, relegated below discussions over urban governance and housing policy.\(^4\) This situation is probably an unfair reflection of the importance of transport in cities, and rather an indication of lack of capacity of those in the transport sector to engage in policy debate. In reality the urban transport system can make, or break, a city. International comparisons between the liveable and widely copied Copenhagen which promotes walking, cycling and public transport, and penalizes motorists in congested areas, over the congested and heavily polluted Los Angeles offer a stark but telling lesson. If urban sustainability is the aim, then the transport system needs to be positively geared towards that goal. Failing to address this aspect will mean lack of progress in other areas.


\(^2\) Ibid


The focus of the remainder of this report is on transport, of all types, within human settlements, and the impact which it has. The transport sector has broad impacts in environmental, social and economic areas, but it also impacts on safety (through accidents) and on government expenditure (through subsidies). These are also presented, as a broad interpretation of ‘sustainability’, and in order to provide a full picture.

2.3 Overview of the transport problem

Transport is problematic from the sustainability perspective for several reasons. A frequently discussed issue is that of energy use and atmospheric pollution. Transport is estimated to use about one quarter of South Africa's energy each year, and to contribute significantly to local fossil fuel emissions and resultant pollution episodes. Certain areas have severe localized pollution episodes. In Cape Town, for instance, transport has been estimated to be the major source of brown haze, accounting for 65% of contributing pollutants. However, on an international scale, and in common with other developing countries, South African transport is a relatively minor contributor to greenhouse gases. The whole of Latin America, Africa and Asia are estimated to contribute less than one third of the carbon dioxide of the OECD nations, and less than a quarter of nitrous oxides, carbon monoxide and hydrocarbons. This is mainly due to the low levels of motorisation, with Africa containing approximately 2% of the world's motor vehicles. Pollution is, accordingly, not high on the local transport policy agenda. In future, however, the pollution profile may change. The age of the African motor fleet, and the relatively low penetration of emission-reducing technology may increase the contribution of pollution from developing nations. For now, however, pollution tends to be low on the political agenda.

The South African transport system has a high accident rate, typical of developing countries. Annually more than 9 000 people are killed on South African roads (equivalent to a fully fatal Boeing 747 crash every two weeks), and of those more than 4 000 are pedestrians. Children constitute about 20% of pedestrian casualties. Pedestrians can frequently be seen alongside or crossing high speed roads, and the existing design standards chose to ignore the reality of pedestrian trips. Pedestrians are vulnerable due to the inappropriate nature of road design in poorer areas, which promotes vehicular efficiency over the safety of non-motorised, who are seen as incidental to the design, despite their abundance.

In addition to the well-known pollution and safety impacts, there are other, less obvious, but arguably as important impacts. The transport structure of an urban area fundamentally impacts its spatial form, and so the efficiency and the quality of its living environment. At a macro scale an orientation towards private cars at the expense of walking and cycling will result in a sprawling urban conurbation, which is relatively less fuel efficient, and more polluting. A more compact urban form encourages shorter trips, is universally more accessible which in turn affects not only economic efficiencies but also increases social

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interaction. Transport routes, and associated infrastructure such as parking lots, in South Africa utilize between 20-25% of urban space\textsuperscript{10} and motor vehicles are particularly space inefficient, with a motor vehicle plus driver using 20m\textsuperscript{2} per person; compared with a bus one third full using less than 10m\textsuperscript{2} per person. By contrast, cyclists use only 3m\textsuperscript{2} per person, and pedestrians a mere 0.8m\textsuperscript{2} per person\textsuperscript{11}. In addition, transport routes are generally visually intrusive and can create barriers within urban space as impenetrable as a watercourse.

In South Africa the urban transport sector is a significant consumer of national funding resources. Subsidies to monopolistic transport operators have grown substantially over the past decade from R1.9 billion to R2.8 billion in 1997\textsuperscript{12}, and in some places subsidies are equivalent to R3 300 per annum per commuter for bus travel in Cape Town (or 22% of a once-off national housing subsidy of R15 000\textsuperscript{13}). The subsidy structure was required to prop apartheid spatial policy, but is now exacerbated by inefficiencies in the operations of the bus and rail. This situation prolongs the inefficient and distorted use of urban space in South Africa.

In addition to spatial problems, transport is unique in the urban infrastructure group by having an impact on the temporal ‘budget’ of urban inhabitants. Simply put, an effective transport system should reduce travelling time and provide travellers with additional time resources. It is a question of debate how this additional time would be spent, but in the South African context it is difficult to argue against the position that time spent travelling by the urban poor is enormously costly, both financially and in terms of loss of time in family life. (Research in the Pretoria area indicates that short (10-15 km) commuters have up to 3.5 hours more free time per day than long distance (60-130km) commuters\textsuperscript{14}.)

One recent survey indicated that low-income household members took on average less than 2 trips per day, compared with almost 3.5 trips per person per day in a high income household. In high income households 94% have access to a motor car; whilst in a low-income household 97% are without access. The poor spend more time travelling, with a typical commute to work taking more than three-quarters of an hour, as compared with less than half an hour for the high-income\textsuperscript{15}.

Transport noise is intrusive and in extreme cases can lead to stress, insomnia and hearing problems\textsuperscript{16}. Finally, the construction of transport infrastructure can be particularly detrimental. Site clearance can lead to soil erosion and the loss of natural habitats. Drainage patterns can be affected due to changes in level, patterns, pollution and sedimentation.

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\textsuperscript{10} Department of Development Aid and Council for Scientific and Industrial Research (1986) Guidelines for services and amenities in developing communities.


\textsuperscript{15} For a detailed study of travel behaviour in case study areas in Cape Town see Behrens, R. (2001) The diversity and complexity of travel needs in South Africa cities, with specific reference to Cape Town. Working Paper 2, Urban Transport Research Group, University of Cape Town.

Furthermore, the intensive, but temporary nature of infrastructure construction can lead to upheaval of indigenous populations, wildlife and flora\textsuperscript{17}.

The next section of this report charts the progress in the sector since 1994.

3. HISTORICAL BACKGROUND: THE 1994 INHERITANCE

The year 1992 marks the signing of the Rio Declaration and the promulgation of Agenda 21: a key watershed in environmental policy. For South Africa 1994 marks the watershed: the move to a democracy and representative governance. Accordingly, this review is one of pre- and post-democracy. The pre-1994 transport system catered for the urban market in a dualistic manner. Road capacity was provided, to international standards, for the car owning public, resulting in high levels of service. Public transport mainly served commuters, bringing workers from the peripheral townships to employment in the more central urban areas. Pre-democracy there was no comprehensive urban transport policy statement. In addition to the lack of policy direction there were also administrative problems, with overlapping administration boundaries and fragmentation of institutions. In the Cape Metropolitan area, for example, there were sixty-two councils.

Under the Urban Transport Act (1977), the National Department of Transport (NDoT) transferred funds on the basis of a formula relating to the population of the metropolitan transport area. These funds were expended according to priorities listed in the Interim Urban Transport Plan, mostly for road transport infrastructure. In some provinces, such as the Western Cape, the provincial administrations also transferred funds to metropolitan areas. Provincial government was responsible for funding provincial roads in urban areas (mostly high order roads) and for bus subsidies and taxi permits after 1997, while local government was expected to cover metropolitan transport issues such as the traffic impact of developments and local infrastructure improvements. As a result of this fragmentation of responsibility there was extremely poor co-ordination of operational and planning functions. There were service overlaps in some areas and non-existent services in others. Central government held control over rail subsidies through Treasury support of the annual operating deficit of Metrorail. Bus subsidies were controlled and administered by the NDoT until the function was assigned to the provinces in 1997/98. Generally the subsidy allocations were made without reference to the municipal administrations.

Pre-1994 there were transport inefficiencies in several areas. Buses were unresponsive to new markets, and slow to change existing routes, even when over-supply lead to poor utilization. There was little commitment at a local level to public transport improvement, with no segregated rights-of-way for public transport, poor or non-existent modal interchanges and poor rail infrastructure. The sprawling nature of South African cities, with the poorest located at the very fringe of urban areas meant that public transport services in apartheid South Africa were never financially viable, and subsidies to bus and rail were required to pay the price for the apartheid policy and its resultant city structure. The spatial orientation of this system, and the seeming inability of the public transport operators to adapt, resulted in an inefficient and highly costly public transport operation. The taxi industry, which developed in the 1980s as a response to poor service levels on bus and rail, has never received subsidy. Despite this, by the early 1990s the taxi industry had grown to take 50% of township commuter market, but taxi violence was a particular problem. Taxi operators were aggressively competitive over routes and shootings between taxi operators were frequent occurrences.

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19 One Regional Services Council, 19 ‘white’ municipalities, 29 ‘coloured’ management committees, 6 peri-urban local councils and 7 ‘black’ local authorities.
The World Bank Missions of the early 1990s identified a lack of pricing policy and hence a lack of pricing mechanisms to either promote public transport choice, or to reduce subsidy burden. The urban public passenger transport subsidy burden at that time amounted to 2% of government expenditure\textsuperscript{21}, and was non-developmental, simply a prop for the apartheid regime. Despite high allocations of money to the transport sector, investment in capital infrastructure was low, resulting in declining attractiveness of public transport to the 'choice' user, and a transfer from public transport to car use, for those who could afford it.

Finally there were widespread safety problems, with large numbers of pedestrian causalities, and significant involvement of combi-taxis in accidents, but there was a lack of traffic management skills to deal with these, or any other, issues.

The next two sections review the key developments in terms of policy and legislation in this field, since 1994. A short overview of institutional arrangements is given, as a prelude to a critical review of progress in the last decade.

\textsuperscript{21} Ibid, p6.
4. POLICY AND LEGISLATION DEVELOPMENT SINCE 1994

4.1 Overview

A brief summary of the key policy and legislative developments since 1994 are presented in this section, followed by an overview of key programmes in the sector.

The development of contemporary transport policy in South Africa began with the White Paper of 1996, which emphasized overcoming the negative transport effects of apartheid and the promotion of public transport over car travel in the urban passenger transport sector. Following the broad acceptance of the White Paper, the NDoT employed external consultants to assist in the development of strategic actions to extend the White Paper policy into a long-term strategic formula. This strategic document was called "Moving South Africa: The Action Agenda (MSA)

The White Paper's vision is to:

Provide safe, reliable, effective, efficient, and fully integrated transport operations and infrastructure which will best meet the needs of freight and passenger customers at improving levels of service and cost in a fashion which supports governments strategies for economic and social development whilst being environmentally and economically sustainable. (p.3)

and includes goals of:

- supporting the goals of the Reconstruction and Development Programme for meeting basic needs, growing the economy, developing human resources, and democratising decision making;
- to invest in infrastructure or transport systems in ways which satisfy social, economic, or strategic investment criteria; and
- to achieve the above objectives in a manner which is economically and environmentally sustainable, and minimizes negative side effects (pp.3-5).

The 'mission' of the NDoT is to provide leadership in:

The promotion of a safe, reliable, effective, efficient, co-ordinated, integrated, and environmentally friendly land passenger transport system in South African urban and rural areas, and the southern African region, managed in an accountable manner to ensure that people experience improving levels of mobility and accessibility. (p.19)

Strategic objectives to be addressed in pursuit of this ‘mission’ are given in Appendix A, and illustrate the broad support which the transport policy gave to Agenda 21 principles.

The outcomes of the White Paper and Moving South Africa effort may be considered to be:

- a new understanding regarding the complexity of urban travel, and the entry into the transport discourse of terms such as the ‘strider’, ‘stranded’ and ‘survival’.

Survey work done as part of the Moving South Africa project found that the lack of affordable access to the public transport system leaves 13% of urban customers ‘stranded’ (unable to afford any of the available public transport) and 19% in the ‘survival’ category (captive to the cheapest available mode of public transport). Strider customers prefer to walk and cycle and represent 25% of the urban population.
- proposals to establish an appropriate institutional framework for transport planning at the local and regional levels and to integrate it more effectively with spatial or land use planning;
- the promotion of spatial interventions of high density transport corridors;
- prioritisation of public transport provision ("Public Transport First")
- advocacy of ‘tough road space management’, that is the use of pricing mechanisms, public transport improvements and the reallocation of road space to more sustainable modes to reorientate urban transport away from private car travel.

The main piece of legislation relevant to urban transport is the recently approved National Land Transport Transition Act (2000) (NLTTA). The principles applying to “the determination, formulation, development and application of land transport policy” are set out in Part 2 of the Act, and reproduced in Appendix B. It can be seen that the legislation moves forward the Agenda 21 principles promulgated in policy, although closer examination indicates that there are some internal contradictions, and these are discussed later.

A large part of the Act deals with the establishment of a new regulatory framework for the operation of public transport services, which is intended to regulate competition between public transport operators. There are also provisions for the formation of municipal ‘transport authorities’ charged with administering the award of commercial and subsidized public transport service contracts – in addition to carrying out a range of statutory local transport planning functions. Regulation of the operations of the minibus taxi industry is specifically and explicitly covered in Parts 12 and 17 of the Act.

Finally, the legislation promises only to "give effect to the national policy regarding the first phases of the process" (NLTTA, 2000:2.1.b), and in so doing it misses a key opportunity to intervene in the transport situation and address some of the problems earlier identified. In practice the good intentions of policy are not being implemented at present. This issue will also be discussed in detail later in this report.

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23 For more on this, and other legislative and policy issues see Wilkinson, P and Behrens, R (2001) South Africa Urban Passenger Transport Policy and Planning Practice, with specific reference to Metropolitan Cape Town. Working Paper 4 of the Urban Transport Research Group, UCT (in preparation)
4.2 Strategies and programmes

Detailed strategies have been developed by National Government in the areas of safety ("Arrive Alive"); taxi recapitalisation and system upgrading (promulgated through the national Taxi Task Team – NTTT); and bicycle promotion (Shova Kalula). All programmes are benefiting from partnerships outside of government. Intelligent Transport Systems (ITS) related projects have also been launched, particularly in the public transport sector, for example vehicle identification and tracking, and automated ticketing demonstration projects.

Case Study: National Shova Kalula (Pedal Easy) Afribike Project

Shova Kalula is a project which aims to bring bicycles to every Province in South Africa through a partnership of local and international experience. Afribike, a non-profit organisation funded by international donors, obtains used bicycles which are then refurbished locally and sold to communities at an affordable price. The 'Afribike' shops are resource centres offering workshops, training and repair. A local entrepreneur operates the shop and receives business skills training and support from the project. There is a subsidy of R150-R300 per bicycle package, and a user cost of R50-R300. Low-income groups, women and scholars are targeted, and in some cases may 'pay' for their bicycle through 'sweat-equity' (helping at the shop).

Shova Kalula has the support of National and Provincial Departments of Transport and the National Roads Agency. The target is to have 10 000 bikes in communities and one container shop per Province. By 2004 the plan is to have rolled out 100 000 bikes and 80 shops.

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26 For up-to-date information see [www.afribike.org](http://www.afribike.org)
5. SUMMARY OF INSTITUTIONAL ARRANGEMENTS\(^{27}\)

Since the acceptance of the principles in Moving South Africa, the NDoT has undergone radical transformation, from an administrator of bureaucratic detail to take a strategic leadership role, policy-making and facilitating action. The NDoT is now relatively small, with functions such as national road construction and maintenance assigned to a roads agency, the South African National Roads Agency (SANRA). National roads are funded from fuel levies and from road tolls.

Provincial government has been assigned new and different functions. In the transport sector, the role has expanded from provincial roads and traffic control to include responsibility for subsidised bus service contracts and co-ordination of provincial and cross-border transport including transport law enforcement, mini-bus taxi registration and the administration of public transport permits (licenses). At a municipal level, city administration restructuring has lead to a streamlining of institutions, and most cities now have a central metropolitan administration, although their transport roles, responsibilities and funding sources are still under review. As a result of lack of finality in the re-structuring process, accountability for urban transport is still not the domain of elected metropolitan and municipal councils.

The rail operator, which provides both inter-urban and suburban services, receives its mandate from the South African Rail Commuter Corporation (SARCC) which, in theory, is responsible for suburban service planning guided by the Integrated Transport Plan (the responsibility of Metropolitan or municipal transport/planning authorities). However, without funding and with an ambiguous mandate, due to lack of approved local plans, municipal administration of urban transport remains problematic. Decisions about rail services (frequencies, stops and supply) are still taken by the operator, Metrorail. SARCC and the existing local government structures remain relatively ineffectual.

Institutionally the bus industry takes different forms across the country. In places the local buses are owned by municipalities, elsewhere they are private companies. To date policy reform has not affected their day-to-day activity and they have not undergone serious institutional change.

The mini-taxi fleet is privately operated, partially regulated, and largely outside of the tax net. Taxi Associations have historically been strong, and liaison in terms of upgrading taxi terminals has been most often directed through them. The Non Governmental Sector representing the travelling public (South African Commuter Organization – SACO) is for the most part ineffectual. Some attempts have been made to develop user panels to represent users, but a strong NGO to represent travellers interests is not part of the institutional structure.

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6.1 A period of policy formulation and legislation

It should not be surprising that this 10 year period has been one of policy re-formulation and the movement of this policy into legislation, at the expense of significant implementation. The advantage is that the new policies have been cognizant of the sustainability debates, and so these concepts have been built into policy statements, but they remain to be operationalised in any meaningful way. The new policies have also benefited from international debates regarding the shift away from “predict –and-provide”, where the rise in private car traffic was seen as inexorable and necessary to be catered for. At a rhetorical level, South African transport policy is firmly focused on South African issues, whilst recognizing international developments away from continued infrastructure provision and towards market pricing and travel demand management (coined “New Realism” in the UK\textsuperscript{28}). Closer examination of the policy, legislation and practice, however, reveal some internal contradictions which question the underlying commitment to sustainability and the New Realism. These are discussed at the end of this section, which charts progress since 1994.

6.2 Spatial inefficiencies continue

Despite falling patronage on both bus and rail, subsidies have continued to rise, and have in turn reinforced the land-use pattern which apartheid spawned. South African settlements have persisted to sprawl, and the contemporary housing policy of one-plot-one-house has reinforced the lack of affordability, and the public transport inefficiencies. The continued applications of subsidies to transport users reinforces apartheid land utilization patterns, by keeping the direct cost of living on the city periphery artificially low. If this is accepted then the corollary must also be true, that the removal of transport subsidies and an increase in transport costs would eventually change the life choice decisions of individuals and there would be a tendency to relocate homes closer to work locations. In practice, and at its most radical, this could mean land invasions in central city areas, which is clearly a politically sensitive matter. The policy and legislation steers clear of a commitment to reduce the subsidy burden on the state, but until the subsidy question is addressed then significant additional funding for transport investment seems unlikely and a meaningful move away from apartheid land-use patterns improbable\textsuperscript{29}.

6.3 Densification and corridors for sustainability

From a sustainability perspective public transport is better than private car, but replacing public transport trips by walking or cycling, or removing the need to travel altogether is the most sustainable option. To do this requires action from outside the transport sector and in the longer term the only way to significantly reduce subsidies without imposing substantial financial burdens on the poor is through urban restructuring: the densification of cities and halting the dispersal of economic activity, when doing so would cause increased trip distances. Moving South Africa calls for this to be done through ‘corridor development’, but the practical mechanisms for achieving this is not prescribed, and although the legislation


Progress towards Agenda 21 Principles in the South African Urban Transport Sector

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mentions corridor development and densification as principles, it fails to make practical commitment on any significant scale. Certainly, corridors have some theoretical advantages, but even MSA admits that their attainment will have to overcome significant obstacles, such as the need to re-orientate housing policy towards higher density units and the need to charge developers the true costs of utilities and transportation. Also, the planning professions have been traditionally weak in proactively encouraging commercial development to take place at planned locations. They have lacked the regulatory clout or financial resources to drive through plans. Commercial developers have tended to be market-driven, and so a lead unlikely to come from them. A corridor development lead by significant investment in transport infrastructure would require funding which is unlikely to be made available in the short-term, given funding constraints. The most likely scenario then, is for creeping densification as a result of the consistent application of planning regulations regarding retention of the urban edge and the agreement to plans which increase bulk. This will, in the long term, lead to a denser urban form, but unless accompanied by dramatic shifts in transport subsidy policy, or in the direct funding of corridor projects, the envisaged social integration and transport efficiencies (hence pollution reduction and sustainability improvements) suggested by the proponents of transport corridors will not materialize.

6.4 Integrated planning

To address the above questions requires some level of integration of planning and transport functions but in the past this has been problematic due the sharp divisions both institutionally and professionally between the land-use and transport professionals. There are clear signals in the policy and legislative frameworks that call for an end to these divisions. The Integrated Development Plan process, combined with the Environmental Implementation Plan process all require a broad interpretation of urban development, and a fresh look at transport planning. There remain, however, questions about how the relationship between the Integrated Transport Plan called for by NLTTA, and Integrated Development Plans will co-exist.

6.5 Changes in metropolitan governance

In the last 6 years there have been two restructurings of local government, and reorganizations which have progressively attempted to pass responsibility for transport to the lowest possible government level. The numerous local councils in metropolitan areas have been replaced by ‘Unicities’ or single tiers of government, and many urban transport responsibilities have been earmarked for assignment to this tier. This has resulted in a shedding of staff at the national level, but as yet there has not been the concordant reallocation of funds. The legislation allows for new Transport Authorities to be set up, which should certainly assist in the integration of transport modes. Whilst these are welcomed by most in the transport sector, they are viewed with some trepidation by land use professionals, who fear that transport will be given too much autonomy in the urban development process, and that Transport Authorities will be insufficiently guided by strategic level planning consideration. Regardless of the rumblings against the new developments, the present situation of a policy environment supportive of integrated planning and cognizant of environmental factors, within authorities which are still under development, but which are planned to be co-ordinated, is certainly an improvement over the pre-1994 policy environment. However, operationalisation of policy has not taken place, and is now required.

30 There have, however, been demonstration projects funded by national government, such as the Wetton-Lansdowne Corridor Development project in Cape Town, and Warwick Street, Durban (NDoT (1998) Report on a Study Tour of Spatial Development Initiatives, TRC Africa).
6.6 Capacity building

A new policy environment is in place, the legislative environment is developing and the current challenge is implementation, which will rely to an extent on the ability of professionals and the public to respond. The transport planning sector derives most of its professional expertise from the civil engineering discipline, and as such the sector is strong on quantitative interpretation, but weak on critical policy analysis. For professionals schooled in an era where the importance of motor vehicles dominance was a precondition, the shift to designing for non-motorized users, within dramatically different institutions requires a fundamental paradigm change and this will require capacity building and reskilling. The need for capacity building for sustainable management generally has already been recognized\(^{31}\), but there are also needs for training in new technical, operation, design and systems management areas. There has been some progress in this area, with new qualifications developed, and transport training initiatives such as the Transport Education and Training Authority, but this is mainly at the elementary, craft and clerical level\(^{32}\) and more is needed at the professional, managerial and decision-making level. This will require local research and carefully selected international assistance.

6.7 Sustainable funding

The National Department of Transport White Paper (1996) states that:

"The key funding issue is identified as the need to establish a system to fund improvements in public passenger transport which are as far as possible self-sustaining and replicable: “[t]o encourage this, the users of urban transport facilities should pay for all or most of the costs incurred within the limits of affordability. Where subsidies are required for welfare considerations or to promote public transport they will be applied through mechanisms which provide incentives for efficiency” (p.25).

However, although the need for a reliable funding mechanism which will ensure sufficient stability to enable long-term planning to take place is discussed in the Moving South Africa strategic framework, it is not addressed in detail, and funding/subsidies remain problematic topics. It is reasonable to expect that the transport sector should compete for scarce resources with other development areas, but there is also an economic and environmental imperative for ensuring that transportation taxation and transportation investment is linked. (See Appendix C). The South African transport sector, in common with most transport sectors globally, does not charge users adequately for externalities of congestion costs or environmental costs, such as pollution, which are estimated to amount to R40 billion per annum\(^{33}\). Until this is tackled there will not be substantial improvements in transport congestion and associated social and environmental impacts.

There are strong arguments for the application of the ‘polluter’ or ‘user pays’ principle to the transport sector, and the national transport policy supports this, but the principal has not been moved forward into supportive legislation, and, in common with international experience, there seems to be a lack of political will to implement. A fuel levy has been promulgated as reasonable proxy for a true ‘congestion’ charge and although it is imperfect (as it also prices those on long, uncongested journeys) in the absence of sophisticated monitoring techniques,

\(^{31}\) Commission on Sustainable Development, 1998
which are unattainable in developing countries, it seems reasonable. In practice, South African fuel tax is largely absorbed into the general state revenue. The taxi industry undoubtedly has influenced the lack of progress in the area. The petrol-driven taxi fleet would also have to pay the cost of petrol fuel levies, and this may be unacceptable to them. With taxi recapitalisation, there will be a shift from a taxi fleet dependent on petrol to diesel-dependence, and with this shift will be the eradication of one political reason not to implement user charges on the private motorist. However, user charges will remain politically difficult, as they penalize the mobile, affluent and influential in society, which includes the very politicians required to motivate for change. Politically, it is apparent that the only way to promote user charging, is to use the monies raised to reinvest in the transport system (primarily public transport) thereby improving the system overall. From an environmental perspective this needs to be carefully applied, to ensure that it does not encourage additional motorised journeys, and rather improves existing accessibility.

6.8 Environmental Management and Environmental Impact Assessments

Environmental management is in its earliest stages of implementation within the transport sector. A draft national plan has been written, but generally little has been done by the transportation authorities to formalize environmental management systems. Environmental Impact Assessments are undertaken on a project-by-project basis, but lack guidance from detailed local implementation plans. The case of toll roads in Pretoria illustrates this.

Case Study: Environmental Impact Appraisal for new Toll Road in Pretoria

Most national freeways are in or adjacent to urban areas and form a significant and vital component of urban mobility in Johannesburg, Pretoria, the East Rand, Cape Town, Durban and Port Elizabeth. In Pretoria, there are plans to upgrade and extend the national road network with finance for the extensions being obtained from user tolls. In the case of the N1 Toll, the nearest alternative route for commuters is 10 kilometres distant from the toll road. This will be the first introduction of urban toll roads in South Africa. The decision to introduce these urban tolls was made without consultation with communities to be affected by the tolls and in isolation from the metropolitan transport planning being undertaken by the metropolitan council. Although SANRA commissioned an Environmental Impact Assessment (EIA), the results were only discussed with the community after the decision to proceed with the scheme had been taken. The consultant was commissioned by SANRA which, therefore, acted as client, judge and jury. The EIA addressed issues relating to the physical environment but failed to take account of the social and economic impact of the toll roads on the city, particularly the commuting public which will be affected by the tolls. This example serves to illustrate that although EIAs are being done, the principles of Agenda 21 are not always being served through them perhaps, again, due to lack of grass-roots lobbying and insufficient human capacity in this area.

Finally, EIAs of road projects lack strategic vision, and fail because they only consider which is the best highway route. The question of whether road building per se is the best transportation option is not addressed, and hence the possibility that public transport and/or land-use investment could be better environmental responses, is not addressed. In order to overcome this problem project-based environmental impact assessments need to be replaced by strategic environmental assessments, which enable the consideration of a full range of possibilities.

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6.9 The neglected walk and cycle trips

The issue of the environmental pollution of transport has not been a primary driving force for change, rather, the inefficiency of the system; the financial burden of subsidies and the poor safety record have dominated debate within the sector. This bias is an unfair reflection of the problems within the sector, and rather reflects historical concerns. Most South Africans do not enjoy the advantage of a personal vehicle and 25% of urban customers chose to walk or cycle, whilst 13% have no affordable transport available to them. Whilst high public transport usage may be applauded by environmentalists, the reality for those customers who can afford it is overcrowding in the peaks, and services managed by inefficient bureaucracies which have not changed with changed demands and which result in poor service levels. The walking trip is practically ignored in planning processes and even in the latest legislation, and yet for women and children this may often be their only means of transportation. Walking, the most sustainable and equitable form of transportation has been, and remains, effectively discouraged by existing planning systems.

6.10 Progressive policy and developments in the mini-bus taxi industry

Government has made some moves to unpicking the difficult problem of public transport inefficiencies by implementing legislation which should eventually remove the monopolistic position of some bus operators, improve the levels of service in the sector, and (arguably) reduce pollution. This will be done by firstly upgrading the taxi fleet to move away from petrol driven 15 seater vehicles to new, 18 and 35-seater diesel-operated vehicles. At the same time capacity is being developed in that sector to enable operators (in associations) to bid for contracts previously held by bus companies. The route network is being re-evaluated to reflect new demand patterns and a system of ‘regulated competition’ will be instigated in that sector. South African policy seems to have benefited from experience overseas on the balancing act required between privatisation and regulation of public transport enterprises in order to effect cost efficiencies, without sacrificing the social benefits that a good public transport system can bring. However, the question of subsidy and funding is not tackled adequately in the latest legislation, and progress in implementing these policies is painfully slow, with recapitalisation already 18 months behind schedule.

Taxi violence due to competition over routes is less prolific with more stringent route permits, and stricter policing of vehicle standards, but the industry is still some way from being able to tender for bus contracts in the way envisaged in the legislation. The implementation of regulated competition has been delayed due to the lack of approved, statutory Public Transport Plans. It has been tentatively suggested that the requirements may be too onerous for most mini-bus taxi owner-operators. Public transport is now at the forefront of minds, but the capacity to develop programmes and projects in this sector is sorely lacking. Capacity building is required in this, as in other, areas.

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35 Survey work done as part of the Moving South Africa project found that the lack of affordable access to the public transport system leaves 13% of urban customers 'stranded' (unable to afford any of the available public transport) and 19% in the 'survival' category (captive to the cheapest available mode of public transport). Strider customers prefer to walk and cycle and represent 25% of the urban population.
7. SUMMARY AND CONCLUSIONS

The overall summary regarding the progress of urban transport in the attainment of Agenda 21 principles must surely be that there has been progress in the area of transport policy and, to an extent, legislation. This must be applauded given the highly politicised nature of the industry, especially with respect to taxis; the shifts internationally in the consensus regarding urban transport over the last decade; and the overhauling of all levels of South Africa governance. However, the development of policy must be judged as slow, and this has impacted on implementation, which is only beginning to take place. Hence there has been little significant change in the experience of urban transport for the majority of South Africans, since 1992. The next section takes the NEMA principles in turn, and summarizes key developments in those areas.

Integration of social/ environmental/ economic issues

The development of Environmental Management Planning to facilitate integration of social/economic and environmental matters is in its earliest stages, and although some Environmental Impact Assessments are taking place there are indications that they may be mis-managed and hence not achieving their intended aims.

Governance for Sustainable Development

This has developed to an extent. The MSA framework puts customers firmly at the centre of transport strategy, and did so through an open process of stakeholder involvement and so can claim to be ‘people-cantered’. However, there are contradictions between, on the one hand, the apparent importance of non-motorised customers identified in MSA, and other studies, and the lack of attention paid to them in legislation and implementation of projects. Implementation is problematic and is the result of two major failings in the governance system to date:

- Insufficient education and training (capacity building); and
- Unfunded mandates, clouding the assignment of responsibility and accountability for policy.

These are exacerbated by delays in the development of legislation, and institutions which have been operating without clear direction for several years. Credit should be given to the efforts of the National Taxi Task Team in attempting to resolve differences and promote harmonious development in that industry.

Integrated environmental management

Environmental assessment is not yet institutionalised, and where they occur, EIAs of road projects can lack strategic vision, and do not consider options outside the tight project definition.

Environmental justice and equity

Clearly an emphasis on motorization, to the detriment of measures which would support pedestrian movement (such as city densification) are inequitable and not responsible use of resources. Whilst there has been a shift in policy emphasis away from cars towards public

transport, the next step, to more walk/ cycle trips has not been made, and even the public transport policy is far from implementation. The lack of re-structuring of commuter rail; poor progress in the development of Transport Authorities; and lack of funding are some of the reasons.

Ecological and cultural integrity

This is a matter which requires ongoing monitoring at the construction phase..

Integrated waste management and pollution control

At present South African motorists are not responsible for most of the externalities they produce, and this both an environmental burden and an economic inefficiency. Until the pricing of road users is realized then vehicular traffic will continue to be an important source of pollution.

Participation and empowerment

Capacity building in the sector has been hampered by the flux of institutional change and the demands of a radical policy shift. This is an area of key importance. NGOs representing any groups are largely absent and this is another constraint on change in the sector. The needs of women and youth are not directly addressed in legislation, although their needs are raised in policy and principle. Effective decision-making at a municipal and metropolitan level is not taking place as yet, due to institutional restructuring, and for some rail and bus operators it is essentially 'business-as-usual', despite the progressive policy statements.
8. RECOMMENDATIONS

As a result of the above discussion, the following are recommendations for ensuring progress in sustainable development in the urban transport sector:

1. **Clarify and allocate long-term budget to local government for transport:** New legislation has highlighted a gap between responsibility (now resting largely at local level) and funding (which is not clearly demarcated in legislation). Without a reliable and long-term funding source the mandates in policy are not possible, transport road and public transport infrastructure will continue to deteriorate, and improvement of the transport system will not be possible. Metropolitan authorities and municipalities require consolidation in order that local funding issues can be resolved. Funding policy from national and provincial government to local authorities requires clarity, and a long-term budget allocation needs to be made.  
   **Responsibility:** National, provincial and local government  
   **Time frame:** Short-term

2. **Introduce user charges to reduce demand for private vehicle travel:** Indications are that private vehicular travel will continue to increase (and pollute) unless travel demand measures, such as congestion pricing, are applied. In general, externalities are not paid for by transport users in South Africa, resulting in economic inefficiencies and environmental degradation. The commitment of the government to reduce demand through user charges, and then to re-allocate the money raised to improve alternatives to private vehicle travel, needs clarification.  
   **Responsibility:** National Department of Transport  
   **Time frame:** Long-term

3. **Prioritise and undertake institutional restructuring in the public transport sector:** This is essential if sustainable transport is to be possible, as the competitiveness of public transport is compromised by the lack of institutional restructuring in rail, taxi and bus sectors.  
   **Responsibility:** National Department of Transport  
   **Time frame:** Short and medium-term

4. **Harmonise transport and housing subsidies for sustainable urban development:** Transport subsidies, housing subsidies, and some commercial developments are at odds with urban policy statements. These contradictions can be addressed by, for example, levies on developments which contravene policy and this requires urgent attention.  
   **Responsibility:** National departments concerned with housing and transport  
   **Time frame:** Short and medium-term

5. **Entrench the principles of Agenda 21 in transport planning through strategic environmental assessment rather than the project-based environmental impact assessments:** Project assessments that are in use at present do not allow for alternatives to be fully considered.  
   **Responsibility:** National Department of Transport and National Department of Environmental Affairs and Tourism  
   **Time frame:** Short-term

6. **Ensure a voice for customers of the transport system in local planning decisions:** In order that planning for transport is responsive to the customer there needs to be improved mechanisms for this through, for example, the support of grass-roots organizations and the more extensive use of user panels.  
   **Responsibility:** Any implementers of transport programmes (but principally local departments of transport)  
   **Time frame:** Short and medium term

7. **Support walking and cycling in planning and development of transport infrastructure:** Despite the high proportion of urban customers identified in the Moving South Africa (MSA)
project who are either forced, or who choose to walk/cycle, and despite the large pedestrian casualty rate, the profile of planning for vulnerable users remains very low. Supporting walking and cycling will require improved training in planning and engineering, and investment in local area networks.

**Responsibility:** Departments of Transport at all levels  
**Time frame:** Short and medium term

8. **Research and enhance capacity building:** Capacity-building is required at many levels and in most areas of the sector, but especially where new developments have taken place in policy. For example the shift of taxis from the informal to the formal sector; the focus on providing basic access for all; and the focus on customers require new ways of working. The ability of existing education institutions to offer new forms of training is unclear, and this issue requires research plus carefully targeted international assistance.

**Responsibility:** National Department of Transport, National Department of Education and institutions of education  
**Time frame:** Short and medium term
Appendix A: Goals of the National Department of Transport White Paper (1996)

The goals of the National Department of Transport’s White paper are:

- to ensure sustainable and dedicated funding for passenger transport infrastructure, operations, and law enforcement;
- to encourage more efficient urban land use structures, correcting spatial imbalances and reducing travel distances and times for commuting to a limit of about 40 km or one hour in each direction;
- to promote the use of public transport over private car travel, with the goal of achieving a ratio of 80:20 between public transport and private car usage;
- to ensure that passenger transport services address user needs, including those of commuters, pensioners, the aged, scholars, the disabled, tourists, and long distance passengers;
- to improve accessibility and mobility, limiting walking distances to less than about one kilometre in urban areas;
- to ensure that public transport is affordable, with commuters spending less than about 10 percent of disposable income on transport;
- to provide appropriate institutional structures, which facilitate the effective and efficient planning, implementation, funding, regulation and law enforcement of the passenger transport system, devolved to the lowest competent level;
- to encourage, promote and plan for the use of non-motorized transport where appropriate;
- to provide for the registration of all public transport operators as formalized commercial entities, bound by the regulations pertaining to their permission to operate;
- to promote and implement a system of regulated competition for public transport routes or networks based on permissions or tendered contracts (pp.19-20).
Appendix B: Principles of the National Land Transport Transition Act 2000

The principles of the National Land Transport Transition Act:

- Public transport services are aimed at providing affordable transport to the public and are so designed as to achieve:
  - integration of modes;
  - cost-efficiency and service quality;
  - the optimal allocation and utilization of available resources;
  - market development;
  - value to the customer; and
  - the least harmful impact on the environment;

- or have the effect:
  - that appropriate modes should be selected and planned for on the basis of where they have the highest impact on reducing the total systems cost of travel, and this decision should be informed by an appropriate assessment of the impact on the customer and anticipated customer reaction to such change;
  - that customer needs must be met by facilitating customer reaction to system changes in the planning process and by maximizing the integration of such services;
  - where possible subsidies are aimed to assist currently marginalized users and those who have poor access to social and economic activity.

- All role-players must strive to achieve an effective land transport system through integrated planning, provision and regulation of infrastructure and services and diligent and effective law enforcement;

- Public transport services, facilities and infrastructure must be so provided and developed as to integrate the different modes of land transport;

- Safety and effective law enforcement must be promoted as vital factors in land transport management and regulatory systems, and the efforts in this regard of all competent authorities and functionaries must be co-ordinated to prevent duplication;

- For the purposes of land transport planning and the provision of land transport infrastructure and facilities, public transport must be given higher priority than private transport;

- Scarce resources available for the provision of land transport must be used optimally;

- Investment in infrastructure and operations must promote economic, financial, technical and environmental sustainability;

- Effectiveness and efficiency must be promoted in the provision and operation of land transport services and administering land transport matters;

- Co-ordination of institutional functions in land transport must be promoted;

- Land transport functions must be integrated with related functions such as land use and economic planning and development through, among others, development of corridors, and densification and infilling, and transport planning must guide land use and development planning;

- The needs of special categories of passengers must be considered in planning and providing public transport infrastructure, facilities and services, and these needs should be met as far as may be possible by the system provided for mainstream public transport;

- The participation of all interested and affected parties, including vulnerable and disadvantaged persons, in transport planning must be promoted, taking into account that people must have the opportunity to develop the understanding, skills and capacity necessary to achieve equitable and effective participation;

- The computerized land transport information systems of the national government, provinces, municipalities and transport authorities must be compatible with one another.
and must be so designed as to allow mutual access as well as access by the systems of the provinces’ boards and the systems of planning authorities;

- all spheres of government must promote public transport and the flow of interprovincial transport and cross-border road transport;
- the principle of user charging or cost recovery from direct users must be applied wherever appropriate and possible, in that such users should pay for all or most of the costs related to the service or activity in question (s.4(1))
Appendix C: The Economic Case for User Charges in Congested Areas

Perhaps it is the universal experience of transport congestion and delays, which allow us to unquestioningly accept transport inefficiencies, and yet in economic terms it is a problem, which can be addressed to an extent. So doing would improve the efficiency of the urban sector, and reduce urban pollution. Economically speaking, demand will exist where benefit exceeds cost. On a transport journey demand for travel exists because of a desire to, for example, socialize or work. The benefits may be material (such as a wage) or social (such as attendance at an event). The costs comprise cost to self and cost to others. The costs to self are material: petrol, oil, car wear-and-tear and ‘virtual’, that is, time. The costs to others are time, accident and environmental costs. The time costs are the most poorly understood and yet hold the key to dramatically alleviating road congestion, and hence improving the environment. Simply put, in congested situations, every additional driver increases congestion marginally for all other users of the system. Whilst at an individual level this increase is small, the total system cost which can be attributed to one additional driver is substantial.\(^{40}\) If additional users had to pay the total marginal cost of their travel, there would be a dramatic reduction in road congestion, and attendant improvement in service levels for all. In addition, road users impose accident and environmental (principally pollution but also noise and other) costs on the city. It may be argued that these are accounted for to an extent by taxes, but there is certainly no direct link at present which allows market pricing to take effect, and for road traffic to be ultimately discouraged through excessive pollution or accidents. In summary, the South African transport sector, in common with most transport sectors globally, does not charge users adequately for externalities of congestion costs or environmental costs, such as pollution. Until this issue is tackled there will not be substantial improvements in transport congestion and environmental impact.