

Department of Transport and Public Works



Provincial Government Western Cape

**Non-motorised Transport in the Western Cape
Draft Strategy**

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Direct

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Draft

1 Introduction

1.1 A Brief Note on Transport Planning

Before introducing non-motorised transport, the subject of this document, it is worth briefly considering the planning context. There are a number of important concepts that have been much discussed, and worth reiterating as key objectives to guide transport planning.

Integration

Integration in the transportation context can refer to the coordination of processes for planning, design, funding or implementation of projects. It can also refer to the physical proximity and coordination of transport services. And finally it can refer to the integration of transport infrastructure and services with the communities served. There are other interpretations, but these three are the ones most often discussed in the context of transport planning.

Sustainability

Aside from the standard dictionary meaning of the word, there are numerous interpretations of the derivative terms “sustainable development”, “sustainable transportation”, “sustainable human settlements”, and so on. Some definitions are provided in the appendix, but regardless of the precise wording it is important to bear in mind that the objective is to improve the **performance** of the services and infrastructure that are implemented, in terms of their impact on the environment, the economy, social wellbeing and resource consumption.

Transformation

Another consideration is the reality that in South Africa generally, planners are attempting to redress a situation of inequity in urban development and transport provision. Historically disadvantaged groups are in need of a transport system that is significantly different from the one that exists today, and achieving the needed transformation requires innovation not only in transport planning but also in the way that the built environment is structured to improve sustainability performance (in the broadest sense of the term).

A successful strategy for NMT will need to take this context into consideration.

1.2 Background to NMT

1.2.1 What is meant by NMT

Non-motorised transport (NMT) includes all forms of transport that are human- or animal-powered. Examples of NMT for personal mobility include walking, cycling, per-ambulating, rollerblading, skateboarding, bicycle taxiing rickshaw riding and horse riding. There are also NMT modes for transport of goods, including wheel barrows and carts drawn by donkeys, horses or humans. Importantly, NMT modes include wheelchairs, and hence must be a consideration when planning and designing transport related facilities for special needs persons.

Planning for NMT includes considerably more than the provision of infrastructure to accommodate this variety of travel modes. There is also a range of services needed for communities and individuals to be able to take advantage of the potential benefits. It is essential to respond to the obstacles and opportunities present in different circumstances. Both the travelling community and the relevant government institutions and other stakeholders need to be empowered through a clear strategy and commitment to establishing an appropriate balance in the attention paid to infrastructure and services.

1.2.2 Why NMT is important

Walking is a travel mode used by many as a primary way of getting around, and by virtually all people as part of trips made by car or public transport. Cycling is less prevalent, but has potential to serve a large number of trips if conditions allow. A number of other NMT modes

are used in small numbers for personal mobility, recreation and goods transport, and also need to be considered in transport planning.

In general, conditions for NMT have deteriorated due to increased motor traffic, perceptions of increased crime and assault, and a reduction in environmental quality. These conditions have been exacerbated by planning processes that do not adequately address the integral role of NMT in movement patterns. Small-wheeled mobility devices and other innovative modes are largely ignored in planning and regulation, and in many cases are relegated to parks and other isolated locations.

In recent years, increasing emphasis has been placed on the need to improve mobility by non-motorised transport. Recognition of the role of NMT in the transportation system is reflected in various policy documents at all levels of government, and in the development of NMT master plans by some municipalities. However there remains inadequate implementation of NMT initiatives.

An NMT strategy should set out how transport and land use planning authorities can encourage and facilitate the use of these modes safely and inclusively. The inclusion of an NMT strategy for District Municipalities and Local Municipalities in the Western Cape is a requirement for preparing their master plans. What is lacking is detailed national or provincial guidance to show how policy can be interpreted to get the most benefit from NMT in terms of community empowerment, poverty alleviation and social upliftment.

The NMT Policy and Strategy¹ report prepared for the City of Cape Town in October 2005 and the NMT Master Plan for Eden District Municipality² of July 2007 both provide extensive documentation of policy directives that suggest the need for NMT and interpret policy in the form of strategy. While these are municipal, rather than provincial, documents, they encapsulate the most up-to-date thinking in the Western Cape, and also draw from national policy. These policy summaries will not be repeated in this strategy.

A table has been prepared (see Appendix A) that outlines the key benefits from developing and implementing an NMT strategy, and what is needed to achieve these benefits. The table illustrates that benefits cut across a number of policy sectors, but they do not accrue automatically by building infrastructure. There needs to be an integrated approach to ensure that mobility is actually improved.

Mobility generally needs to be addressed at four levels:

- Regional (inter-urban and rural-urban movement) – the role of NMT at this level is primarily in support of public transport.
- Sub-metropolitan (intra-urban) – at the level of travel across metropolitan areas, many trips are too long for NMT as the primary mode, and there should be a significant mix of walking, cycling and public transport used in combination.
- Rural (intra-rural) – here, the mix is quite varied and depends significantly on the local context, such as settlement patterns and the nature of the local economy, but NMT is critical and often supplemented with public transport and sometimes ad-hoc farm transport.
- Neighbourhood – local trips within a neighbourhood not only are shorter than others, but are made for different purposes and focus largely on trips to schools, neighbours, libraries, clinics, shops, recreational facilities and other community destinations.

It is also noted that there is a trend in some countries towards less structured sports and recreation activities, as opposed to scheduled team sports. This has meant increased demand for facilities for walking, cycling and other self-directed forms of exercise. The trend has been less clear in South Africa, but this may be due to a lack of safe and convenient facilities. Certainly with a large proportion of the local population lacking private space, it is to be expected that there would be significant latent demand for public recreational space.

1.2.3 What led up to this report?

The Draft Provincial Non-Motorised Transport Strategy has been in draft phase since 2005, and a number of changes have taken place in the interim, necessitating its amendment and preparation of this final strategy.

The original draft was prepared at a time when it was important to better understand NMT activity and motivate for improved accommodation of NMT facilities. Since 2004, some district municipalities have proceeded with preparing their NMT master plans and the progress and experience gained has influenced the provincial NMT strategy contained in this document.

Feedback from stakeholders and the experience of the district municipalities suggests that the original strategy needs to be restructured to focus more strongly on providing guidance for the preparation of NMT master plans, and clarity on the roles of the various stakeholders.

1.3 Purpose of this Report

Although some planning and implementation of NMT projects has been undertaken in the Western Cape, there has not been a clear provincial strategy. This document aims to rectify this situation.

Despite the strong motivation behind NMT, outlined in a variety of documents, implementation of projects is patchy. There are a number of reasons for the poor level of implementation, including lack of awareness of its existing and potential role in providing personal mobility, inadequate commitment of funding, and lack of resources to plan and implement projects.

In the Western Cape we are moving into the next phase, which is to build on policies that show the importance of NMT and develop a workable action plan that can address these obstacles to implementation. The strategy presented in this document is intended to provide the following:

- Outline the role of various government agencies in the development of the NMT system
- Indicate the commitment of the PGWC to improving mobility through NMT and supporting local and district municipalities
- Provide a short-term strategy for rolling out NMT projects, guiding the planning, design and implementation processes
- Identify long-term objectives for NMT planning

This strategy should demonstrate how municipalities can give NMT full consideration in the planning, design, construction and maintenance of transportation facilities. It should also show the importance of supporting programmes and services for getting maximum benefit from investment in infrastructure.

1.4 How to Use this Report

Each reader, depending on his or her role in NMT provision, will have different needs and expectations of this report. Consequently, the chapters of this document are arranged so that each one addresses a particular aspect of NMT; the document does not need to be read sequentially from beginning to end.

2 Vision

The Western Cape Department of Transport has adopted the following vision for the transport system:

An integrated, accessible, well managed and maintained transport system throughout the Western Cape, which is recognised as making efficient use of resources and being socially just, in a way that advocates broader developmental aims and objectives.

Short-term objectives

- Household travel survey shows existing demand that needs to be met. Response should address not only documented demand, but also latent demand that could be unlocked through improved facilities and service support.
- Need quick wins, and Shova Kalula is the Province's anchor project: a key mechanism for delivering enhanced mobility in the short term, but it must include follow-through from province in terms of funding and guidance for empowering communities to use bicycles. This project is discussed in more detail in the following chapter.
- Each municipality, and different areas of each municipality, has its unique needs, opportunities and constraints that should guide the decision-making process for NMT projects.

Long-term objectives

- Transform delivery mechanisms through empowerment of government agencies
- Redress past inequities not only through NMT infrastructure and services, but also by transforming the context and the objectives of planning (e.g. restructuring urban areas to make NMT travel feasible for a larger proportion of trips, and addressing the relationship between urban and rural areas)

3 Current State of NMT in the Western Cape

At the time of writing of this report, some Western Cape municipalities have non-motorised transport plans completed or in preparation. The municipalities preparing these plans have been the “early adopters”, working without clear guidance from the Province. This strategic plan aims to provide the necessary guidance and clarify institutional roles and responsibilities, drawing in part from municipal plan preparation.

There are a number of planning challenges that need to be addressed in order to achieve the provincial vision and associated objectives (highlighted in the section following). Some key challenges are:

- NMT is not incorporated in all aspects of planning, and there remains an emphasis on motorised transport despite a recognised need to “rebalance” movement systems to better respond to a wide range of travel needs
- A lack of appropriate infrastructure inhibits NMT activity, particularly where demand is greatest
- Poor urban design and maintenance result in poor quality environments
- Poor levels of safety and security discourage NMT activity
- Lack of integration across government departments and sectors results in poor coordination of infrastructure and services
- Poor information and signage, and lack of focus on wayfinding in urban design, hamper mobility
- Lack of awareness and education increases safety risks and reduces access to opportunities
- Lack of support services affects feasibility of non-motorised modes by limiting awareness, safety and affordability
- The dispersed nature of rural travel forces people to walk long distances and to rely on ad hoc forms of transport where public transport is not viable

One of the key challenges right now is that District Municipalities have – in most cases – inadequate resources to be able to manage NMT projects. And the Province, which is responsible for driving NMT improvements, also has limited resources, which may give the impression that it is not fully committed to supporting NMT in the District Municipalities. This means that in the short term external service providers will be used to plan, design and implement NMT initiatives. As mentioned elsewhere in this document, a provincial five-year business plan has been developed to build capacity in government agencies.

This document should help District Municipalities and consultants to understand what is required in terms of policy objectives, and provides examples of the conditions and responses that are found in the Western Cape. This chapter outlines the key policy objectives and Stakeholder responsibilities are provided in Chapter 4, and the strategy implementation process is detailed in Chapter 5.

3.1 Objectives

The overall objective of NMT is to increase mobility and access to opportunities, and in so doing, to improve the quality of life in a sustainable manner. In this context, sustainability refers to two key issues. First is the impact that transport systems and activities have on the natural environment, resources, the economy and social structures. Second is the ability, literally, to sustain (or maintain) the projects that are put in place to improve mobility.

In an effort to redress past imbalances, there is a strong focus particularly on communities that rely more heavily on NMT as a primary mode and for access to public transport, but it is important to acknowledge that NMT can be – and should be – important for all sectors of society.

This objective has to be differentiated further for urban and rural areas. In urban areas improved mobility using non-motorised transport is particularly important on a local scale i.e. comfortable walking and cycling distances have to be taken into consideration. Many short distance trips in urban areas that are being made by motorcar could be undertaken by non-motorised modes. More walking and cycling over short distances is to be encouraged.

In rural areas, planning has to take cognisance of dispersed travel patterns and long distances to be covered for personal mobility and the transportation of lightweight goods. The design of NMT facilities must take account of the use of wheelbarrows and other technologies that assist with transporting water and fuel and other goods.

In all areas, mobility cannot be enhanced unless it is affordable and appropriate with regard to local conditions. Questions of suitability can relate to safety among users of the transport system. For example, animal-drawn transport for carrying goods or people can be in conflict with other traffic; and cyclists on off-road paths may clash with pedestrians. Solutions will be some combination of measures, including regulation, enforcement, education and design.

The strategy responds with a guiding framework for facilitating practical and implementable projects and programmes. All recommendations take cognisance of safety and security, as well as the need to empower people, to foster sustainable job creation and to improve the quality of life for all.

3.2 Guiding Policy

While national government through the National Department of Transport (NDoT) are responsible for setting transport policy in South Africa, it is the responsibility of the provinces and metropolitan and district municipalities to implement these policies, and to plan and implement the necessary projects and initiatives.

On this basis a review was undertaken to assess the status quo of NMT legislation and policy and planning guidelines at all spheres of government. This review is summarised below.

3.2.1 National Government through the DoT

The appropriate pieces of legislation that provide the legal and policy frameworks are:

- The South African Constitution³;
- The National Land Transport Transition Act 22 of 2000⁴ (NLTDA);
- The Municipal Systems Act 32 of 2000⁵ (MSA); and
- The National Land Transport Bill, 2008⁶.

There is no specific mention of NMT policy in the Constitution or the Municipal Systems Act. However the MSA does mention the need to plan for transportation infrastructure from a mixed-mode perspective, and planning services in an integrated and sustainable manner. By implication, this includes the NMT modes.

There are several clauses in Part 7 of the NLTDA that, while not mentioning NMT specifically, have several statements where NMT is implied. These are as follows:

- Clause 18 (2): ...land transport planning must be so carried out so as to cover both public and private transport and all modes of land transport relevant in the area concerned, and must focus on the most effective way of moving from one point to another in the system;
- Clause 18 (3)(e): (Transport plans must be developed so as to) enhance accessibility to public transport services and facilities, and transport functionality in the case of persons with disabilities; and
- 18 (5): A planning authority must, unless clearly inappropriate or not reasonably practical in the circumstances, in preparing any transport plan, ensure co-ordination and integration within and between land transport modes so as to optimise the accessibility and utilisation of public transport services, facilities and infrastructure.

The NLTTA requires that municipal entities prepare Integrated Transport Plans (ITP's.) The NLTTA planning regulations on minimum requirements for the preparation of ITPs state that the transport needs assessment in the CITP should be based on the spatial development framework and give adequate attention to non-motorised transport.

A component of the ITP is the Current Public Transport Record (CPTR). The purpose of the CPTR is to collect and analyse public transport passenger demand data as well as public transport services. These data sets are then used to assist in the planning and development of infrastructure and service provision as reflected in the ITP itself. The CPTR data is also used to prepare other plans required by the NLTTA such as the public transport plans, operating licence strategies and rationalisation plans.

It is important to note that the minimum CPTR data collection requirement as specified by Government Gazette Notice 1005 of 2002 does not include the collection of any NMT data sets. The absence of this data makes the planning of NMT facilities more difficult, and reliance must be made on data collection on a project-by-project basis.

The National Land Transport Bill⁷ reinforces the importance of integrating transport planning with land use and development planning in efforts to transform the transport system. Promotion of NMT is implied in the Bill's emphasis on improving public transport.

Furthermore, the Road to Safety 2001-2005 strategy has as its mission "*To ensure an acceptable level of quality in road traffic, with the emphasis on road safety, on the South African urban and rural road network.*" A key outcome required of this strategy is identified as "*We want safer pedestrians and cyclists*". The Shova Kalula (Pedal Easy) Project forms part of the program to promote the safety of cyclists and pedestrians. The Rural Transport Strategy for South Africa (2002) facilitates 13 pilot project areas throughout the country by providing a framework that promotes both motorised and non-motorised transport options.

In December 2008 NDoT released the Draft National Non-motorised Transport Policy⁸, establishing a national context for improving access and mobility. The national document recognises that NMT planning must be integral to transport planning.

3.2.2 Provincial NMT Policy and Legislative Summary

The Provincial Department of Transport and Public Works' vision is to ensure:

- An integrated, accessible, well-managed and maintained transport system throughout the Western Cape, which is recognised as making efficient use of resources and being socially just, in a way that advances broader developmental aims and objectives; and
- With respect to NMT, their mission is to promote the use of NMT to enable access to social, economic and recreational resources at affordable levels, especially among the poor.

The provincial White Paper on Transport Policy⁹ of 1997 articulates the following vision:

An integrated, accessible, well managed and maintained transport system throughout the Western Cape, which is recognised as making efficient use of resources and being socially just, in a way which advances broader development aims and objectives. The requirements for integration and accessibility within the provincial White Paper establish a place for NMT within the transport system.

The Provincial Vision for Public Transport Five-Year Strategic Delivery Program (2003)¹⁰ further states that "*Province will investigate the requirements of non-motorised transport through the necessary consultation and technical studies, with a view to formulating a detailed delivery plan*".

Each element of the vision is discussed in terms of the key problems, the objectives and programmes for achieving the objectives. In terms of NMT, walking is acknowledged as being an essential part of the public transport system. Walking should be safe, comfortable and convenient with protected walkways in both urban and rural areas to create a safe pedestrian environment. The potential of cycling is recognised as an efficient and

inexpensive transport mode and having the potential in rural areas to provide accessible and affordable transport.

While policy guidelines for NMT are specifically mentioned in the provincial white paper on transport policy, this includes no detailed plans or project initiatives regarding NMT.

The Shova Kalula initiative seeks to strengthen the role of cyclists in the transport system, and provides the associated benefits of skills transfer and job creation. It also has the benefit of providing a sustainable platform on which to build other projects that would ensure greater mobility and easy access to opportunities and resources.

Particular attention will be given to providing infrastructure to enable pedestrians to use walkways and access routes in a manner that is safe and convenient. It is envisaged that rural and urban pilot projects will be established to establish and test these models at the same time as guiding policy formulation.

The Rural Model pilot scheme should be linked to small, medium and large towns. The purpose of the pilot is to test the interest, create demand and promote walking and in particular, cycling to overcome the friction of distance more easily. The other important purpose is to set up economic development opportunities around cycling, in particular.

3.2.3 Metropolitan NMT Policy and Legislative Summary

In response to national and provincial policies and legislation, the City of Cape Town has been addressing the needs of pedestrians and cyclists more directly in local policy formulation. NMT is specifically mentioned in the following guiding documents that include: the 1980-1985 Transport Plan¹¹ for Cape Town Metropolitan Transport, Metropolitan Spatial Development Framework¹² (MSDF), Integrated Metropolitan Environmental Policy¹³, City's vision statement¹⁴, the City's traffic calming policy for the City Calming Residential Streets¹⁵ and the City's Pedestrian Plan¹⁶. The City has also developed a Mobility Strategy which provides guidelines for the development of transport policy where NMT, as well as public transport, have been identified as priority modes in Cape Town's transport system.

The use of NMT is at least implicitly promoted in all legislation and policy thus creating space for this NMT Strategy to enhance and flesh out the provincial approach to NMT.

Although the importance of NMT is recognised in the legislation, the institutional structures for the co-ordination of policies, plans and projects, as well as for funding, are not included.

3.3 State of NMT in Western Cape

It is not the purpose of this section to document all NMT projects, but rather to provide examples of the types of facilities to be considered, and their context.

The planning challenges outlined in Section 3.1 have resulted in a less than ideal mobility system in the province. The primary goal of transport – to provide access to opportunities – is compromised by prevailing spatial development patterns, unavailable or unaffordable public transport, poor levels of personal safety and security, and traffic congestion. Non-motorised transport planning can only effect a significant improvement to this situation if it is part of a broader effort to change the way infrastructure is planned and designed. With the right approach, NMT can improve access to public transport, overcome physical and operational barriers, and improve safety – but this also requires supporting services such as training and education. In the long term, the effectiveness of NMT strategies can be enhanced through improved planning practices in land use, transportation and other sectors that influence mobility.

The sections below provide an overview of the state of NMT in the province.

3.3.1 Prevalence of Walking

The walk mode usually makes up a large proportion of all trips in urban and rural environments. World Bank estimates put this as high as 70% in most large African cities.

The National Household Travel Survey¹⁷ (NHTS) conducted by the Department of Transport in 2003 and published in 2005 estimated that in the Western Cape overall, 20.5% of

commuter trips during the morning peak period were done on foot, compared to 56% of learner trips to places of education. However, when considering the low proportion of commuter trips by foot across the province, it should be kept in mind that access to the main public transport mode terminals and stops (e.g. rail stations, bus and taxi stops) is very commonly done by walking. This also includes the final 'leg' of the trip, i.e. from public transport terminal to place of work.

In the more rural districts where walking plays an important role, over 50% of all work trips are made on foot in the West Coast, Overberg and Central Karoo. However, inclusion of other trip purposes shows a much higher prevalence of walking and cycling.

Non-motorised transport in the Western Cape accounts for 21% of all trips to work ranging from a low of 8% in Cape Town to a high of 58% in the Central Karoo.

On average about 13% of those using public transport for work trips walk for longer than the National White Paper¹⁸ target of about one kilometre or 15 minutes.

There are fairly significant differences in access times to public transport amongst the different settlement types found in the Western Cape. Urban households have better accessibility to public transport than those in rural areas. 66% of urban households can gain access to a minibus taxi service with a walk of 15 minutes or less, whereas 90% of rural households have no access to train or bus services and 38% are not served by minibus taxis. However, a relatively small proportion of those who have to walk to work or education centres travel for more than 60 minutes.

There is a clear absence of public transport in the district municipalities. In the Central Karoo, two thirds of households cannot reach public transport services within 30 minutes which can be equated to a two kilometre walk. In Overberg, nearly half of the residents have no access or poor access to public transport. This situation is also true in the West Coast municipality where it affects a third of the residents. In some situations, NMT could flourish as a feeder mode to public transport nodes, improving the financial viability of public transport.

3.3.2 Types of Facilities

The responsibility for designing and implementing NMT projects, be they the upgrading of sidewalks, introducing cycle paths or providing bicycle storage facilities, lies with the public sector. Involvement by NGOs and the private sector is purely voluntary, but consultation between these sectors is paramount in planning for the correct facility required in the different municipalities.

There is currently no regulation in place that stipulates that when development and building plans are submitted for approval, they contain any NMT related infrastructure or facility. There is also, at present, no complete database of NMT facilities in the Western Cape.

Ideally, the needs of NMT users should be addressed from the initial planning of an urban area. Land-use and urban planning should be undertaken with due consideration of all transportation needs, including walking and cycling and other non-motorised modes. Planning should not be limited to personal mobility, but include transport of goods using animal-drawn vehicles. There should also be planning to address recreational needs using all relevant non-motorised modes.

The City of Cape Town and Interface for Cycling Expertise (ICE) have engaged in a partnership within the framework of the Bicycle Partnership Programme (BPP). The BPP began in June 2007 and will run through until June 2009 in order to make urban development and transport policies within the City of Cape Town cycling inclusive. This program will specifically develop strategies to finance cycling facilities. Cycling-inclusive policies will also pave the way to acquiring national and international funding.

The City of Cape Town has already established a Non Motorised Transport Strategy, as well as a Bicycle Masterplan and a Pedestrian Safety Implementation Plan.



Cycle route in a rural area

The following examples of NMT facilities relate primarily to routes. Comprehensive NMT plans must also consider destination facilities and support services; but to date, projects (other than Shova Kalula) have focused almost exclusively on route facilities.

Learner Routes

The 1981 Cape Town Rondebosch / Newlands Bicycle Demonstration Project was aimed at facilitating cycling for learners. Approximately 22km of bicycle paths were constructed. Initially there was a 30% increase in cycling to school, but this declined after 1996, mainly due to increased crime levels and lack of security along the cycle routes.

Stellenbosch also has cycle routes for scholars. Both the Cape Town and Stellenbosch facilities are designed to serve very clear routes to and from a limited number of schools and are not planned to serve other purposes. Future initiatives of this kind should consider designs that include small-wheeled transport.

An NMT strategy for scholars should be used to address some of the challenges faced in bussing scholars to schools. For example, short distances can be made more attractive for pedestrians and cyclists through land design and NMT interventions that are more convenient than bus routes. This will not be practical in all circumstances, but should be an intention for scholar transport that supports broader NMT objectives.



Non-motorised route through a park



Paved shoulder and pedestrian warning sign

Klipfontein Corridor Commuter Route

An urban corridor is a mix of intensive land use activities concentrated at points along a major transportation route, including public transport. The choice of land uses along the corridor is important, as is making these uses accessible by NMT modes.

The Klipfontein Corridor is the first of a number of high-order public transport corridors planned in Cape Town. It extends from the CBD along Klipfontein Road to Khayelitsha and serves approximately a third of Cape Town in terms of population. The impact of the Corridor is consequently enormous, and the planning exercise is intended to maximise the use of public transport by improving NMT access to the corridor and to land uses on the corridor that attract non-motorised traffic.

General Pedestrian Routes

Swartland has constructed sidewalks for pedestrians along routes that are being used by local communities in Malmesbury, Riebeek Kasteel and Darling. In some cases these provide much needed links for isolated communities that rely on NMT to reach opportunities in commercial districts. The R45 into Franschhoek is a rural example.

Cape Winelands have also constructed cycle and pedestrian footways along Main Road 191 (which has the potential to become an extended NMT corridor linking Paarl and Franschhoek) as well as the construction of a sidewalk on Main Road 174 (R305), Divisional Road 1398 and upgrading the sidewalk between Ceres and Prince Albert's Hamlet.



Bridge providing walkway separated from road traffic

Modal Interchanges

New or upgraded transport interchanges such as the recently completed Claremont station project in Cape Town can play a role in improving access to public transport if they are designed with the pedestrian in mind. The redesigned Claremont station precinct improves wayfinding and pedestrian priority across streets.

Facilities at Destinations

In many cases, obstacles to non-motorised transport are not the lack of routes, but the lack of facilities at destinations. Key facilities would be secure lock-up areas for bicycles, and showers and change rooms. Some buildings, or complexes of buildings, also lack safe routes for NMT from the adjacent street network to the buildings. It is noted that the Green Building Council of South Africa recently completed its Green Star SA – Offices rating tool, which gives developers credit for making it easier to walk and cycle to buildings. Presently, this is not a requirement in municipal regulations.

Programmes

Cape Winelands have developed the Safer Journeys to Schools strategy and commenced with the implementation of infrastructure projects at various rural schools i.e. upgraded surfaced accesses, sidewalks, embayments and shelters as well as the development and distribution of educational material. The PGWC recently set up a pilot programme of walking buses in the Cape Town CBD. Walking school buses are another example of ways to improve safety.



Walking school bus in residential area

Benchmarking, minimum standards and gap analysis strategy for public transport facilities incorporating needs of NMT users i.e. bicycle parking facilities at ranks and connecting bicycle and pedestrian paths to ranks.

Squares and Parks

Off-road facilities can be important to provide added amenity or shortened links between on-road routes. Existing Cape Town examples are Thibault Square in the CBD, St Georges Mall, Constantia green belts, and Keurboom Park in Rondebosch. Open spaces and sports facilities in a wide range of communities can perform similar functions.

Some are used for this purpose despite not being designed with NMT in mind. In future, safety and convenience should be improved by deliberately considering all potential modes that might be accommodated in such facilities, including small-wheeled personal mobility devices. Conflict between users is often a challenge, but there are many examples of guidelines from other countries that address this concern.

3.3.3 Typical Issues in Different Contexts

A broad overview of the level of NMT provision has been developed to provide some indication of where the focus for different types of infrastructure and supporting services should be.

Central Business Districts

In the central city environment, the NMT infrastructure is currently largely pedestrian focussed. CBD environments typically have:

- Sidewalks on both sides of the roads enabling safe and comfortable walking conditions;
- The sidewalks are generally well lit at night, both by street lighting and adjacent shop and store and external and internal lighting;
- Safe pedestrian crossing facilities at intersections controlled by traffic signals, although there are very few intersections with pedestrian signal activation facilities;
- Pedestrian crossing facilities at mid-block and other locations of high demand, some of which are signal controlled with pedestrian activation facilities. Many crossings are not signal controlled, and although priority should be given to pedestrians by motorists, this is seldom done. This can result in unsafe conditions for pedestrians; and
- Very few bicycle facilities, with cyclists being required to share road space with vehicles. Typically there are no safe bicycle storage facilities at transport terminals and stops.

Generally, the category 1 areas are conducive to the provision of car free zones and extensive NMT facilities, including pedestrian malls and precincts. There are also frequent opportunities to integrate NMT modes effectively with transportation terminals and stops.

Some of the challenges experienced in the city environment could be:

- Pedestrian hazardous areas, including conflict with motorised or non-motorised wheeled vehicles;
- Lack of exclusive pedestrian crossings;
- Encroachment of parking spaces on public spaces;
- Infrastructure maintenance practices that fail to accommodate NMT modes during construction;
- Safety & security; and
- Quality of the urban environment.

There is a range of possible responses to CBD planning, as demonstrated in cities around the world. There are examples of reducing conflict by prohibiting modes (e.g. not allowing bicycles on sidewalks); by providing extensive bicycle lanes; by increasing the number of locations where NMT has priority over motorised vehicles; by providing bridges or underground crossing facilities; and by limiting areas where motorised vehicles are allowed.

As one local example, Stellenbosch Municipality is considering strategies to reduce the dominance of motorised traffic in the town's CBD and restore comfort levels of pedestrians and cyclists. They have assessed the feasibility of reducing parking supply within the core of the town, providing shuttles from remote parking areas, and pedestrianising some streets. At the time of this writing, NMT planning was underway for the town.

The appropriateness of any response will depend on prevailing conditions and the mobility needs in a particular area.

City Suburbs

Residential areas are much more variable in the provision of NMT facilities – in terms of both what **is** provided and what **should be** provided. Facility guidelines generally relate to the road hierarchy and the type of built environment. To a large extent, this is based on potential conflict between different users, and other safety issues. It should be noted that the road hierarchy system was instituted with the aim of guiding road design, without explicit consideration of the subtleties of design that should be incorporated when planning transportation infrastructure to increase public and non-motorised transport.

A balanced approach to road infrastructure planning will often require dialogue between traffic engineers and urban planners and designers to resolve design issues that arise from the interplay of differing perspectives.

The spatial form and density of cities is heavily influenced by suburban planning. There are many reasons why urban form can be inappropriate. One reason is that it can increase dependence on motorised transport, with resultant pollution, congestion and marginalisation of people who cannot afford private car ownership. To make matters worse, modern cities often are difficult to serve with effective public transport. As a result, many people depend on NMT, while the very conditions that created this situation also make NMT less convenient. Integrated planning is essential to restore balance.

Towns

Following are some of the issues faced by towns:

- Freeways (for example, the N1 and N2) are significant routes and connections through areas for local accessibility as well as regional economic opportunity. However, these Class 1 routes are also significant barriers and a safety issue for pedestrians and cyclists who travel along them or wish to cross them.
- The disadvantaged low-income communities are generally located on the outskirts of town and sometimes physically separated. There is a strong NMT movement between outlying poorer communities and employment opportunities in the old town.
- Interaction between towns and farms generally relies on informal transport. Drop-off and pick-up locations in towns often can benefit from careful location, provision of shelter and other facilities, and NMT links to shopping areas.
- Coastal towns are scenic and can be major tourist attractors. There is a great potential to support tourism through NMT interventions and programs. Recreational opportunities have not been sufficiently explored in these areas.

Historically, towns began as walkable communities, but many have lost this advantage and others are at risk of doing so. Integrated land use and transport planning that considers NMT explicitly is essential to avoid the negative side effects of growth. With the right approach NMT can strengthen the economies of towns by reducing barriers to mobility, by providing employment related to NMT, and by maintaining environments more conducive to tourism.

Smaller Settlements

These areas are characterised by very low density residential and agricultural land uses. Very little roadside development is present. Paved sidewalks for pedestrians are rare, although pedestrian activity may be significant. In many cases, small settlements have an advantage in being compact and suitable for NMT. Those that are facing high growth rates should ensure that spatial development patterns do not make NMT more difficult. Recreational cyclists, farm vehicles, goods vehicles and passenger cars create a wide mix of vehicle types and speeds along roads through small settlements, presenting a challenge for safety.

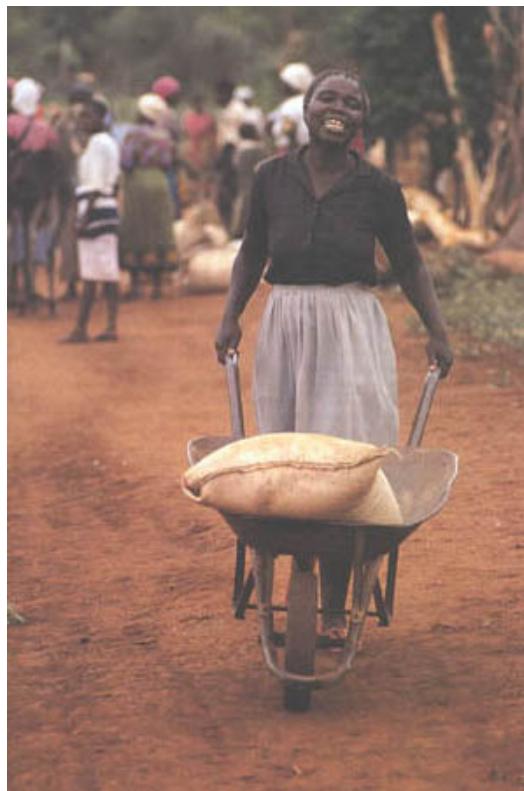


Walking to and from remote settlements

Deep Rural Areas

Following are some of the issues faced in rural areas:

- Accessibility and mobility is problematic in rural areas. Generally these areas are remote and of low density, with limited transport services available to access employment or services. Although large percentages of the population are walking long distances in these areas, NMT conditions are usually poor. A result is heavy reliance on informal and unregulated modes of transport such as farm vehicles used to transport passengers.
- There are few employment opportunities available in these areas. Generally there are limited employment generators and thus very high unemployment rates. Agriculture is still predominant and seasonal work on farms or in processing factories often is the main source of employment. Poverty is high with a large low income sector, with the result that NMT is used more than is desirable because public transport is unaffordable. Local economic development (LED) has to be maximized in these areas.
- Capacity and budgets are inadequate in the smaller municipalities, which impacts their ability to plan, implement and maintain NMT infrastructure and facilities.
- Learners have to travel long distances to schools, largely on foot or to bus collection points. The environment is not conducive for walking, is generally unsafe and along routes without any dedicated infrastructure. The trips are uncomfortable during winter seasons when gravel roads are muddy and summer seasons when very high temperatures are experienced.
- Lack of infrastructure and services often means that people in these areas rely on wheelbarrows and other innovative transport modes that are difficult to use without properly designed infrastructure.
- A bias towards motorized transport on roads, and towards capital works at the expense of maintenance, affects NMT more severely than other modes.
- Persons with special needs and small-volume freight transport operators, including animal-drawn vehicles and wheelbarrows, are particularly disadvantaged by a focus on commuter-oriented planning.



Transporting goods by wheelbarrow

Informal Urban Settlements

Informal settlements often develop organically, with routes suitably orientated for walking to public transport routes on the fringes of the settlement. When upgrading takes place, internal circulation should be designed to maintain convenient routes for the dominant NMT modes. The layout of internal roads, the geometry of road design, and surface paving should all be suitable for the intended mix of modes, and not follow standard engineering practice where more innovative approaches might improve mobility for the dominant modes.

Routes should also be planned using CPTED principles to minimise personal security risks, and transport planning should consider how mobility systems will interact with, and support, an appropriate mix of formal and informal trading within these settlements.

3.3.4 Extent of Need

The extent of need for mobility and the appropriate response required depends on local circumstances in each community as well as the ability of implementing agencies to handle varying projects. In some cases, the provision of bicycles and supporting services could be the best immediate response required, while in others it might be the construction of pedestrian sidewalks, skateboard routes or facilities for feeding transport animals.

Currently the transportation planning fraternity at local and provincial government levels is experiencing an increased awareness of NMT. Accordingly, the planning framework is being developed that affords NMT its appropriate place in the transportation system. However, this progressive planning is not reflected in infrastructure that historically lacked integrated design and implementation and ignored the needs of pedestrians and other NMT users.

It needs to be recognised that there is latent demand for NMT mobility. In other words, poor facilities and lack of awareness discourage its use, and improving conditions may increase demand. One of the key strategies to increase NMT activity and to improve the perception of NMT usage is through the creation of a high quality NMT environment. This requires a review of the quality of NMT infrastructure and should include the following components:

- Quality of infrastructure provision (sidewalks, road crossings, rental facilities, parking facilities, landscaping and lighting)

- Development and implementation of NMT Masterplans and local NMT plans. Masterplans should guide the development of local NMT plans should it be absent, but should also take cognisance of and be informed by local NMT Plans where they do exist.
- Surface design appropriate for the intended mix of personal mobility devices, and geometric design that allows for the operational characteristics of these devices.
- Road signage and surface markings that warn and indicate the presence of NMT users. Uniformity and legality have to be ensured through the application of the Road Traffic Signs Manual¹⁹.
- Route continuity is an important element of NMT planning because continuous routes between popular destinations and attractions improves the ease and convenience of NMT usage.

3.3.5 Shova Kalula

Shova Kalula was launched as a National DoT project in 2001. The objectives of this partnership programme as mentioned previously are to:

- Improve accessibility and mobility for trips that are too far for walking
- Ensure that transport is affordable
- Promote safe, secure, reliable and sustainable transport
- Provide pedestrian and bicycle facilities

The core focus of Phase 2 is to promote bicycle transport use in areas where people are disadvantaged in terms of mobility. The focus is on bicycle transport operations as opposed to infrastructure and therefore Shova Kalula sites have to be chosen carefully in terms of the safety threat posed by high volumes of motorised traffic. In the Western Cape, the provision of bicycles to rural schools should improve learners' mobility and potential to benefit from school education by reducing the travel time between school and home. In the case of urban schools, the bicycles will be used as an alternative mode of transport that will relieve congestion on public roads and contribute towards reduced energy consumption and emissions. Shova Kalula is aimed at improving access and mobility of farm workers and women in rural, urban and peri-urban areas.

In the short term, obstacles to bicycle use are mainly a lack of backup services such as financing mechanisms and training for bicycle care and maintenance, financial planning for maintenance and replacement of bicycles, road safety, and lack of secure bicycle storage facilities at destinations.

The NDoT and NRA recognise that safe infrastructure design and provision for cyclists is crucial for achieving widespread and sustainable bicycle transport use. In this regard, the NDoT and NRA are committed to explore measures to promote safer and more appropriate infrastructure over the medium term. This will occur in parallel with the Shova Kalula programme, which is focused on bicycle distribution.

Distribution of bicycles cannot happen successfully without supporting services, and Province is committed to developing a stronger role for NGOs in providing these services (refer to discussion below on the role of NGOs and other agencies). Province will also ensure that various provincial government departments support NMT promotion through policies and funding to provide, for example:

- Health care worker programmes
- School-based training programmes
- Employee bicycle purchase programmes
- Monitoring of programmes to assess user base and outcomes

- Support of initiatives to promote NMT in the private sector (e.g. New Mobility Initiative, Cycling Academic Network (UCT))

Some of these programmes can be provided by NGOs or other stakeholders, but the appropriate provincial bodies need to be committed to such initiatives.

3.3.6 Awareness, training and education

NMT suffers from perceptions in communities and among planning professionals that have the effect of limiting its use, both as transport and for recreation. Lack of facilities, training and acceptance reinforce the idea that NMT modes do not need to be taken seriously. Some are not recognised at all in planning (such as wheelbarrows or animal-drawn transport) while others are treated as frivolous (e.g. skateboards and inline skates).

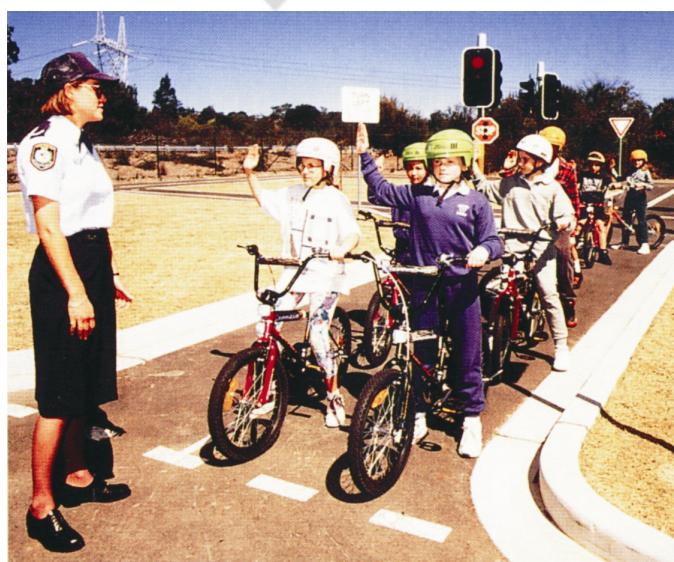
There needs to be a culture of inclusiveness that will broaden options for personal mobility and transport of goods. This would provide more equitable access to economic opportunities and generally improve quality of life. Regulations need to be updated to include all modes, and municipalities need to decide how best to adapt planning and controls to suit their circumstances.

Organisations such as the Association for the Advancement of Low-Cost Mobility (Tanzania), the First African Bicycle Information office in Uganda and Bicycling Empowerment Network in Cape Town, are all NGOs that have taught thousands of people to ride bicycles safely. Learning to ride a bicycle should not only be marketed as a necessary skill, but also a fun activity.

The Cape Argus Cycle Tour is already a great attraction for national and international competitors. It is an existing marketing tool that was established with the aim of promoting the development of cycling facilities in Cape Town. It can be used to encourage cycling in general in the city or to promote particular projects. It has been used to encourage specific groups to take up cycling.

Events such as the 2010 FIFA World Cup attract thousands of visitors who will require appropriate NMT infrastructure and facilities. Such events provide opportunities to secure funding for projects and to promote NMT activity. Efforts to encourage NMT should go hand-in-hand with the provision of infrastructure and support services.

Private sector initiatives such as pedi-cab services (bicycle-powered passenger services) or the installation of bicycle facilities at buildings should be encouraged and supported by clarifying and streamlining approval processes. Government agencies should lead the way by upgrading access to public buildings for NMT users and designing for universal access.



Road safety training for children cyclists

4 Strategy Overview

The NMT strategy is about how to move from the current state of transport to addressing short-term needs and establishing a basis for steady progress towards a dramatically improved environment for NMT. This requires a clear strategy, with a number of steps along the way to address both infrastructure and services, including empowerment of communities and the government agencies responsible for planning and implementing an NMT-supportive environment.

In considering the strategy, it is worth keeping in mind what may seem obvious: that transportation is about moving people, goods and services. NMT is – or should be – an integral part of a bigger picture, and is critical to the smooth functioning of the wider system, providing a range of benefits that are not all transport-related. Within this system, walking and cycling meet the greatest need, but other non-motorised modes must be considered to improve safety and meet the diversity of needs.

There is a range of short-term needs prevailing across the province. Some general needs were identified in the previous chapter. A process for identifying and addressing specific local needs is outlined in the next chapter. In this chapter we focus on the elements that need to be in place to make things happen, and the responsibilities of various stakeholders.

Key elements of the strategy:

- Ensure reliable funding stream for capital costs and operating and maintenance costs, ensuring that ITPs provide adequate motivation for identified projects
- Set in motion a process to update guidelines and regulations that are not fully supportive of NMT – transport planning philosophies and priorities are evolving in response to changing circumstances, and in some respects may be lagging behind other spheres of governance
- Obtain stakeholder consensus on what is needed and how it can be delivered – determined through an assessment of a broad range of policy objectives to avoid a limited transport infrastructure response
- Undertake education and training programmes in multiple sectors to improve transport safety and create a culture of NMT as a serious mode of transport and form of recreation
- Establish clarity on roles and responsibilities for the full process of NMT planning and implementation, including capacity-building in government agencies
- Ensure that each jurisdiction develops and regularly updates a master plan for expanding NMT infrastructure on a sustainable basis
- Establish a process for identifying and implementing projects based on the master plans
- Provide support services and a mix of interventions based on an assessment – through participation – of how best to empower communities

Of the eight elements listed above, master planning needs to be highlighted, as it is the key product that guides planning and is needed to secure funding for individual projects through the ITP process. The following points should be noted:

- Master plans are intended, in part, to support the development of local area plans.
- They need to support and reinforce policies from a range of governance sectors.
- They should establish general priorities (e.g. relating to safety, bicycle support, pedestrians, public transport support, etc.)
- They will evolve as local area networks are developed.

- In urban areas, priorities often relate to locations where there are concentrations of activity, but in some cases priorities will relate to the need for access to essential community services (e.g. scholar mobility and access to clinics and hospitals).
- Plans should be informed by stakeholders and by existing plans that address specific concerns.
- They should identify elements related to routes, nodes and services (nodes being places where routes reach their destination, or where routes of various modes intersect)
- They should consider different users and trip purposes explicitly, noting that each has its own set of objectives that should inform the planning response.
- They should consider the different scales of intervention, from regional mobility to local accessibility.

For the long term, roles and responsibilities may change somewhat. Currently, the focus is on getting mechanisms in place. When this has been achieved, the next stage would be to ensure that local agencies are in a position to undertake much of the process themselves, within the framework of provincial and national policies. As mentioned previously, a business plan has been developed for funding a capacity building programme in the local and district municipalities.

The remaining sections in this chapter deal with roles and responsibilities related to NMT provision. A summary table is provided in Appendix B.

4.1 Government Roles

All levels of government have a function and responsibility in the provision of NMT projects and services. All departments, including those dealing with health, housing, land, urban planning, education, the natural environment, tourism, economic upliftment and safety and security have an important role to play. In some instances, the best department to lead an initiative allied to NMT may not be Transport.

The role of the various government agencies in the development of the NMT system are outlined below:

4.1.1 National Government

The rights of all citizens of the Republic of South Africa are entrenched in the Constitution of the country.

The Constitution allows in schedule 4(A) for the concurrent legislative competence of the national and provincial spheres for the following areas:

- *Public transport*
- *Public works only in respect of the needs of provincial government departments in the discharge of their responsibilities to administer functions specifically assigned to them in terms of the Constitution or any other law*
- *Regional planning and development*
- *Road traffic regulation*

The following local government matters to the extent set out in section 15.5 (6) (a) and (7) is summarised in schedule 4(B):

- *Municipal planning*
- *Municipal public transport*
- *Municipal public works only in respect of the needs of municipalities in the discharge of their responsibilities to administer functions specifically assigned to them under this Constitution or any other law.*

These functions all include the rights of persons making use of non motorised transport such as walking and cycling, and facilities should be provided under the provisions of the Constitution.

National Department of Transport

The National Department of Transport (NDoT) is responsible for setting policy and legislation for issues of national concern. The national policy framework will give guidance to provinces and municipalities as to the provision of NMT facilities through the National Land Transport Strategic Framework (NLTSF) which must:

- a) Set out national policy with respect to land transport;
- b) Promote the integration of national, provincial and local land transport planning;
- c) Describe mechanisms to resolve possible conflicts between land use and transport planning and possible conflicts between provinces and municipalities in the land transport context;
- d) Set out a general strategy for freight transport nationwide;
- e) Set out a general strategy for rail transport nationwide, including long distance passenger rail and a commuter rail concessioning strategy;
- f) Set out a general strategy for national roads;
- g) Set out a general strategy for cross-border land transport;
- h) Set out the national key performance indicators;
- i) Set out a general strategy to support tourism;
- j) Set out a general strategy for land transport and the environment;
- k) Set out a general strategy for land use restructuring;
- l) Set out a general strategy for interprovincial land transport; and
- m) Set out a general strategy for transporting persons with disabilities.

The DoT will further develop, where required for national unity, such regulations and guidelines as may be identified as required.

The DoT is further responsible for the implementation of such demonstration projects as required to prove the effectiveness of NMT as an alternative mode of transport. The completion of demonstration projects must be followed by the evaluation of the projects and then roll-out under provincial and local agencies, as appropriate.

South African Roads Agency Limited

Due to its function of providing and maintaining national roads and as part of its social upliftment programmes in rural areas, SANRAL has taken on the provision of NMT facilities on the national roads infrastructure. Bridges over freeways are examples; their planning is not limited to single departments, and should incorporate suitable access routes where demand is highest.

4.1.2 Provincial Government

Implementing a successful NMT strategy requires buy-in and commitment from provincial government and other agencies who share the same vision. The success rate for sustainable NMT development will be greatly increased if all relevant stakeholders are involved in every project. Each group has a different role to play which may change over time as institutional capabilities develop. Province needs to help district municipalities strengthen NMT.

The transportation related responsibilities of the Provincial Department of Transport and Public Works is to:

- Plan, design, implement and maintain the provincial road network, with the necessary co-ordination and integration with other road planning authorities;
- Plan the provincial related public transport network, including the development of the necessary institutional restructuring and transformation initiatives to ensure the efficient delivery of services;
- Manage the public transport operator contracts for subsidised services and the co-ordination and management of the subsidies from central government; and
- Co-ordinate and approve the municipal Integrated Transport Plans (ITPs).

4.1.2.1 Funding

The province has a vital role to play in ensuring that investment is made where it will have the greatest impact and where facilities are appropriate to meet travel demand and other objectives. A major role for provincial government is to facilitate the flow of capital budgets through the public sector hierarchy. In order for the municipalities to have funding allocated to NMT projects, these projects must be included in the Integrated Transport Plan.

The successful implementation of the NMT initiatives at all levels is directly related to their level of funding at the planning, implementation and maintenance stages. A successful rollout programme depends on an appropriate level of funding and the allocation of the available funds on an efficient, effective, prioritised and sustainable basis across the region.

The implementation of the NMT system should be based on the development of a business plan for projects to be rolled out. This business plan should support the NMT master plan, and from a funding perspective should contain a detailed description of the following issues:

- The institutional arrangements to administer and manage the funding of the system on an effective and accountable basis, irrespective of the source of funds.
- The estimation of the funding requirements based on cost estimates for each phase of the system over its full life cycle.
- The procurement process to be used. For example, the maintenance of the system could be put to a performance-based contract with a private contractor, or the construction could be put to tender on a turnkey basis, i.e. design, build, maintain.
- An investigation into the potential sources and application of funds for various elements of the NMT strategy, including the private sector.

There are a variety of ways in which private sector could get involved. Municipalities currently pay for maintenance, so they could outsource to a contractor. Or there could be levies on business or tourism for certain routes, which could cross-subsidise others. And there are cases overseas where municipalities establish NMT network plans for undeveloped areas, and when developers come in they are expected to contribute to completing the network through their residential developments. Regulations could also require developers to provide, at their cost, facilities such as bicycle storage racks.

In order to ensure that the system infrastructure is maintained in a good condition at all times, it is very important that the funding requirements be based on a 'whole life cycle cost' basis, i.e. the funding must include planning, implementation and maintenance costs of the system. Other costs such as marketing, promotion and road safety programmes should also be estimated and included in budgets.

While the various local authorities as well as the provincial government will contribute financially to the planning and implementation of the system, the business plan must include a detailed investigation into funding opportunities from the private sector. This investigation should include the scoping and assessment of innovative funding mechanisms and procurement opportunities such as:

- The introduction of sponsored bicycle purchasing programmes through employers in the region to enable employees to purchase bicycles at subsidised prices.
- The promotion of the NMT system through local and international cycling organisations such as Bicycling Empowerment Network (BEN) and Pedal Power NGOs based in Cape Town.
- The donation of funds for the development and maintenance of the system through large regionally based companies.
- The opportunity for advertising and sponsorship programmes through sportswear, security, insurance and other companies that could benefit commercially through their sponsorship and/or advertising.

- Secondary industries to be established such as bicycle sales and repair retail facilities.

The business plan should identify the level of interest and quantify the potential funding levels from the private sector. It is noted that business plans have already been put forward for innovative NMT such as pedi-cabs. There may be potential for sponsored infrastructure such as bus shelters, bicycle racks and skateboard facilities.

4.1.2.2 Providing Guidance, Education, Training & Promotion of NMT

At national level an enabling legislative framework is necessary. This is already partially in place as MSA and the NLTTA both acknowledge the necessity of NMT. This should be strengthened by the addition of policy that is geared specifically towards NMT. The National Land Transport Bill does not specifically address this.

Provincial government is taking the legislative framework further by providing this strategic framework, which gives guidelines to the third sphere of government, the local authority, on how to implement NMT. Through this document, the PGWC provides guidance to local and district municipalities, but would not generally be involved in the preparation of local area plans (which are based on master plans). The Provincial Vision for Public Transport (2003) mentions that the Province would formulate a detailed delivery plan with emphasis on safe and convenient pedestrian walkways and access routes. This strategy is a key component of the delivery plan.

An important role for provincial government is to evaluate the existing legal and institutional framework; to challenge the aspects that are not serving their purpose well and to ensure that appropriate changes are made that will enhance the delivery of NMT infrastructure and facilities.

A major role for provincial government is to ensure that the organisational structures are in place to facilitate communication and co-ordination of projects between local governments, between provincial governments and local governments, and between provincial government departments. The structures should be in place and be effectively managed in order to achieve communication.

There is a widely acknowledged shortage of skilled and experienced transport planners among the type 2 and 3 planning authorities in the Western Cape. This situation has hampered municipalities in achieving the minimum requirements for ITPs and integrating ITPs with IDPs. The Draft Integrated Transport Capacity Building Business Plan, Aug 2008, states that this "in turn can jeopardise the funding of transport projects through weak alignment and motivation of projects."

Since ITPs incorporate all aspects of transport planning, and are key to obtaining funds for projects, the Capacity Building Business Plan proposes that the PGWC builds transportation expertise in local and district municipalities using ITPs as a framework. The Plan suggests that PGWC provides financial assistance to identified planning authorities for acquiring personnel and providing extensive training in the four areas of legislation and guidelines; specialised transport fields; fields of integration; and administration and financial control. The Plan would cover a five-year period, and funding would come from the national DoT. Since the training programme would focus on improving the quality of ITPs, it would at the same time improve the chances of securing funding for NMT projects identified by local and district municipalities.

4.1.2.3 Scale of Province Involvement

The provincial government must ensure that NMT receives the required attention in the province through the development of the PLTF and any other related policy documents and provincial legislation. The PLTF incorporates ITPs. It is the guiding document for transport for the province and should:

- a) Be consistent with the province's vision, policy and objectives;
- b) Specify the changes to the province's land transport policies and strategies since the previous year's five-year plan;

- c) From the second year, include a list reflecting a summary of the transport projects and project segments in order of precedence, that are to be carried out in the five-year period, and the cost of each project and this summary must-
 - i) Also deal with those projects identified in transport plans in the province; and
 - ii) Further to be prepared with due regard to the relevant integrated development plans prepared in terms of any relevant local government law and the relevant land development objectives set in terms of section 27 of the Development Facilitation Act, 1995 (Act No. 67 of 1995), or, where applicable, land development objectives of that nature as set in terms of a law of province;
- d) Describe the measures to be taken by the province with a view to ensuring proper co-ordination between the transport plans of the planning authorities in respect of which the province has jurisdiction;
- e) Describe progress with respect to the establishment and functioning of transport authorities in the province;
- f) Include the province's detailed budget with regard to land transport for the relevant financial year, including sources, in the format prescribed by the Minister;
- g) Describe mechanisms that have been instituted to resolve possible conflicts between provincial transport and land use planning;
- h) Set out a general strategy for the needs of learners and persons with disabilities;
- i) Include the approved spatial plan of the province;
- j) Include a road plan for the province;
- k) Include a public transport strategy for the province;
- l) Set out a general strategy or plan for the movement of hazardous substances contemplated in section 2(1) of the Hazardous Substances Act, 1973 (Act No. 15 of 1973), by road along designated routes, in consultation with the provincial department responsible for environmental affairs;
- m) Set out the key performance indicators specified by the Minister, as well as any others specified by the MEC, to be used to measure the performance by the province and planning authorities of their functions and responsibilities in terms of this Act;
- n) Include details of intraprovincial and interprovincial long-distance services;
- o) Set out a general strategy for tourism; and
- p) Include details of liaison mechanisms and structures proposed for interprovincial long-distance services.

It is a further responsibility of the provincial government to ensure that municipalities give adequate attention to NMT when preparing the CITP, DITP and LITP as prescribed in the Regulations as Gazetted. As mentioned previously, implementation of the Provincial Capacity Building Business Plan would directly support this objective.

The province should be involved in any DoT project to demonstrate the use of NMT in order to prepare and facilitate the further implementation of such project to make it sustainable.

4.1.3 District Municipalities

NMT must be part of the transport planning process, and included into the ITP and IDP. The NLTAA (2000) describes the inclusion of infrastructure provision and maintenance in the ITP, and NMT should be seen as part of this infrastructure:

- 21 (2)(c) include all modes and infrastructure, including new or amended roads and commercial developments having an impact on the land transport system, and land transport aspects of airports and harbours;
- (e) include the planning authority's public transport plan;
 - (f) set out a general strategy for travel demand management; and
 - (g) set out a road and transport infrastructure provision, improvement and maintenance strategy;

District municipalities, as a result of their dispersed settlement patterns, often struggle to provide effective public transport services. NMT projects can improve access to public transport, thereby improving patronage, service viability and personal mobility. Particularly

where distances are long, cycling can be used effectively in support of public transport or as a mode on its own.

In the IDP it should be acknowledged that NMT contributes to pollution reduction and savings in fossil fuel usage.

Municipalities are responsible for the building and maintenance of both roads and facilities either through an internal department or a municipal roads agency. Municipalities must give attention and include NMT in all transport infrastructure projects.

The overall role of NMT can be seen as improving accessibility and mobility for the people of the district municipalities.

The district municipalities facilitate certain strategies to achieve the following:

- Improve the NMT environment
- Improve road safety
- Introduce more bicycles
- Education and marketing campaigns
- Integrated planning

Ultimately, the district municipalities will be responsible for identifying needs and their capability to respond with the delivery of the necessary NMT infrastructure and/or services in their areas.

4.1.4 Local Government

Some municipalities have the resources to plan and implement NMT. For example, the City of Cape Town have already developed their own NMT policy and strategy as well as a Bicycle Masterplan and a Pedestrian Safety Implementation Plan. The city currently has more than 120km of established cycle lanes within its jurisdiction. In March 2006 the city hosted an International Bicycle Conference where they were awarded Gold status for their bicycle planning policies.

Other local and district municipalities do not have the same level of resources available to the City of Cape Town, and rely more heavily on provincial support. The Provincial Draft Integrated Transport Capacity Building Business Plan identifies the resources available for transport planning in each of the province's municipalities.

Through development approval processes, municipalities have the opportunity to require new or rezoned developments to include facilities that support NMT. In the case of individual buildings, this might include showers, lockers and bicycle lock-up facilities. Larger developments might also include safe access through the site for pedestrians, cyclists and users of small-wheeled mobility devices.

Municipalities should encourage application of the concept Transit Oriented Development (TOD) to encourage visitors and employees to travel by public transport. TOD measures would include facilities at the development to encourage NMT access to public transport. Documentation of appropriate proposals would be included in traffic impact assessments submitted with development applications.

Local municipal by-laws are used to control operation of the various modes of transport, including the locations and conditions under which they may operate. This mechanism provides municipalities with leverage to maintain safe operations and to encourage appropriate behaviour by all transport users.

4.2 Role of Other Stakeholders

The strategic guidelines cover a range of issues that must involve a variety of role players from the public and private sectors. Only by adopting a holistic approach which encompasses, amongst others, NMT infrastructure, road safety, bicycle manufacture/

assembly/ distribution/ maintenance, marketing, public transport upgrading, policy changes on land use and the introduction of support services, will effective change be achieved.

4.2.1 NGOs

The Bicycling Empowerment Network (BEN) was commissioned to establish Shova Kalula workshops in various locations in the Western Cape. These workshops facilitate the distribution of bicycles to learners or poor members of the community, road safety education, bicycle repair and maintenance and small business management training for individuals identified to manage the bicycle shops. Through this program, job creation opportunities are also created.

BEN has been promoting NMT, but also providing backup services to make it work:

- Providing training in care and maintenance of bikes – to make sure that the initial investment is effective and long-lasting
- Distributing bikes and spares
- Setting up bicycle empowerment centres to address poverty alleviation through direct employment in the NMT industry and through ensuring that services are available to bicycle users for bicycle maintenance
- Supporting development of bike maintenance businesses: empowerment
- Providing input on planning and prioritisation of bike infrastructure
- Assessing and monitoring NMT needs
- Promoting bicycle use – more users, apart from reducing motorised traffic, establishes a critical mass for NMT that improves business opportunities in the industry, makes routes safer and makes more people aware of travel options

Involvement of other community-based NGOs is needed to ensure ongoing support when programmes have been initiated. Consultation between PGWC and participating NGOs is required in order to share their knowledge.

4.2.2 Public Transport Providers

Public transport owners and operators should appreciate the commercial benefits of improved NMT facilities and infrastructure. In particular, the minibus-taxi industry needs to understand how the various types of transport can be integrated for the mutual benefit of all.

Historically in the Western Cape there has been an unfortunate lack of integration in public transport planning, with the various road-based modes planned by government agencies and operated by others (with rail planning its own operations and infrastructure semi-independently). An effective NMT system will need to overcome the limitations of current practice through improved linkages across the planning, funding and implementing functions.

4.2.3 Other Stakeholders

Other stakeholder groups that could be required to commit to implementing a successful NMT Strategy include the following:

Experts

Politicians, and others, cannot make appropriate decisions in a vacuum. The advice of experts is required to identify possible alternatives, to give advice regarding the best ways to achieve goals and to give a complete picture of the pros and cons of any decision. A major contribution that experts can make is the transfer of their expertise to local officials, consultants and community members. Experts have a vital role to play in providing new skills and thus in employment creation.

The Private Sector

Private sector involvement is crucial for sustainability. It is also an additional source of funding for NMT projects. Appreciating the benefits of NMT for the employees, the employer

and the community is important in order to get private sector commitment. Many large organisations have corporate social responsibility programmes, which could include NMT projects. There is also a role for small and medium sized companies in ensuring that the public environment around their businesses is conducive to walking, cycling and the use of other modes. All types of businesses have a role to play in encouraging their employees and customers to travel by NMT, for example by providing showers and bicycle lock-up facilities, and creating awareness of travel options.

The private sector can be involved in numerous ways:

- Manufacturing bicycles or assembling imported units and modifying these to meet local requirements.
- Using bicycles for delivery of small items.
- Providing facilities for staff and client cyclists.
- Sponsoring cycling programmes.
- Establishing green travel plans to promote alternative modes.
- Assisting in financing the purchase of bicycle for staff members.
- Providing incentives to cyclists and public transport users while discouraging private car use by cutting down on parking and reducing staff car allowances.
- Supporting small businesses.

City Improvement Districts are an excellent vehicle for private sector involvement in the local NMT environment as issues related to security, street cleaning, landscaping, sidewalks and parking are put forward in the CID's agenda.

The Consumers

While pedestrians and cyclists are the two largest groups of users of NMT, it is important to engage other groups in planning NMT initiatives. Users can be grouped not only by the mode they use, but also by the reasons they use particular modes. Planning should include consideration of trips made for purposes other than work – such as health, education, recreation, tourism or transport of goods. It can also be helpful to distinguish between urban and rural contexts, as some modes are more prevalent in one area than another.

The travel motive and needs of these groups may differ in the detailed application of the Strategy, although the principle of convenient access is applicable to all. A fundamental requirement is that representatives of all groups be involved in devising appropriate strategies and projects that meet their needs and the local conditions.

5 Project Development Process

This chapter provides both a checklist and an explanation of the steps needed from identifying needs to implementing projects. Not every step is appropriate in every circumstance, and in some cases the sequential order may change, or processes may overlap. The main objective of this list is to provide guidance for the various stakeholders on what needs to be done, and how to set projects in motion. Stakeholder responsibilities were outlined in the previous chapter.

It should also be noted that while the list provides the preferred (or ideal) approach to each task, the level of detail or extent of each activity will vary with circumstances.

5.1 Identify Stakeholders

Depending on the type of project and its context, there are a number of categories of stakeholder that should be considered to assist with the various stages of project identification, prioritisation, design and implementation:

- Users of the NMT system (community individuals and representatives from NGOs and special interest groups)
- Government departments whose policies will be supported by NMT improvements
- Others who benefit from NMT (formal and informal public transport providers, businesses)
- Funders and potential partners for implementation
- Urban and regional planners
- Event planners
- Representatives from government departments (health, education, housing, transport, etc.)
- Service providers (NGOs, training organisations, communications professionals)

Refer also to section 4.2.3.

5.2 Establish and Maintain Partnerships

Partnerships are perhaps more important for NMT projects than for many others, not least because NMT must be tailored to respond to unique circumstances and cannot easily be standardised. NMT infrastructure varies significantly in its design parameters and in its location in relation to roads – and in some cases may be located on private land.

Some elements of NMT systems will be implemented by transport providers (e.g. station infrastructure), government departments that are not transport-focused, and agencies such as Central Improvement Districts. Because of the breadth of potential NMT interventions, the boundaries of responsibilities can be blurred, and implementation of projects, whether infrastructure or services, can require extensive negotiations and ongoing commitment from funders and other partners.

5.3 Identify NMT Needs

When identifying the need for NMT projects, the following should be considered:

- Planned urban expansion: preserve opportunities for future expansion of NMT
- Existing urban activity
- Other initiatives or systems that need NMT support (e.g. public transport, community services and infrastructure)
- Functional relationship between urban and rural areas (movement between the two)
- Safety challenges (existing shortcomings or issues anticipated with planned NMT)

- Mobility requirements for different user types (where is demand not being met for tourists, commuters, scholars, recreational users, etc?)
- Mobility requirements for different types of trips (e.g. leisure, sport, commuting, education, shopping)
- Affordability of transportation
- Suitability of topography, and other physical barriers
- Average travel distances
- Range of users (e.g. tourists, commuters, recreational users, etc.)
- Public transport availability
- Spatial distribution of trip origins and destinations, and density of land uses
- Suitability of urban design to NMT activity

With regard to urban planning, NMT is best input directly to Spatial Development Frameworks (SDFs), not retrofitted. The SDFs address issues such as population growth and distribution, economic development, and socio-economic factors. NMT master plans should provide interpretations of these conditions, and how to respond to them. Needs will vary considerably across the province, in relation to spatial, social and economic issues.

Not all NMT improvements require a specific project or funding. Many improvements can be implemented by incorporating appropriate interventions in other projects.

If the problem is clearly defined, the outcome will more closely match needs. This is particularly important for ensuring appropriate allocation of resources and ensuring that both services and infrastructure are considered as possible responses. For example, if pedestrian safety is a concern, a clear definition of the problem may result in an improved strategy to maintain street lights.

- Determine the mobility and goods movement requirements of the community in consultation with community representatives (e.g. Ward Councillors) and through surveys that might be included in the Current Public Transport Record (CPTR).
- Establish non-motorised transportation evaluation programs, including data gathering and ongoing public surveys, and consultation.

5.3.1 Route Function and Journey Purpose

For most NMT users, convenience (in terms of journey time and distance) and an acceptable degree of traffic safety and personal security are the most important design requirements. This is particularly the case for access to public transport interchanges or other time critical journeys. It should be noted that traffic safety concerns conflict not only with motor vehicles but also between cyclists and other NMT users. These should be the main factors to take into consideration when planning networks of routes.

The journey purpose is important in defining the value attached to aesthetic attractiveness. There are situations where walking or cycling for pleasure may be the only reason for the journey. This generally happens on rural leisure routes, parks, urban squares, pedestrianised streets and tourist destinations, but may also be on local neighbourhood streets. There are also multifunction environments such as shopping centres, markets and public transport interchanges where people may wish to meet, relax or trade, but which may also serve as through-routes for pedestrians and cyclists. Careful urban design can ensure that these areas are attractive and functional. It is important to get the balance right through an integrated, multidisciplinary design process.

In order to accommodate the differing and sometimes conflicting needs of various user types and trip purposes, it may be necessary to combine projects or to create dual networks offering different levels of provision, with one network offering greater segregation from motor traffic at the expense of directness and/or priority. Such dual networks may be

considered analogous to a busy main road carrying through-traffic and a parallel service road catering for access to homes and shops at lower speeds.

5.3.2 Measuring Current NMT Demand

Very little detailed non-motorised transport data is available as it is generally not a regulatory requirement to collect such data. One can obtain an idea of the numbers of non-motorised transport volumes by examining the public transport passenger data recorded in the CPTR. This data does not consider how the passengers got to boarding locations, but it gives an indication of journeys that require walking at the beginning or end.

Some high-level non-motorised travel data may be available from existing national household travel surveys but is not detailed enough for local non-motorised planning. Most travel surveys only record general traffic volumes which may be classified according to light, heavy and public transport. (Small-wheeled transport is even less likely to be surveyed.) Currently most surveys exclude the walking, cycling and motorcycling trips altogether and they often undercount short trips, non-work trips, travel by children, and recreational trips. For example, trips classified as “auto” or “transit” trips are often actually “walk-auto-walk,” or “bike-bus-walk” trips, yet the non-motorised components are often ignored, even if they occur on public roads.

In future, it would be beneficial if pedestrian and cycling surveys were included in the annual Current Public Transport Record (CPTR) surveys to more accurately quantify the volumes on a local level. However, the data requirements need to be carefully considered and prioritised due to the high cost typically associated with collecting pedestrian and bicycle data.

With the recent emphasis on creating livable communities (as contained in the Integrated Human Settlements Strategy) and improved access to economic opportunities, it is particularly important that transport precincts (stations and bus or taxi terminals) are functionally integrated with their surrounding communities. To achieve integration, it is critical to identify demand beyond the precinct. It is also important to assess the role of transport precincts as community facilities serving needs other than mobility. To design for expanded roles requires gathering more information on movement patterns than has been available in the past.

Information on walking and cycling and travelling by other NMT modes can be collected using several techniques either alone or in combination as follows, depending on the specific needs and use of the data:

- A general travel survey designed to elicit sufficient responses concerning non-motorised travel. For example, “travel” should be clearly defined to include modes used on all legs of a journey. Short, non-work and recreational trips, and trips by children should be counted.
- A special survey targeting cyclists and pedestrians (such as survey forms distributed through bicycle shops, sport clubs, recreation centres, colleges, and schools).
- A survey handed out to cyclists and pedestrians as they travel along a street or path.
- Counts that gather information on pedestrian and bicycle travel. These can include photoelectric counters installed on trails, electronic counters installed on cycle paths and bike lanes, and manual counts. Volunteers from pedestrian and cycling organizations may also be mobilized to perform manual counts for non-motorised travel.
- Pedestrian and bicycle travel surveys should attempt to gather the following information:
 - Who? – Demographic information such as age, gender, residence location, employment status, and income.
 - Where? – Origin and destination of trips, including links by other modes (such as public transport).

- When? – Time, day of the week, day of the year, and conditions, such as weather, road conditions, and traffic conditions.
- Why? – Purpose of trip. What factors affected travel choice (for example, would a cyclist have chosen another route or mode if road conditions or facilities were different).
- A special survey at schools to identify existing and potential use of small-wheeled mobility and recreational devices such as skateboards and inline skates.
- Accident Statistics: Pedestrian and bicycle collision data can help identify barriers and hazards to non-motorised travel. Locations with frequent pedestrian or cycling crashes indicate some combination of high risk or heavy use, both of which can justify facility improvements. Pedestrian and cycling collisions tend to be under-reported, so a variety of data collection methods may be needed. The quality of accident reporting and capture of the accident data and statistics are often only good enough to highlight a hazardous location, but the detail of the incident is often vague and of insufficient detail to draw any conclusions. In many cases, collision data does not identify location accurately enough to identify the cause of a collision, and it may be worth liaising with the SAPS to improve the quality. Road safety audits may help in some locations.

If possible, travel data should be recorded in a format that can be stored in Geographic Information Systems (GIS) format. Since non-motorised trips tend to be short, fine-grained mapping is important.

5.3.3 Predicting Future NMT Demand

A number of specific factors can affect demand for non-motorised transport in a particular situation. Anticipated changes to any of these factors can result in changes to travel demand. These include:

- Attractions. Certain activity centres tend to attract trips by non-motorised modes, including commercial districts, school-college-university campuses, employment centres, recreation centres and parks.
- Land use patterns. Most walking trips are less than 2 kilometres and most bicycling trips less than 5 kilometres in length, although recreational trips are often much longer. Compact, mixed-use areas are thus more likely to generate NMT trips. Greater density increases the number of people making trips in an area.
- Demographics. Young (10-20 years), elderly, and low-income people tend to rely more on walking and/or cycling for transport. Young middle-income people are more likely to rely on innovative small-wheeled transport. Rural low-income people and low-income people in urban informal settlements are more likely to transport water and other goods by wheelbarrow or as head loads.
- Travel conditions. Wide roads with large numbers of high-speed vehicles can form significant barriers to non-motorised travel. Special facilities for non-motorised travel (sidewalks, wide curb lanes, bridges and paths) and their condition can have a significant impact on the amount of walking and bicycling that occurs.
- Topography and climate. These factors can affect walking and bicycling, but not as much as might be expected. Unlike European countries, South Africa has one of the most accommodating climates in the world with good weather most of the time. Barriers to NMT use are more likely to be cultural influences and lack of services and infrastructure.
- Community attitudes. Local attitudes can have a major impact on the level of cycling in a community. For example, it may be unremarkable that cycling tends to be high among college students and staff, but many college towns find that cycling is also relatively common among people who have not formal affiliation with the college simply because

it has become an acceptable form of transportation. This indicates that some people hesitate to cycle, but will if they perceive it to be more socially acceptable.

- Time and geographic scope. It may take several years for a community to fully achieve its full non-motorised travel potential. First year impacts are frequently modest, but tend to increase as individuals become more accustomed to non-motorised travel and as additional support facilities (pedestrian and bicycle network, bicycle parking, etc.) develop.

Many communities have a significant latent demand for non-motorised travel. That is, people would walk and cycle more frequently if they had suitable facilities and resources. Appropriate facilities such as dignified urban spaces and non-motorised infrastructure improvements (sidewalks, crosswalks, multi-use paths, bike lanes, traffic calming) can increase non-motorised travel.

Most traffic forecasting models use zones that are too large to capture such trips and maps that are too large to document all pedestrian and cycling facilities. Conventional traffic models can be modified to predict non-motorised travel, but in most cases the cost of using such models to forecast NMT demand would not be justified. Whatever method is used, it is important to base forecasts not on a simple extrapolation of past trends, but on an assessment of how a transformed transport system might positively influence travel and recreation patterns. A system that provides improved integration of modes and integration with communities has the potential to influence travel decisions.

Socio-economic characteristics can also influence choice of mode. Historically, most people who rely on NMT have been from lower-income communities, but an objective of the NMT strategy is to encourage greater use of non-motorised modes in all communities.

5.3.4 Mobility Requirements for Different Types of Trips

There are various types of trips for which NMT may be used for all or part of the journey. These typically include:

- Commuter trips to and from work: Priority on minimising trip cost in terms of time and distance – commuting cyclists generally are more confident in using on-street facilities, and will share lanes with cars in preference to off-street routes that are less direct.
- Job seekers: Require mobility at very low cost. Generally reducing monetary cost is a higher priority than reducing travel time, so NMT is more likely to be used as the only mode on a journey.
- Learner trips to and from school (may include trips by learners to the library or sports fields): These travellers are less confident and more vulnerable in mixed-traffic situations – particularly under the age of 10 years.
- Service users (include trips to shops, clinics and government services): Rely on ability to carry shopping bags and baskets, and prefer short distances and facilities that present few obstructions.
- Recreational trips by locals or tourists to recreational destinations, or using the trip itself as a form of recreation: Present variable needs, and particularly the ability to travel safely after working hours.

It is also important to recognise the particular challenges faced in rural areas.

The Rural Transport Strategy for South Africa²⁰ clearly outlines the role of NMT in addressing the transport challenges in the rural areas of South Africa. The key strategic thrusts identified, include the promotion of coordinated rural nodal and linkage development, as well as the development of demand-responsive, balanced and sustainable rural transport systems.

The following should be noted in light of NMT planning in rural areas:

- NMT in rural areas should primarily focus on the provision of mobility options and support programmes instead of enhancing infrastructure capacity. Generally the concern is not that volumes of NMT users will exceed the capacity available to accommodate them, but that routes and services simply do not exist or are of inadequate quality.
- Although rural areas do not have the population densities to support mass public transport networks, access to some form of public transport service can improve accessibility to opportunities. The integration of NMT with rural public transport can further improve the accessibility to public transport and to the rural service centres.
- Education campaigns to enhance the role of NMT in rural areas are of vital importance. The implications of cultural considerations and gender stereotyping and its impact on NMT usage should not be overlooked. Educational campaigns should be developed that clearly address these issues.
- The impact of transport on the mobility of women and children in rural areas and its impact on the general socio-economic conditions, including health, should also be clearly understood.

The range of NMT user trips in both urban and rural areas can be further categorised into captive and choice users, as follows.

Choice NMT User

These people choose to use NMT, primarily cycling, as a form of transport because of the many benefits associated with NMT use, even though they may have access to motorised transport. These discretionary users require a high quality of services and infrastructure, and may revert to motorised travel if quality is not adequate.

Captive NMT User

Captive users are forced to use NMT due to its affordability – in poorer communities, many individuals cannot afford public or private transport. But captive users are disadvantaged by:

- Physical distance – in the outlying areas of communities individuals are forced to walk or cycle long distances to reach more formalised forms of public transport, or may not have access to public transport at all.
- Effective distance – low levels of provision for NMT and coordination with public transport exacerbate the already long distances by increasing waiting or walking times.
- Inaccessible transport system – includes special needs people such as the disabled, learners and the elderly, mothers with prams, people pushing trolleys etc.

Captive users have fewer alternatives to NMT and therefore are less likely to switch modes. However, all users are entitled to the same level of service and infrastructure provision.

5.4 Identify Modes

Some facilities will be dedicated to a single mode, while others will depend on the purpose of the facility, its context and likely users, and planning must consider these users explicitly, as this will strongly influence the design and associated infrastructure. For example, rough surfaces are bad for skateboards and inline skates; cyclists require ramps and gentle curves with appropriate stopping sight distances; people walking with prams need appropriate kerb treatments at intersections.

5.5 Plan NMT Strategy

While NMT infrastructure is not limited to roads, the road network provides a structure for mobility by all modes and therefore needs to be considered in assessing constraints and opportunities for NMT improvements. The road context will influence NMT planning through consideration of the road hierarchy, design, available road reserve and traffic characteristics. Engineering design standards strictly based on the road hierarchy may limit

design options, and road engineers from relevant government departments will need to be involved in the design process so that creative solutions can be developed within the context of safe operations. In many cases it is helpful to assess standards from first principles, since they generally do not consider NMT needs.

Other structuring elements should also be recognised for their influence on current NMT patterns and potential improvements: parks, sports facilities, rivers and green belts, public transport facilities and private space that is publicly accessible (e.g. shopping centres and parking areas).

There is also a need to consider opportunities for transformation of the transportation system, of urban and rural spatial development, and of local economies. NMT has the potential to play a significant supportive role in all of these, if services and infrastructure are planned appropriately. It is important to:

- Coordinate planning with other plans
- Ensure compliance with statutory processes and plans
- Ensure coordination with programmes in transport and other sectors (LED, ISRDP, PTP, PLTF, National Rail Plan, National Transport Master Plan, National Transport Strategy and Action Plan, National Freight Logistics Strategy, ITP, IDP, NLTSF...)

The strategy should cover the topics outlined in Chapter 4.

5.6 Identify Projects Within the Strategy

When identifying projects, consider the following:

- Context (rural, urban, village, farm, cross-boundary, social context...) affects both the nature of movement requirements and the appropriate design response.
- Type of infrastructure or service (always consider services either as alternatives to infrastructure, or as a supplement, e.g. education for safety, empowerment, skills training, NMT promotion)
- Node vs. link (facilities and services at origin and destination nodes, as well as infrastructure linking origins and destinations).
- Constraints and opportunities (physical, institutional, programmatic, budgets).

Collecting bicycle and pedestrian data can be time consuming and extensive and consideration would have to be given to collecting the data:

- At identified transport terminals or activity centres only (such as schools, colleges and universities);
- On specific strategic public transport corridors & routes (e.g. the flagship IRT routes); and

The type of data required depends on how it will be used, and needs to be carefully considered to avoid unnecessary expense. Data can include bicycle and pedestrian volumes, origin & destination patterns, infrastructure & accessibility constraints, and safety records (pedestrian crossings, walkways & sidewalks, bridges, underpasses, etc.).

The lack of inclusion of NMT data in the CPTR makes the integrated and holistic planning of NMT infrastructure with other modes more difficult, resulting in NMT being overlooked, or approached on a project-by-project ad hoc basis. Careful consideration should be given to including NMT data in the CPTR, and the type & extent of data required must be carefully considered.

5.6.1 Network Planning

In developing the provincial NMT strategy, three types of network can be identified. These three networks are not independent of each other, but will overlap in places. They are described in more detail below:

The Principal or Regional NMT Network: Comprises of selected major roads, minor roads and paths and is intended to serve longer distance bicycle and pedestrian commuters as well as recreational trips. Also included are new paths along major road reserves opening new transport corridors to cyclists and pedestrians. This Regional NMT Network provides the commuter with an alternative mode of transport (walking or cycling), as well as access to public transport services by connecting with public transport network routes. The Principal network may include some provision for small-wheeled devices, but these modes are more often accommodated on the Local and Recreational networks.

The Local Area NMT Network: These routes are designed to provide safe routes to and from the Principal or Regional NMT Network and to provide for shorter trips to shopping centres, recreational areas and sporting centres (e.g. sports stadiums), bus and railway stations, as well as safe routes to schools etc. with the local street network.

- These networks shall provide convenient access into and through all residential, commercial and industrial areas.
- Local residential streets are also part of the local area network but generally only pedestrian facilities are considered necessary, with cyclists accommodated on streets.

The Leisure and Recreational Network: A further category that could be developed in future throughout the province is an off-road NMT Network or Trail Network. This is a network of recreational shared-use paths for walking and cycling and small-wheeled modes in collaboration with the roads agency responsible for storm water management, City Parks, etc. Shared use routes along watercourses (rivers and canals), green belts, parks, and linking public open spaces could be investigated in each local or district municipality.

5.6.2 Individual Projects

Once the general network has been established, it is necessary to identify individual projects and provide route and associated facilities and services. The following list is a brief introduction; more details are available in NMT design guidelines. Some elements to consider are:

- General route alignment and choice of on-road, off-road, shared or dedicated facilities. It is vital to consider all legitimate modes of NMT and how they will interact with motorised transport, and with themselves. Consider personal mobility and goods transport (e.g. on horse-drawn carts); but also recognise that not all are appropriate everywhere. The following are elements that should be considered along routes:
 - Rest and refreshment stops (for animals and people)
 - Passing opportunities on dedicated NMT facilities
 - Mounting and dismounting locations
 - Crossing facilities for roads and other physical barriers (consider signals, grade separation, roundabouts, kerbs, pedestrian median refuge, and other design elements that can be either barriers or enhancements to crossing)
 - Escape routes (bridges, lanes, isolated routes and any narrow or enclosed spaces can pose a security threat that may need frequently spaced locations for escape)
 - Route signage for NMT users and to raise awareness among drivers
 - Facilities for elevation change (e.g. dropped kerbs and ramps for bicycles, wheelchairs, prams and small-wheeled devices)
- Trip end facilities (lock-up, showers, seating)
- Awareness, education and training programmes

- Event management (cycle tours, road races, sports stadium events, concerts and other events often require plans not only for participants or spectators, but also for other NMT within the area of impact of the events)



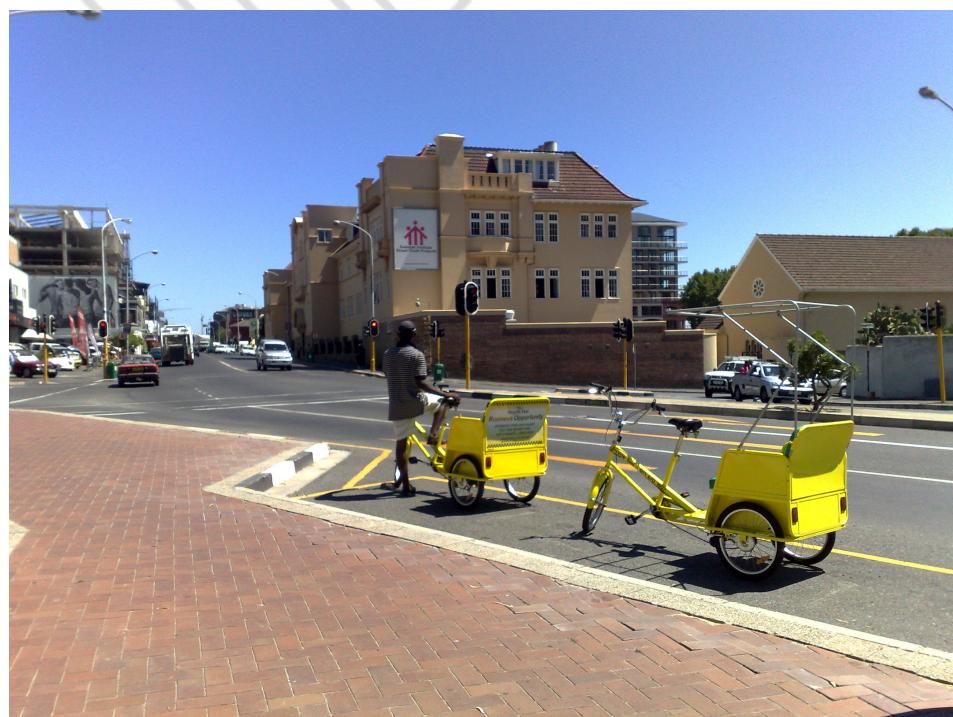
Animal-drawn vehicles need facilities, regulations and standards for safety and animal welfare

The Rural Transport Strategy for South Africa identifies a number of challenges for NMT and special needs planning, and proposes innovative ways of improving the effectiveness of transport systems, including a co-ordinated *Programme to Improve Access to Services and Markets in Rural Areas*. These proposals are summarised in the provincial *Public Transport Policy Statement for Special Needs Passengers in the Western Cape – Supporting Documentation*²¹.

Projects will need to be included in the ITP to qualify for provincial funding. However, consideration should be given to potential alternative funding sources.

5.7 Projects Identified Outside Normal Processes

While most NMT planning should be carried out in the context of ITP and SDF planning, there will be circumstances when NMT projects may be identified outside the normal planning process, either in response to unanticipated developments, or through other initiatives from non-government stakeholders. Creative and innovative suggestions should be encouraged, particularly because they may be a response to previously unidentified needs, and may have greater than usual potential for partnerships.



Private sector initiatives such as pedi-cabs can provide transport without public funding

Such projects will not be previously identified in the ITP, and therefore won't be on identified budget priorities, making it necessary to involve stakeholders, form partnerships and develop alternative funding sources. If these projects are to be implemented prior to the next round of ITP planning, they will need special motivation to show how they fit in with existing plans. In some cases, requests may be initiated for commercial reasons (e.g. a new or growing income-generating mode of transport), in which case enabling legislation or municipal by-laws and facility design standards may be needed.

A business plan would be needed to motivate the project.

5.8 Prioritise Projects

Generally, project prioritisation will be based on documentation in ITP and consultation with stakeholders. Traditionally, infrastructure project priorities are strongly influenced by financial cost-benefit analysis. While it is important to show that investments of public funds are being made wisely, it is also important to show that multi-sector policy objectives are being supported. For example, the following should be considered in establishing priorities:

- Improved mobility options with geographic reach – providing access to opportunities for employment, health, education and so on, using NMT directly and in support of public transport
- Potential safety improvements
- Ability to synchronise implementation with other projects under development
- Available funding for staff, implementation, maintenance (not only maintaining physical infrastructure, but also resourcing programmes and services) and project management
- Project leverage to develop multi-purpose nodes and linkages, and to encourage private sector investment around transport precincts of all sizes
- Ability to improve livability in the built environment with community connectivity
- Provision of recreational opportunities based on NMT (such as small-wheeled devices) and access to sport and other facilities

5.9 Secure Funding

Funding is needed for capital and maintenance costs, planning and design, and staffing for service programmes. Potential sources include:

- consolidated capital grants – infrastructure (MIG)
- equitable share mechanism – distribution of funds from national to provincial
- bus subsidies

In some cases, funding activity needs to take place earlier in the process. An action plan based on an NMT master plan should include the establishment of stakeholder relationships and a strategy for obtaining funds from the private and public sectors, as appropriate.

5.10 Appoint Service Providers

Management of projects in most municipalities in the province will need to be outsourced, but the objective should be to build capacity. The Provincial Capacity Building Business Plan is underway to achieve this objective, focused on transport planning and ITP preparation.

Service providers will be needed at a number of stages of the project development process:

- Planning stages – master planning and project identification
- Design stage – developing conceptual and detailed design once general alignment has been agreed

- Implementation – particularly where government resources are in short supply, consultants may be needed to manage implementation of projects

5.11 Design Projects

Design standards/ services depend on the following:

- User types – the needs of different users should be reflected in design of infrastructure (e.g. different levels of user vulnerability should be addressed) and services (e.g. levels of financial capability or knowledge of rules of the road)
- Trip types – the purpose of trips made will influence design decisions, as trip purpose influences user expectations
- Modes – operating characteristics of different modes (individually and in combination) will need to be addressed to ensure safety of design
- Non-transport objectives such as employment creation – affects choice of design and construction methods for infrastructure, or the role of local communities in supporting programmes such as Shova Kalula

For more detail on design principles, see Chapter 6.

For infrastructure projects, coordination of design with other infrastructure initiatives is needed to ensure seamless experience by users. Jurisdictional boundaries should be transparent.

For service projects, coordination with other services is important to avoid conflicting strategies adopted by different agencies. Awareness of initiatives should be maintained through formal links across government sectors and levels.

The Department of Transport have published draft guidelines in regard to planning and designing facilities for NMT. This document was published in June 2002, and is titled ‘Pedestrian and Bicycle Facility Guidelines: Engineering manual to plan and design safe Pedestrian and bicycle facilities’.

5.12 Coordinate Implementation with Other Initiatives

Timing of project implementation (and phasing, where appropriate) will depend on both budget cycles and schedules for projects that interact with NMT. Coordination between projects is important not only for practical implementation reasons, but also for ensuring maximum benefit for system users. For example, a new public transport service may need new or upgraded pedestrian access routes.

5.13 Appoint Contractors

- Meet procurement requirements

5.14 Maintain Infrastructure or Service

Poor maintenance can negate the potential benefits of NMT infrastructure and is not limited to agencies responsible for the NMT facilities themselves, but should extend to activities such as parks and road maintenance. Maintenance activities should be designed to cover:

- Clearing obstacles
 - Regular maintenance
 - Recovery from extreme weather events
- Monitoring and repair of infrastructure (including signage and lighting)
- Provision for NMT users during construction activity on NMT or other infrastructure

Summary table or quick reference guide to the project development process is featured below in Table 5.1. This table will help guide district municipalities how to set projects in motion.

Table 5.1 Quick Reference Guide to Project Development Process

Main Steps	Tasks	Who's Responsible?
A. NEED	Identify NMT needs Plan NMT improvements	District Municipalities
B. PROJECT IDENTIFICATION	Identify projects Identify stakeholders Consult with stakeholders Establish & maintain partnerships	District Municipalities & PGWC
C. PRIORITISATION	Prioritise projects (mobility, safety, synchronisation, funding, multi-sector benefits, develop multi-purpose nodes & linkages, resources)	District Municipalities
D. DESIGNING	Appoint consultants Design projects Infrastructure projects Service projects	District Municipalities
E. IMPLEMENTATION	Secure funding Coordinate implementation with other initiatives Appoint contractors Maintenance of infrastructure or service	PGWC District Municipalities District Municipalities District Municipalities

5.15 Promote NMT

Different marketing approaches are required for various population segments. They can focus on the fun of using non-motorised modes or on the benefits of these modes for individuals and the community. Some of the target groups that can be identified are:

- The middle and upper income groups who regard NMT only as an exercise form and leisure activity. Marketing should aim at encouraging them to choose to replace short motorcar trips with cycling or walking or innovative modes.
- Rural communities where gender issues and affordability could be the main stumbling block with regard to cycling and small-wheeled transport. Marketing would need to be coupled with programmes to provide non-motorised vehicles.
- Learners need to be divided into the under-ten year age group and the older learners, as they have different perceptions and needs related to safety and capability.
- Drivers should be taught to respect the rights of pedestrians and cyclists.
- Private sector companies need to understand the benefits to them of using cycling and supporting NMT projects.

- Public sector officials and politicians have to be educated to appreciate the necessity of ensuring NMT is incorporated into planning design.

Training and marketing campaigns could be undertaken by the PGWC at schools (through their different departments) for promoting cycling and educating and training learners on road safety (life skills program). School bicycle training could be included in the education curriculum (similar to Netherlands). Driver awareness, tolerance and courtesy could be addressed with greater emphasis on good driving habits in driver licence material and tests.



6 Guiding Principles

Following are a number of principles that should be used to guide the development of NMT systems. This is provided to indicate the kind of issues that need to be considered, and is not comprehensive. More detailed guidelines have been developed by some municipalities in South Africa and in other countries. The City of Cape Town NMT Policy and Strategy provides guidelines on some design aspects. Other examples are provided in Appendix C.

6.1 Facility Design

One of the most important considerations in design is that each vehicle, or personal mobility device, has its own operating characteristics. Just as roads are designed with consideration of how drivers perceive the road ahead, how quickly vehicles can stop under different conditions, and how vehicles can turn at different speeds, so too must NMT facilities be designed. This is important not only for safety, but also for users to feel comfortable. If planners are to encourage increased use of NMT, as policy requires, then users must be able to enjoy the experience.

Every NMT facility or service should be designed with a specific set of users in mind.

The needs of all road users should be fully considered in all road improvement schemes, but not necessarily to give priority to pedestrians and cyclists in every location. Road design is based on traditional hierarchy of facilities and provides a useful guide for the types of conditions to be expected for NMT users. Similarly, adoption of a hierarchy of users is recommended as one of the elements of good practice in Local Transport Plans. Design for operational safety based on ability of users to avoid conflict. Acknowledge users' vulnerability and respond in the design of the facility.

Users have different requirements due to their journey purpose, level of experience or physical ability, and the mode they are using (bicycle, skateboard, pram, etc.). The design of the most appropriate facility needs to take account of the anticipated type of user, or combination of users. These considerations affect the route location, width, curvature, gradient and other design elements.

Some of the design user types are as follows:

- **Commuter** – prefers a fast, direct route between home and work or when accessing public transport, regardless of quality of environment.
- **Shopper/leisure walker** – looks for ease of access, attractive retail environments, and attractive routes.
- **Special Needs Persons** – requires consideration of design aspects such as changes in surface elevation, type of surface, clearly defined and easy access and careful attention in the form and placement of street furniture, including resting points. Depending on the particular users being considered, other aspects may need to be considered. Satisfying these requirements will also satisfy the needs of all other users, especially older people, people with heavy **shopping parcels** or **young children**, and people with **temporary impairments** or **low levels of fitness**. There are policy and design guidelines applying to universal access, such as SANS 10246: Accessibility of buildings to disabled persons.
- **Child** – requires a high level of segregation from motorised traffic and/or other measures to reduce the dominance of motor vehicles, such as speed reduction, together with good passive surveillance from other users to increase personal security. These are important factors where children and young people make independent journeys, especially journeys to school. Older learners have different perceptions and abilities than those under the age of 10, but they are more inclined to use modes that require greater levels of skill, such as skateboards and inline skates. Consequently, all ages of children require careful consideration in facility design and educational programmes.

- **Adult or child using innovative modes** – requires surfaces, gradients and widths that allow passage of small-wheeled devices such as skateboards or inline skates. Some use these for recreation only, while others travel to work or school using these modes. Those travelling to destinations may combine these modes with public transport, but require routes that are safe for the full length of their journey (or most of it). Where these modes are to be accommodated in facility design, the facilities will always be designed to include one or more other NMT modes, and require careful design and signage to make all users aware of which users the facilities are designed for. Wheelbarrows are another mode of small-wheeled transport requiring design consideration in some locations.

Regarding special needs persons, it is important to understand who are being planned for, and their needs.

- Life Cycle Planning: There are travellers and recreational users who have special transport needs due to the normal stages of the human life cycle. Examples include children from 5 to 14 years old for whom transport is particularly unsafe, or who need special assistance when using the transport system; women during pregnancy who may need special assistance or who should be protected from exposure to particular health risks associated with pregnancy; and the elderly who, as a result of age-related impairments, require special assistance, security and access.
- Impairment Travellers: These are customers with physical or cognitive impairments and disabilities or neurological impairments and disabilities, for whom special assistance, adapted technologies and special safety requirements are necessary.
- Signage Travellers: These are customers who for reasons of illiteracy, age or lack of familiarity with the language of signage are unable to access enough information to use the transport system effectively.

Bicycles offer the greatest potential to reduce reliance on motorised travel for distances longer than are suitable for walking or other modes. It is therefore worth mentioning cyclist needs specifically.

Cyclists have a wide variety of levels of experience and confidence, and attitude. At one extreme is the hardened commuter; at the other extreme are children who are for the first time learning road sense and novice or elderly cyclists who may be apprehensive about cycling generally. In between, there will be a wide spectrum of cycle users with varying levels of confidence and experience.

- **Fast commuter / Sporting cyclist** - confident in most on-road situations, and will use a route with significant traffic volumes if it is more direct than a quieter route;
- **Utility cyclist** - may seek some segregation at busy junctions and on links carrying high speed traffic; inexperienced utility, commuter and leisure cyclist - may be willing to sacrifice directness in terms of both distance and time, for a route with less traffic and more places to stop and rest. May travel more slowly than regular cyclists;
- **Child** - may require segregated, direct routes from residential areas to schools, even where an on road solution is available. Design needs to take account of personal security issues. Child cyclists should be anticipated in all residential areas and on most leisure cycling routes;
- **Users of specialised equipment** - includes disabled people using hand-cranked machines and users of trailers, trailer-cycles, tandems and tricycles. This group requires wide facilities free of sharp bends and an absence of pinch-points or any other features which force cyclists to dismount. Cycle tracks and lanes where adult cyclists frequently accompany young children should be sufficiently wide to allow for cycling two abreast. This enables the adult to ride on the offside of the child when necessary.

Generally speaking, all types of NMT users will use high quality well maintained traffic-free routes away from the carriageway if they are more direct than the equivalent on-road

alternative and there are no personal security issues. A well-designed cycle facility will be attractive to a wide spectrum of cyclists. The objective must be to cater for as wide a spectrum as possible, taking in to account the locality and other contextual considerations. It must however be recognised that not all modes can be accommodated by all facilities.

6.2 Transformation

Transformation is an important policy objective for several areas of governance. In particular, NMT can influence transformation in social and economic spheres. The important thing to note is that transformation requires an innovative approach to transport planning, which requires more effort than a standard approach, and a greater reliance on collaboration among stakeholders.

6.3 Safety

Safety is generally about minimising or managing conflict between users of a carriageway (whether this is a road or an off-road situation) and needs to consider the design users: age, experience, type of trips and the built environment. This is one reason why the range of users needs to be considered explicitly in infrastructure design. Safety is also about designing for mode dynamics independently of the interaction between users. For example, a lone cyclist needs to be able to negotiate hills and curves and to stop on a given surface under variable weather conditions.

6.4 Access

Aside from safety considerations, access is paramount. Mobility is not an objective in itself – it is a means to providing access to opportunities. One of the objectives of urban and regional planning is to reduce the need to travel by influencing the spatial arrangement of land uses. To the extent that mobility remains a necessity, NMT can minimise the negative impacts of travel and maximise positive spinoffs such as improved health and environmental conditions.

6.5 Integrated, Multi-layered Transport System

NMT is part of a broader, multi-layered transport system, and if the various parts are planned together, the system as a whole – and its users – will benefit. NMT should be planned as a primary mode of transport and as a feeder mode to public transport.

6.6 Sustainability

Sustainability has two facets.

The first is about providing a system that can be maintained in the long term. If the proposed system cannot be maintained because of budgetary or institutional limitations, then it is not sustainable. Equally, if the NMT system undermines the objectives of other sectors, then it compromises sustainability.

The second consideration is the impact of the system on the natural environment, social conditions, economic conditions and resource consumption. NMT has significant potential in its ability to reduce the negative impacts of transportation on these four elements, each of which is important for governance.

6.7 Services and Infrastructure

Always consider services to supplement (or even replace) infrastructure. Sometimes peripheral aspects are just as important as primary infrastructure, and are generally less costly. The challenge is usually institutional: ensuring that planning and budgeting processes are not biased towards hard infrastructure. Elements such as maintenance (e.g. lighting, waste management and repair), education, training, enforcement of regulations and security can be very effective.

REFERENCES

- ¹ City of Cape Town, Directorate: Transport, City of Cape Town: NMT Policy and Strategy, Oct 2005.
- ² Eden District Municipality, NMT Masterplan for Eden District Municipality, July 2007.
- ³ The Constitution of the Republic of South Africa, 1996.
- ⁴ Department: Transport, Republic of South Africa, National Household Travel Survey, 2005.
- ⁵ Government Gazette, The Presidency, National Land Transport Transition Act, Act 22 of 2000.
- ⁶ Government Gazette, The Presidency, Municipal System Act, Act 32 of 2000.
- ⁷ Government Gazette, Notice 424 of 2008, Department of Transport, National Land Transport Bill.
- ⁸ Department: Transport, Republic of South Africa, Draft National Non-motorised Transport Policy, Dec 2008.
- ⁹ Provincial Administration of the Western Cape (1997), cited by L de Waal and K Garrod, Moving Ahead, Chapter 9: Bicycles and Pedestrians, 11/03/1998.
- ¹⁰ Provincial Administration: Western Cape, Department of Transport and Public Works, Delivery Plan 21: Non-Motorised Transport, Cape Town, 2003.
- ¹¹ Cape Town Metropolitan Transport Plan 1980-85, Cape Town, 1979.
- ¹² Cape Metropolitan Council, Regional Planning, Metropolitan Spatial Development Framework Technical Report, April 1996, Cape Town.
- ¹³ City of Cape Town, Integrated Metropolitan Environmental Policy, Revised Draft, Cape Town, August 2001.
- ¹⁴ City of Cape Town, Strategic Direction 2003-2005, Vision Statement, 2002.
- ¹⁵ City of Cape Town, Directorate: Transport, Roads and Stormwater, Calming Residential Streets, August 2003.
- ¹⁶ Prepared by Arcus Gibb for the City of Cape Town, Pedestrian Safety project, Volume 1: Pedestrian Safety Strategic Plan for the City of Cape Town, Cape Town, July 2004.
- ¹⁷ Department: Transport, Republic of South Africa, National Household Travel Survey, 2005.
- ¹⁸ White Paper on National Transport Policy for Department of Transport, Pretoria 20 August 1996.
- ¹⁹ Department of Transport, Committee of Transport Officials, Southern African Developing Countries, Road Traffic Signs Manual, 3rd Edition, Nov 1997.
- ²⁰ Department: Transport, Republic of South Africa, Rural Transport Strategy for South Africa, Sept 2002.
- ²¹ PGWC, Department of Transport and Public Works, Public Transport Statement for Special Needs Passengers in the Western Cape, Draft, undated (issued 2008).

ACRONYMS

ADT – Animal-drawn Transport

BEN – Bicycling Empowerment Network

BPP – Bicycle Partnership Programme, began in June 2007, between the City of Cape Town and Interface for Cycling Expertise (I-CE).

CID – City Improvement District

CITP – Comprehensive Integrated Transport Plan

CPTED – Crime Prevention Through Environmental Design

CoCT – City of Cape Town

CPTR – Current Public Transport Record

DITP – District Integrated Transport Plan

DM – District Municipality

DoT – See NDoT

GIS – Geographic Information System

ICE – Interface for Cycling Expertise

IDP – Integrated Development Plan

IRT – Integrated Rapid Transport (formerly Bus Rapid Transport)

ISRDP – Integrated Sustainable Rural Development Programme

ITP – Integrated Transport Plan

LED – Local Economic Development

LITP – Local Integrated Transport Plan

MOU – Memorandum of Understanding

MSA – Municipal Systems Act 32 of 2000

MSDF – Metropolitan Spatial Development Framework

NDoT – National Department of Transport

NGO – Non-governmental Organisation

NHTS – National Household Travel Survey, conducted by the NDoT in 2003 and published in 2005

NLTSF – National Land Transport Strategic Framework

NLTAA – National Land Transport Transition Act 22 of 2000

NMA – New Mobility Alliance

NMT – Non-motorised Transport

NRA – National Roads Agency

OLS – Operating Licence Strategy

PGWC – Provincial Government of the Western Cape

PLTF – Provincial Land Transport Framework

PTIF – Public Transport Infrastructure Fund

PTP – Public Transport Plan

RTMC – Road Traffic Management Corporation

RTSM – Road Traffic Signs Manual

SANRAL – South African National Roads Agency Limited

SDF – Spatial Development Framework

SMME – Small, medium and micro enterprises

TIA – Traffic Impact Assessment

TOD – Transit Oriented Development

UCT – University of Cape Town

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APPENDIX A

Benefits of NMT

There is a range of potential benefits arising from non-motorised transport, but there is also a number of things that need to be in place in order for communities to receive these benefits. Much of the purpose of this NMT strategy report is to provide district and local municipalities with an understanding of how NMT can be implemented in a way that achieves maximum benefit. The table below provides a summary of the potential strategies that can be considered, bearing in mind that not all are applicable in every circumstance. The benefits also are not exclusive, so there is some overlap.

On reading this table, it will be clear that many of the strategies are not directly related to NMT infrastructure; indeed, infrastructure will not achieve significant benefits unless it is supported by a broader strategy and appropriate policy.

Benefit	What is needed	How to achieve it
Affordable access to opportunities	Short commuting distances	Integrated planning that keeps employment close to residential areas; increased development densities; routes planned to meet needs; continuity of routes
	Financial support for bicycle purchase	NGO and other activity providing communities with links to resources
	Facilities at private and public destinations that allow safe bicycle lockup and showering	Municipal requirements that certain new developments and existing buildings provide such facilities; incorporate NMT strategies in traffic impact assessments
	NMT routes to destinations and through new development areas	Incorporation of requirements in development approval processes that ensure provision of NMT routes
	Design of infrastructure to allow passage of people with disabilities	Amendment of municipal design standards to allow for wheelchair access (e.g. tactile facilities for blind people, curb design for wheelchairs, standards for surfacing of NMT routes); municipal requirements that public buildings meet requirements for universal access; design for universal access at public transport facilities
	Reduced impact of parking on NMT	Develop parking requirements for new development that reduce the inconvenience for walking and cycling from the public street to building entrances
Support of public transport	Improved links to public transport	Planning of NMT routes and facilities coordinated with public transport stops and stations
	Bicycle facilities at stations and on public transport vehicles	Municipal engagement with public transport operators to provide facilities; provision of facilities by municipalities planning and constructing transport precincts
Improved health	Reduced reliance on motorised transport	Programmes and investments that increase feasibility of NMT as a serious transport mode; programmes to overcome socio-cultural inhibitions related to NMT; design for comfort and convenience of NMT routes; adopt design standards for street and parking infrastructure that reduce the bias towards motorised transport; high quality of facility design, treating users with dignity
	NMT for recreation	NMT routes that make use of parks, natural areas and public open spaces; routes designed to accommodate small-wheeled personal mobility devices; bicycle facilities at sporting and other recreational destinations
	Greater social interaction	Design for human-scaled, livable communities
	Reduced pollution	See 'Reduced reliance on motorised transport'

Improved education opportunities	Reduced time for travel to school	Improved routes for bicycles and bicycle facilities at schools; bicycle training programmes; programmes for providing bicycles to scholars; improved NMT access to public transport (See 'Support of public transport')
	Reduced cost of travel	Scholar subsidies for reduced public transport fares, combined with improved NMT access to public transport; see 'Affordable access to opportunities'
Reliable transport	Bicycle maintenance	Bicycle maintenance training; support of bicycle maintenance businesses
	Infrastructure maintenance	Consider NMT accommodation during construction of all forms of infrastructure; develop monitoring strategies, and maintenance schedules and standards for NMT infrastructure
	Reduced traffic congestion	Reduce reliance on motorised transport (see 'Improved health')
Safe transport	Design of NMT routes to accommodate appropriate NMT vehicles	Identify appropriate NMT modes for specific routes, and design accordingly
	Safe practice by transport operators (private and public)	Programmes to increase awareness of NMT users and related traffic regulations
	Safe operation of animal-drawn vehicles	Development of design standards for facilities for ADV; development of operational regulations for ADT; programmes to develop awareness of ADVs among drivers, and safer driving practices by ADV drivers
	Improved vehicle maintenance	Development and enforcement of maintenance standards for alternative modes such as ADV
	Provision of adequate lighting and other measures to improve personal security	Maintenance schedules and standards that recognise the importance of NMT as a transport mode
	Infrastructure design that allows safe passage of NMT vehicles	Use of bicycle-friendly stormwater grates; design of road and rail intersections to facilitate NMT crossing; construction of NMT bridges across barriers; traffic calming
	Visible surveillance by police, parking security and others	Arrangements with relevant agencies; introduction of walking and cycling 'buses' and scholar patrols
	Planning and design of NMT routes and facilities that minimises opportunities for crime	Adopt CPTED principles; carefully plan key routes for reaching critical mass; coordinate corridor planning of infrastructure with adjacent land uses
Energy conservation	Reduced reliance on single-occupant motorised transport	Support of public transport (see also 'Affordable access to opportunities'); see also 'Reduced reliance on motorised transport' under Improved health
Economic revitalisation	Job creation	Promotion of support industries through LED (such as NMT vehicle repair, local manufacture of vehicles and parts, animal care); construction of infrastructure using labour-intensive methods; promotion and support of new businesses using NMT as a transport mode
	Improved access to employment	See 'affordable access to opportunities'
	Reduced cost of travel so that a smaller proportion of income is spent on transport	See 'affordable access to opportunities'
	Support for alternative modes such as pedi-cabs for direct employment and promotion of tourism	Small business support programmes; development of regulations for non-motorised transport of passengers; development of facilities for waiting for passengers
	Support for equipment for animal-drawn transport	Small business support programmes; financial support mechanisms; development of regulations for animal-drawn vehicles; development of facilities for animals to rest and be fed and watered

APPENDIX B

Responsibilities Related to NMT Provision

Area of responsibility	Specific aspect	Government responsibilities
Infrastructure	Planning and design	Local or district municipalities identify projects for inclusion in master plan and ITP; PGWC and municipality to develop implementation plan and strategies in consultation with stakeholders
	Construction	Local or district municipalities
	Maintenance	Local or district municipalities
Regulation	Licensing of NMT vehicles	Province
	Traffic safety	National govt sets legislation to guide road traffic safety; municipalities establish by-laws to govern where and when NMT vehicles may operate
Transport planning	Operational plans	Local municipalities develop operational plans in line with provincial plans; where capacity is lacking, PGWC assists in short term, but develop local capacity in long term
	National transport master plan	NDOT sets requirements for master plans from lower tiers of government to feed into national plans
	Local transport master plan	Local and district municipalities prepare master plans and ITPs that are included in the Provincial Land Transport Framework
	Policy setting	NDOT sets overall policy framework to guide lower tiers of government; PGWC and municipalities set policy within national policy framework
	Policy performance	NDOT is responsible for monitoring and evaluating overall NMT policy performance, and ensuring effective policy implementation; to measure performance, NDOT will develop indicators for monitoring success of NMT policy; provincial DoT is responsible for monitoring and evaluating NMT provision and programmes; Local govt is responsible for monitoring and evaluating local-level NMT plans and projects.
Funding	Subsidies	NDOT will work with other departments on a plan for financial assistance for ADV, and will develop criteria for the subsidy
	General funding sources	The four most common funding sources are donor funds, central govt grants, local govt revenues and allocations from a dedicated road fund
	Specialised funding sources	NDOT will ensure the Road Accident Fund covers claims related to ADT where licencing and regulatory requirements are met; NDOT will establish the NMT Fund; municipalities with PGWC will develop suitable local funding models for ADV
	Gaps in funding	Promotion of NMT requires certain infrastructure and strategies not covered by the usual mechanisms – NDOT will work with other departments to develop a plan to give financial assistance to rural people who would like to purchase bicycles for transport; NDOT is formulating the Public Transport Infrastructure Fund as an opportunity within the sphere of local govt to ensure integrated planning through ITPs
Safety	Awareness of traffic safety	NDOT (with RTMC) will provide programmes to increase awareness of traffic safety issues and encourage safe driving habits; NDOT (with RTMC and Dept of Education) will develop NMT education material and roadshows
	Vehicle maintenance	Provincial DoT will work with municipalities to establish repair shops under LED programmes
	Crime	Crime needs to be addressed with the help of police and municipal traffic safety and security officers, and community policing forums; local govt needs to address crime through design of facilities by adhering to CPTED principles; local govt needs to address crime through maintenance programmes for lighting and other infrastructure

	Road infrastructure maintenance	NDOT (with RTMC) will ensure that road safety audits are conducted every 5 years
Guidelines	Facility design	NDOT developed pedestrian and Bicycle Facility Guidelines, including how to determine appropriate facility type, location and priority for implementation; municipalities can adopt their own guidelines; there are no local guidelines for facilities for small-wheeled devices or ADT, but many international examples

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