

A PROPOSED STRATEGIC PLAN FOR NON-MOTORISED TRANSPORT (NMT) FOR CAPE TOWN

Pretorius, L.¹ and Bester, C.J.²

¹City of Cape Town.

²University of Stellenbosch.

ABSTRACT

Although planning and implementation for bicycle and pedestrian facilities in Cape Town have been undertaken in the past, these initiatives have not been carried out under the guidance of an overall framework or policy for the broader metropolitan area. Whilst, pedestrian and cycle issues are briefly described in the City of Cape Town's Integrated Transport Plan [Cape Metropolitan Council (CMC), 1998], a contextual analysis of non-motorised transport (NMT) issues in the City, the City's policy responses and strategies, have not been comprehensively addressed.

This paper sets out to describe the issues relating to NMT in the City with specific reference to walking and cycling modes. It further outlines a proposed policy response and strategies to address NMT and describes certain key projects proposed to launch and promote the NMT strategy. This proposed policy is also guided by national (Road to Safety 2001-2005 strategy which includes Shova Kalula) and provincial (Provincial Delivery Plan 21 for public transport) frameworks.

Even though the policy is developed for Cape Town it can clearly be adapted to other cities in South Africa and it is recommended that all cities include and address NMT in their Integrated Transport Plans.

1. INTRODUCTION

Although planning and implementation for bicycle and pedestrian facilities in Cape Town have been undertaken in the past, these initiatives have not been carried out under the guidance of an overall framework or policy for the broader metropolitan area. Whilst, pedestrian and cycle issues are briefly described in the City of Cape Town's Integrated Transport Plan [Cape Metropolitan Council (CMC), 1998], a contextual analysis of non-motorised transport (NMT) issues in Cape Town, the City of Cape Town's (hereafter referred to as the City) policy responses and strategies, have not been comprehensively addressed.

This paper sets out to describe the issues relating to NMT in the City with specific reference to walking and cycling modes. It further outlines a proposed policy response and strategies to address NMT and describes certain key projects proposed to launch and promote the NMT strategy.

2. NMT POLICY FRAMEWORK

The recognition of NMT as a mode is embodied in certain national legislation, policies and frameworks. At nationally government level, the Green Paper on Transport (National Department of Transport (NDoT), 1996), a national transport strategy contained in Moving South Africa (NDoT, 1998), the National Land Transport Transition Act (RSA, 2000) and the Rural Transport and Development Strategy for South Africa (NDoT, 2002) all emphasise the importance of NMT in the overall transport system of South Africa.

The Road to Safety 2001-2005 strategy (NDoT, 2001) 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 programme to promote the safety of cyclists and pedestrians.

Provincial legislation within the White Paper on Western Cape Provincial Transport Policy [Provincial Administration: Western Cape (PAWC), 1997] and delivery strategies (PAWC, 2003) also require the promotion of efficient forms of transport with specific reference to NMT in the formulation and implementation of transport plans and programmes, as well as the implementation of appropriate infrastructure to support NMT.

3. NMT MOVEMENT PATTERNS AND TRENDS

3.1 Public Transport Commuting

Cape Town has a network of public transport infrastructure (rail and road-based public transport) that serves an estimated 1,1 million commuters (City of Cape Town, June 2002) during the morning, inter-peak and afternoon peak hours. Based on the premise that all public transport trips contain NMT trips, at least 1,1 million NMT trips have been generated in 3 hours of the day.

3.2 Cycling and Walking Commuting

The results obtained from the national census (Statistics SA, 2001) regarding the extent of walking and cycling to work or to school in the recent national census, indicated that 19% and 0.5% of people questioned and residing in Cape Town, travel to work or to school by walking and cycling, respectively. This NMT movement demand to work and to school is especially high in the communities in the south-east area of the metropole and outlying rural areas of the metropole. Refer to Figures 1 and 2 (Darker colouring indicate zones of increased NMT use). These results indicated an increase in NMT use compared to the 7% modal split (City of Cape Town, 2002) estimated for NMT in 2001.

3.3 Scholar Bicycle Travel Surveys

Of the planning studies completed to date, the Blaauwberg Bicycle Study (City of Cape Town, 2002) contained the most comprehensive sample size with 1151 learners responding to the survey of which 53% were female and 47% were male. The respondents further indicated that 67% of the learners owned a bicycle. The choice of travel mode to school for learners is illustrated in Figure 3. It indicates that 22% of respondents walk to school and only 4% cycle to school. This further indicates that 29% of learners are independently mobile and use NMT as a mode of transport to school. It also clearly indicates that 66% of all scholars travel to school by car and are not independently mobile.

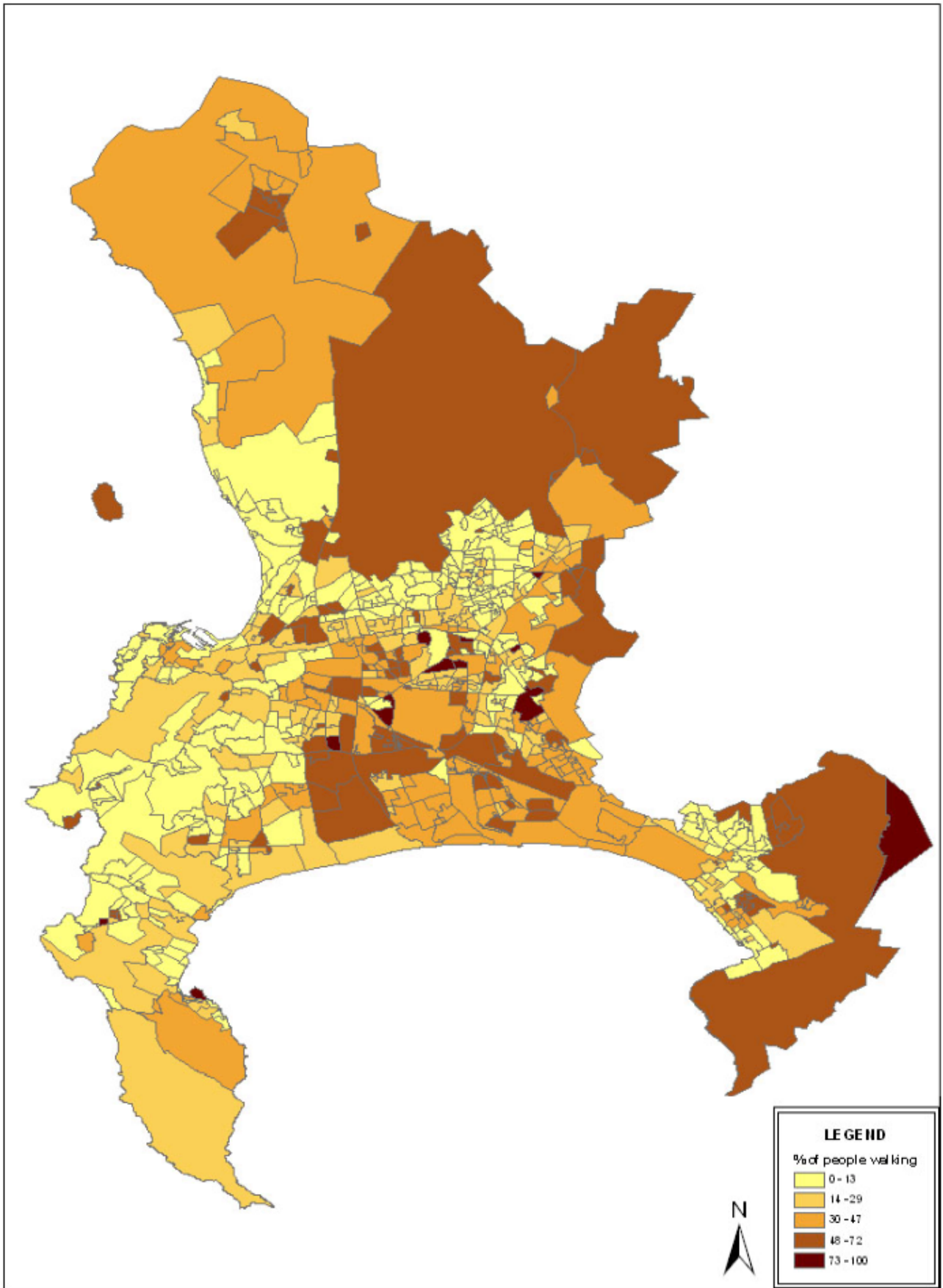


Figure 1. % of people walking to school or work.

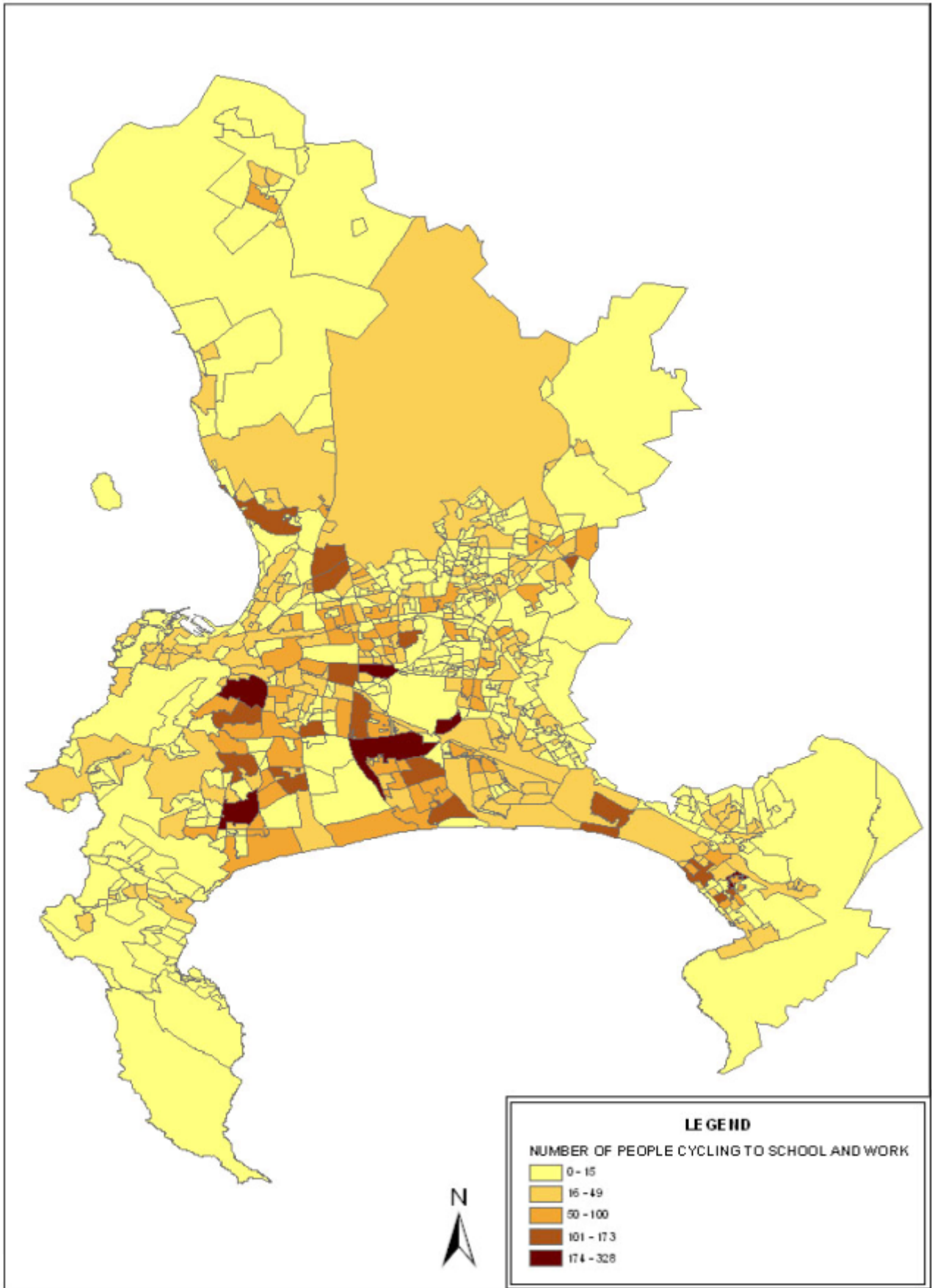
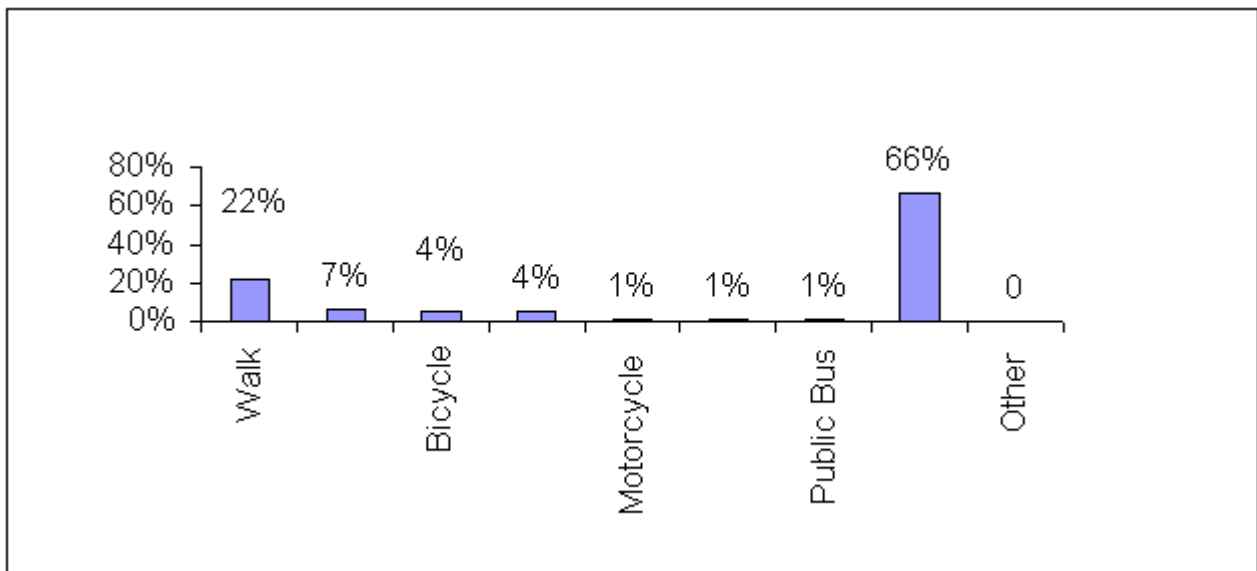


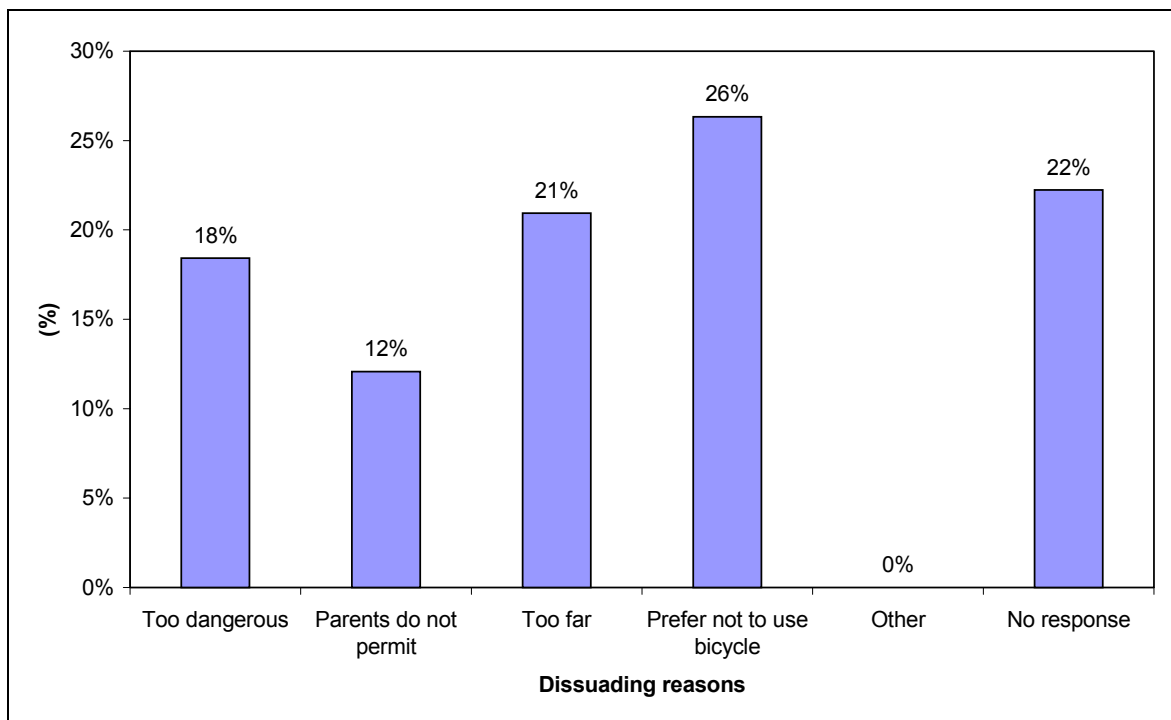
Figure 2. No of people cycling to school or work.



Data source: Blaauwberg Bicycle Study (City of Cape Town, 2002)

Figure 3. Scholar transport mode to school.

Of the 78% of respondents who provided reasons for not using their bicycle to travel to school, the most likely reason was that learners preferred not to use their bicycle. This reason, as well as other reasons dissuading learners from using their bicycles, is illustrated in Figure 4.



Data source: Blaauwberg Bicycle Study (City of Cape Town, 2002)

Figure 4. Reasons for not using a bicycle to school.

3.4 Age and Gender Profile

Analyses of the gender profile of pedestrians and cyclists that travel to work or to school as received from the national census (Statistics SA, 2001) confirms that more males than females cycle, however, pedestrian mobility is evenly balanced in all age groups. Refer to Figures 5 and 6.

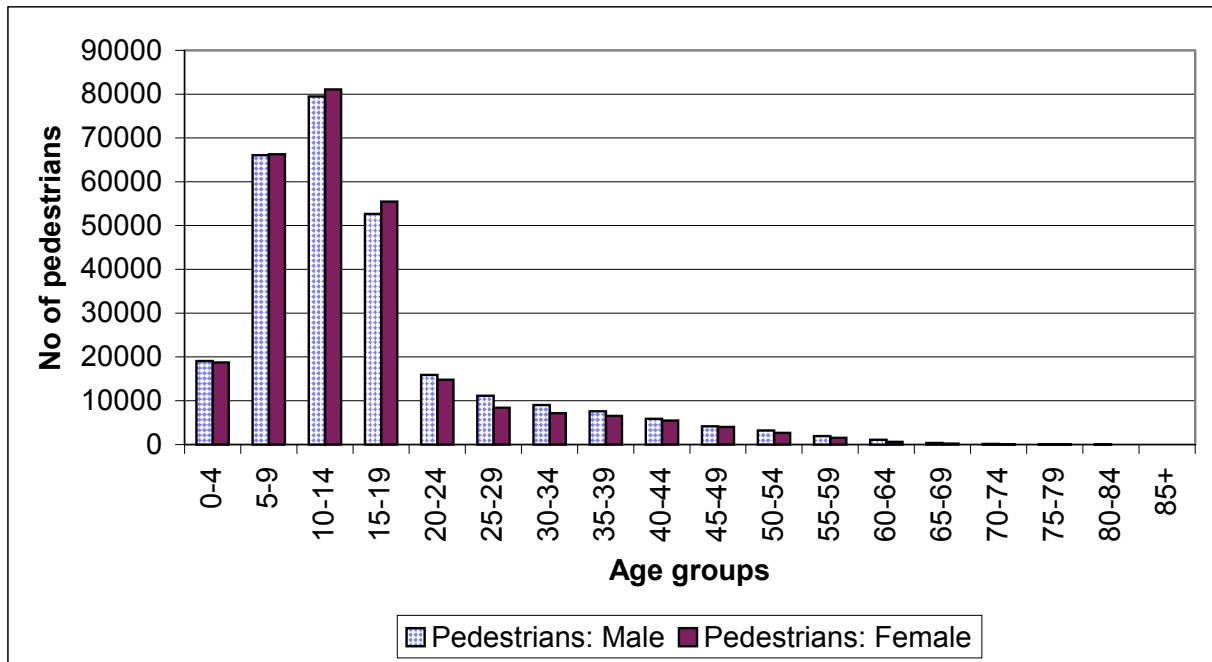


Figure 5. Number of pedestrians per age group.

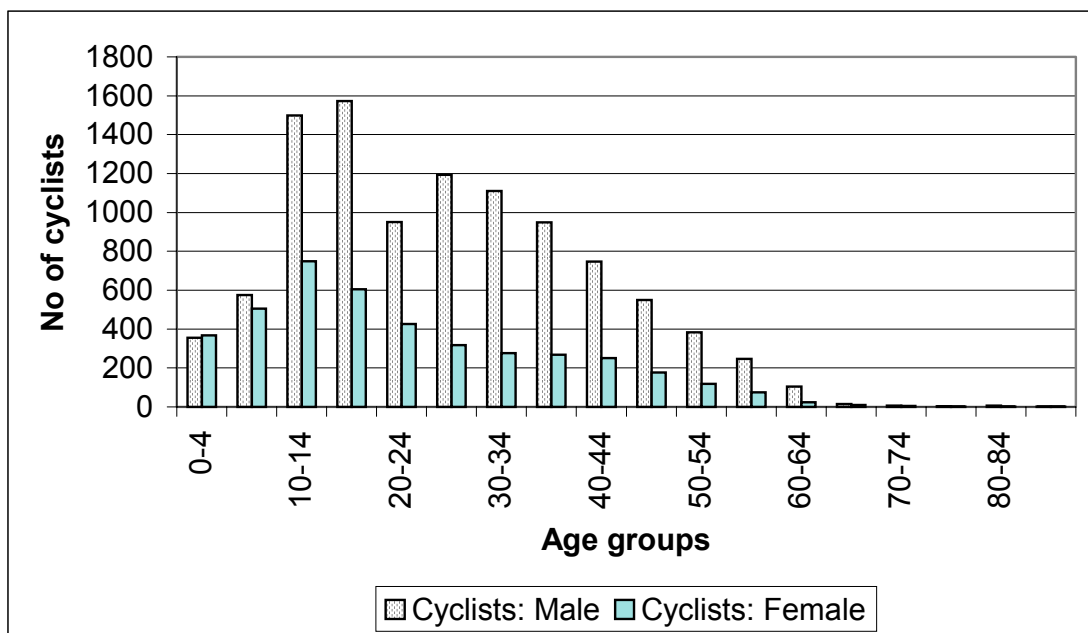
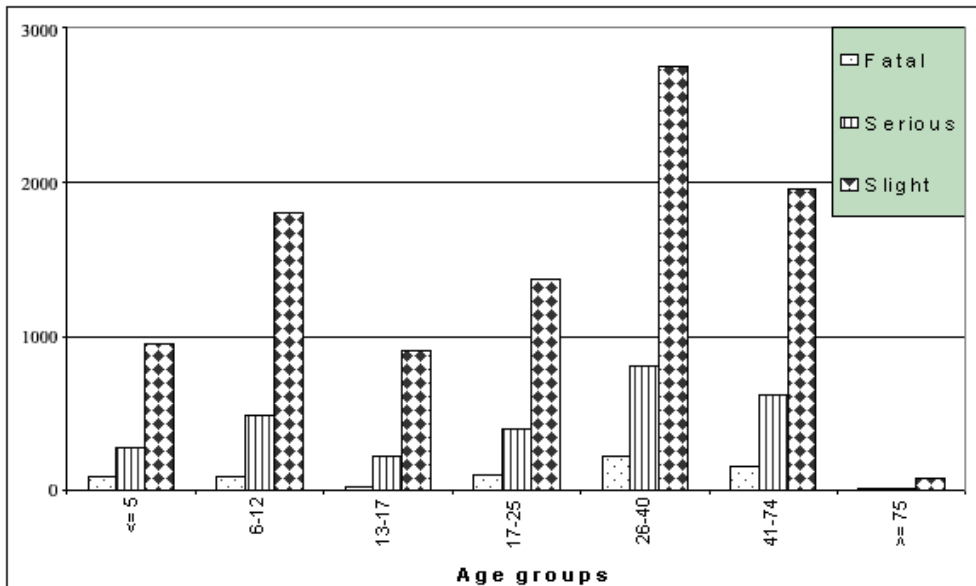


Figure 6. Number of cyclists per age group.

4. ROAD SAFETY FOR NMT USERS

4.1 Pedestrian Road Accident Statistics

In Cape Town historic road traffic accident statistics have indicated that pedestrian casualties, especially fatalities, have consistently been one of the most significant contributors to the overall road traffic accident situation. The ratio of pedestrian fatalities to total road accident fatalities in the Cape Metropolitan Area is 59% in 2001 (City of Cape Town, 2001). These pedestrian fatalities are especially significant in the economically active age group of the South African population, the age group 26-40. Refer to Figure 7. Figure 8 illustrates the worst pedestrian sites (highlighted routes) in Cape Town and these are primarily located in the outlying poorer communities of the metropolitan area.



Data source: Traffic Safety Bureau, City of Cape Town

Figure 7. Pedestrian casualties for different age groups (1997-2002).

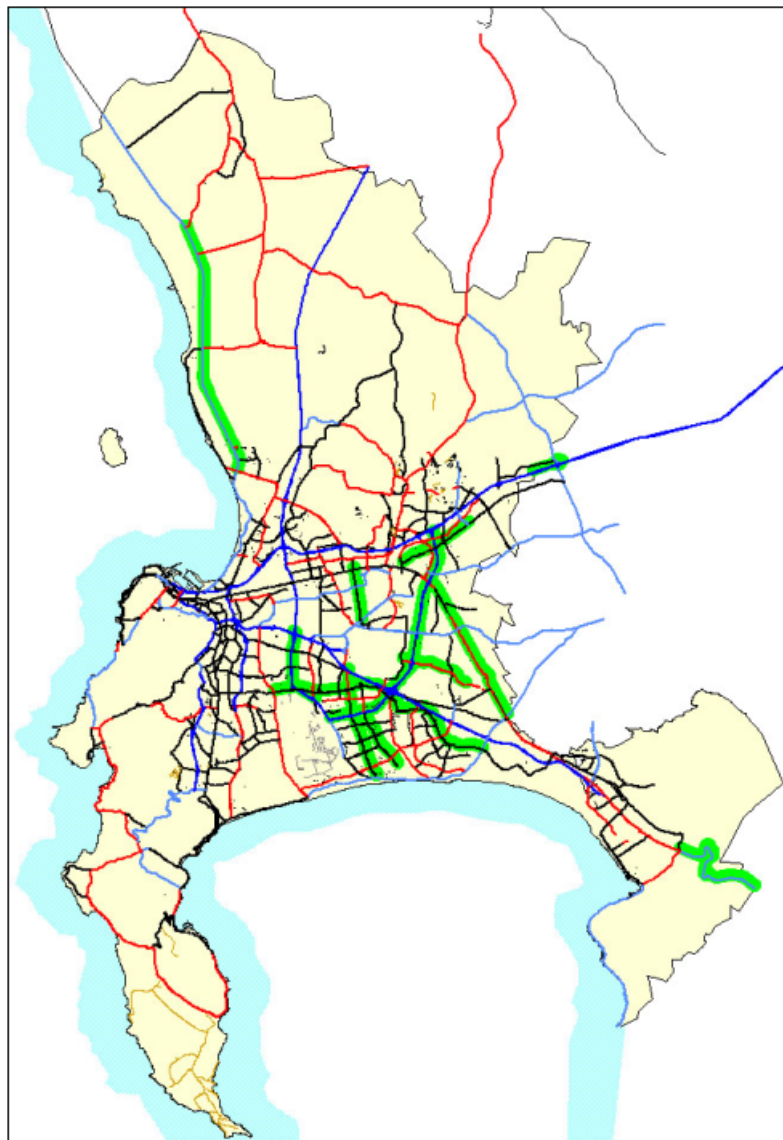


Figure 8. Worst pedestrian casualty locations in Cape Town.

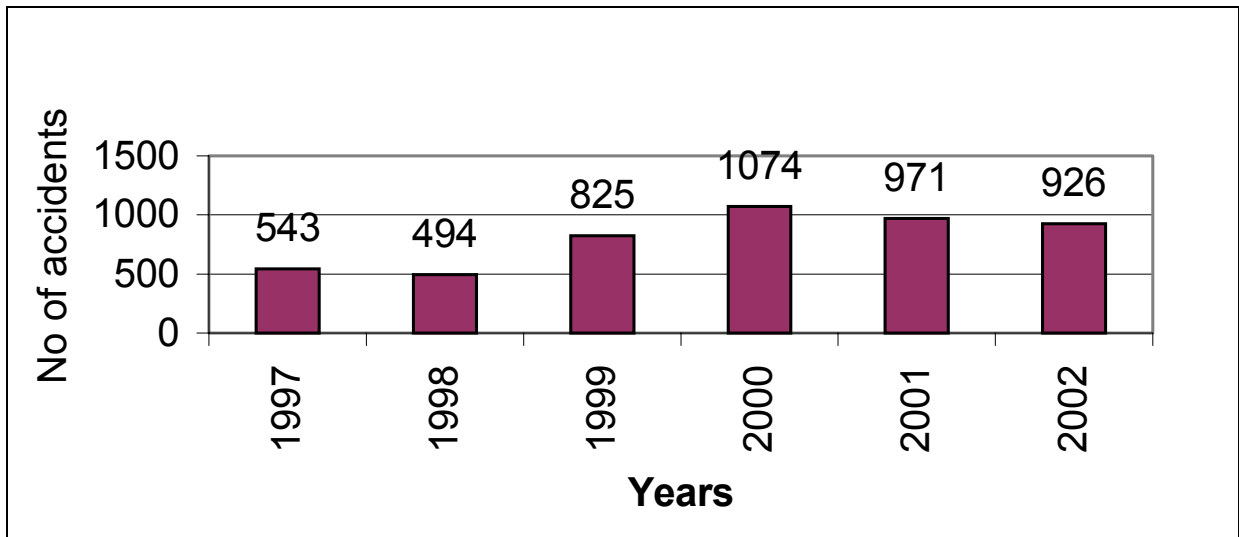


Figure 9. Bicycle accident statistics.

4.2 Pedestrian Rail Accident Statistics

Owing to the apartheid history of South Africa, the railway lines have often been used to provide a physical barrier between communities of different races. This led to a high degree of illegal crossing of railway lines and pedestrian fatalities on railway lines accounted for 96% of all fatalities on railway lines in 2001 (City of Cape Town, 2001).

4.3 Cycling Road Accident Statistics

Accident statistics obtained from the City of Cape Town's Traffic Safety Bureau indicates that only 1% of all road accidents in Cape Town involved a bicycle. However, the low accident number involving cyclists is not an indication that cyclists are experiencing good levels of safety on the roads in Cape Town. Figure 9 illustrates the bicycle accident trends for the period 1997 to 2002 and further indicates that bicycle accidents peaked in 2000 at 1074 bicycle accidents.

5. LAND USE PLANNING

The post-apartheid city structure forces people from poorer outlying residential communities to travel long distances to places of work or for recreation. However, even after 1994, areas such as Delft and Wesbank were developed, perpetuating the location of housing for poor communities on outlying areas of the city and forcing individuals to pay high transport costs. The Metropolitan Spatial Development Framework (Cape Metropolitan Council, 1996) attempted to rectify this unsustainable land use planning through the promotion of corridor development in Cape Town.

NMT has the ability to address some of the transport dilemmas facing Cape Town, not necessarily on a City-wide level, but more on a local level. NMT, specifically cycling would enable individuals in out-lying communities with limited access to public transport, to cycle to the nearest public transport interchange or rail station. It also provides learners with an alternative form of transport to travel to school. However, this travel mode should be supported by the necessary storage facilities for bicycles and public transport interchanges and rail stations. This mode of NMT does have ability to free up more disposable income for poor people and furthermore, improve their quality of life.

6. BUSINESS OPPORTUNITIES

The bicycle industry offers various business opportunities for different sectors and target markets in Cape Town. A few examples presently available in Cape Town are the Bicycle Empowerment Network (BEN) bicycle maintenance and refurbishment workshops which also provides skill

training, as well as a cyclo-tourism initiative organised by BEN in Masiphumulele, Ocean View.

Bicycle delivery services are also being undertaken in the Cape Town CBD with the Bicycle Brigade doing Inner City deliveries on bicycle. Even within the security industry, NMT is beginning to be utilized in the form of horse-back and bicycle patrols.

NMT also has the opportunity to generate income for Cape Town by NMT-related events such as the successful annual Argus Cycle Tour, as well as the Vehicle Free Event recently organised along Klipfontein Road, Cape Town.

7. EDUCATION

Only when combining education, communication and public participation with infrastructural improvements and institutional reform in the context of road safety management, can empowered and involved communities with an appreciation and responsibility for road safety issues, be developed.

This strategic direction regarding road safety education bestows on local government the responsibility of

- supporting and participating with Arrive Alive in aligning pedestrian safety programs with the Road Safety Curriculum,
- including a road safety education component in all pedestrian and cyclists infrastructural improvement projects, as well as Shova Kalulu initiatives.

The real challenge lies with extending the short-term public participation processes coupled with infrastructure improvements, into a longer-term initiative to develop a community culture around road safety awareness.

8. THE WAY FORWARD FOR CAPE TOWN

The City's response in recognising the needs of NMT users in Cape Town, is addressed in the following proposed vision statement for NMT:

VISION STATEMENT:

“Cape Town will grow into a city with a general sense of well-being through the development of a quality dignified environment where people feel free to walk and cycle, space is shared and everyone has access to urban opportunities and mobility.”

An important goal in realising this vision is to:

GOAL STATEMENT:

“Increase the use of bicycles and encourage walking by creating a safe and pleasant bicycle and pedestrian network of paths to serve all the citizens in the Cape Town Area.”

The primary objectives of this goal are as follows:

- Increase the use of bicycle as a mode of travel.
- Improve the safety for pedestrians and cyclists.
- Develop of a quality, attractive and dignified environment
- Promote a changed culture that accepts the use of cycling and walking as acceptable means to move around in the city.

Further secondary objectives of the policy that could be achieved through the successful implementation of the policy, are:

- Integrated land use development appropriately suited for non-motorised transport.
- Social and economic empowerment that non-motorised transport can affect through improved low-cost mobility.
- Development of a safer road environment that allows non-motorised transport users their fair share of the available road space.

The question that follows hereafter is “How can the City make significant improvements to bring about the desired objectives as stated above?” The primary objectives can be achieved by the implementation of the following strategies. These strategies are further grouped into key principles that further promote non-motorised transport, namely connectivity, safety, convenience and attractiveness. The strategies identified are as follows:

Directness, coherence

- Promotion of low cost mobility.
- Improve network connectivity.

Safety

- Use traffic calming to improve road safety on residential streets.
- Align NMT road safety interventions with the Road to Safety strategy (National Department of Transport, 2001).
- Design and implement appropriate infrastructure for NMT.

Attractiveness

- Enhance the attractiveness of the NMT environment.

Convenience

- Integrate NMT with public transport.
- Coordinate all NMT activities under the direction of a single NMT advocacy group.
- Promote NMT interests in integrated land use and transport planning.

General

- Encourage, participate in and initiate marketing, promotion and education of NMT.
- Encourage and support cycling-related SMME's.

9. NMT FACILITY PLANNING AND PROJECTS

The City is systematically developing the planning frameworks to create NMT friendly environments such as the Metropolitan Bicycle Route Masterplan, various local area non-motorised transport network plans, the development of a policy on non-motorised transport and a renewed traffic calming approach, as well as the formulation of the proposed Pedestrian Safety Implementation Plan. However, very few projects have been implemented and by 2003 only 90 km of bicycle routes have been implemented in Cape Town.

To improve on this, key projects being designed or constructed presently where key NMT principles are being applied, are the following:

- Within the City of Cape Town's Dignified Spaces Program (City of Cape Town, 2003) there is a strong reliance on integration between public open spaces, motorised public transport and NMT systems, as these are the places where people move. Urban design concepts can improve the attractiveness of the system, as well as improve the ease with which people move through the system. These concepts are evident in the success of the pedestrianisation of Ngulube Drive at Philippi Station and St. Georges Mall, Cape Town CBD.

- The Klipfontein Corridor project has NMT as a key component and the implementation strategy for this component is to identify NMT desire lines between public transport facilities or public amenity projects and link these projects through an improved pedestrian and attractive environment.
- A shared bicycle and pedestrian facility is being designed along Kommetjie Main Road between Ocean View and Masiphumulele to increase the safety for pedestrians from Masiphumulele, as well as the developing cyclists being trained through the BEN bicycle workshop, located in Masiphumulele.
- The first phase of a network of cycle ways in Blaauwberg has been implemented around schools to promote cycling to schools in this area.
- In Khayelitsha a shared pedestrian and cycle path is being designed and constructed along a green belt traversing the community.
- Projects of the Bicycle Empowerment Network to promote cycling as a form of low-cost mobility, as well a job-creation and income-generating initiative.

10. CONCLUSIONS AND RECOMMENDATIONS

Based on the contents of this report, the following conclusions are drawn:

- National and provincial policies and guidelines require that the City actively support the promotion of NMT.
- NMT movement patterns and trends further indicate that large proportions of the Cape Town population are already cycling or walking to places of work or to schools.
- Pedestrian safety statistics also further illustrate the need for intensified and coordinated activities to promote NMT.
- Trends and accident statistics indicate that there are residential communities, especially in the outlying poorer communities, where pedestrian safety interventions are required.
- The City has already started the process of providing facilities for NMT users. However, this process has to be further extended and integrated/ coordinated with supporting activities such as the development of business opportunities, education and marketing.

Based on the above-mentioned conclusions, it is recommended that the City adopts the vision statement, objectives outlined hereafter and supporting strategies and also implements the actions listed in the body of the report to realise these objectives.

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BIOGRAPHY

Ms Pretorius has developed extensive experience over the last 10 years in the field of transportation engineering through employment as a transport engineering consultant and having worked in local government in the transportation planning unit of the City of Cape Town. This all started when Ms Pretorius graduated from UCT as a civil engineer in 1993 and started work at Africon's transport division in 1994 in Pretoria. After one year she relocated to Cape Town and worked in the Cape Town office for the next 6 years. During this period she developed experience in the field of traffic engineering, obtained her registration with the Engineering Council of South Africa in 1999 and was promoted to Associate at Africon. It was also within this period that she got married and had two boys.

In 2000, she joined the City of Cape Town in their Transport Planning Branch and developed further expertise in the field of traffic engineering, road safety, including pedestrian and bicycle planning. During this period she started studying towards her masters degree in transportation engineering. In 2004, Ms Pretorius obtained her M.Eng degree in Transportation from the University of Stellenbosch. Her final thesis was based on the development of a NMT strategy for the City of Cape Town, which is the base for this paper she is presenting.

Ms Pretorius has recently resigned from the City of Cape Town and has started a transportation consulting firm, The Transportation Partnership, which she co-owns.