

## Annexure B



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# Integrated Transport Plan for the City of Cape Town

*2006 to 2011*

***June 2006***

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## **Glossary**

ABET	Adult Basic Education and Training
ACSA	Airports Company South Africa
AIDS	Acquired Immune Deficiency Syndrome
AMS	Asset Management System
ARTS	Athlone Refuse Transfer Station
ASGISA	Accelerated and Shared Growth Initiative South Africa
ATC	Area Traffic Control
AVL	Automatic Vehicle Location
BEE	Black Economic Empowerment
BELCON	Bellville Container Terminal
BOT	Build, Operate and Transfer
BRT	Bus Rapid Transit
CAPCON	Cape Town Container Terminal
CBD	Central Business District
CCTV	Close Circuit Television
CDM	Cleaner Development Mechanisms
CF	Contextual Framework
CMRIMS	Cape Metropolitan Road Incident Management System
COASA	Coach Operators Association of Southern Africa
CPTR	Current Public Transport Record
CTIA	Cape Town International Airport
DBSA	Development Bank of South Africa
DPLG	Department: Provincial and Local Government
EPWP	Expanded Public Works Programme

FIFA	Fédération Internationale de Football Association
GABS	Golden Arrow Bus Services
GAMAP	Generally Accepted Municipal Accounting Practice
GPS	Global Positioning System
HIV	Human Immune Virus
ICLEI	International Council for Local Environmental Initiatives
IDP	Integrated Development Plan
ITP	Integrated Transport Act
ITS	Intelligent Transport Systems
LEAD	Local Community Economic Development
LOS	Level of Service
LPG	Liquid Petroleum Gas
MFMA	Municipal Finance Management Act
MTI	Metropolitan Transport Information
NLTTA	National Land Transport Transition Act
NMT	Non Motorised Transport
NQF	National Qualifications Framework
PGWC	Provincial Government Western Cape
POLB	Provincial Operating Licensing Board
RSC	Regional Services Council
SAFA	South African Football Association
SAP	South African Police
SAPO	South African Port Operations
SATSA	Southern African Tourism Service Association
SDBIP	Service Delivery and Budget Implementation Plan

SDF	Spatial Development Framework
SES	Socio-Economic Status
SETA	Skills, Education and Training Authority
SLA	Service Level Agreements
SMME	Small Medium Micro Enterprises
SNU	Special Needs Users
SOV	Single Occupancy Vehicle
TDM	Travel Demand Management
TIA	Transport Impact Assessment
TOACT	Tour Operators Association of Cape Town
TSM	Transportation Systems Management
TUF	Transport Users Forum
UD	Universal Design
VMS	Variable Message Signage
WSSD	World Summit on Sustainable Development

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# Executive Summary

## 1. Introduction

Transport is the lifeblood of any City and the various organs within the City cannot function without a transport system that works. Transport connects people and it connects people with opportunities.

It is therefore essential, if Cape Town desires to be a place for all it requires a highly efficient transport system that improves access and mobility in an equitable and sustainable manner. The City of Cape Towns plays an important role locally, regionally, nationally and internationally. The City provides services to approximately 800,000 households and jobs to 1.1 million people. It generates approximately 75% of the Western Cape's Gross Regional Product. In 2002, total exports from Cape Town amounted to R28 418 million.

This document is a comprehensive transport plan for managing and developing the transport system of the City of Cape Town. It has been prepared in terms of the National Land Transport Transition Act (NLTTA) 2000, for the City of Cape Town for the period starting 1 July 2006 to 30 June 2011, recognising that the plan will be reviewed on an annual basis.

The premise of the City's Integrated Transport Plan is the provision of Sustainable Transport, wherein all4 transport activities will be sifted through the social, economic and environmental objectives. Sustainable transportation is the ability to move people and goods effectively, efficiently, safely and most affordably without jeopardising the economy, social matters and environment, today and into the future.

This plan covers the jurisdictional boundary of City of Cape Town Metropolitan area as shown in Figure 1. The integrated transport plan sets out the issues of all transport modes and proposes clear strategies for a way forward. Programmes and projects to achieve the strategies have been identified. It is important to note that the approved project implementation processes will be followed and that project implementation is subject to the available budgets.

The objective of this Integrated Transport Plan (ITP) is to provide for and manage future transport demands towards a more balanced transport system that promotes and gives priority to public transport and other alternative modes of transport and relate to, reinforces and compliments the spatial plan, economical development strategies and long term environmental management strategies and plans of the City.

This integrated transport plan is for the period starting on 1 July 2006 and ends on 30 June 2011. Every year the City will update the plan to ensure that 1) transport project budgets are aligned with the City's overall budget; 2) Goals and key performance indicators are updated; 3) aligned with the Integrated Development Plan. It has taken into account previous corporate as well as transport strategies and plans.

The integrated transport plan also acknowledges the role that the hinterland plays in its economy, and thus the scope includes matters that influence the City's linkages and role with the West Coast, Boland, and Overberg regions.

This Integrated Transport Plan has been prepared in terms of section 27(1) of the National Land Transport Transition Act No. 22 of 2000, and will be submitted to the Provincial MEC of Transport and Public Works as well as to the National Minister of Transport for adoption.

## **2. Contextual Framework**

A number of International, National and local events provide the context for the Integrated Transport Plan. Amongst the most significant is the realisation that our dependency on fossil fuels is the greatest threat to our economy and the environment.

The Intergovernmental Integrated Development Task Team agreed on the desired outcomes as a starting point for a common intergovernmental approach to growth and development. These outcomes should be bold, simple and challenging, helping to define a shared vision of a transformed city.

Four critical outcomes have been identified:

- Shared prosperity;
- An inclusive and equitable society; and
- An ecologically sustainable future
- Maintain 50% public transport usage

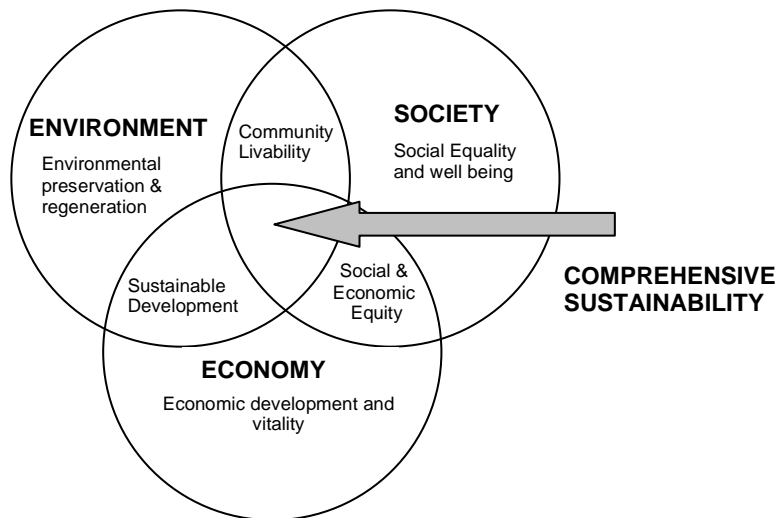
### **3. Framework for Sustainable Transport**

In many modern cities including Cape Town, the demand on the available infrastructure and the associated negative environmental impacts have increased to such an extent that concerns are expressed universally regarding the sustainability of these systems. This has been significantly impacted on by the development and increased use of internal combustion motor vehicles.

A sustainable system highlights the integrated nature of human activities and emphasises the need to coordinate planning among different sectors, groups and authorities. The ultimate goal of sustainable development is an optimal balance between economic, social and ecological objectives and reflects a conservation ethic that minimises resource consumption and waste.

The well being and quality of life of people both now and in the future are affected by environmental and social factors. Economic factors on the other hand influence environmental and societal factors.

Sustainability requires a paradigm shift from the traditional way of thinking and problem solving (Litman, 1999). The focus needs to move away from what is considered measurable transportation impacts to more comprehensive analysis of impacts, considering indirect and cumulative impacts (Louis Berger & Associates, 1998), demand management solutions, and public involvement in transportation decision-making. It requires the prioritising of projects to give higher value trips and lower cost modes priority over lower value, higher cost trips.



A transportation system consists of four primary elements: mode and infrastructure (vehicles and tracks/roads), users (people and their mindsets), the physical environment (land use) and the domain wherein these elements interact. These four elements need to be integrated to create a system with a sustainable balance between the environment, sociological issues and the economy. Any impact on transport efficiency requires changes to one or more of these basic four elements.

Travel behaviour patterns are influenced by the elements of the transport system and through the interaction of these elements with one another. To achieve Sustainable Transport, we need to influence and ensure travel behaviour that does not jeopardise the economy, social matters and environment, today and into the future. The art of influencing this travel behaviour is generally known as Travel Demand Management (TDM).

The following elements of the system need to be addressed:

- Transport Modes & Infrastructure
- Spatial development and Land use management
- Marketing, Education, Enforcement and Awareness
- Institutional Framework – “Domain of interaction”

Numerous strategies are available to move towards a more sustainable transportation system of which most either involve technical innovation or Travel Demand Management (TDM). International experience suggests that TDM is essential for

achieving more sustainable transportation and a number of economic, environmental and social objectives.

Many different TDM strategies have been tried both internationally and locally with a variety of associated transportation impacts. Some strategies improve the transportation options available to consumers, while some cause changes in trip scheduling, route, destination or mode. Others reduce the need for physical travel through more efficient land use or transportation substitutes. TDM is an increasingly common response to transport problems. Although the term TDM refers to the management of “demand”, internationally the focus has been on measures that impact both demand and supply. This Chapter highlights the City’s approach to travel behaviour and how to intervene through a number of proposed TDM measures.

Within the City’s objective to provide a sustainable transportation system, the specific objective for TDM in the City of Cape Town is to:

**“promote a diversity of sustainable travel modes and practices that will influence the choices made by commuters in order to reduce the overall number of trips, minimise travel time and optimise travel cost – especially during peak times”.**

This should indeed be the objective for most of the transportation planning and operational actions in the city and should guide all the elements of the system that are described in the ITP. The essence of the TDM objective is essentially threefold:

1. Create an awareness of alternatives to private car use and change the perceptions in the minds of the travelling public and that of business that car travel is not the only feasible alternative. At the same time communicating the true cost of travel and the long-term sustainability of the system.
2. Provide feasible and attractive alternative travel modes.
3. Develop land use activities that will support the use of alternative modes as well as a supporting legal and policy environment.

#### **4. Vision, Goals and Objectives**

Transport is one of the most important issues in Cape Town, and this is reflected in the Mayor’s strategy for the City, viz. the Integrated Development Plan. All Citizens in

Cape Town deserve adequate access to opportunities and transport plays a key role in making this possible.

Transport, however, comes with significant undesirable impacts on the economy, environment and society. Just to mention one of each;

- Congestion has increased significantly which has caused a loss of millions of rands to the economy.
- The 2004 State of Cities report indicated that the largest contributor to atmospheric emissions is transportation (52.3%).
- In 2003, in Cape Town 77514 traffic accidents were reported in which 636 persons were killed. This has a severe social impact.

The following problem statement sums up the main issues.

**Problem Statement:**

The transport problems in Cape Town can be summarized as follows;

- Growing trend in private car usage
- Congestion is increasing resulting in peak periods extending towards three hours.
- Commuter travelling distances are increasing which is evidence of urban sprawl
- Lack of a quality public transport system with poor integration of public transport modes
- Perceived safety and security problems on the public transport system.
- Lack of adequate Non Motorised Transport facilities including the mobility disadvantaged.
- Transport contributes to just over 50% of air emissions in Cape Town.
- High traffic accident rate with significant pedestrian involvement.
- Fragmentation of roles and responsibility in the transport sector across the tiers of government.

Transport plays an essential role towards ensuring sustainable development. The current transport activities shows little regard to social, economic and environmental objectives.

The current transport situation is untenable and unsustainable. The City's vision for transport is as follows:

**Vision:** To provide a world class sustainable transport system that moves all its people and goods effectively, efficiently, safely and affordably

All citizens of Cape Town and tourist deserve a highly efficient transport system that improves access and mobility in an equitable and sustainable manner.

Public Transport is a key component of any World Class Transport System. The City of Cape Town is committed to improve access and mobility for its residents, goods and services by “putting Public Transport, People and Quality of Life First”. A growing City like Cape Town cannot function without an effective transport system that puts Public Transport first.

The City has identified a list of indicators that will be measured and monitored continuously to check progress towards a more sustainable transport system. The actual targets have not been identified for all indicators and are currently being investigated and will be included in the review of this document. Until then the City will strive to achieve the purposes of these indicators and therefore move towards a more sustainable transport system.

However, the City has identified targets for modal split. The City is committed to promote public transport and give it priority over private transport. The table below shows the modal split targets over the next fifteen years.

### Modal Targets

Year	Percentage Private Transport	Percentage Public Transport
Existing	52%	48%
2010	50%	50%
2015	47%	53%
2020	43%	57%

This will result in a public:private split nearing 60:40 being achieved by 2020.

## 5. Demographics

The City of Cape Town had a population of 2,89 million in 2001, and has experienced rapid growth due to its young age structure and immigration.

The projection scenario estimates that households will increase from 760 000 households in 2001, to 1 057 000 in 2021 – an increase of just under 300 000 households at an average annual growth rate of 1.6%. The projection suggests that population growth will begin to decline. However given that the present young age structure provides an inbuilt momentum to keep growth of the potential labour force high for the foreseeable future, investment in the youth is vital for this sector of the population to fully participate in the development of the City. In the period 2006 to 2021 the projection study is based on the assumption that the natural increase and migration rate will begin to decline, resulting in an aging population with different needs than those of the youth component.

A total of 26% of the population falls into the category of special needs passengers taking the broad definition to include both life cycle and impaired passengers.

The two most prevalent categories of impairment passengers are physical and sight which account for 50 400 passengers or 1,7% of the population. These groups are impacted most acutely in terms of access and utilisation of the transport system.

The economy of the City of Cape Town contributed approximately 11% to the national economy and 75% to the Western Cape economy. . The informal sector has grown to play an important role in the economy of the City contributing 12% of the economic output and employing approximately 18% of the labour force. Growth of employment in the formal and informal sectors is projected to grow at an annual average of approximately 2% between 2001 and 2005.

Half the income earning population (49%) earn less than R1,600 per month. The relatively low income levels impact on the affordability for transport and places limits on the ability of commuters to bear the full economic fare of transport. The national strategic objective is that not more than 10% of monthly income should be spent on transport.

The highest densities occur in the low income areas of Khayelitsha, Gugulethu/Nyanga, Delft, Philippi/ Crossroads/ Browns Farm and the low/middle income areas of Mitchells Plain. A strongly contributing factor is the tightly packed extensive informal development juxtaposed to the formal housing, particularly in Khayelitsha, Nyanga, Gugulethu and Crossroads/Philippi.

## **6. Transport in Cape Town**

The transport problems in Cape Town can be summarized as follows;

- Growing trend in private car usage
- Congestion is increasing resulting in peak periods extending towards three hours.
- Commuter travelling distances are increasing which is evidence of urban sprawl
- Lack of a quality public transport system with poor integration of public transport modes
- Safety and security problems on the transport system.
- Lack of adequate Non Motorised Transport facilities, and lack of universally accessible infrastructure
- Transport contributes to just over 50% of air emissions in Cape Town.
- High traffic accident rate with significant pedestrian involvement.

- Fragmentation of roles and responsibility in the transport sector across the tiers of government.

The City has a well developed road network essentially developed radially around the CBD. The two main freeways, the N1 and N2 run from the CBD in a north-east and south-east direction respectively. The speed limits along these roads are generally 120 km/h. Four other freeways, the M3, M5, N7/Vanguard Drive and the R300 act as link roads and primarily run in a north-south direction. Speed limits on these roads vary from 80 km/h to 120 km/h. The R27 (Marine drive) along the Atlantic coast is becoming an important and heavily used road as it links the CBD with the rapidly growing Table View area. The current major road network in the City covers approximately 10 000 kilometres.

As with the road network, Cape Town has a well developed and structured rail network also developed to fan out radially from the CBD in an extensive system that provides good penetration of the entire Metropolitan area except the Milnerton area to the north of the CBD and the Durbanville corridor north of Bellville. The rail network covers approximately 290 kilometres with 118 stations of which 33 are owned by Spoornet and 97 stations are within the City of Cape municipal area (CPTR, 2005). The lines radiate from Cape Town station to the South (Simon's Town and Cape Flats lines), Southeast (Kapteinssklip and Khayelitsha lines) and East (Bellville, Monte Vista, Wellington, Strand and Stellenbosch lines).

Cape Town station is the largest station and also serves the most passengers with 621 trains entering and leaving the station on a typical weekday. Trains on the mainline routes do not operate any later than 20h00 or earlier than 05h00. Unfortunately, the rolling stock is in a poor and deteriorating condition and according to the Rail Framework Plan (City of Cape Town, 2005) it would appear as if this is the single biggest problem facing the operation of the rail system. The other major problems facing the rail operation is security and safety, reliability (88% of trains on time), service levels and overcrowding. These issues have resulted in a general shift away from rail transport to mainly minibus taxi transport for commuting.

The rail system links Cape Town with the surrounding region, with lines going to Boland Winelands, Wellington, and into the Overberg area.

Congestion has reached high levels during the peak periods on the following roads:

- N1
- N2
- M3
- M5
- N7/Vanguard Drive
- R300
- R27/Marine Drive
- 

The current modal split is as follows:

- Morning Peak Period - 50 : 50 (private : public)
- Inter-Peak Period - 83 : 17 (private : public)
- Evening Peak Period - 59 : 41 (private : public)
- All Day - 69 : 31 (private : public)
- 

The number of motor vehicles has doubled over the past 10 years to approximately 570 000. The present car ownership is about 178 cars per 1000 people which are substantially greater than the majority of cities in less developed countries but only about a third of most European and North American cities.

Of all public transport trips, rail accounts for 53% of daily passenger trips, minibus-taxi 29%, and bus 18%.

Freight movements are found along the following provincial roads as identified in the provincial freight databank 2004:

- R27 – West Coast Road
- R300 – Belhar – Mitchells Plain
- R302 – Durbanville – Klipheuwel
- R102 – Bellville – Kuilsrivier

Abnormal loads make use mainly of the N7, major sections of the N1 and sections of the N2 where widths, bridge clearance etc are of such a proportion that it facilitates such movements.

The Cape mainline carries about 3.5 million tons per annum and runs via Beaufort West to De Aar. At De Aar the line junctions with the line to Gauteng via Noupoort and the Northern line to Kimberley, Bloemfontein and Gauteng.

Two other lines originate from Cape Town, the first is from Cape Town to Saldanha, the 435 kms Bitterfontein branch on the West coast, and secondly the line to Caledon, this line is under utilised.

The port of Cape Town is a preferred export node for the fruit industry with reduced sailing times to Northern Hemisphere destinations. Fruit is consigned via Cape Town from as far a field as Limpopo, Mpumalanga and Swaziland. The port also handles the export of fish from the South African and Namibian fishing industries to Europe and the Far East.

A forecast of traffic volumes was undertaken using the City's model. It showed that traffic congestion will increase; Cape Town CBD would still have a high number of jobs compared to the remainder of the City, Bus and Minibus volumes are the most significant on the N2.

Clearly this is not sustainable as congestion is already high, and increased congestion will have a severe impact on the environment, the economy and our social well being.

It is thus clear that to change the forecasted scenario we as a City need to make a concerted effort to change the way transport works. The City needs the following intervention:

- Better, safer and more convenient public transport is necessary
- Improved and safe cycling and walking facilities
- Less reliance on private vehicle

- Central Business Districts must have a regular and affordable distribution system

## **7. Corporate Plans and City Strategies**

The transport policies and strategies in the Integrated Transport Plan are aligned and integrated with the City's corporate plans, policies and strategies, viz:

- Integrated Development Plan
- Cape Town 2030: An Argument for the Long-Term Spatial Development of Cape Town
- Sustainability Report
- Integrated Metropolitan Environmental Policy
- Draft Energy and Climate Strategy
- Air Quality Management Strategy
- Biodiversity Strategy
- Peninsula Urban Edge Strategy
- Draft Economic and Human Development Strategy
- Draft Tourism Development Framework
- Social Development Strategy
- Sustainable Human Settlement Strategy

## **8. Integration with Land Use Planning**

The following strategies have been identified in order to better integrating land use and transport to achieve the overall City objectives of sustainability:

- Integrated Planning and Implementation
- Sustainable Development
- Sustainable Transport
- Quality Urban Environments

## **9. Mobility Strategy**

The Mobility Strategy was approved by the City of Cape Town, in May 2003. A Mobility Strategy is a long – term, a Year 2020 vision for managing, delivering and meeting

access and mobility needs for all citizens, visitors, goods, and services in the City of Cape Town.

The Strategy sets all acceptable standards regarding travel times, costs, frequencies, flexibility comfort levels and safety standards which should be regularly reviewed.

The purpose of the Mobility Strategy is two fold, namely:

- To facilitate the transformation and restructuring process of the current private car model oriented transport system and implement a new model, focusing on “putting Public Transport, People and Quality of Life First”, and a new culture that allows all the citizens to participate in the construction of a future model, and particularly how the different modes of transport will play their role in the development of the City.
- To ensure that access and mobility needs of all citizens, visitors, goods and services are well managed, delivered and met in a socially just, equitable and sustainable manner.

The Cape Town CBD-Klipfontein Road-Khayelitsha Corridor and the Blaauwberg-Atlantis Corridor are examples of mobility corridors.

## **10. Institutional Arrangements**

A weakness of the NLTTA model is that there is no sustainable funding mechanism for the Transport Authority to raise its own funds.

An alternative model of “internal” mechanism is proposed which offers better approach to achieving the objectives of the NLTTA using the Constitution and the Municipal Systems Act (No.32 of 2000) to achieve the objectives of the transport authority.

It is proposed that the City request the assignment of the three critical functions listed above, namely the rail function, the bus function, and the regulation function on a phased basis. The City will enter into negotiations with the respective spheres of government on this process. It will be necessary to

undertake detailed investigations on the implications and phasing of the assignment of these functions.

## **11. Public Transport**

Public transport is a vital and essential element of this vision in providing the opportunity for all citizens and visitors to access the full range of facilities which the City offers, whether for work, education, recreation, health, and social activities etc. It is particularly important for the poorer sections of the community, without access to private cars, in providing mobility through accessible, safe and affordable public transport. An improved public transport system also offers major advantages to the City by providing an alternative for car users thereby benefiting the environment, and reduced travel costs through easing congestion and lowering the costs of doing business in the City. A good public transport system also serves to promote the City for investment, for further growth in tourism, and for major events, such as the FIFA 2010 Soccer World Cup.

Public Transport Strategies deal with the following issues:

- Long standing lack of investment in the rail system leading to the poor and worsening state and condition of the rail system, particularly the state of the equipment i.e. rolling stock
- The scheduled bus services which continues to be provided under an interim contract. This uncertainty precludes investment to the operator and has led to an aging fleet and low standard of service quality
- The unsustainable minibus-taxi services with major overtrading, large number of illegal operations
- The absence of sufficient public transport priority measures and lack of enforcement where priority lanes have been implemented
- Inadequate provision for Special Needs Passengers on public transport services
- The lack of an integrated fare management system to provide seamless travel journey

- Poor passenger information system
- Fragmentation of responsibilities between authorities
- Safety and security
- Lack of enforcement

## **12. Universal Access**

The Universal Access strategies are as follows:

- The establishment of a Transport Users Forum (TUF), comprising of representatives from different areas utilizing the various modes of transport. The purpose of the TUF is to ensure that local government acts within the legal framework and take the appropriate action where the law is not being applied.
- The research and development of a Universal Design (UD) policy that can be applied unilaterally across all types of modal transport. The policy will establish a set of criteria and standards that all new facilities must follow.
- A clear policy on the provision for SPU's in terms of the constitution, equity bill and the new human rights legislation should be formulated as part of the UD policy.
- Retro-fitting of existing facilities will be the key focus area in the restructuring and transforming of existing transport facilities. Developing a clear strategy around retrofitting existing facilities, for example, in terms of a 'reasonable provision' set out in the legislation, is important for the state to avoid potential lawsuits.
- Incorporate processes within design procedure to ensure that universal access requirements are met.

- A total of 26% of the population falls into the category of special needs passengers taking the broad definition to include both life cycle and impaired passengers.
- The two most prevalent categories of impairment passengers are physical and sight which account for 50 400 passengers or 1,7% of the population. These groups are impacted most acutely in terms of access and utilisation of the transport system.

### 13. Non-Motorised Transport

Based on the priorities and strategic direction identified by the City of Cape Town in its Integrated Development Plan and a review of current NMT problems areas, key themes have been identified to guide the required interventions. Interventions are required that emphasise:

- access for all,
- the importance of people and communities
- the role of economic and social transformation
- environmental sustainability
- integration and awareness

### 14. Travel Demand Management: Influence Travel Behaviour

The objective of Travel Demand Management in the City of Cape Town is to;

**Promote a diversity of sustainable travel modes and practices that will influence the choices made by commuters in order to reduce the overall number of trips, minimize travel time and optimize travel cost – especially during the peak times.**

City policies have been encouraging TDM since as far back as 1999 when the Public Transport Strategic Component of the Moving Ahead report advocated political and institutional commitment to implementation policies aimed at restricting unsustainable growth in private car use through TDM. The Strategic Investment and Management Plan contained in the 1999 Moving Ahead report also indicated

that TDM techniques need to be implemented as part of the future transport strategy.

The following TDM projects are under investigation:

- **Promote Higher Vehicle Occupancies.** Higher vehicle occupancies are to be promoted through ride sharing and/or car pooling. A large number of private motor vehicle trips during the peak hours are single occupant trips. Commuters prefer to travel alone due to a variety of reasons of which one is the absence of reasonable access to other modes or other commute options. The promotion of higher vehicle occupancies will focus on commuters that will benefit from sharing cars with other commuters while providing them with more opportunities to travel.
  - Car Pooling Desk. Establish a phone-in service where commuters can get information on how to car pool, how to start a car pool, what the legal issues are, the different ways to share costs, and to provide realistic cost estimates of travelling. This must go together with a marketing campaign to make users aware of the Service
  - Car Pool Website. Establish a website with information on all aspects of car pooling. This can also include options to match commuters that would like to share rides. This must go together with a marketing campaign to make users aware of the Service
  - Establish additional high occupancy vehicle lanes and extension of existing lanes
  
- **Policies and Tax Incentives.** All travel occurs within a specific legal, policy and tax environment. The policies and tax incentives in the City will be investigated and must be aimed at encouraging not only the individual to use alternative more efficient modes of transport, but also to encourage large employers to focus on the transportation needs of their employees.
  - City Management and the Provincial Government must be encouraged to actively pursue changes in legislation which currently inhibits car pooling and ride sharing.

- Investigate tax incentives to entice large employers to encourage their employees to travel less and use modes other than private vehicles.
  - Investigate legislation that will force large employers in the City to report annually on the trip making characteristics of their employees.
  
- **Park-and-Ride.** There are currently several Park-and-Ride facilities in the City of Cape Town. Many of these are underutilised or totally dysfunctional due to a variety of reasons. These facilities must be identified, the use thereof revisited and strategies and implementation plans be identified to encourage their use. This action will include the following:
  - Identify all the current park-and-ride facilities in the City and establish their current usage as well as the operational issues impeding their use.
  - Develop a strategy to improve the usage of these facilities
  
- **Programmes for Large Employers.** In addition to identifying policies and tax incentives to persuade employers to focus on the travel needs of their employees, there must be several large employers in the City that will do that without legal or policy encouragements. Therefore, it is proposed that large employers in the City be contacted and that a short list of employers be prepared who would volunteer to be part of a pilot study to investigate reduction in single vehicle employee trips. Specific actions to develop this focus area include the following:
  - Identify at least three large employers in the City Bowl that would be prepared to initiate a pilot programme to encourage employees to use other modes of transportation.
  - Develop a pilot programme in conjunction with the large employers to assist them in reducing the number of single vehicles trips to/from the company. This programme could include encouraging of car pooling through preferential parking for carpools, subsidies or rewards for carpools, subsidising public transport tickets, work-at-home programs through telecommuting, subsidies for bicycles and providing bicycle parking.

- **Congestion Pricing.** Within a congested urban environment, the costs of the system are not carried equitably by all users. If road space is un-priced traffic volumes will increase until congestion limits further growth. The need and practicality of congestion pricing in Cape Town must be evaluated.
- **Marketing and Education.** The City and also the Provincial Administration must pursue the marketing of all alternative modes. This should be a concerted effort to improve the perceptions of all users.

## **15. Tourism Transport**

The tourism transport strategies deal with the following:

- Liaison and Collaboration
- Marketing and Passenger Information
- Regulation of Tourist Transport Services
- Training and Accreditation of Tourist Transport Operators

## **16. Freight Transport**

The City supports the following freight strategies:

- Develop an integrated Waste Management Plan
- City should facilitate the development of truck stopping facilities by the private sector. The city can identify pieces of spare land which it owns for such development
- Identify the strategic freight routes to height of vehicles, legal loads and weight.
- Review the impact of loads on the pavement structure.
- Investigate through a pilot project the introduction of a separate right of way for bus and freight vehicles on the N1, through a High Occupancy Toll (HOT) lane
- Develop a strategy around the need for the city to develop weigh bridges within the city.
- Develop a strategy with regards to loading and off loading facilities, the city to investigate the feasibility to introduce levies for the use of loading bays.

- Investigate the management and restriction of heavy vehicle movement in the peak hours on the following routes:
  - Plattekloof Road
  - Hospital Bend
  - Hout Bay Main Road
- Integrating freight sector movement with broader commuter movement as defined in the Mobility Strategy
- Support corridor development by settling business closer to communities
- Correction of spatial imbalances, in development of industrial areas
- Serving latent demand for freight transport in informal sector
- Investigate local distribution networks which can be cost effective and address ways to establish local freight contractors (SMME's)
- Development of a strategic freight network.
- Develop a City perspective on the role of road and rail freight within the City of Cape Town.
- Improved enforcement within the City boundaries
- Identify the most cost effective and appropriate mode for transporting the correct goods, develop a city strategy on road vs. rail
- Develop strategies regarding emission control, air quality and sound control to ensure the minimum impact on the residence of Cape Town.
- The developmental effect of improved freight systems in marginalised and economically disadvantaged communities must be emphasised
- Balance essential freight transport needs with the necessity to protect the environment
- Develop a strategy on how the city can influence the freight industry to curtail the spreading of HIV/AIDS through education, health services etc.

## **17. Transport Network Operations**

The objectives of the Network Operations include:

- improving safety on the road system;

- optimising traffic flow on arterial and freeway networks ;
- reducing congestion within and between nodes and activities;
- co-ordinating agency traffic/transit operations;
- managing incidents, reducing delays and adverse effects of incidents, weather, work zones, special events, emergencies and disaster situations;
- effectively managing maintenance and construction work to minimise the impact on safety and congestion;
- informing travellers with timely and accurate information;
- improving the interfaces between modes of transport for passengers and freight;
- eliminating bottlenecks due to inadequate geometrics;
- Providing reliable and convenient public transport services.
- 

A Traffic Management Plan (TMP) include the following components: traffic control

- health, safety and security
- route and/or location planning
- parking
- road closures, restricted access, operational alterations, e.g. contra-flow traffic
- impact on/of Public Transport
- impact on traffic movements in adjoining areas
- contingency plans
- advertising changes to all affected parties
- signage
- public consultation

The parking strategy aims to help tackle congestion as part of a sustainable transport system through the following seven main parking policies.

Cape Town has the only Nuclear Power Station in South Africa located within its boundaries. In terms of national and international requirements, an evacuation plan is required to evacuate residents within the affected area in the event of a nuclear incident that results in a radiation leak. Such events have three stages:

- **Early Phase** - The time period at the very beginning of a nuclear incident where immediate decisions for effective use of protective actions are required.
- **Intermediate Phase** - This period of time starts when the release has terminated. This may occur in the form of stabilizing a reactor, or ensuring that no subsequent releases are expected.
- **Late Phase** - This time period of a fixed nuclear facility accident begins when recovery and restoration actions are recommended.

The traffic calming strategies are:

- Calming Residential streets for communities in accordance with the policy
- Develop a design strategy for residential areas of “People first – Vehicles second.” Through the implementation of Area Wide Traffic Management Plans
- Improve traffic law enforcement
- Education of the Community and road users with a special focus on vulnerable road users.
- Improve traffic management and capacity on main roads through and near residential areas to discourage extraneous traffic travelling through residential areas.
- Introduce an ongoing monitoring system.

Evacuation and Transport Management Plans for the three phases are being revised in conjunction with Disaster Management and other role players subject to current legislation.

## **18. Safety in Transport**

Pedestrian, Road User and Public transport safety strategies are outlined below:

Pedestrian Safety strategies:

Institutional Integration

- Improve internal communication between pedestrian safety role players;
- Obtain agreement with national and provincial authorities on strategies and implementation of pedestrian safety projects;

- Establish a working group that will take ownership of the Pedestrian Safety Implementation Plan, the ongoing development of the Plan and the co-ordination of the application of national, provincial and local funding sources; and
- Establish reporting structures within the working group for reporting of pedestrian safety related concerns.

#### Planning

- Explore additional funding sources, e.g. national, provincial and private, for pedestrian safety improvements via different line function departments;
- Develop and review transport policy, also review related policy development in other corporate sectors;
- Develop a comprehensive transportation management plan for the City of Cape Town, addressing pedestrian safety at major events and venues;
- Provide pedestrian facilities where there is a reasonable expectation that such facilities will be used by pedestrians, even if the current pedestrian volumes are relatively low;
- Establish a set of approved City of Cape Town pedestrian planning guidelines to improve uniformity of implementation;
- Include pedestrian planning into the City of Cape Town's transportation network planning;
- Ensure that existing pedestrian routes are protected, that development does not sever or prejudice accessibility on foot, and that the developments themselves are easily accessible on foot;
- Ensure that developers provide through routes across major sites where these will result in improvements to the pedestrian network;
- Identify, plan and evaluate new transport and land-use projects, schemes and interventions in terms of technical viability as well as strategic, economic, financial, social and environmental criteria;
- Re-assess the appropriateness of warrants pertaining to the provision of traffic calming or pedestrian facilities;
- Promote more comprehensive pedestrian accident reporting procedures and systems, especially with respect to the location of accidents;

- Maintain an annual transport monitoring and research programme to, amongst others, determine pedestrian safety trends; and
- Move from a reactive to a proactive approach to pedestrian safety for the long term.

#### Road Environment

- Establish a set of approved City of Cape Town pedestrian facility design guidelines or design requirements for implementation purposes, such as the DoT's Draft Pedestrian and Bicycle Facility Guidelines;
- Identify high pedestrian accident locations through continuous audits, especially on major movement corridors and neighbourhoods, and implement remedial measures;
- Assess appropriateness of posted speed limits at high pedestrian accident locations;
- Assess appropriateness of signage, especially warning signs, at high pedestrian accident locations;
- Assess appropriateness of the proposed location of new pedestrian infrastructure, i.e. does it satisfy pedestrian desire lines or only convenience of construction;
- Assess provision of street lighting at high pedestrian accident locations;
- Improve pedestrian crossing facilities, e.g. raised block pedestrian crossings at schools situated on lower order roads;
- Implement traffic calming measures where appropriate;
- Prioritise the allocation of resources around the understanding of essential pedestrian safety needs;
- Improve quality, accessibility and analysis of pedestrian accident data;
- Monitor and evaluate the effectiveness of remedial measures, i.e. conduct before and after studies to investigate the effectiveness of implemented measures;
- Conduct regular visual inspections for all elements of pedestrian infrastructure assets; and

- Implement a comprehensive maintenance management plan that includes repair of fences, trimming of vegetation, upkeep of walkway surfaces and so forth.

#### Awareness

- Target behaviours, situations and locations through marketing and mass communication;
- Improve dialogue between and awareness of pedestrian safety issues for national, provincial and local politicians in order to review strategies for pedestrian safety and to obtain political support and commitment to address pedestrian safety related issues;
- Establish Community Road Safety Forums and support their pedestrian safety programmes;
- Promote general community involvement in road safety;
- Promote pedestrian safety awareness by use of communication media such as radio broadcasts or community newspapers;
- Improve communication between the public and officials;
- Develop an appropriate public participation process before the implementation of any pedestrian safety improvements; and
- Market and promote pedestrian safety improvement projects.

#### Education

- Co-ordinate and improve educational programmes to inform both pedestrians and other road users of the risks to pedestrians;
- Develop educational material and products aimed at pedestrians and according to specific target groups, e.g. effect of alcohol for ages 26 to 40 and traffic rules for children;
- Create an understanding of the role of the use of alcohol and drugs by pedestrians in road traffic and rail accidents;
- Create an understanding of the role of speeding on roads in road traffic accidents;

- Create an understanding of the role of fatigue in road traffic accidents, especially pertaining to reaction times; and
- Create an understanding of the role of visibility of pedestrians in road traffic accidents.

#### Enforcement

- Identify pedestrian problem areas and address these by enforcement of available legislation;
- Develop a comprehensive pedestrian safety enforcement plan;
- Enforce posted speed limits in areas with vehicular and pedestrian interaction;
- Continue support to scholar patrols; and
- Evaluate effectiveness of enforcement actions on a regular basis.

With respect to Road Safety, the City aims to pursue three key areas in meeting the road safety challenge, namely:

1. Safer road users (better drivers and safer pedestrians)
2. Safer roads (safe, sustainable road network)
3. Safer vehicles (roadworthy vehicles)

Public transport safety is significant concern. The City has devised the following strategies which has three focus areas:

1. Preventative Controls – This aspect of the public transport safety and security strategy acts as the first line of defence and cuts across both the controlled and uncontrolled environments. It requires an integrated institutional and organisational base, focused and shared information management and sound public transport safety and security physical design elements. Preventative strategies force compliance with prescribed or desired actions and therefore decrease the opportunity for aberrant events. A large number of undesirable events or factors that compromises public transport safety and security can be blocked out through preventative interventions.
2. Detective Control – Detection of problems within the public transport environment is the second line of defence. Detective abilities are devices, techniques and procedures designed to identify and expose undesirable events

that evaded the preventative control measures of the public transport safety and security strategy. As indicated earlier some of the same activities operative under the preventative control measures are also internalised by the detective control aspects of the strategy.

3. Corrective Controls - The following elements comprise the corrective control:
- Overall Law Enforcement this action takes place around the public transport facility and forms part of the general policing and enforcement strategy undertaken by the South African Police Services, the City Police and the Traffic Department.
  - Public Transport Law enforcement – this action provides a safety and security blanket at public transport facilities through the provision of law enforcement programmes aimed at correcting specific “high impact” incidents such as robbery, murder and assault.
  - Emergency response – this action provides for the coordinated and focused response of multiple agency deployment in case of major incidences within the public transport environment.
  - Post emergency response – this action provides for a ‘corrective plan of action’ after the occurrence of major incidents within the public transport environment and requires the formation of a multi agency emergency response team to review techniques and procedures used in response to major emergencies.
  - Lastly, where public transport safety and security design elements have failed to either prevent or detect the potential or actual occurrence of an incident, the same agency cooperation is required in undertaking ongoing safety and security audits of the physical design aspects of public transport facilities so to ensure that the flawed design elements are corrected.

## **19. Road Network**

The strategies of Road network deal with Congestion, Road Safety, and Integration with spatial planning and town planning

### **Congestion**

- Combat congestion through the promotion of public transport, Travel Demand Management (TDM) strategies, Intelligent Transportation Systems (ITS) and Transportation Systems Management (TSM) measures.
- Provide new links in new growth sectors.
- Provide public transport infrastructure along dedicated corridors, in line with the Mobility Strategy

### **Road Safety**

- Improve road safety through road safety remedial measures, maintenance of roads and maintenance of traffic network operations.
- Traffic calming measures on local road network in accordance with Traffic Calming policy.

### **Integration with land use planning**

- Better integration in road network planning and land use/ spatial planning/ town planning.
- Review of design standards
- Review of road classification

## **20. Airports**

Public transport needs to be improved to ensure the accessibility of the airport. Public transport should not be limited to dedicated public transport routes to the airport but it should also be integrated within the metropolitan public transport network. This will involve the following:

- Provide public transport facilities which are convenient to use and provide time and cost benefits to users which will influence their mode choice to the airport.

- Short to medium term public transport could be provided by road based public transport. The provision of rail links to the airport should be investigated, to determine when rail facilities would be economically feasible and how they would enhance the operation of the airport.
- Improvements to the major access routes and access intersections should be investigated to ensure that the road accessibility to the airport is maintained.
- Assessment of feasible public transport routes to the airport.
- Assessment of integration of metropolitan public transport with airport public transport including aviation and development precinct workers' needs.
- Transport study of access roads to airport incorporating the TIA undertaken for the Airport to assess improvement required to maintain an acceptable level accessibility to airport.
- Alignment feasibility study of rail connection to the airport including different forms of rail operation.

## **21. Ports**

The following strategies have been identified for the Port:

- Improve access
- Provide improved access to the port
- Increase the usage of rail freight transport

## **22. Asset Management**

The Asset Management System includes the following:

- Asset Management Policy

- Fixed Asset Information Management System on SAP Plant Maintenance and GIS
- Movable Asset Management Register as per the Corporate Asset Control Policy and Procedures document
- Asset Maintenance Management Plan
- Staff Resource Plan will enhance a recruitment and training strategy of suitable and adequately qualified and experienced professionals to execute the legislative mandate.

### **23. Special Projects**

Three special projects are outlined in the report:

- N2 Gateway Housing Scheme – aims to provide 22,000 housing units
- Inner City Transport – aims to provide a distribution service connecting key areas with the CBD
- Minibus Recapitalisation Scheme – aims to replace aging minibus fleet.

### **24. Soccer World Cup:2010**

On Saturday, 15 May 2004, history was made when South Africa became the first country on the African continent to be awarded the privilege to host the 2010 FIFA World Cup by the world soccer governing body, known as Federation International Football Association (FIFA). Among other cities in South Africa, Cape Town was selected as one of the suitable venues to host games of this magnitude.

The proposed Green Point Stadium will lie within the Green Point Commonage on the Western side of Cape Town's CBD. The Green Point Common lies west of the Port of Cape Town and the Victoria & Alfred Waterfront and approximately 1km south of the Atlantic coastline. It is surrounded by public roads such as, Western Boulevard, Somerset Main Road, Portwood Road and Beach Road. In order to comply with FIFA's conditions for hosting such an event, among other things, South Africa is required to provide efficient public transport infrastructure

The World Cup transport system focus on making the best use of air, road and rail infrastructure in place by 2010, supplemented with additional services only where necessary to ensure fast and efficient access between venues. The Department of Transport intends to use the excitement and focus of the 2010 events to catalyse a lasting legacy for public transport in South Africa.

To-date, R 3.5 billion in new and additional monies have been set aside for public transport and non-motorised transport infrastructure and systems investment, with priority to venues supporting the 2010 soccer events. The DoT now oversees these funds under the Public Transport Infrastructure and Systems Fund (PTIF). The PTIF has been created as a vehicle to accelerate the pace of implementation of investment in sustainable mobility infrastructure. While support to 2010 host cities is the initial priority of the PTIF, the Government intends grants in later years and potential additional replenishments to support public transport improvement in every corner of the country. Overall around R 2.1 Bn has so far been allocated in the two rounds of PTIF applications in 2005.

## **25. Expanded Public Works Programme**

The strategy in Transport is to link the EPWP with the relevant IDP objectives, identify suitable projects and align the Budget priorities accordingly. Further, to use Transport Infrastructure as leverage for economic development, job creation and social inclusion. Current estimates in the Transport SDBIP 06/07 relates to 700 number of job opportunities being created within current projects. The objective is to support job creation through public works & construction and labour intensive activities by linking of Transport Infrastructure & Service delivery.

## **26. Financial Framework**

The following initiatives should be taken in order to begin to develop a sound financial framework for transport in the Cape Town metropolitan area.

- Develop arguments that demonstrate the social and economic returns arising from increased allocation of resources to the transport sector, and lobby key stakeholders to this end

- Engage with key stakeholders to promote the rationalization of responsibilities for transport thereby enhancing the scope for an improved financial framework
- Engage with key stakeholders, especially other metropolitan authorities, in order to develop a common national view on expanding own revenue sources to the transport sector, linking it to the replacement for RSC levies and focusing on the possible implementation of local fuel levies and/or a local business tax
- Lobby for the eventual earmarking of revenue flows for the metropolitan transport sector based on, at least, 15% of general property taxes, and devolution of at least 50% of the current national fuel levy on an origin basis, depending on the final configuration of transport responsibilities and subsidy arrangements.
- Explore the possibility for expanding the scope of the current Development Contributions to include compensation for the impact of new developments on the broader transport network
- Explore the scope for applying the financing arrangements used for the Claremont Boulevard, based on an additional rate, to other instances in the metropolitan area
- Explore the scope for joint public-private partnerships in the development and expansion of public transport facilities, such as interchanges

## **27. Implementation Programme**

The projects that support the vision and strategies are set in Table 49Table 50 at the end of this report.

## **28. Performance Monitoring**

The City is currently investigating actual targets for each of these indicators and this will be included in the review of this ITP. Until then, the City will strive to achieve to improves these indicators and therefore move to a more sustainable transport system

## **29. City Partnerships**

Transport discipline alone cannot solve the transport problems in Cape Town. It requires a multi-disciplinary approach in order to achieve the vision of achieving sustainable transport.

Our partners are:

- Residents of the City
- City of Cape Town Departments
- CBD City Partnerships
- Taxi operators
- Bus operators
- Metrorail
- Academics
- Chamber of Business
- Provincial Government of the Western Cape
- South African Rail Commuter Corporation
- Ports Authority
- Airports Company of South Africa
- Civil society
- Department of Transport

### **30. Marketing and Communication**

The marketing plan and its phased methodology of engagement is to mobilise stakeholder and public opinion in favour of the Restructuring and Transformation of Public Transport process over the short to medium term while devising priorities and strategies for long term sustainability. On the other hand the marketing plan contingencies must make this plan robust enough to withstand the political and socio / economic dynamics, which have become symptomatic with change.

The fundamental mind-set of the marketing strategy must encompass the core purpose of the Mobility Strategy in transforming and restructuring public transport in the City of Cape Town. The foundation of which is putting “Public Transport, People and Quality of Life” first, through;

- low-cost, smooth and safe public transport
- safer places for walking and riding bicycles
- sustainable transport
- investing in low cost mobility

This edition of the Integrated Transport Plan has not gone through an extensive public participation process and is submitted as a technical document to meet the gazetted deadline of 30th June 2006.

However through developing of this document the following interactions occurred;

- IDP transport sector workshop
- Transport Symposium
- Continual interactions with Cooperate departments
- Presentation to the Chamber of Commerce: Transport
- To complete a comprehensive public participation exercise that actively involves the community in producing an Integrated Transport Plan for Cape Town.
- Prepare regular Community empowerment and Stakeholder engagement reports as an imperative for making high-quality decisions on transport development.
- Developing a framework for constantly reviewing and updating of the Integrated Transport Plan with respect to public participation

# 1. Introduction

## 1.1 Background

Transport is the lifeblood of any City and the various organs within the City cannot function without a transport system that works. Transport connects people and it connects people with opportunities.

It is therefore essential, if Cape Town desires to be a place for all it requires a highly efficient transport system that improves access and mobility in an equitable and sustainable manner. The City of Cape Towns plays an important role locally, regionally, nationally and internationally. The City provides services to approximately 800,000 households and jobs to 1.1 million people. It generates approximately 75% of the Western Cape's Gross Regional Product. In 2002, total exports from Cape Town amounted to R28 418 million.

This document is a comprehensive transport plan for managing and developing the transport system of the City of Cape Town. It has been prepared in terms of the National Land Transport Transition Act (NLTTA) 2000, for the City of Cape Town for the period starting 1 July 2006 to 30 June 2011, recognising that the plan will be reviewed on an annual basis.

The premise of the City's Integrated Transport Plan is the provision of Sustainable Transport, wherein all transport activities will be sifted through the social, economic and environmental objectives. Sustainable transportation is the ability to move people and goods effectively, efficiently, safely and most affordably without jeopardising the economy, social matters and environment, today and into the future.

## 1.2 Objective of Integrated Transport Plan

The Plan has identified the short, medium and long term challenges that face the City and addresses them with the most appropriate sustainable strategies and programmes. This

Plan which is updated every five years and reviewed every year focuses on the projects for the next five years.

The objective of this Integrated Transport Plan (ITP) is to provide for and manage future transport demands towards a more balanced transport system that promotes and gives priority to public transport and other alternative modes of transport and relate to, reinforces and compliments the spatial plan, economical development strategies and long term environmental management strategies and plans of the City.

The outputs of this ITP are as follows;

- Gives the City of Cape Town's official transport vision, policy and objectives – alignment to Integrated Development Plan, provincial and national policies and strategies.
- Give long-term transport strategy consistent with Cities vision and spatial development requirements.
- Transform and restructure towards a Sustainable Transport system
- Provide strategic and financial framework for the preparation of annual five-year implementation programmes.
- Source of information with respect to the Cities transport system.

### **1.3 Report Structure**

The document comprises of 32 main chapters; Chapters 2 to 10 express the Context, Framework For Sustainable Transport, Vision, Demographics, Status Quo Transport Information, City Plans And Strategies, Integration Of Land-Use And Transport, Mobility Strategy, And Institutional Arrangements respectively.

Chapters 11 to 19 present strategies for Public Transport, Universal Access, Non-Motorised Transport, Travel Demand Management, Tourism Transport, Freight Transport, Transport Network Operations, Safety in Transport, and the Road Network.

Chapters 20 to 30 deal with Airports, Ports, Asset Management, Special Projects, 2010 World Soccer Cup, Expanded Public Works Programme, Financial Framework,

Implementation Programme, Performance Monitoring, City Partnerships, and Communication and Marketing respectively.

The Bibliography and Acknowledgments are set out in Chapters 31 and 32 respectively.

#### **1.4 Scope of the Integrated Transport Plan**

This plan covers the jurisdictional boundary of City of Cape Town Metropolitan area as shown in Figure 1. The integrated transport plan sets out the issues of all transport modes and proposes clear strategies for a way forward. Programmes and projects to achieve the strategies have been identified. It is important to note that the approved project implementation processes will be followed and that project implementation is subject to the available budgets.

This integrated transport plan is for the period starting on 1 July 2006 and ends on 30 June 2011. Every year the City will update the plan to ensure that 1) transport project budgets are aligned with the City's overall budget; 2) Goals and key performance indicators are updated; 3) aligned with the Integrated Development Plan. It has taken into account previous corporate as well as transport strategies and plans.

The integrated transport plan also acknowledges the role that the hinterland plays in its economy, and thus the scope includes matters that influence the City's linkages and role with the West Coast, Boland, and Overberg regions.

#### **1.5 Legislative Framework**

The City of Cape Town must produce an Integrated Transport Plan that sets out its vision for transport. This vision is supported by the strategies, programmes and projects that will help the City achieve its vision but also to manage, maintain and develop its transport system without compromising the future of the City. This expectation of the City stems from its status as a Core City in terms of the Urban Transport Act, and as a planning authority in terms of the National Land Transport Transition Act (Act 22 of 2000 - NLTTA).

This Integrated Transport Plan has been prepared in terms of section 27(1) of the National Land Transport Transition Act No. 22 of 2000, and will be submitted to the

Provincial MEC of Transport and Public Works as well as to the National Minister of Transport for adoption.

The Integrated Transport Plan has been drafted within the framework set by National and Provincial Policy. The National White Paper<sup>1</sup> gave the following guidance:

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

The Cabinet of the Western Cape approved the Provincial White Paper on 11 June 1997<sup>2</sup>. It has the following vision statement:

The establishment of 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 developmental aims and objectives.

South Africa's National Transport Plan<sup>3</sup> promoted the densification of corridors, more efficient transport, and transport that met the needs of Customers. These three principles were key to achieving a sustainable and customer oriented public transport system.

The Provincial Government gave further guidance by producing the Provincial Land Transport Framework<sup>4</sup>. Its vision and mission are as follows:

***Vision:*** The best Provincial transport system and property infrastructure for all

***Mission:*** To deliver an integrated, accessible, safe, reliable, affordable, sustainable and quality transport system and property infrastructure through socially just, developmental and empowering processes, to improve the quality of life for all.

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<sup>1</sup> National White Paper on Transport, 1996

<sup>2</sup> Western Cape Provincial White Paper on Transport, 1997

<sup>3</sup> Moving South Africa, Department of Transport, 1999

<sup>4</sup> Provincial Land Transport Framework, 2004

## **1.6 Previous Transport Plans**

The first major traffic study for Cape Town was undertaken in 1956<sup>5</sup>. In 1975, a transport study was sponsored by the Provincial Administration, and was completed in 1979<sup>6</sup>, and formed the basis for Cape Town's 1980-1985 Metropolitan Transport Plan which consisted of twelve volumes. From 1980 to 1990, various amendments took place and in 1991 the amendments and new policies were incorporated in the 1990-1991 Amendment of the Transport Plan. In 1995, the City started on a new transport plan<sup>7</sup> which was concluded in 1998. In 2002, the drafting of the Integrated Transport Plan stalled and ultimately stopped due to the lack of a spatial development plan for the City.

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<sup>5</sup> City Engineer's Department, 1956

<sup>6</sup> Cape Metropolitan Transportation Study, Cape Town City Council, 1979

<sup>7</sup> Moving Ahead, 1998



**Figure 1: City of Cape Town Municipal Area**

# 2. Contextual Framework

## 2.1 International Initiatives and Leverages

Global awareness and familiarity of environmental sustainability was enthused with the advent and outcome of the World Commission on Environment and Development, chaired by Commissioner Brundlandt, in 1987. Subsequently, there was the international Rio Summit of 1992 linked to the global Local Agenda 21 process, the Integrated Development Planning processes in South Africa, World Summit on Sustainable Development in Johannesburg in 2002, the Cleaner Development Mechanisms initiative through the South/South-North international partnership, the Urban Environmental Accords of June 2005, the UN Millennium Development Goals of 2005 and other key levers such as the International Council for Local Environmental Initiatives, are further expanded on below.

### 2.1.1 Sustainable Development and Sustainable Transport

Through the global initiatives and key leverage processes, it is being recognised that the approach toward sustainability, is embedded in the growing awareness that human activities have significant environmental impacts that can impose economic, social and ecological costs. Global air pollution, the effects of manufactured toxins, degraded natural resources and the broad nature of environmental problems, all highlight the necessity to view human development impacts from a broad and holistic perspective.

This approach emphasises the integrated nature of human activities and therefore the need to coordinate planning amongst different sectors, jurisdictions, institutions and other stakeholders. Some definitions in context of the discussion to support sustainable development and to nest sustainable transport, in perspective are:

- **Sustainable development** “meets the needs of the present without compromising the ability of future generations to meet their own needs”.<sup>8</sup>

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<sup>8</sup> World Commission on Environment and Development (Brundtland Commission), Our Common Future, Oxford University Press, 1987

- “The goal of **sustainable transport** is to ensure that environment, social and economic considerations are factored into decisions affecting transport activity”<sup>9</sup>
- “... *sustainability is about (total) **systems analysis**. Specifically, it is about how environmental economic and social systems interact to the mutual advantage or disadvantage at various space-based scales of operation*”.<sup>10</sup>

In consolidation, the definition toward sustainable transport could be:

“Sustainable transportation is defined as the ability to move people and goods effectively, efficiently, safely and most affordably without jeopardising the economy, social matters and environment, today and into the future”

Sustainable transport is premised in the context of sustainable development and intentionally designs outputs, which fits within a developmental context. Thus, the decision-making framework, procedures and systems must be based on the principle of integration and intersectoral synergy and operational workings.

### **2.1.2 The World Summit on Sustainable Development (WSSD), 2002**

The SSD held in Johannesburg 2002 reaffirmed sustainable development as a central element of the international and local agenda and gave new impetus to global action to fight poverty and protect the environment. The understanding of sustainable development was broadened and strengthened as a result of the Summit, especially the important linkages between poverty, the environment and the use of natural resources.

### **2.1.3 Cleaner Development Mechanisms (CDM)**

The Cleaner Development Mechanism is an international channel through the United Nations Framework Convention for Climate Change. The concept is to create partnerships between Southern hemisphere countries and between southern and northern hemisphere countries. The opportunity is that the Cleaner Development Mechanisms will enable and will be utilized to combat adverse climatic change and to promote sustainable development, best practice and capacity building in the developing world. Areas of intervention are for emission reduction, win-win possibilities between two countries.

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<sup>9</sup> Moving on Sustainable Transportation (MOST), Transportation Canada ([www.tc.gc.ca/envaffairs/most](http://www.tc.gc.ca/envaffairs/most)), 1999

<sup>10</sup> Toward a Sustainable Future, Special Report 251, Transportation Research Board (Washington DC), 1997

#### **2.1.4 United Nations Environment Programme – Urban Environmental Accords – June 2005**

The United Nations Environmental Programme, hosted an international event on World Environment Day on 5 June 2005, in San Francisco, where the Urban Accords vision and action plans were presented and accepted as part of an international agenda toward environmental sustainability. Cities will be measured at the World Environment Day in 2012, against the agreed actions. For transport, key actions were formulated:

- Action 13: Develop and implement a policy that expands affordable public transport coverage to within half a kilometre of all city residents within ten years.
- Action 14: Pass a law or implement a program that eliminates leaded fuels (where it still exists); phases down sulphur levels in diesel and petroleum fuels, concurrent with using advanced emission controls on all buses, taxis and public fleets to reduce particulate matter and fog forming emissions from those fleets by fifty percent in seven years.
- Action 15: Implement a policy to reduce the percentage of commute trips by single occupancy vehicles by ten percent in seven years.

#### **2.1.5 Millennium Development Goals**

The United Nations Secretary-General, Kofi A. Annan, has appealed to commit to the global initiative. He has also acknowledged that it is a process over time, to train and secure skills and provide primary facilities like schools, transport facilities and hospitals and to build economies and businesses to provide jobs. The eight Millennium Development Goals, range from halving extreme poverty to halting the spread of HIV/AIDS and providing universal primary education, targeted for 2015. It stems from a blueprint agreed to by all the world's countries and all the world's leading development institutions. The countries, who participated, galvanized unprecedented efforts to meet the needs of the world's poorest.

The goals are as follows:

- Eradicate extreme poverty
- Achieve universal primary education
- Promote gender equity and empower women
- Reduce child mortality
- Improve maternal health

- Combat HIV/AIDS, malaria and other diseases
- Ensure environmental sustainability
- Develop a global partnership for development

The challenge is that within an integrated approach, transport need to respond to the goals.

#### **2.1.6 FIFA Soccer World Cup “Green Goals”**

In September 2005, The FIFA Green Goal Programme was announced. It is coordinated under the auspices of FIFA Environmental Committee. The concept is to offset carbon emissions with projects in the FIFA World Cup in Germany in 2006, through Gold Standard projects, linked to the global Cleaner Development Mechanisms project. In Germany there is a commitment to align the world cup event with water management, waste management, energy management and public and non-motorized transport.

#### **2.1.7 International Council for Local Environmental Initiatives (ICLEI)**

ICLEI, is an international organization of cities, dedicated to environmental sustainability at the local level. At the ICLEI World Conference, – Local Government for Sustainability, in February 2006, members approved the ICLEI strategic plan, 2007 – 2012. The next six years will focus on three strategic themes of Local Agenda 21. These are:

- Building Sustainable Communities and Cities
- Protecting our Global Common Goods
- Participatory Governance
- Sustainable Management of Environmental Resources

Of particular note for the transport sector, is the Cities for Climate Protection Campaign which is housed in, the Protecting our Global Common Goods theme. The emphasis is to acknowledge the role transport can play, to decrease emissions and combat climate change.

#### **2.1.8 “Global Peak Oil”**

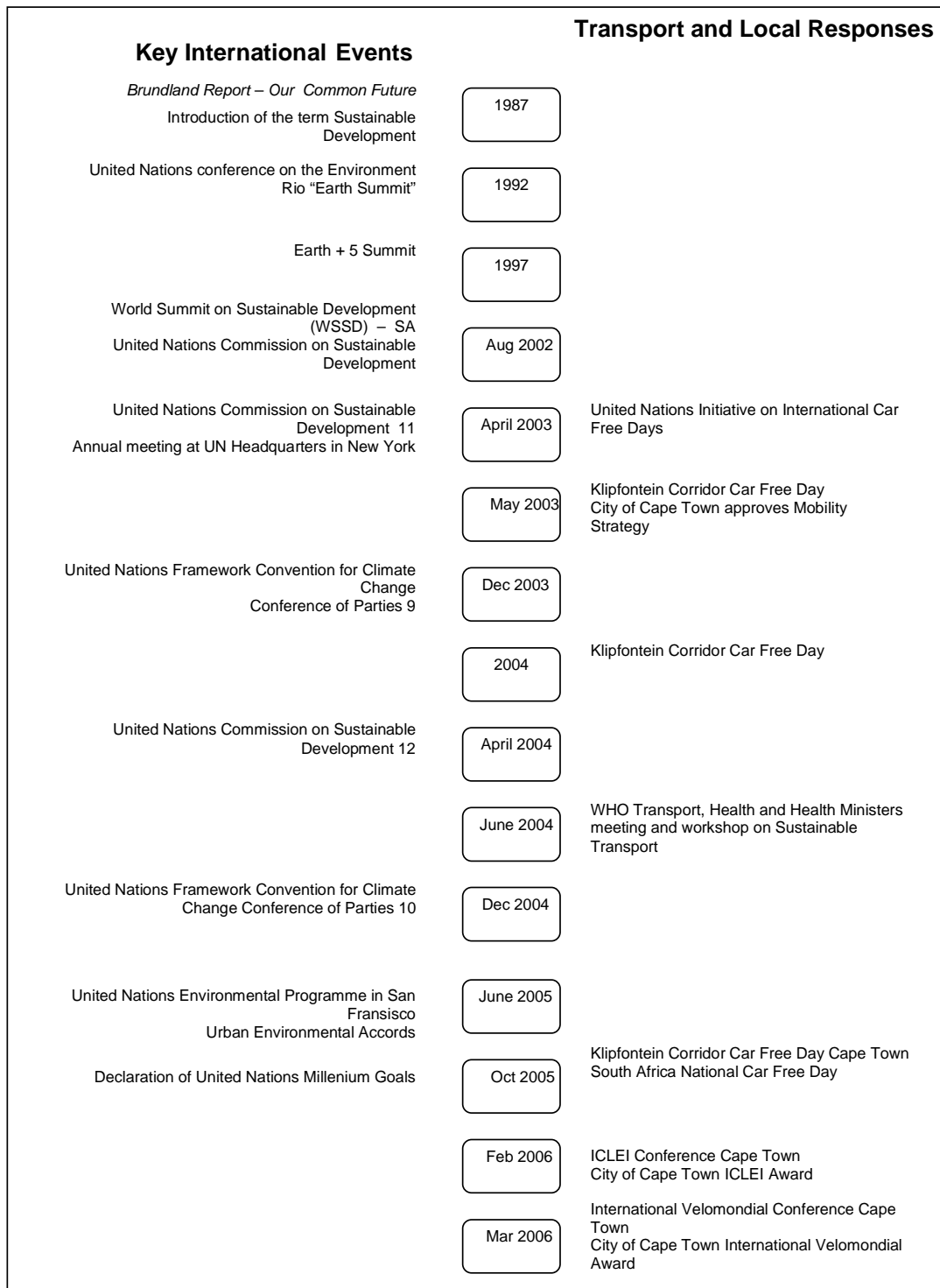
Through international research and empirical evidence, it has been found that the world is shortly running out of its ability to produce high-quality cheap and economically extractable oil, on demand. After more than fifty years of research and analysis on the

subject, it is now clear that the rate at which world oil producers can extract oil is reaching the maximum level possible. This is what is meant by, "Peak Oil". (Alex Kuhlman )

Oil supplies will struggle to keep up with demand causing, intermittent upward pressure on prices as the supply to demand ratio swings in and out of balance. This will impact on the price of fuel and influence policy shifts in transport.

### **2.1.9 Timeline of Key International Events - Transport and Local Responses**

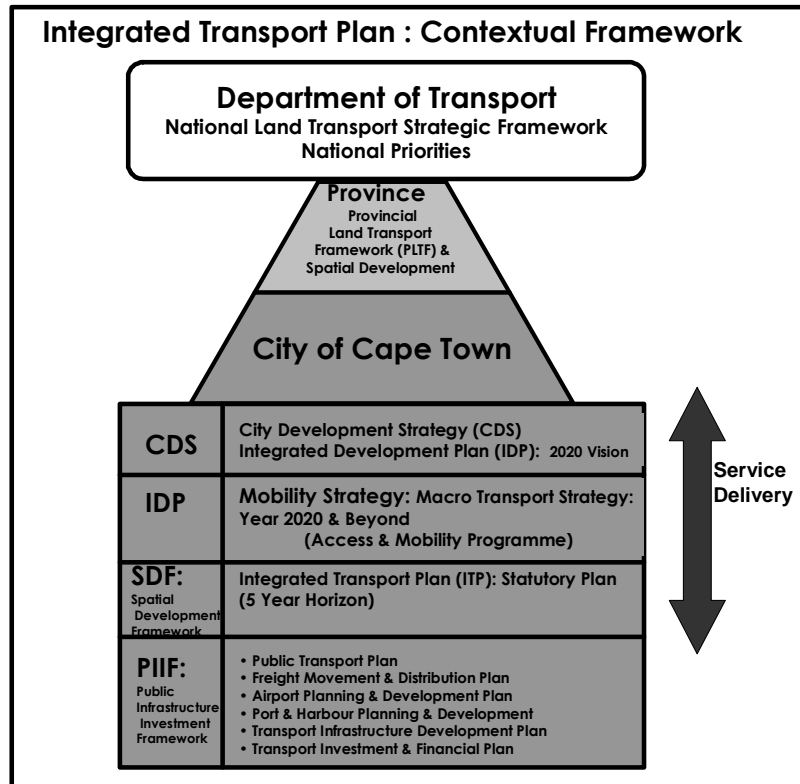
The illustration below reflects on some of the respective international activities associated with sustainable development and the sustainable transport debate, with respective transport sector responses and some local achievements.



**Figure 2: Sustainable Transport Events**

## 2.2 South African Context

The figure below shows the ITP within the South African and regional context.



**Figure 3: South African Context of ITP**

The City's ITP is informed from the bottom up through the public participation process, and sectorally through the strategies adopted by its various departments, and by the legislation and policy documents on transport produced by the Provincial and National Government.

The National policies and documents that inform this ITP include:

- Department of Transport (1996), National White Paper on Transport
- Department of Transport (1999), Moving South Africa Transport Plan
- Department of Transport (2005), National Freight Logistics Strategy
- National Government (2005), Breaking New Ground: A Comprehensive Plan for the Development of Sustainable Human Settlements
- National Household Travel Survey (2006)

- Office Of The Deputy President (November 1997), Integrated National Disability Strategy White Paper

### **2.3 Regional Context**

The functional urban region requires co-ordination and planning that typically transcends the boundaries of metropolitan areas, and encompasses a wider hinterland connected by commuter flows, economic linkages and shared facilities. Major strategic challenges transcend city boundaries and must also be addressed at a more regional scale.

Determining a Cape Town functional region includes the service catchment area for larger scale services, commuting patterns and economic linkages. The functional region probably extends in a radius of 150 kilometres from the Cape Town centre, encompassing Saldhana to the north, Worcester to the north-east and Hermanus to the east (See Figure 3).

This is not a political or jurisdictional boundary and is only relevant for planning purposes. Given the dynamic and changing nature of the planning process, it should be viewed as a flexible boundary depending on the functional or planning issue under consideration.

The Intergovernmental Integrated Development Task Team<sup>11</sup> agreed on the desired outcomes as a starting point for a common intergovernmental approach to growth and development. These outcomes should be bold, simple and challenging, helping to define a shared vision of a transformed city.

Four critical outcomes have been identified:

- Shared prosperity;
- An inclusive and equitable society; and
- An ecologically sustainable future
- Maintain 50% public transport usage

The following action items summarise the outcome of the intergovernmental workshop:

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11 A Proposed Agenda for Action, An Intergovernmental Approach to the Development Challenges of Cape Town, Initial Report of the Intergovernmental Integrated Development Task Team for the Cape Town Functional Region, 28 February 2006

1. Establish the long-term requirements for key transport hubs and axes for both passenger and freight needs. This will include investigating the respective roles of Saldhana and Cape Town as complementary ports, and their competitive positioning in the national economy as well as the long-term airport needs of the region – and whether these are adequately met by existing facilities.
2. Promoting much higher density mixed income settlement within and adjacent to key economic areas and along the core public transport corridors
3. Improving the quality of resource poor settlements through the creation of a hierarchy of transport and public service points that facilitates access to public transport, economic and social opportunity. The clustering of public facilities and transport access within walking distance will be a key principle.
4. Facilitate maximum access to strategic locations by poorer residents and promote a safe and reliable 24/7 public transport system
5. The 2010 transport investment must ensure the linkage of the inner core to the wider city transport system including that of the functional region encompassing Saldhana, Worcester and Hermanus.
6. The establishment of integrated transport authority and progress towards an integrated ticket system
7. The ultimate aim is that Cape Town achieves levels of accessibility in which all citizens are within one kilometre of public transport.
8. A major expansion in facilities for non-motorised transport.
9. The on-going improvement of safety and security on public transport and at transport interchanges will be a common priority.
10. The on-going expansion of the CCTV network covering key economic and transport locations as well as crime hot spots.

11. The provision of safe and secure public environments, including transport facilities, schools and commercial districts.
12. A business plan for public transport in Cape Town must be completed as a matter of priority, even in advance of the lead initiatives.
13. Public transport is key to both integrated human settlement and to growth and competitiveness in the functional region. As a first step, national assistance is required to define, scope and budget for, a comprehensive transport intervention at the city region scale focused on public transport.

The Strategic Infrastructure Plan of the Provincial Government of the Western Cape expects the following from public transport

- Providing the ability to move many people efficiently, reducing congestion in the transportation network, with the following resultant benefits:
  - Reduced travel time in the delivery of people, goods and services;
  - Improved reliability of delivery of goods, people and services, improving economic efficiencies;
  - Reduced social and economic costs associated with externalities such as emissions, noise and accidents;
- Promoting and supporting economic growth directly and indirectly as follows:
  - A larger public transport stimulates activity in the transport sector (increasing the market for vehicles, vehicle parts, fuel etc). The upgrading and recapitalisation of the minibus taxi industry, allowing vehicles to be maintained in a good condition would provide additional economic impetus;
  - Supporting economic efficiencies through reducing congestion and thus saving time, particularly when diverting trips from private cars to public transport.
  - Supporting the development of other economic sectors such as tourism, hospitality and catering, retail and communications through providing greater accessibility for those who do not have access to private vehicles.

The Provincial legislation and policy documents that inform this ITP are:

- Provincial Government: Western Cape (1997), *White Paper on Transport*
- Provincial Government: Western Cape (2004), Provincial Land Transport Framework
- iKapa Elihlumayo – A Framework for the Development of the Western Cape Province 2004-2007
- Provincial Government: Western Cape, Strategic Infrastructure Plan
- Provincial Land Transport Framework, 2004
- Western Cape Provincial Spatial Development Framework July 2005

## **2.4 Local Context**

A number of plans and strategies inform this plan at a local level. These plans are outlined below, and more detail about how they integrate with the ITP is given in Chapter 7:

- Integrated Development Plan
- Cape Town 2030: An Argument for the Long-Term Spatial Development of Cape Town
- Sustainability Report
- Integrated Metropolitan Environmental Policy
- Draft Energy and Climate Strategy
- Air Quality Management Strategy
- Biodiversity Strategy
- Peninsula Urban Edge Strategy
- Draft Economic and Human Development Strategy
- Draft Tourism Development Framework
- Social Development Strategy
- Sustainable Human Settlement Strategy

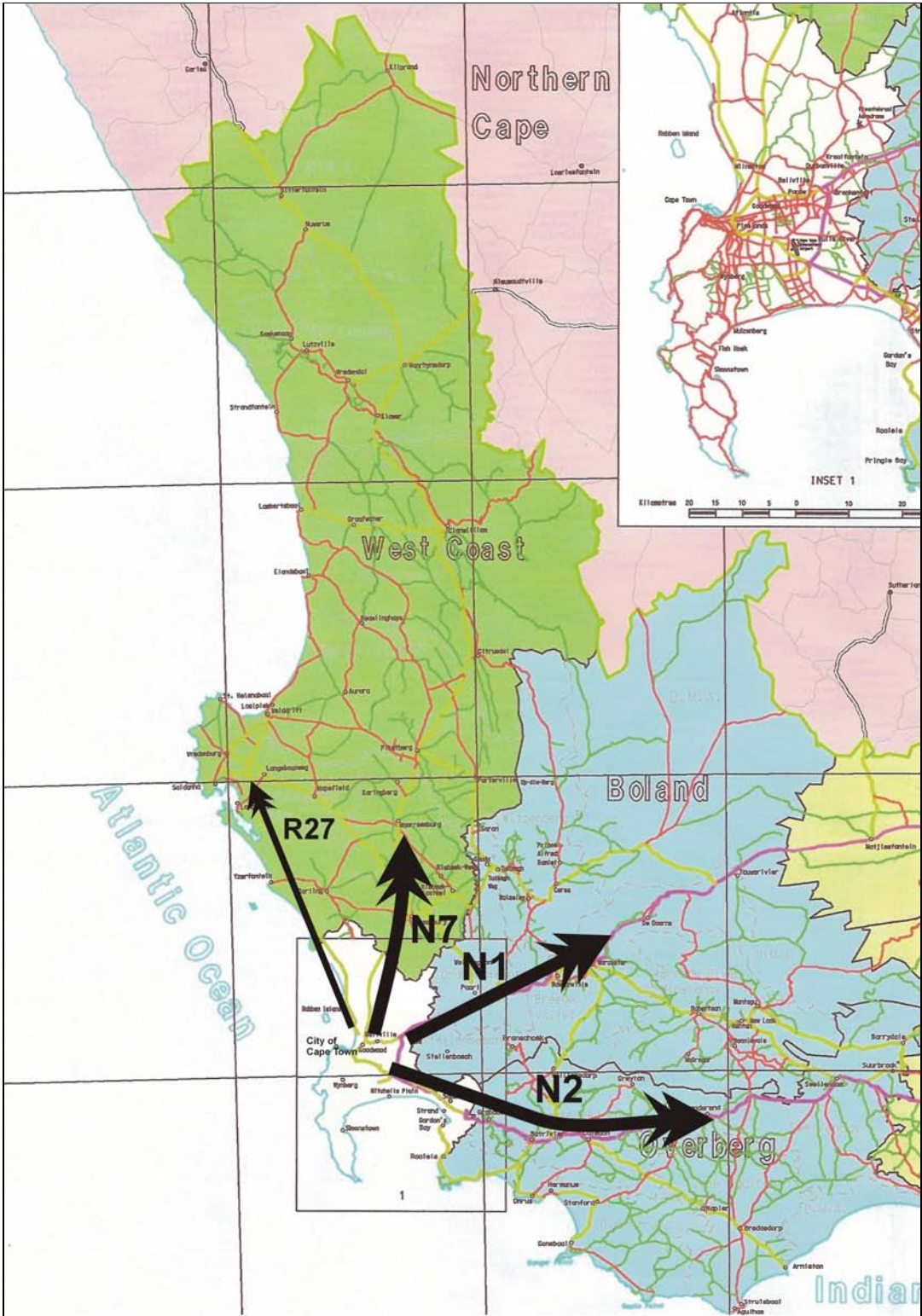
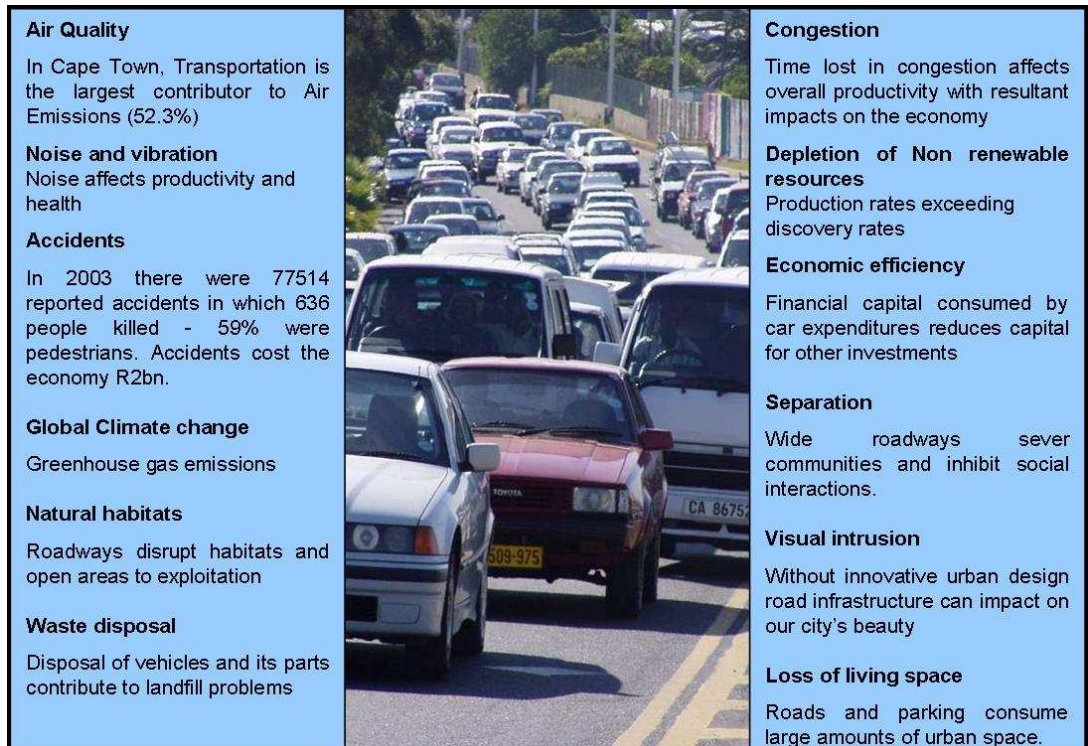


Figure 4: Regional Context of City of Cape Town

# 3. Framework for Sustainable Transport

## 3.1 Introduction

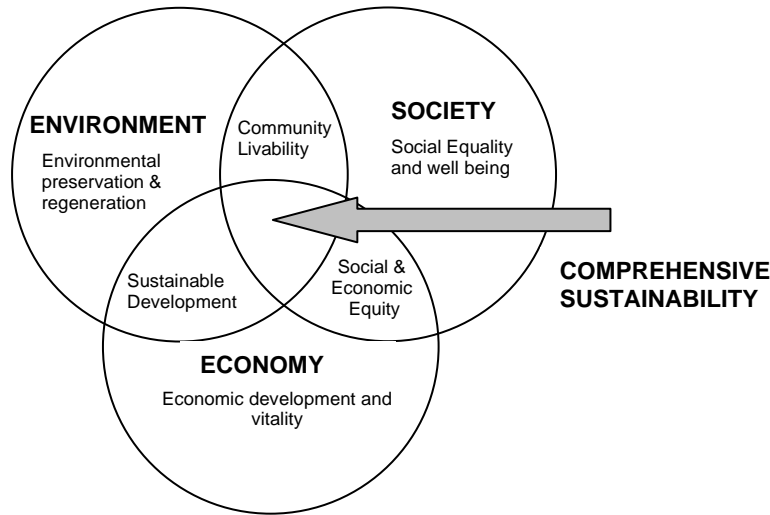
In many modern cities including Cape Town, the demand on the available infrastructure and the associated negative environmental impacts have increased to such an extent that concerns are expressed universally regarding the sustainability of these systems. This has been significantly impacted on by the development and increased use of internal combustion motor vehicles. The extent of the impacts of increased motorisation are summarised in Figure 5.



**Figure 5: Impacts of Increased Motorisation**

A sustainable system highlights the integrated nature of human activities and emphasises the need to coordinate planning among different sectors, groups and authorities. The ultimate goal of sustainable development is an optimal balance between economic, social

and ecological objectives and reflects a conservation ethic that minimises resource consumption and waste (Litman and Burwell, 2003).



**Figure 6: Achieving Sustainability**

The well being and quality of life of people both now and in the future are affected by environmental and social factors. Economic factors on the other hand influence environmental and societal factors.

### 3.2 Paradigm shift to sustainability

Sustainable and integrated transport as a term has been around for a number of years. In the South African context, the White Paper and Moving South Africa mentioned these terms in the mid and late 1990's. While the exact meaning of these terms is still being debated amongst transport professionals, it is acknowledged however that the era of road building on a vast scale as seen in the 1970's and 1980's is no more. The City's policy still accommodates new roads but only where they provide access to new developments or to increase access and mobility of road based public transport, walking and cycling. This in itself creates a dilemma for planners in a number of ways; firstly it increases the maintenance costs which impacts on the transport budget; and secondly, it affects the propensity of people to travel on private transport. This is not a new view and was expressed back in 1939 in a Cape Times Transport supplement<sup>12</sup>. So the logical and

<sup>12</sup> Cape Times, Special Transport Supplement, Thursday 16 February 1939.

rational way forward is to adopt a way that will not conserve the World's non-renewable resources, and focus on sustainable transport such as public transport, walking and cycling, and also create more compact cities and lifestyles.

In the past, indicators describing the transportation system focussed on motor vehicle traffic conditions, such as roadway level-of-service, average travel speeds, parking convenience and price, and collision rates per vehicle-kilometres. These indicators favour private vehicle travel and tend to contradict the objectives of sustainable transportation. They typically justify increased road space and additional parking capacity which in turn facilitate car-oriented transportation systems and associated land uses. In the process, vehicle travel costs per capita increase and the viability of NMT and public transport reduce. The higher car ownership and use result in increased resource consumption, higher pollution emissions and higher land consumption while exacerbating the transport problems facing non-drivers.

Sustainability requires a paradigm shift from the traditional way of thinking and problem solving (Litman, 1999). The focus needs to move away from what is considered measurable transportation impacts to more comprehensive analysis of impacts, considering indirect and cumulative impacts (Louis Berger & Associates, 1998), demand management solutions, and public involvement in transportation decision-making. It requires the prioritising of projects to give higher value trips and lower cost modes priority over lower value, higher cost trips.

### **3.3 Sustainable Transport in the City of Cape Town**

For the City of Cape Town, a sustainable transport system would involve the following:

- Meets the basic access needs of individuals and societies in a safe and secure way, in a manner consistent with human and ecosystem health, and with equity within and between generations,
- Affordability - operates efficiently, offers choice of transport mode, and supports a vibrant economy, and
- Limits emissions and waste within the planet's ability to absorb them, minimizes consumption of non-renewable resources, limits consumption of renewable

resources to the sustainable yield level, reuses and recycles its components, and minimizes the use of land.<sup>13</sup>

The above can best be achieved if there is an efficient urban structure which has an affordable and reliable public transport system in place. The City should encourage the development of houses and mixed use facilities within established corridors to enable public transport to function better. New low density residential developments are mostly taking place far away from main stream job opportunities and this leave the residents with high transport costs and long journey times.

Sustainable transport strongly supports the City's vision (IDP, 2005) of a sustainable, dignified, accessible, credible, competent, prosperous, safe and caring city that is known for its leadership in Africa and the developing world. Within the City's vision for Cape Town, the vision for a sustainable transportation system is translated as follows:

- Sustainable City - The transportation system should have little or no impact on the environment and on human health with more focus on non motorised modes and more efficient motorised modes such as public transport.
- Accessible City - The transportation systems should be accessible with people having access to opportunities, services and goods, specifically the poor and people with special needs.
- Credible City – The transportation system must promote good governance with integration and coordination between the different spheres of government.
- Prosperous City - The transportation of people and goods should be integrated to allow ease of movement between modes and using the most effective modes where appropriate.
- Safe and Caring City - The transportation system must provide a safe and secure environment for people of all ages and all abilities.

The City's response in recognising the travel needs of people and to promote economic and environmental sustainability as a means of promoting more efficient means of transport identified the following key focus areas:

- Promote alternative and more efficient modes of transport
- Reduce the usage and dependence on private vehicle trips

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<sup>13</sup> Adapted from the Canadian Centre for Sustainable Transport, 2002

- Support integrated and more efficient utilisation of land
- Promote improved travel behaviour through marketing and awareness
- Shift government policy and thinking to support the implementation of efficient transport systems.
- Promote the use of alternative and cleaner energy sources e.g. Biodiesel and Liquid Petroleum Gas (LPG).

### 3.4 Transportation and Sustainability

Transportation of people and goods is essential not only for economic activity, but also for societal needs and goals. Typically, sustainable transport focuses on meeting the present social and economic needs without reducing the ability of future generations to meet their needs. Both the infrastructure elements and the operations of the transportation system impact on the sustainability of the system. Some of these impacts are listed in Table 1<sup>14</sup>.

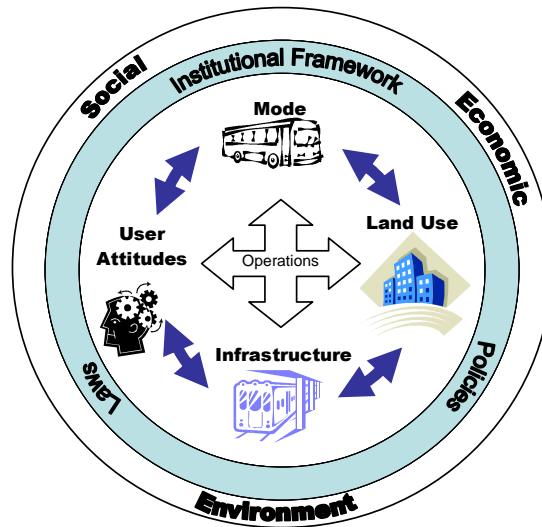
**Table 1: Transportation Impacts on Sustainability**

Economic	Social	Environmental
Traffic Congestion Mobility Barriers Accident Damages Facility Costs Consumer Costs Depletion of Non-Renewable Resources	Inequity Mobility Disadvantaged Human Health Impacts Community Interaction Community Liveability Aesthetics	Air and Water Pollution Habitat Loss Hydrologic Impacts Depletion of Non-Renewable Resources

A transportation system consists of four primary elements: mode and infrastructure (vehicles and tracks/roads), users (people and their mindsets), the physical environment (land use) and the domain wherein these elements interact. These four elements need to be integrated to create a system with a sustainable balance between the environment, sociological issues and the economy. Any impact on transport efficiency requires changes to one or more of these basic four elements. This relationship is shown in Figure 7 below:

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14 Litman and Burwell, 2003



**Figure 7: Relationship between the Elements of the Transportation System**

Travel behaviour patterns are influenced by the elements of the transport system and through the interaction of these elements with one another. To achieve Sustainable Transport, we need to influence and ensure travel behaviour that does not jeopardise the economy, social matters and environment, today and into the future. The art of influencing this travel behaviour is generally known as Travel Demand Management (TDM).

### **3.5 Addressing the Elements of the System**

#### **3.5.1 Transport Modes & Infrastructure**

The private car is still the dominant mode of commuter transport in Cape Town. Unless an alternative transport mode that is safe, secure, reliable, convenient and affordable is provided, this trend will continue. The shift to more sustainable modes of transport, namely Public and Non Motorised Transport must happen. This strategy will bring the numerous benefits of which reduction in congestion and associated energy consumption and car emissions are just a few to mention.

Existing public transport modes often operate below their potential capacity, often due to poor maintenance, lack of adequate safety and security, limited service times and coverage. The most important of the alternative modes, but often overlooked, is non-motorised transport (NMT). NMT is an inherent part of any

journey, and, in conjunction with a proper public transport system, can offer very high levels of urban mobility. In order to achieve this, there must be comprehensive integration between NMT and public transport adhering to the principles of universal access.

While restricting the use of cars through greater taxation and pricing might seem a simple solution to the ever increasing levels of urban roadway congestion, this is not a feasible option to car use. Alternatives such as a more attractive public transport system and/or employer incentives need to be incorporated as part of any strategy to reduce automobile use. Cars offer very good mobility to those who can afford them; hence any alternative should offer similar levels of mobility if car users are to be targeted. Another approach to lessen the impact of cars on the City is through making their use more efficient (i.e. less emissions), higher occupancies and better parking and road space management which will drastically reduce the environmental impact of cars.

### 3.5.2 Spatial development and Land use management

The mutually supportive role between the transport system and land cannot be over-emphasised. Higher densities make capital-intensive investments in public transport projects more affordable due to the lower cost per capita, while more users make the service safer and more attractive. An increase in urban density also makes distances between activities shorter, increasing the potential integrated NMT use, and in turn creates a greater demand for public transport for medium to long distance trips. Urban management and implementation of projects should therefore not occur in isolation, as this leads to wastage of valuable urban land.

### 3.5.3 Marketing, Education, Enforcement and Awareness

Creating an understanding amongst users and stakeholders of the benefits of a well-managed transport system has many benefits. Measures to manage travel demand may not achieve the desired effects if those who are supposed to benefit are not informed about such measures and benefits. Employers can play a large role in reducing dependence on cars for commuting purposes. This requires a

concerted effort to convince a critical mass of employers and employees to change their behaviour to achieve a noticeable impact on road traffic congestion.

The marketing of public transport and more sustainable transport is the responsibility of the authorities and transport operators. Motorists need to be fully informed of the travel options and resultant decision impacts on the environment, economy and social aspects.

Enforcement of road regulations involving vehicles and pedestrians are important for road safety. Responsible behaviour must be encouraged at all levels of society.

#### 3.5.4 Institutional Framework – “Domain of interaction”

Government agencies regulate the urban environment, and as such can make a big difference to land use and transport practices. Regulations must take into account the long-term goals, advantages and disadvantages of planning and policies that aim to improve the transport system and manage urban growth, while coordination between different agencies is a requirement for comprehensive and sustained solutions. In order to achieve such goals, transportation planning, funding and management must be prioritised, requiring an increase in management responsibility. While this seems simple, a widespread resistance to change is a big obstacle in the drive to renew or replace management processes.

### 3.6 Measuring Sustainability

To ensure that the City moves towards sustainability, the identified indicators as set out in Table 2, need to be measured and continuously monitored to check progress. There are numerous sustainability measures of which some are easier to measure than others. For Cape Town, sustainability will be measured in terms of the following table. The City is currently investigating actual targets for each indicator and this will be included in the review of this ITP. Until then, the City will strive to achieve the purposes of these indicators and move towards a more sustainable transport system.

**Table 2: Sustainable Transportation Indicators**

<b>City of Cape Town: Sustainable Transportation performance Indicators</b>			
	<b>Indicator</b>	<b>Unit</b>	<b>Purpose</b>
<b>Environment</b>	Energy Use for Transport	Consumption of Non-ren. Resources (petajoules)	Minimise consumption of Non Renewable resources
	Greenhouse Gas emissions	Total GHG emissions (Megatonnes of CO2 equiv)	Limit GHG emissions – Climate change
	Per Capita Expenditure on Roads, and parking supply services	Rands per inhabitant of Cape Town	Reduce expenditure on 'unsustainable' mode infrastructure
	% of Commuters using NMT as Main Mode	Percentage	To increase % and therefore attempt to minimise the consumption of Non-Renewable resources
	% of Population living within 500m of nearest public transport facility and service	%	Ease of access to environmentally preferred mode of transport
	Public Right of Way (+ public parking) per Capita	m <sup>2</sup> /capita	Maximise efficiency of use of scarce land for transport purposes (be aware of road reserve requirements)
<b>Economic</b>	Average Total Journey Time	Time Unit	To improve access (time) to opportunities-reduce journey times
	No. of Job Opportunities, commercial services and education facilities within 5km of residents	Number	To reduce travel distance and promote walking & NMT
	Modal Split	NMT: mass transit: Private Transport	To encourage the use of public transport & NMT
	Ratio of No. of Daily Passenger trips by public transport: Public transport standee + seating capacity	Utilisation: Capacity	To measure the efficiency of use of capacity of fleet throughout the day. (not only commuter trips)
	Generalised cost of Movement of goods and services	% of total cost of goods & services to the consumer	Reduce Cost of transport
	Condition of transport infrastructure its operating efficiency	VCI (Visual Condition Index) of 70+	To ensure operating efficiency
	Users of integrated City Card	number of cards in use	Reduce Cost, Improve modal integration, Promote public Transport, # PPP's
<b>Social</b>	Portion of H/Hold income devoted to transport	Percentage	To improve the affordability of transport
	Per capita Accident Cost for Fatal and Serious Accidents only	Rands/ persons involved in accidents	To reduce no of accidents and especially the more severe.
	Accessibility of infrastructure by mobility disadvantaged.	Survey (population size>100). During normal week day trip on a typical journey, count the number of inaccessible locations. Sum all and determine average	To ensure Universal access of transport infrastructure
	Car & Bicycle ownership per 1000 population	Number of Cars and Bicycles per 1000 population	Access to private mobility
	Transport impacts on the Liveability of Community	Survey: converted to a scoring unit	Create a Liveable community
	Public Participation	Structured sessions with civil society and other transport stakeholders	To ensure integration and communication with the key role players in transport

### 3.7 Sustainability and Travel Demand Management (TDM)

Numerous strategies are available to move towards a more sustainable transportation system of which most either involve technical innovation or Travel Demand Management (TDM). International experience suggests that TDM is essential for achieving more sustainable transportation and a number of economic, environmental and social objectives.

Many different TDM strategies have been tried both internationally and locally with a variety of associated transportation impacts. Some strategies improve the transportation options available to consumers, while some cause changes in trip scheduling, route, destination or mode. Others reduce the need for physical travel through more efficient land use or transportation substitutes. TDM is an increasingly common response to transport problems. Although the term TDM refers to the management of “demand”, internationally the focus has been on measures that impact both demand and supply. This Chapter highlights the City’s approach to travel behaviour and how to intervene through a number of proposed TDM measures.

Within the City’s objective to provide a sustainable transportation system, the specific objective for TDM in the City of Cape Town is to:

**“promote a diversity of sustainable travel modes and practices that will influence the choices made by commuters in order to reduce the overall number of trips, minimise travel time and optimise travel cost – especially during peak times”.**

This should indeed be the objective for most of the transportation planning and operational actions in the city and should guide all the elements of the system that are described in the ITP. The essence of the TDM objective is essentially threefold:

1. Create an awareness of alternatives to private car use and change the perceptions in the minds of the travelling public and that of business that car travel is not the only feasible alternative. At the same time communicating the true cost of travel and the long-term sustainability of the system.
2. Provide feasible and attractive alternative travel modes.
3. Develop land use activities that will support the use of alternative modes as well as a supporting legal and policy environment.

No TDM measure will be successful without efforts in pursuing all three the above objectives. In pursuit of the objective for TDM, key strategies were identified to guide the development and implementation of TDM in the City.

A summary of all the available TDM measures is provided in Figure 8 with the measures being classified into the four basic elements of the transportation system as well as grouped into general measures and more specific TDM measures. The general measures are typically measures that are already an integral part of this ITP such as an improved public transport system. Therefore, these general measures are described and discussed in specific chapters elsewhere in this ITP. The specific TDM measures will be discussed in Chapter 12 of this ITP.

	<b>General Measures</b>	<b>Specific TDM Measures (Refer to Chapter 12)</b>
<b>Mode &amp; Infrastructure</b>	<ul style="list-style-type: none"> <li>• PT Improvements</li> <li>• HOV Preference</li> <li>• Improved Security</li> <li>• NMT Improvements</li> <li>• Street Reclaiming</li> <li>• Traffic Calming</li> <li>• Additional Modes</li> <li>• Integration between modes</li> <li>• Universal Design</li> </ul>	<ul style="list-style-type: none"> <li>• Car/Ridesharing</li> <li>• Carpooling</li> <li>• Guaranteed Ride Home</li> <li>• Pay-as-you-drive insurance/Pricing</li> <li>• Telework/Telecommute</li> <li>• Park and Ride</li> </ul>
<b>User</b>		<ul style="list-style-type: none"> <li>• Commuter Financial Incentives</li> <li>• TDM Marketing</li> <li>• Employer Awareness and Advertising</li> <li>• Traveller Awareness</li> <li>• Incentives to use alternative modes</li> <li>• Government Planning and Mindset</li> <li>• Increase the use of alternative modes</li> </ul>
<b>Land Use (IDP)</b>	<ul style="list-style-type: none"> <li>• New Urbanism</li> <li>• PT Oriented Development</li> <li>• Access Management</li> <li>• Smart Growth</li> <li>• Street Reclaiming &amp; Traffic Calming</li> <li>• Sustainable Development</li> <li>• NMT Planning and Facilities</li> <li>• Residential Mobility</li> <li>• Road Space Reallocation</li> </ul>	<ul style="list-style-type: none"> <li>• Car-free Planning</li> <li>• Parking Management</li> </ul>
<b>Policies &amp; Management</b>	<ul style="list-style-type: none"> <li>• Planning Reforms</li> <li>• Location Efficient Housing and Mortgages/Bonds</li> <li>• Parking Policies and Management</li> <li>• Taxation</li> <li>• Road and Fuel Pricing</li> <li>• Comprehensive Market Reforms</li> <li>• Freight Transport Management</li> </ul>	<ul style="list-style-type: none"> <li>• Alternative Work Schedules</li> <li>• School and Campus Trip Management</li> <li>• Parking Policies</li> <li>• Building and SDP Code Regulation</li> <li>• Employer Programs to reduce employee trips</li> <li>• Integration and coordination within departments and government agencies</li> <li>• Enforcement &amp; management of TDM</li> </ul>

**Figure 8: Summary of TDM measures**

# 4. Vision, Goals and Objectives

Transport is one of the most important issues in Cape Town, and this is reflected in the Mayor's strategy for the City, viz. the Integrated Development Plan. All Citizens in Cape Town deserve adequate access to opportunities and transport plays a key role in making this possible.

Transport, however, comes with significant undesirable impacts on the economy, environment and society. Just to mention one of each;

- Congestion has increased significantly which has caused a loss of millions of Rands to the economy.
- The 2004 State of Cities report indicated that the largest contributor to atmospheric emissions is transportation (52.3%).
- In 2003, in Cape Town 77514 traffic accidents were reported in which 636 persons were killed. This has a severe social impact.

The following problem statement sums up the main issues.

## **Problem Statement:**

The transport problems in Cape Town can be summarized as follows;

- Growing trend in private car usage
- Congestion is increasing resulting in peak periods extending towards three hours.
- Commuter travelling distances are increasing which is evidence of urban sprawl
- Lack of a quality public transport system with poor integration of public transport modes
- Perceived safety and security problems on the public transport system.
- Lack of adequate Non Motorised Transport facilities including the mobility disadvantaged.
- Transport contributes to just over 50% of air emissions in Cape Town.
- High traffic accident rate with significant pedestrian involvement.

- Fragmentation of roles and responsibility in the transport sector across the tiers of government.

Transport plays an essential role towards ensuring sustainable development. The current transport activities shows little regard to social, economic and environmental objectives.

The current transport situation is untenable and unsustainable. The City's vision for transport is as follows:

**Vision:** To provide a world class sustainable transport system that moves all its people and goods effectively, efficiently, safely and affordably

All citizens of Cape Town and tourist deserve a highly efficient transport system that improves access and mobility in an equitable and sustainable manner.

Public Transport is a key component of any World Class Transport System. The City of Cape Town is committed to improve access and mobility for its residents, goods and services by "putting Public Transport, People and Quality of Life First". A growing City like Cape Town cannot function without an effective transport system that puts Public Transport first.

National and Provincial policies were covered in Chapter 1, however it is important to note that the City's transport vision is aligned with those policies and most importantly with its Integrated Development Plan.

#### **4.1 Key Principles**

The following key principles inform the development of this Plan. These principles are derived from consultation as well as from best practice approach:

- Integrate transport and land use planning- the successful integration of these two planning disciplines is essential for the City to function efficiently. Transportation plays a significant role in shaping the structure of the City and in many senses is supported by land use planning and vice versa.

- Restructure the City - we need to reduce the need to travel, and to decrease overall distance travelled and journey times. This is inline with the goal of a more compact City, where jobs and essential services are closer.
- Supportive of global principles of sustainable development, sustainable transport and millennium development goals.
- Cascading and nesting within the National legislative and policy framework.
- Alignment and fit with the City's Integrated Development Plan and the City Wide Mobility Strategy
- Support and commitment to developmental local government
- Sustainable MTEF that supports a prioritised multi-modal transport proposals and implementation program.
- Other technical principles as Gazetted namely Rural matters and the fact that Rail and Bus (at the moment) are National and Provincial competencies
- Improve safety for users of all modes – this concern is the main concern of public transport users. Addressing this concern will make public transport a more attractive choice for car commuters.
- Promote greater use of public transport and develop better public transport options – The promotion of public transport and the provision of better facilities and public transport vehicles will improve the appeal of public transport to a greater market. Providing facilities that cater for young children, the elderly and people with special needs will make our transport service universally accessible.
- Recognise the importance of non-motorised travel modes – walking and cycling is a healthy and sustainable alternative to the car or public transport. The provision of facilities such as cycle lanes, sidewalks and walking paths will encourage more people to use these modes.

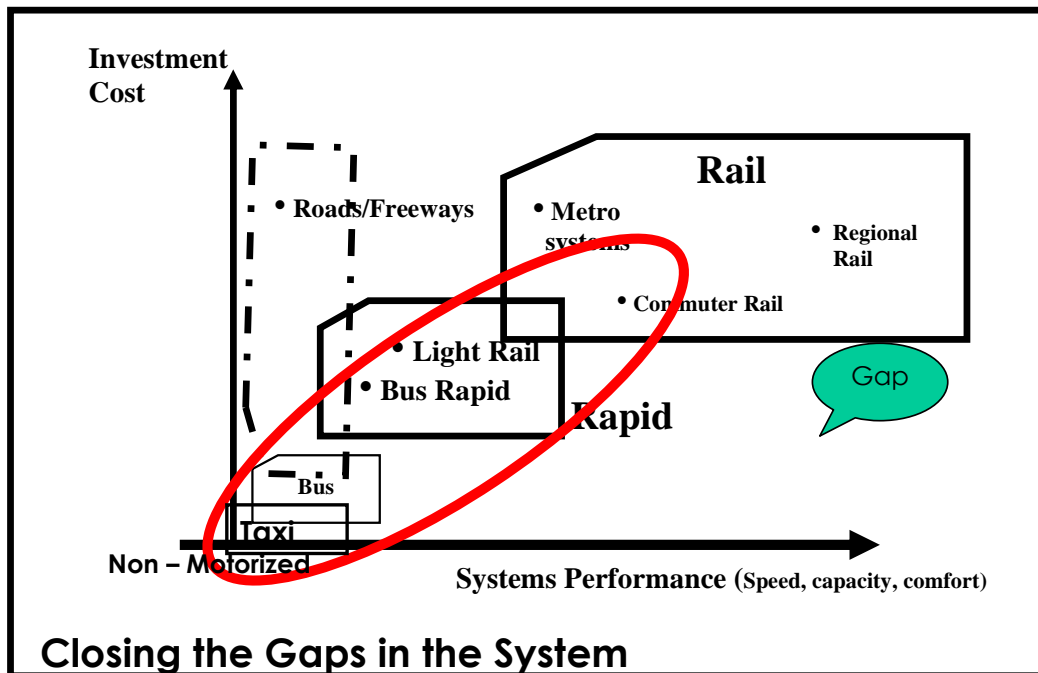
- Improve access to jobs and services – People require decent access to jobs and essential services such as clinics and libraries. Those living far from corridors are most at risk from exclusion. Plans to improve access to corridors are necessary to improve access to jobs and services.
- Improve travel experience and travel time of buses and minibuses – reducing journey travel time for buses and minibuses through providing special lanes and priority at intersections is necessary for efficient public transport and also to make it more appealing.
- Freight Management – While freight movement is important for the economy, it must be managed so that it does not interfere with commuter travel or do unnecessary damage to our roads.
- Provide public transport information – The City has a Metropolitan Transport Information Centre that receives about 200,000 calls a month. Most of these calls are related to timetable information and enables the public to make informed decisions. Information dissemination must be improved so that it is available to everybody.

## **4.2 Objectives**

The following objectives support the ITP:

- To strive towards a complete transport system as depicted in Figure 9.
- To promote travel demand management measures to encourage less car usage, to improve the environment, and to improve road safety. This will be promoted in CBD's, major public transport routes and cycle routes.
- To align transport and land use planning to bring about a land-use pattern where the necessity to travel, especially by car, is minimised, and where there is a feasible choice of mode of transport.
- To promote sustainable travel patterns by encouraging walking, cycling and the use of public transport

- To improve safety and security at interchanges, station car parks, and en-route to interchanges and stations. To provide better maintenance of facilities
- To provide non-motorised transport facilities and include their requirements in Traffic Impact Studies.
- To protect the environment from pollution through vehicle emissions
- To manage the road network so that the current road space is optimised, and to only invest in new roads where it provides accessibility and support to public transport.
- To promote and incorporate the principles of Universal Access in design and construction of transport infrastructure.
- To support the use of rail for freight use and to manage road based freight vehicles.
- To provide safe and convenient cycle and motor-cycle parking at stations, leisure facilities, public buildings and within employment areas (CBD's).
- To apply reduced parking standards for developments in CBD's and that are on major public transport routes.
- To make better use of existing parking facilities – municipal and privately owned car parks should be made available for variable land use developments to increase their utilisation and return to the City.
- To provide safe and affordable Park and Ride facilities at stations and other key sites.
- To provide safe access to new developments through the application of the Roads Access Policy
- To incorporate self enforcing traffic calming measures in the design of new residential areas, and to apply the traffic claming policy for existing areas.



Adapted from Vuchic

Figure 9: Complete Transport System

### 4.3 Goals

As discussed in Chapter 3.6, the City has identified a list of indicators that will be measured and monitored continuously to check progress towards a more sustainable transport system. The indicators are shown in Table 2 in the previous chapter.

The actual targets have not been identified for all indicators and are currently being investigated and will be included in the review of this document. Until then the City will strive to achieve the purposes of these indicators and therefore move towards a more sustainable transport system.

However, the City has identified targets for modal split. The City is committed to promote public transport and give it priority over private transport. The table below shows the modal split targets over the next fifteen years.

**Table 3: Modal Targets**

<b>Year</b>	<b>Percentage Private Transport</b>	<b>Percentage Public Transport</b>
<b>Existing</b>	52%	48%
<b>2010</b>	50%	50%
<b>2015</b>	47%	53%
<b>2020</b>	43%	57%

This will result in a public:private split nearing 60:40 being achieved by 2020.

# 5. Demographics

## 5.1 Introduction

This section sets out the demographics on the City's population. It is used in transport planning purposes as well as to evaluate the suitability of projects.

## 5.2 Population

The City of Cape Town had a population of 2,89 million in 2001, and has experienced rapid growth due to its young age structure and immigration.

Table 4 shows the population for the City of Cape Town for 1996 and 2001. It shows a growth in population of 13% over the 5 years, or an annual growth of 2,5% per annum.

**Table 4: Population - City Of Cape Town**

POPULATION		
1996	2001	CHANGE
2,563,612	2,893,246	+13%

Source: Statistics SA – 2001 Census

With regards to the population projection, which is important for predicting transport demand, it is thought that the City's changing demographic profile will present a wide range of challenges and opportunities in respect of pressure on land and resources, particularly the need to create productive employment in order for people to share equitably in income growth.

The projection scenario estimates that households will increase from 760 000 households in 2001, to 1 057 000 in 2021 – an increase of just under 300 000 households at an average annual growth rate of 1.6%. The projection suggests that population growth will begin to decline. However given that the present young age structure provides an inbuilt momentum to keep growth of the potential labour force high for the foreseeable future, investment in the youth is vital for this sector of the population to fully participate in the

development of the City. In the period 2006 to 2021 the projection study is based on the assumption that the natural increase and migration rate will begin to decline, resulting in an aging population with different needs than those of the youth component.<sup>15</sup>

### 5.3 Age Structure

The City has a young age structure, typical of a developing region. Of significance is the high number of persons between 5 and 19 falling into the school going category. The issue of transport of learners, particularly in low income households, is an important and challenging transport issue due to low levels of affordability. Figure 10 shows the age structure.

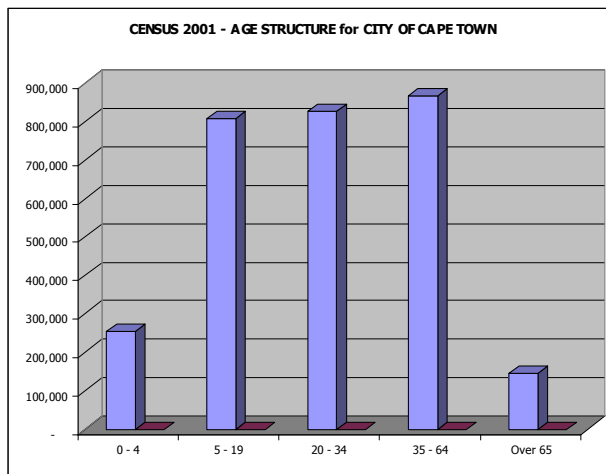


Figure 10: Age Profile of Population

### 5.4 Passengers with Special Needs

The definition of passengers with special needs as set out in the Department of Transport document entitled “Moving South Africa”, and refers to a passenger in any of the following categories:

Life Cycle Passengers - Including children between 5 and 14 years old, people with health conditions, pregnant women and the elderly (aged 65 and above).

<sup>15</sup> Population Projection for Cape Town 2001 – 2021, Information and Knowledge Management Department Strategic Information Branch

Impairment Passengers - Any customer with physical, sensory or cognitive impairments, including full or partial impairments in motor functions, sight, hearing, speech, mental or intellectual capabilities, and short people.

Signage Passengers - Including people who are not literate and foreigners who are unable to read transport signs and notices and require non-verbal forms of communication.

Table 5 shows the prevalence of Special Needs Passengers.

**Table 5: Prevalence Of Special Needs Passengers (2001 Census Data)**

<b>Special Needs Passenger Category</b>	<b>City of Cape Town</b>	<b>% Population</b>
<i>Life Cycle Passengers</i>		
Children (between 5 and 14)	518 195	18%
Pregnant women (2 months only)	Not known	-
Elderly (aged 65 and above)	144 168	5%
Subtotal	662 363	23%
<i>Impairment Passengers</i>		
Sight	19 261	0.7%
Hearing	14 270	0.5%
Communication	3 798	0.1%
Physical	31 147	1,0%
Intellectual	13 079	0.5%
Emotional	13 926	0.5%
Multiple	12 470	0.4%
Subtotal	107 951	3.7%
<i>Signage Passengers</i>	Unknown	-
<b>TOTAL</b>	<b>770 314</b>	<b>26.6%</b>

A total of 26% of the population falls into the category of special needs passengers taking the broad definition to include both life cycle and impaired passengers.

The two most prevalent categories of impairment passengers are physical and sight which account for 50 400 passengers or 1,7% of the population. These groups are impacted most acutely in terms of access and utilisation of the transport system.

## 5.5 Employment

The economy of the City of Cape Town contributed approximately 11% to the national economy and 75% to the Western Cape economy as reported in the Environment Report Year 4, 2001 (CCT, 2001). The City of Cape Town is the second largest city economy in South Africa.

The economy of the City grew by 3% in 2001 and 2.1% in 2000. This is a higher growth rate than that for the national economy, which was 2.2% in 2001. The growth areas for the City for 2001 included the manufacturing, trade and finance sectors. The most significant growth has been in trade, due to vast increases in tourism. The tourism industry is seen as the industry which will contribute to employment creation and economic growth and which is able to employ the unskilled labour force.

Formal sector employment declined to 64% in 2001 from 77% in 1991. The informal sector has grown to play an important role in the economy of the City contributing 12% of the economic output and employing approximately 18% of the labour force. Growth of employment in the formal and informal sectors is projected to grow at an annual average of approximately 2% between 2001 and 2005. Table 6 shows the employment by industry sector.

**Table 6: Employment By Industry Sector**

SECTOR	Number of Employed Persons			
	2001			
	Western Cape	%	Cape Town	%
Agriculture/Forestry/Fishing	206,200	13.8%	23,290	2.5%
Mining/Quarrying	4,600	0.3%	2,151	0.2%
Manufacturing	207,200	13.9%	155,846	16.6%
Electricity/Gas/Water	7,400	0.5%	5,235	0.6%
Construction	102,600	6.9%	68,005	7.2%
Wholesale/Retail	242,600	16.3%	169,989	18.1%
Transport/Storage/Communication	64,600	4.3%	50,399	5.4%
Financial/Insurance/Real Estate/Business	156,000	10.5%	126,970	13.5%
Community/Social/Personal	259,800	17.4%	182,006	19.4%
Other		0.0%	209	0.0%
Private Households	93,400	6.3%	59,204	6.3%
Undetermined	145,400	9.8%	96,140	10.2%
<b>TOTAL</b>	<b>1,489,800</b>	<b>100%</b>	<b>939,444</b>	<b>100%</b>

Source: Statistics SA – 2001 Census

The most significant employment sectors in the City are Community and Social Services (19%), Wholesale and Retail (18%), Manufacturing (16%) and Financial Services (13%).

The table shows an increase in the unemployment rate since 1996. The unemployment rate of 29% in 2001 is based on the expanded definition. This is higher than the 23% unemployment rate measured in the official source of labour statistics. The higher rate reflected in the Census is probably due to those employed in the informal sector who more likely classify themselves as unemployed, whereas the labour force survey prompts more questions to identify such workers. Table 7 shows the unemployment levels between 1996 and 2001.

**Table 7: Unemployment Levels**

	<b>1996</b>	<b>%</b>	<b>2001</b>	<b>%</b>
Employed	904 471	80%	939 440	71%
Unemployed	219 842	20%	386 781	29%
<b>TOTAL</b>	<b>1 124 313</b>	<b>100%</b>	<b>1 326 121</b>	<b>100%</b>

Source: Statistics SA – 2001 Census

## 5.6 Income

Half the income earning population (49%) earn less than R1,600 per month. The relatively low income levels impact on the affordability for transport and places limits on the ability of commuters to bear the full economic fare of transport. The national strategic objective is that not more than 10% of monthly income should be spent on transport. Table 8 shows the income distribution in the City.

**Table 8: Income Distribution**

<b>Income Bracket</b>	<b>2001</b>	<b>%</b>	<b>Cumulative %</b>
R1 - 400	83,708	6.8%	6.8%
R401 - 800	236,707	19.3%	26.1%
R801 - 1,600	278,781	22.7%	48.9%
R1,601 - 3,200	252,226	20.6%	69.5%
R3,201 - 6,400	196,132	16.0%	85.4%
R6,401 - 12,800	108,206	8.8%	94.3%
R12,801 - 25,600	45,975	3.8%	98.0%
R25,601 - 51,200	14,368	1.2%	99.2%
R51,201 - 102,400	4,952	0.4%	99.6%
R102,401 - 204,800	3,504	0.3%	99.9%
Over R204,801	1,377	0.1%	100.0%
<b>Total</b>	<b>1,225,936</b>	<b>100%</b>	

Source: Statistics SA – 2001 Census

## 5.7 Population Density

Figure 11 shows population density per km<sup>2</sup> by metro suburb. The highest densities occur in the low income areas of Khayelitsha, Gugulethu/Nyanga, Delft, Philippi/Crossroads/ Browns Farm and the low/middle income areas of Mitchells Plain. A strongly contributing factor is the tightly packed extensive informal development juxtaposed to the formal housing, particularly in Khayelitsha, Nyanga, Gugulethu and Crossroads/Philippi.

The southern suburbs is characterised by very low density and high car ownership. A number of the other metro suburbs show very low density but it should be noted that these include vast tracts of vacant land e.g. the Milnerton suburb, and the area to the south east of Atlantis. This arises from the metro suburb delimitations.

## 5.8 Socio-Economic Status

Figure 12 shows the socio-economic status (SES) by suburb. The SES is a composite index of the following:

- % of adults (older than 20) unemployed
- % unskilled of labour force
- % households earning less than R1600 per month (Household Subsistence Level)
- % adults with less than matric

The SES index is the average of each of the four scores.

Figure 12 shows that the “worst” areas are concentrated in the metro south east specifically Khayelitsha, Gugulethu, Nyanga, and small pockets in Atlantis, Hout Bay and Du Noon informal area.

The index is more sharply shown in Figure 13 which shows the worst 20%.

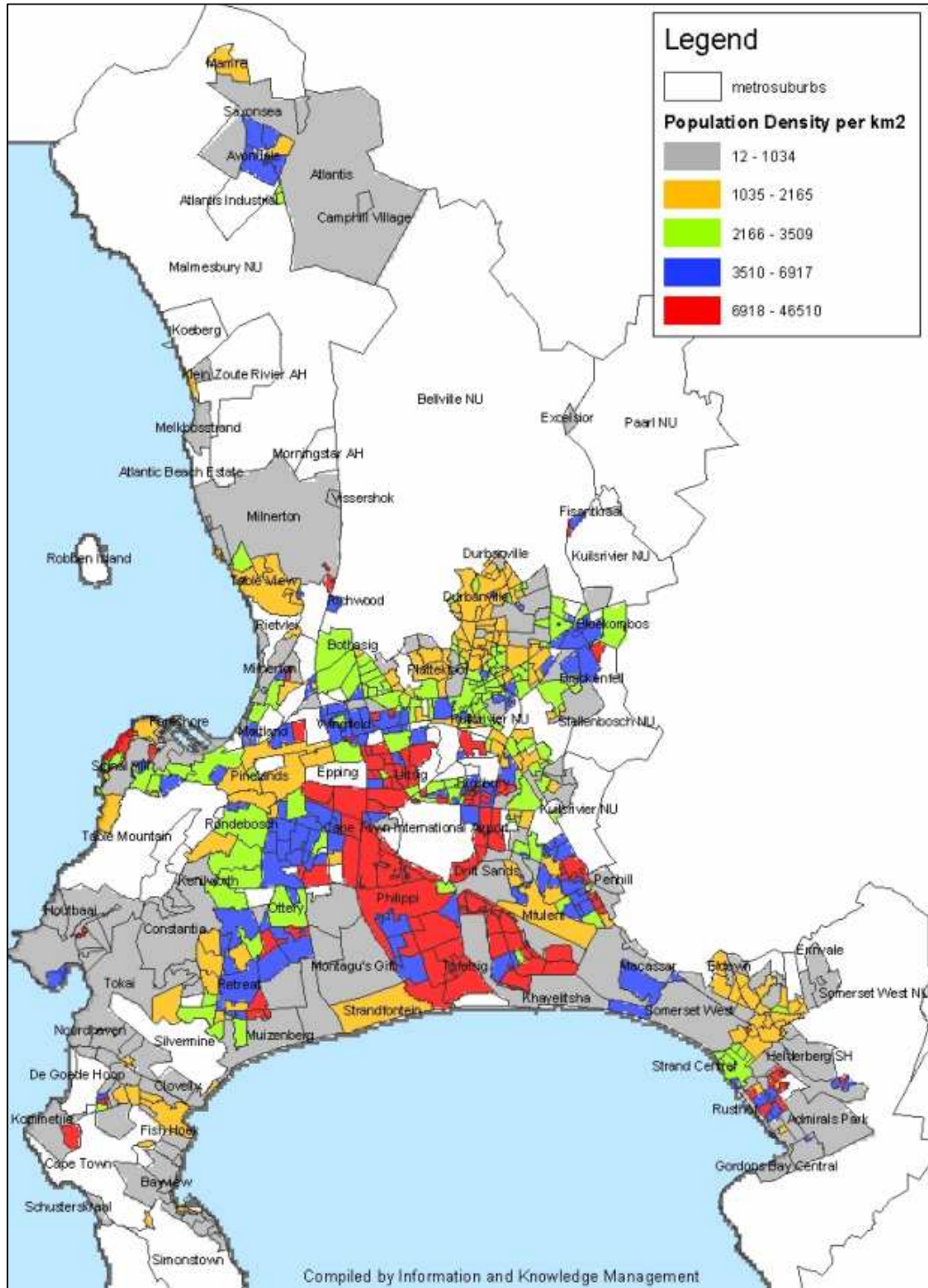


Figure 11: Population Density Per Km<sup>2</sup>

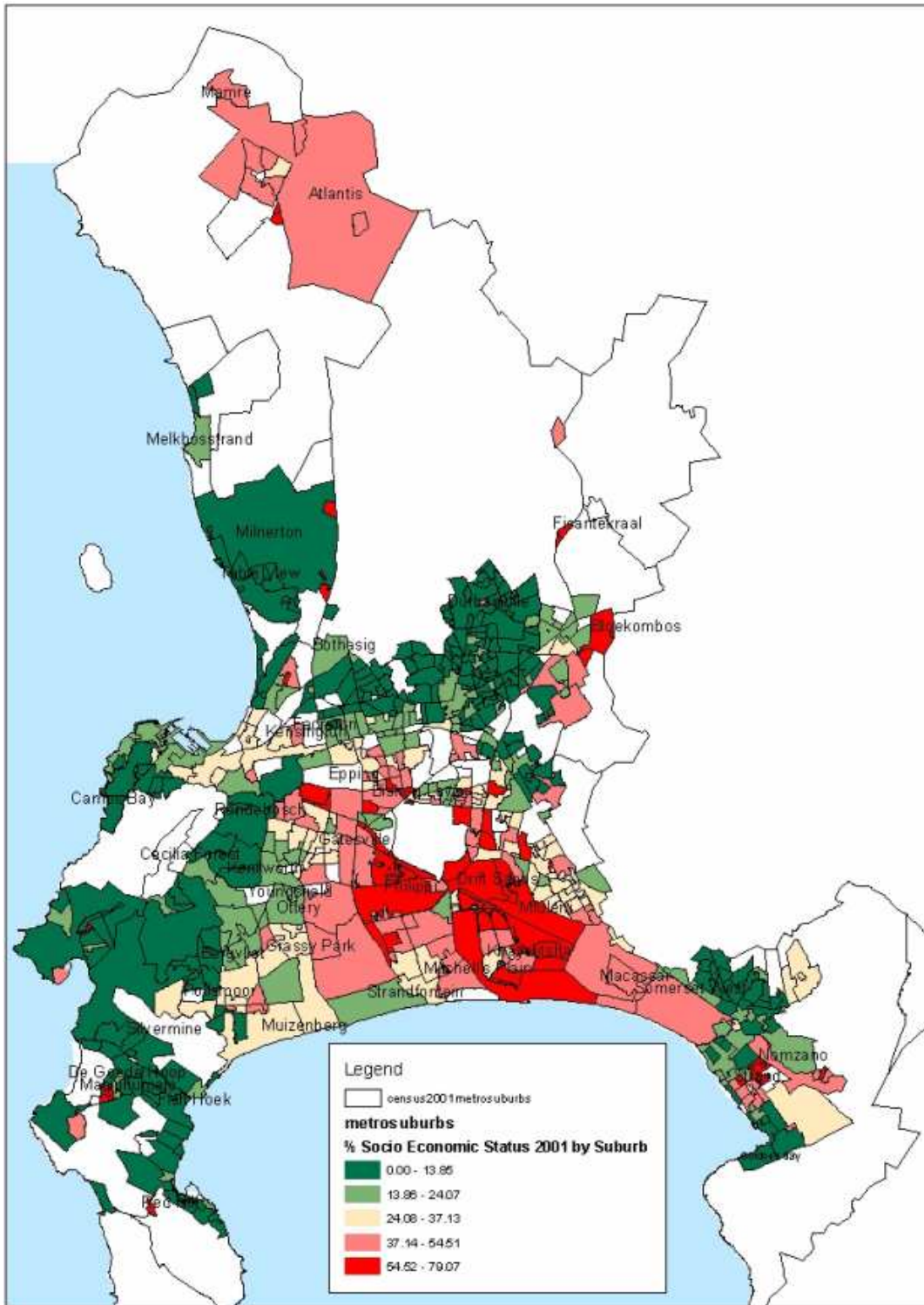
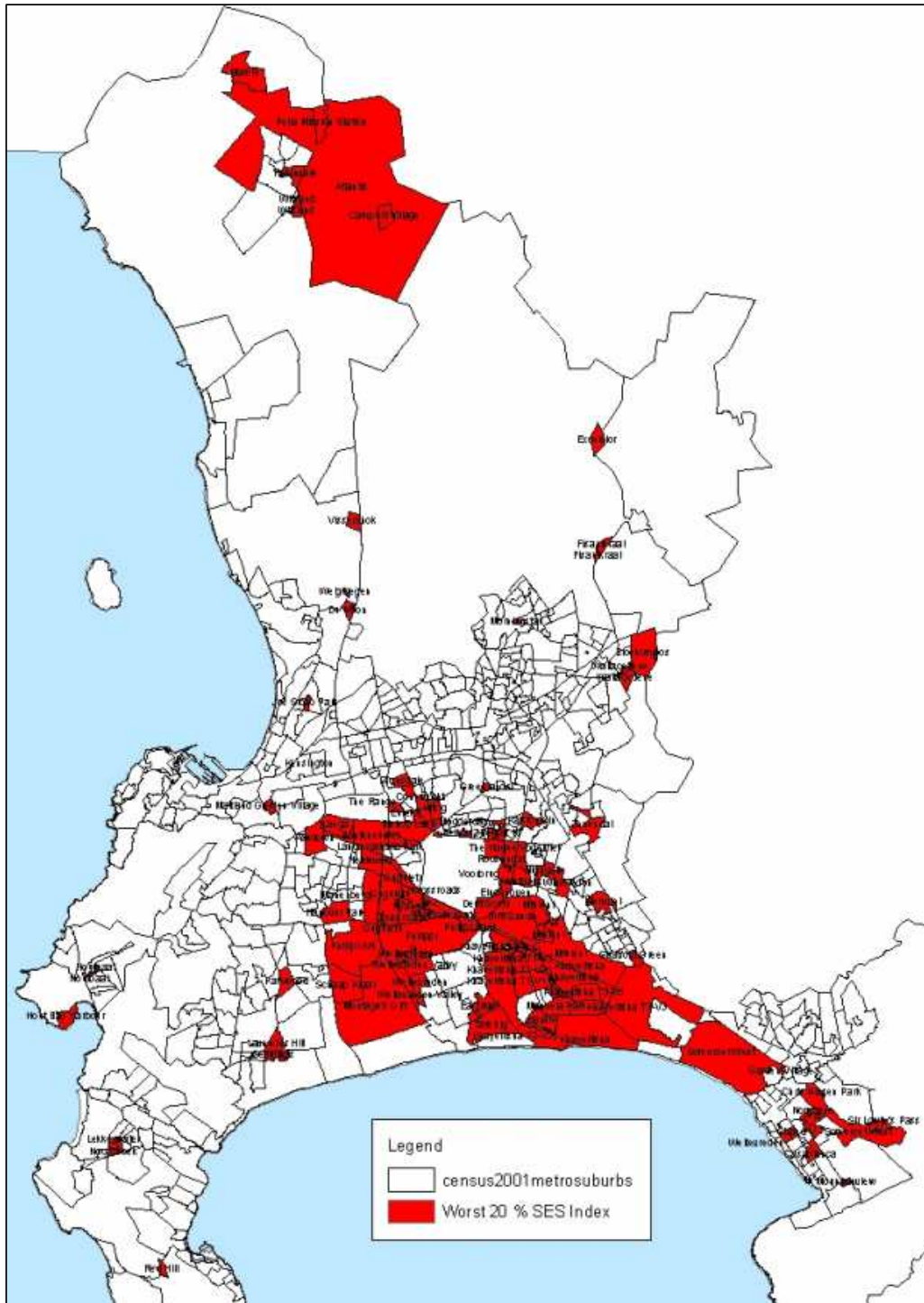


Figure 12: Percentage Socio Economic Status 2001 By Suburb



**Figure 13: Worst 20% Socio-economic Status Index**

## **5.9 Socio-Economic Determinant of Mode Choice**

The use and demand for public transport is to a large extent by captive riders. Figure 14 shows the percent usage of public transport by employed persons. It shows the high percentage use of public transport in the metro south east, particularly the lowest income areas of Khayelitsha, Gugulethu, Nyanga and the low/middle income area of Mitchells Plain and Blue Downs.

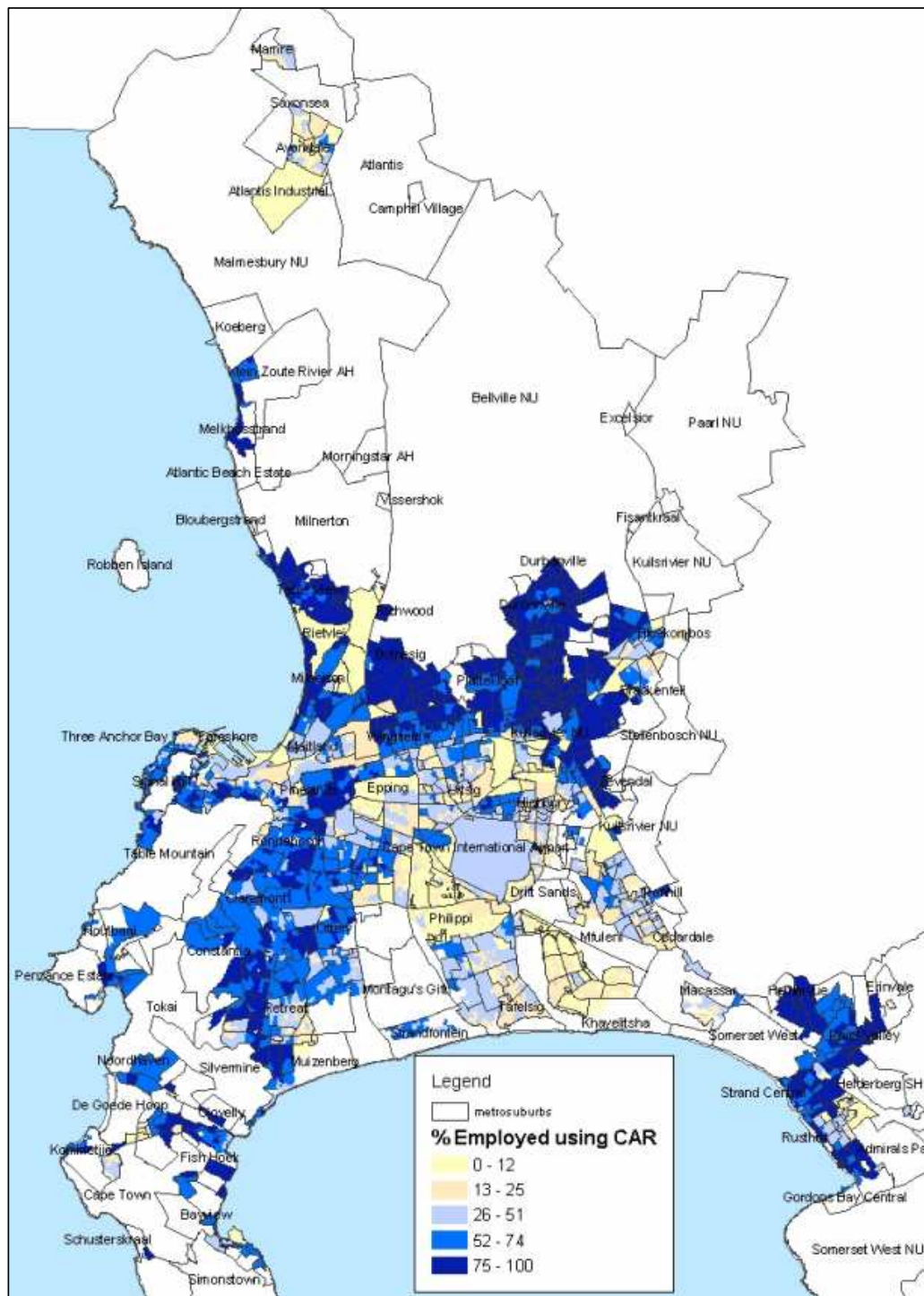
The lowest % use of public transport is the Durbanville area. This area has high car ownership but also little incentive to use public transport with a lack of convenient access to rail, and few bus services. For instance, there are extremely limited bus services to the Cape Town CBD using the N1 as a direct, fast route.

It is important to recognise the relation between the perceived demand for public transport services and the provision, and which comes first. A number of aspects will need to be in place for choice riders to use public transport, both as incentives through good public transport services, and restraint measures on the use of private transport. As the Integrated Transport Planning process is developed and evolves, these strategies will need to be refined and implemented.

It is possibly significant that the high income southern suburbs, with income levels comparable to the Durbanville area, have the tendency for greater % use of public transport, possibly due to better access to the rail system, more extensive proximity to employment areas.

The findings above are also clearly demonstrated in Figure 15 which shows the percentage use of private car by employed persons.





**Figure 15: Percent Employed Using Car**

# 6. Transport in Cape Town

This chapter has four sections; the first describes the transport problem and transport network, the second section deals with the existing transport profile; the third section is an assessment of the future transport scenario; the last section is a summary.

## 6.1 Problem Statement

The transport problems in Cape Town can be summarized as follows;

- Growing trend in private car usage
- Congestion is increasing resulting in peak periods extending towards three hours.
- Commuter travelling distances are increasing which is evidence of urban sprawl
- Lack of a quality public transport system with poor integration of public transport modes
- Safety and security problems on the transport system.
- Lack of adequate Non Motorised Transport facilities, and lack of universally accessible infrastructure
- Transport contributes to just over 50% of air emissions in Cape Town.
- High traffic accident rate with significant pedestrian involvement.
- Fragmentation of roles and responsibility in the transport sector across the tiers of government.

## 6.2 Transportation Network

The City has a well developed road network essentially developed radially around the CBD. The two main freeways, the N1 and N2 run from the CBD in a north-east and south-east direction respectively. The speed limits along these roads are generally 120 km/h. Four other freeways, the M3, M5, N7/Vanguard Drive and the R300 act as link roads and primarily run in a north-south direction. Speed limits on these roads vary from 80 km/h to 120 km/h. The R27 (Marine drive) along the Atlantic coast is becoming an important and heavily used road as it links the CBD with the rapidly growing Table View area. The current major road network in the City covers approximately 10 000 kilometres. See Figure 16.

As with the road network, Cape Town has a well developed and structured rail network also developed to fan out radially from the CBD in an extensive system that provides good penetration of the entire Metropolitan area except the Milnerton area to the north of the CBD and the Durbanville corridor north of Bellville. The rail network covers approximately 290 kilometres with 118 stations of which 33 are owned by Spoornet and 97 stations are within the City of Cape municipal area (CPTR, 2005). The lines radiate from Cape Town station to the South (Simon's Town and Cape Flats lines), Southeast (Kapteinsklip and Khayelitsha lines) and East (Bellville, Monte Vista, Wellington, Strand and Stellenbosch lines).

Cape Town station is the largest station and also serves the most passengers with 621 trains entering and leaving the station on a typical weekday. Trains on the mainline routes do not operate any later than 20h00 or earlier than 05h00. Unfortunately, the rolling stock is in a poor and deteriorating condition and according to the Rail Framework Plan (City of Cape Town, 2005) it would appear as if this is the single biggest problem facing the operation of the rail system. The other major problems facing the rail operation is security and safety, reliability (88% of trains on time), service levels and overcrowding. These issues have resulted in a general shift away from rail transport to mainly minibus taxi transport for commuting.

The rail system links Cape Town with the surrounding region, with lines going to Boland Winelands, Wellington, and into the Overberg area.

There is also a well-developed industrial rail network across Cape Town that links with the rest of the South African network.



**Figure 16: Road and Rail Network**

***Congestion and Traffic Volumes***

Similar to most other national and international Cities, local traffic trends in Cape Town indicate that the total hours of delay on the City’s roads, the litres of fuel wasted in congestion and the total costs of congestion all continue to increase. Congestion impact people and the activities that they are involved in on a daily basis and this impact is not only limited to the individual but it extends to the nations economy. Congestion is not a temporary problem but is here for the long run and City Management needs to understand and deal with that in the most appropriate manner. Commuters have become accustomed to long travel times and for many public transport users, travel times of more than 2 hours to travel 30 kilometres are not uncommon. On the other hand many private vehicle users from the northern and eastern suburbs are accustomed to travel times exceeding one

hour to travel the ± 30 kilometres to the City Centre. The road based daily traffic volumes to/from the Cape Town CBD have been increasing steadily over the past 15 years at a rate of approximately 2,5 percent per annum. This increasing trend is illustrated in Figure 17 and as the traffic volumes increased the travel times to/from the CBD also increased due to the lack of capacity on the City's road network to accommodate the demand.

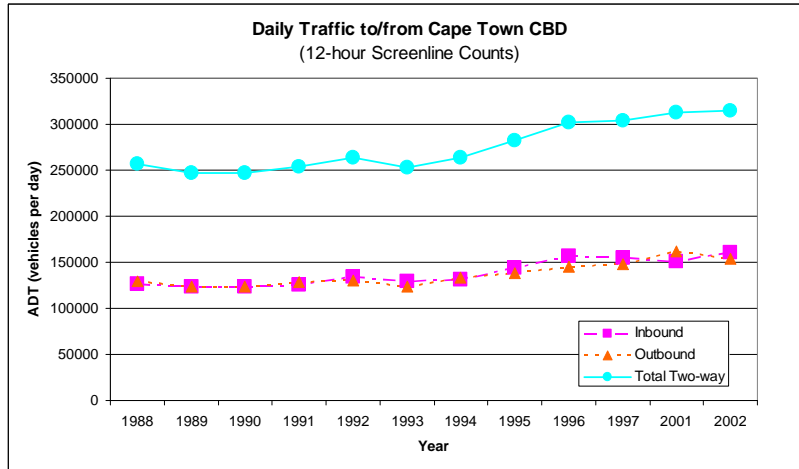


Figure 17: Average Daily Road Based Traffic Volumes (1998 to 2002)

Congestion has reached high levels during the peak periods on the following roads:

- N1
- N2
- M3
- M5
- N7/Vanguard Drive
- R300
- R27/Marine Drive

### 6.3 Transportation Information

#### 6.3.1 Modal Split

Based on the current modal splits of the total number of approximately 400 200 inbound drivers/passengers to the CBD for the 13-hour period from 06h00 to 19h00, nearly 270 000 are in private cars. The current Inbound Modal Splits according (CPTR, 2004/5) are as follows:

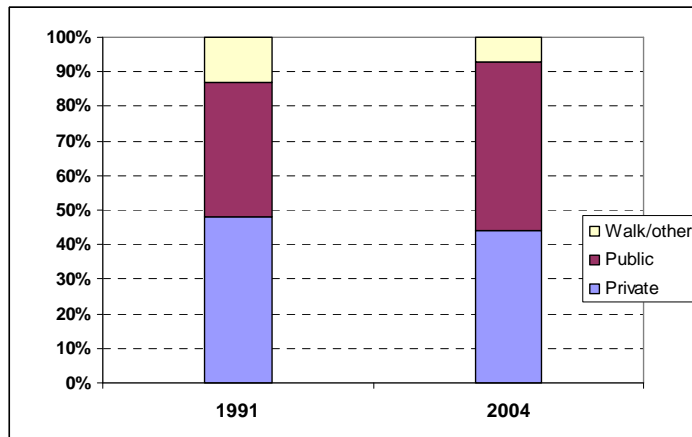
- Morning Peak Period - 50 : 50 (private : public)
- Inter-Peak Period - 83 : 17 (private : public)
- Evening Peak Period - 59 : 41 (private : public)
- All Day - 69 : 31 (private : public)

There is evidence that public transport is losing ground against private vehicle usage in the City. A recent Household Interview Survey carried out by the City of Cape Town Transport branch staff in August 2004 to establish commuter travel patterns, confirmed the change in travel pattern from public transport to private transport. The modal splits obtained from the 2004 survey were compared with the splits obtained in a previous 1991 Household Survey. The current modal split is 48%:39%:13% (private mode : public mode : walk/other) while the 1991 modal split was 44%:49%:7% (private : public : walk/other) reflecting an increase in private vehicle usage of approximately 4 percent over the past 13 years. Compared with 1991 the number of public transport passengers using the bus has decreased from 16% to 7% and rail has decreased from 27% to 13% while the taxi percentage has increased from 6% to 13%. Hence, not only has there been a significant change to private transport, but also within the public transport modes there has been a shift away from the bus and train to the minibus taxi. Tabulating this information, as in Table 9, one can see the gain in private transport more clearly.

**Table 9: Modal Split Comparison (2004 and 1991)**

<b>YEAR</b>	<b>Private mode</b>	<b>Public transport</b>	<b>walk/other</b>	<b>TOTAL</b>
<b>2004</b>	48%	39%	13%	100%
<b>1991</b>	44%	49%	7%	100%

Compared with 1991 the bus percentage has decreased from 16% to 7% and rail from 27% to 13% while the taxi percentage has increased from 6% to 13%. The bus and taxi percentages do not reflect feeder bus and taxi services to rail which are included in the rail mode.



**Figure 18: Modal Split Comparison**

The above modal split numbers are only for people entering the CBD. The recent national travel survey (NTS) provides insight into the modal split across the Metropole and this is summarised in Table 10.

**Table 10: Modal Split by Area (NTS, 2003)**

Area	Percentage of trips		
	Public transport	Private transport	Non-motorised transport
Northern Corridor	40.1	50.1	9.8
Kraaifontein	43.1	44.4	12.4
Parow/ Bellville	32.3	55.3	12.3
Blue Downs	54.6	39.9	5.4
Belgravia	42.1	53.0	4.8
Grassy Park	43.4	49.9	6.6
Mitchells Plain - Gugulethu	74.6	19.7	5.7
Khayelitsha	85.7	10.5	3.8
Somerset West	7.8	85.5	6.7
Central	38.8	48.0	13.2
Kuilsrivier	29.0	63.0	8.0
Durbanville	3.3	94.1	2.6
Oostenberg	4.1	95.2	0.7
Langa-Bishop Lavis	61.6	29.9	8.5
Strand	37.2	46.2	16.7
Simonstown	15.8	79.3	4.9
Wynberg	14.8	78.6	6.6
Sea Point	20.9	63.3	15.8
<b>Metro %</b>	<b>47.8</b>	<b>44.6</b>	<b>7.7</b>

From the National Household survey, the Metro-wide modal split is 44.6%:47.8%:7.7% which is significantly different from the modal split of people entering the CBD. What is also very interesting is the fact that the public transport split for the wider Metro area is

higher than the split for people entering the CBD. This is different in comparison to many other large cities where the public transport split for people entering the CBD is higher than for the remainder of the Metro, essentially because the Metros are always well served with public transport compared to the rest of the City.

### 6.3.2 Population and Vehicle Ownership

The 2001 census indicated that Cape Town has a total population of approximately 2.89 million residents (Statistics SA, 2001). Recent estimates indicate the population can be as high as 3.2 million (City of Cape Town, Annual Report, 2005). The population has increased from 2.68 million recorded in the 1996 census which represents an average annual growth rate of approximately 1.6%. This growth rate is lower than the average growth for the Western Cape Province of 2.7% (Statistic SA, 2001).

Based on the latest State of the Environment Report (2002), there are about 825 000 registered vehicles (all classes) in the City of Cape Town which has been growing at approximately 1.5 percent per year over the past 10 years. The number of motor vehicles has doubled over the past 10 years to approximately 570 000. The present car ownership is about 178 cars per 1000 people which are substantially greater than the majority of cities in less developed countries but only about a third of most European and North American cities. The continuing trend in higher car ownership as well as the increase in population in the City does not bode well for the City's transportation system. The Western Cape is the province with the highest vehicle ownership in the country as evident from the national household survey (NTS, 2003) summarised in Table 11. With Cape Town one of the major urban centres within the province, these statistics should also apply to the City.

**Table 11: Vehicle Ownership (NTS, 2003)**

	% Households with more than 1 car	Number of Cars per Household	Number of cars per '000 population
Western Cape	45.5	0.68	187.5
Eastern Cape	15.5	0.23	55.6
Northern Cape	25.4	0.41	113.2
Free State	21.8	0.32	91.1
KwaZulu-Natal	23.2	0.34	77.5
North West	22.4	0.33	92.2
Gauteng	33	0.56	183.7
Mpumalanga	23.5	0.37	97.5
Limpopo	17.2	0.24	59.8
RSA	26.1	0.4	108.3

The reported number of vehicles per 1 000 of the population for the province (187) is higher than the latest reported number for the City of 178 per 1000 of the population. Even though the Province and hence also the City of Cape Town has high vehicle ownership levels the province is also well served with public transport as is evident from access times to the nearest public transport mode. Currently, ownership of motorcycles and scooters is very low compared to motor vehicle ownership. While motorcycles and scooters improve personal mobility, they do not constitute a solution to the public transport issues in terms of the sustainable framework, because of their impact on the environment in terms of noise and pollution. Another significant consideration is the limited capacity of the road network to accommodate a high number of motorcycles compared to the number of people that could be accommodated on a bus service using a BMT lane.

### **6.3.3 Traffic Accidents**

The number of accidents in the City of Cape Town increased by 3.8% in the year 2003. In the year 2003 there were 77514 accidents of which 0.8% were fatal, 14.9% resulted in injuries and 84.3% were damage only.

**Table 12: Accidents in the Cape Metropolitan Area**

<b>Year</b>	<b>No. of Accidents</b>
1997	62561
1998	62528
1999	62878
2000	75972
2001	73472
2002	74631
2003	77514

### **6.3.4 Access to Public Transport**

Not only does the Western Cape have the highest vehicle ownership, but it is also the best served by public transport as reported by the National Household Survey (2003) in terms of the walking times to the nearest public transport mode. From the National Household Survey it is evident that more than 70 percent of the people in the City of Cape Town are within a 10 minute walk of the nearest public transport mode. Nearly 50 percent

of the residents are within a 5 minute walk of the nearest public transport mode as illustrated in the summary in Table 13.

**Table 13: Walking times to Nearest Public Transport Mode (NTS, 2003)**

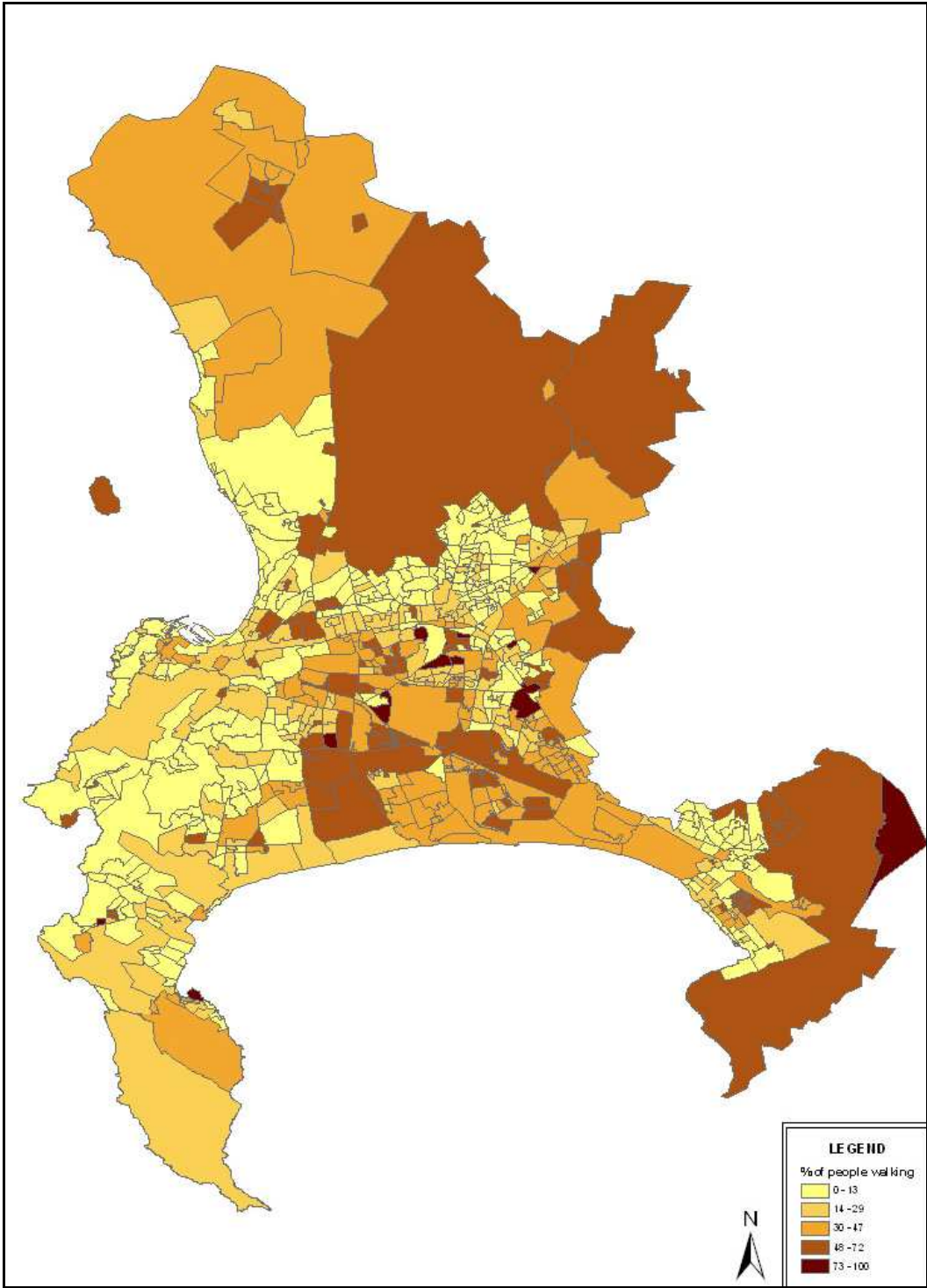
Area	Percentage of public transport trips			
	Up to 5 mins	6 - 10 mins	11 - 15 mins	More than 15 mins
Northern Corridor	54.9	37.0	3.7	4.4
Kraaifontein	42.8	18.7	21.4	17.1
Parow/ Bellville	69.2	10.8	11.8	8.3
Blue Downs	49.7	24.4	18.3	7.6
Belgravia	56.0	32.4	8.3	3.3
Grassy Park	74.0	20.5	1.8	3.7
Mitchells Plain - Gugulethu	42.5	26.8	14.4	16.2
Khayelitsha	24.2	38.4	14.4	23.0
Somerset West	35.3	64.7		
Central	45.9	9.6	11.2	33.3
Kuilsrivier	52.7	16.0	11.9	19.4
Durbanville	63.8	36.2		
Oostenberg	78.0	14.9	7.1	
Langa-Bishop Lavis	58.2	19.1	14.8	8.0
Strand	63.6	18.1	9.7	8.6
Simonstown	81.5	18.5		
Wynberg	69.1	17.9	7.6	5.3
Sea Point	65.4	10.7	1.9	21.9
<b>Metro</b>	<b>46.4</b>	<b>26.6</b>	<b>12.5</b>	<b>14.6</b>

### **6.3.5 Non-Motorised Transport**

The National Household Travel Survey showed that 54.5% of households in the Western Cape do not have access to a private car. This results in a vehicle ownership rate of 0.68. This sector of the population is forced to use public transport and/ or to use a form of NMT. This is significant and is illustrated by the fact that about 20.5% of commuters walk to work and 36% use a form of public transport to get to work<sup>36</sup>. For learners, this figure is higher as close to 50% of learners walk to school.

With the national census in 2001<sup>37</sup>, Statistics South Africa included a question in the census questionnaire regarding the mode of travel to school or work. For each person in households and institutions, the question was asked: "How does the person usually travel

to school or to his/ her place of work?" If more than one mode of travel was used, respondents were asked to indicate the mode that covered the longest distance. If a person had used different modes during the week, e.g. certain days had a lift and other days went by minibus taxi, respondents were asked to indicate the mode that the person used most frequently or the one related to the longest distance. The options listed included walking, cycling, motorcycle, private car (either driving or as a passenger), minibus taxi, bus, train or another mode. The Cape Town results of the national census in 2001 undertaken by Statistics South Africa indicated that 19% of all respondents to this particular question walk to work or to school and that 0.5% cycle to work or to school. The figure below shows NMT usage in the City.



**Figure 19: Non-Motorised Transport Spatial Overview**

**6.3.6 Public Transport**

Over 1,1 million passenger trips<sup>16</sup> are made in the City of Cape Town by the three main modes: rail, bus and minibus-taxi (this excludes metered taxi, long distance bus, etc). Table 14 sets out the volume and percentage split.

**Table 14: Passenger Trips Per Day**

	<b>PASSENGER TRIPS/DAY</b>	<b>%</b>
Commuter Rail	601 940	53%
Minibus-Taxi	332 407	29%
Bus	197 444	18%
<b>TOTAL</b>	<b>1 131 791</b>	<b>100%</b>

Source: CPTR 2004/05

Rail accounts for 53% of daily passenger trips, minibus-taxi 29%, and bus 18%.

***Rail***

Cape Town has an extensive commuter rail network. All services run to Cape Town station which has the highest number of boarding and alighting passengers.

The Khayelitsha and Mitchells Plain lines account for 45% of total boarding passengers, and together with the Strand line these account for 61% of total boarding passengers. The Simon's Town line also has significant ridership with 92 788 boarding passengers or 15,4% of the total. Figure 20 shows the rail network.

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16 Current Public Transport Record 2004/2005



The table below shows the number of daily boarding passengers on the 8 lines.

**Table 15: Number of Boarding Passengers (Weekday)**

LINE	BOARDING PASSENGERS/DAY	%
Khayelitsha	149 542	24.8%
Mitchells Plain	121 640	20.2%
Strand	95 571	15.9%
Simon's Town	92 788	15.4%
Kraaifontein / Parow	60 572	10.1%
Lavistown	41 629	6.9%
Cape Flats	37 463	6.2%
Monte Vista	2 735	0.5%
<b>TOTAL</b>	<b>601 940</b>	<b>100%</b>

Source: CPTR 2004/05

The table below shows the 10 stations with the highest boarding passengers.

**Table 16: Ten Stations with Highest Number Of Boarding Passengers**

TO CAPE TOWN		FROM CAPE TOWN	
Station	No. of Boarding Passengers All Day	Station	No. of Boarding Passengers All Day
Philippi	16 151	Cape Town	59 316
Nonkqubela	14 940	Mutual *	28 173
Khayelitsha **	14 666	Salt River *	23 230
Nolungile	14 566	Bonteheuwel	20 920
Bellville *	13 608	Bellville *	15 744
Langa	12 404	Maitland	13 647
Nyanga	11 482	Langa	11 189
Heideveld	11 325	Pinelands *	10 310
Retreat	9 630	Woodstock	8 623
Mitchells Plain	9 233	Philippi	7 192
<b>TOTAL</b>	<b>128 005</b>	<b>TOTAL</b>	<b>198 344</b>

\* Stations where passengers board trains after transferring from other trains

\*\* In the morning peak, many passengers board the train to Cape Town at Nonkqubela and Nolungile travelling in the direction of Khayelitsha in order to secure a seat. They remain seated when the train turns around at Khayelitsha, thus distorting the number of passengers boarding at all three of these stations.

Source: CPTR 2004/05

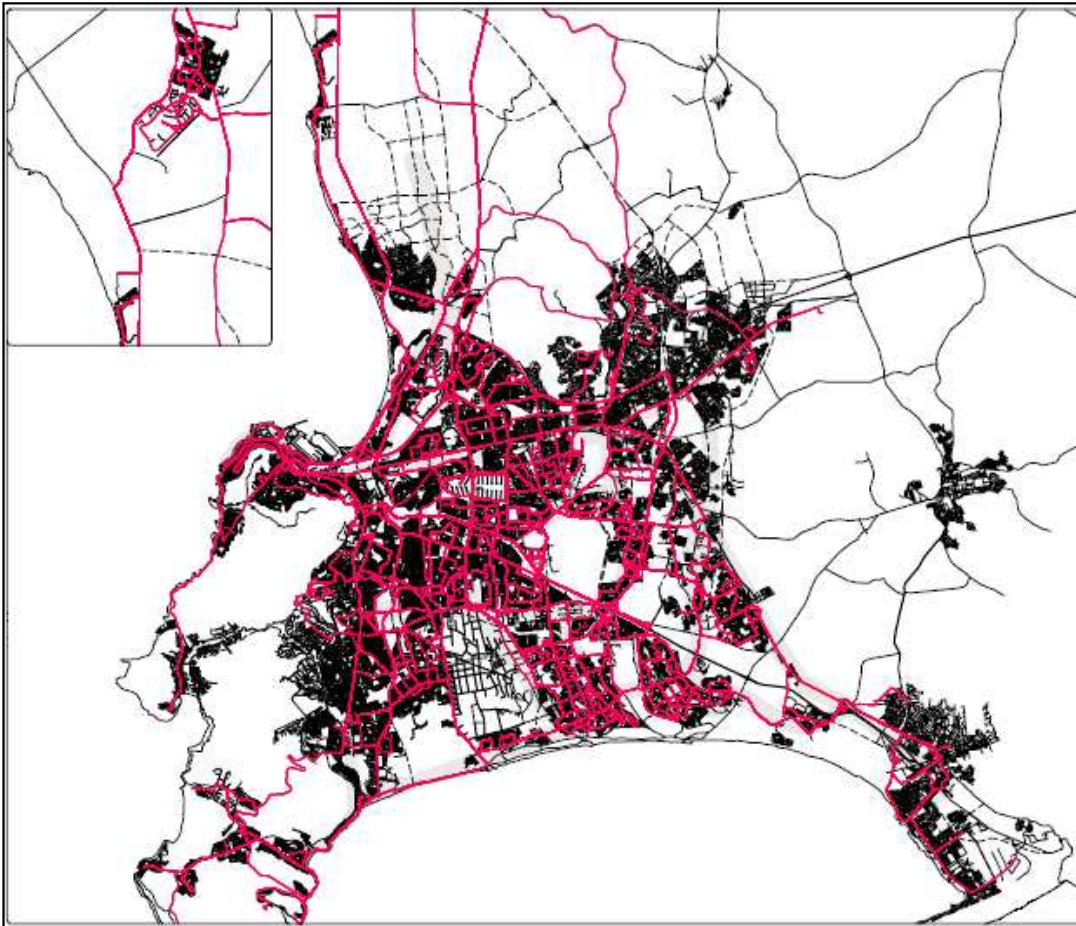
## **Bus**

Scheduled bus services in the City of Cape Town are provided exclusively by Golden Arrow Bus Services (GABS) under contract with the Department of Transport. GABS have operated subsidised commuter services in the City over many decades, and this was last formalised as an interim contract in 1997. This contract was originally for a three year period, but has since twice been extended and now is extended on a monthly basis pending placing the service on either a tendered or negotiated contract.

The service is subsidised by the Department of Transport, and derived a subsidy of approximately R 360 million in the financial year 2004/5.

There are 852 buses in the fleet. They operate 5,295 trips per day with 197,444 passengers/day on 1,530 routes on 113 timetables.

The figure below shows the existing bus network.



### Bus Facts

- Operated by GABS and Sibanye
- Single deck, front engine and door
- 90 passenger capacity
- 852 buses in fleet
- 1,530 routes on 113 timetables
- 197,444 passengers/day
- 5,295 trips/day
- Receives Government subsidy

Figure 21: Existing Bus Network

The table below shows the ten busiest bus terminals in terms of passengers per day boarding and alighting.

**Table 17: Ten Busiest Bus Terminal – Passengers Per Day Boarding And Alighting**

Rank	TERMINAL	TOTAL PASSENGERS - ALL DAY
1	City (Golden Acre)	38 036
2	Mitchells Plain	20 423
3	Bellville	11 423
4	Wynberg	9 707
5	Claremont	9 409
6	Nyanga (CALA Dairies)	5 318
7	Mowbray	5 250
8	Killarney	3 398
9	Hanover Park	3 181
10	Retreat	2 873

Source: CPTR 2004/05

### ***Minibus-Taxi***

Minibuses (mostly 15 seat vehicles) are operated by owners of single vehicles and privately owned small fleets with many owners belonging to taxi associations. The current fleet size is estimated at 7,467.

It is an unscheduled service which operates feeder services (30%), line haul services (55%) and distribution services (15%). The frequency on line haul routes is 1.2 minutes, feeder services 1.7 minutes and distribution 0.5 minutes.

There are 565 routes in operation, and on a typical day 55,998 trips are undertaken with 332,407 passengers making use of the service.

The figure below shows the existing minibus-taxi network.



**Minibus Taxi Facts**

- **15 seat vehicle**
- **7,467 vehicles**
- **Operated by owner drivers and small fleet owners**
- **No Government subsidy**
- **30% feeder**
- **55% line haul**
- **15% distribution**
- **565 routes**
- **55,998 trips/day**
- **332,407 passengers/day**

Figure 22: Existing Minibus-Taxi Network

The table below shows the ten busiest taxi ranks.

**Table 18: Minibus-Taxi Facilities with the Highest Number of Passengers**

Rank	FACILITY	All Day Arriving Passengers	All Day Departing Passengers	TOTAL No. of Passengers ALL DAY
1	Cape Town Deck	30 067	31 498	61 565
2	Mitchells Plain East	26 773	29 734	56 507
3	Bellville	17 404	30 677	48 081
4	Wynberg West	16 095	15 645	31 740
5	Khayelitsha Site C	14 729	16 563	31 292
6	Nyanga Central	9 310	14 040	23 350
7	Wynberg East	10 480	9 121	19 601
8	Retreat West	8 320	7 639	15 959
9	Delft Roosendal	7 362	8 461	15 823
10	Elsiesrivier	8 351	6 921	15 272

Source: CPTR 2004/05

Other public transport services also operate in the City:

- Metered taxi
- Long distance bus and minibus-taxi
- Learner transport services under contract with the PGWC Department of Transport
- Tourist service
- Charter service

### **6.3.7 Freight**

Freight movements are found along the following provincial roads as identified in the provincial freight databank 2004:

- R27 – West Coast Road
- R300 – Belhar – Mitchells Plain
- R302 – Durbanville – Klipheuwel
- R102 – Bellville – Kuilsrivier

The primary municipal roads carrying freight are:

- M14 – Parow Montague Gardens
- M5 – Killarney – Gardens – Milnerton
- M9 – Lansdowne –Philippi
- M10 – Bellville – Cape Town
- M12 – Stellenbosch – Belhar

### ***Strategic Routes and Abnormal Load Transportation***

Abnormal loads make use mainly of the N7, major sections of the N1 and sections of the N2 where widths, bridge clearance etc are of such a proportion that it facilitates such movements; the remainder of the road system is limited in its capacity to carry abnormal vehicles. Church Street Bridge is one of the hotspots in Cape Town due to the height of freight vehicle loads and the bridge has been damaged in the past by vehicles being too high.

An investigative report has been prepared for the City of Cape Town in 2005, recommending the identification of strategic routes for abnormal and super abnormal loads. The implementation of strategic routes will provide several benefits and address many of the city's problems. These benefits include:

### ***Hazardous Goods***

The City of Cape Town has a detailed incident plan discussed elsewhere in this ITP with regards to the management of incidents involving hazardous goods. Various legislation, policies and standards further manage the transport of hazardous goods when moving through urban areas.

### ***Rail Freight***

The Cape mainline carries about 3.5 million tons per annum and runs via Beaufort West to De Aar. At De Aar the line junctions with the line to Gauteng via Noupoot and the Northern line to Kimberley, Bloemfontein and Gauteng.

Two other lines originate from Cape Town, the first is from Cape Town to Saldanha, the 435 km Bitterfontein branch on the West coast, and secondly the line to Caledon, this line is under utilised.

### ***Ports***

Two main ports in the City of Cape Town namely the Port of Cape Town and Simonstown Naval base. A number of minor fishing ports are scattered around the peninsula.

The port of Cape Town is a preferred export node for the fruit industry with reduced sailing times to Northern Hemisphere destinations. Fruit is consigned via Cape Town from as far a field as Limpopo, Mpumalanga and Swaziland. The port also handles the export of fish from the South African and Namibian fishing industries to Europe and the Far East.

Cape Town port is one of the deep sea fishing industries main bases and large numbers of Far Eastern fishing vessels are based at Cape Town, for a largest part of the year and contribute to the revenues from bunkering, chandelling, and repair services.

The port also provides services to the emerging oil industry in West Africa in support, repair and maintenance facilities, with the deep entrance and complete repair capabilities being especially attractive for work on offshore drilling platforms

Simons Town is South Africa's major naval port and of major importance for the defence of the country. During naval exercises and military manoeuvres the roads to the naval base must be such that it can facilitate the movement of vehicles and fuel for the navy ships.

### ***Terminals***

South African Port Operations (SAPO) manages several different terminals and facilities.

The following Terminal facilities are available:

- Container Terminal
- Multi-Purpose Terminal
- Cold Storage Terminal
- Grain Handling Terminal
- Oil Terminal

### ***Pipelines***

Two strategic pipelines are situated in the City of Cape Town municipal area, namely:

- Saldanha to Cape Town, crude oil is received from tankers moored at the oil jetty. The crude oil is transported by pipeline to the underground storage tanks located

on the perimeter of the port. From these storage tanks a pipeline transfers the crude oil for approximately 126km to the refinery at Montague Gardens in Cape Town.

- Port of Cape Town to Refinery, petroleum products are transported from a dedicated petroleum tanker wharf to a bulk storage tank farm within the port boundaries. It is also transported directly to and from the refinery at Montague Gardens.

### ***Air Freight***

Cape Town International Airport is the main airfreight airport in Cape Town. 80% of the freight is associated with passenger movements, with freight in the aircraft belly and a very limited freight air operation from Cape Town. It is estimated that approximately 30,000 tons per annum are air lifted from Cape Town, both internationally and to Johannesburg International Airport for transshipment and transfer to international flights.

Some of the goods that are transported by air are fish and crustaceans (mainly rock lobster), abalone, flowers and some ostrich products. Some chemical, pharmaceutical and photographic products are received by air as well as computer software and hardware components.

### ***Inter-Modal Transport***

Inter-modal transport facilities are facilities where freight is moved from one mode of transport to another, three such facilities are based in the City of Cape Town municipal area:

- Bellville Container Terminal (Belcon) is located on the Cape main rail line, to the south of Bellville. The location of the terminal, places it at the centre of the main rail lines used for container and general cargo in the Western Cape, where transfer takes place to and from trucks.
- Port of Cape Town Container Terminal (Capcon), located to the north of the Ben Schoeman basin adjacent to rail lines and the road access from the Paarden Eiland side of the port via Duncan Road and Marine Drive, movement of containers are between ships, rail and trucks.

- Inter-modal Containerised Waste Disposal - Within the Cape Town Unicity, waste disposal is primarily performed by road vehicles but the Refuse Transfer Station at Athlone (ARTS) provides the means to transport containerised waste from the municipal collection system, by rail to the Vissershok disposal area located adjacent to the Kensington-Chempet-Atlantis railway line.
- Weigh-in detectors improve data collection on tonnage freight movements into and out of the City, as well as identifying possible over loaded vehicles.

#### **6.4 Analysis of Transportation System**

One of the requirements to do a transport plan is credible information. It is internationally acknowledged that “household interviews” is one of the best ways methods to obtain information on travel patterns. The survey was carried out on a 1.5 percent sample of households randomly chosen within transport zones. The Cape Metropolitan area comprises 860 transport zones which are aggregations of 2001 census areas and follow census boundaries. The household survey results were expanded to 2001 using the 2001 census data and further expanded to 2004 using known development information.

The City of Cape Town uses a model called Emme/2 to model the transport situation. It is used to assess impacts on a large scale of proposed land use development, public transport schemes, road improvement and new road schemes.

Information such as origin and destination (from the household survey), roadwork, public transport networks are entered per transport zone into the model using matrices. The model is calibrated using observed traffic surveys. The comparison identified areas where the first round of trip generation data indicated unrealistic employment opportunities. The zones were re-examined using the aerial photography and other information and revised to provide an estimate of the total employment opportunities. The modelling was undertaken for the existing modal split.

The model was run for the 2016 scenario. The results for the different transport modes are set out in the following subsections.

#### **6.4.1 Private Car**

The Emme/2 model was used to predict the forecasted traffic for year 2016. It assumed the completion of certain road schemes and also that the number of job opportunities would have changed in accordance with the spatial ambitions of the City.

A comparison of Figure 23 with Figure 24 shows the following:

- Traffic on the main freeways have increased
- The highest number of job opportunities are still in Central Cape Town

#### **6.4.2 Non-Motorised Transport**

Non-motorised transport has not been modelled. Future ITP's will take into account this mode and consider it in more detail when undertaking forecasts.

#### **6.4.3 Rail**

A study of Figure 25 and Figure 26 show that the passenger volumes have increased significantly on the Cape Flats rail lines.

#### **6.4.4 Bus and Minibus Taxi**

Figure 27 shows the combined bus and minibus flows. It is noted that the flow on the N2 is significantly more than elsewhere in the Metropolitan area.

#### **6.4.5 Freight**

Freight has not been modelled for this ITP, future documents will provide a forecast of freight volumes.

#### **6.4.6 Modal Targets**

However, the City has identified targets for modal split. The City is committed to promote public transport and give it priority over private transport. The table below shows the modal split targets over the next fifteen years.

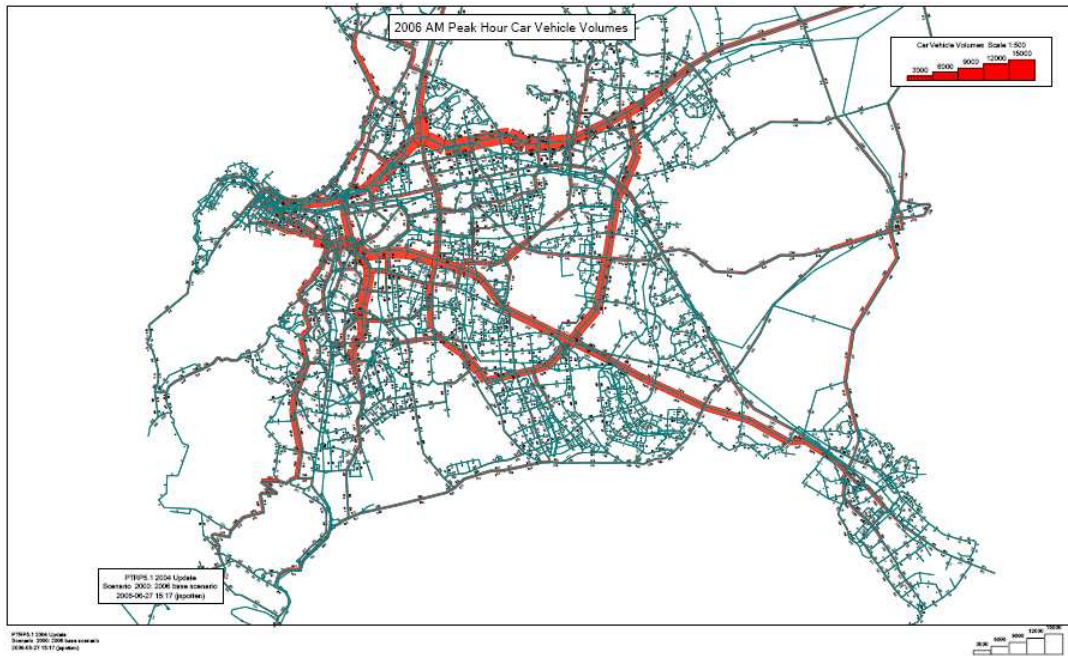
**Table 19: Modal Targets**

<b>Year</b>	<b>Percentage Private Transport</b>	<b>Percentage Public Transport</b>
<b>Existing</b>	52%	48%
<b>2010</b>	50%	50%
<b>2015</b>	47%	53%
<b>2020</b>	43%	57%

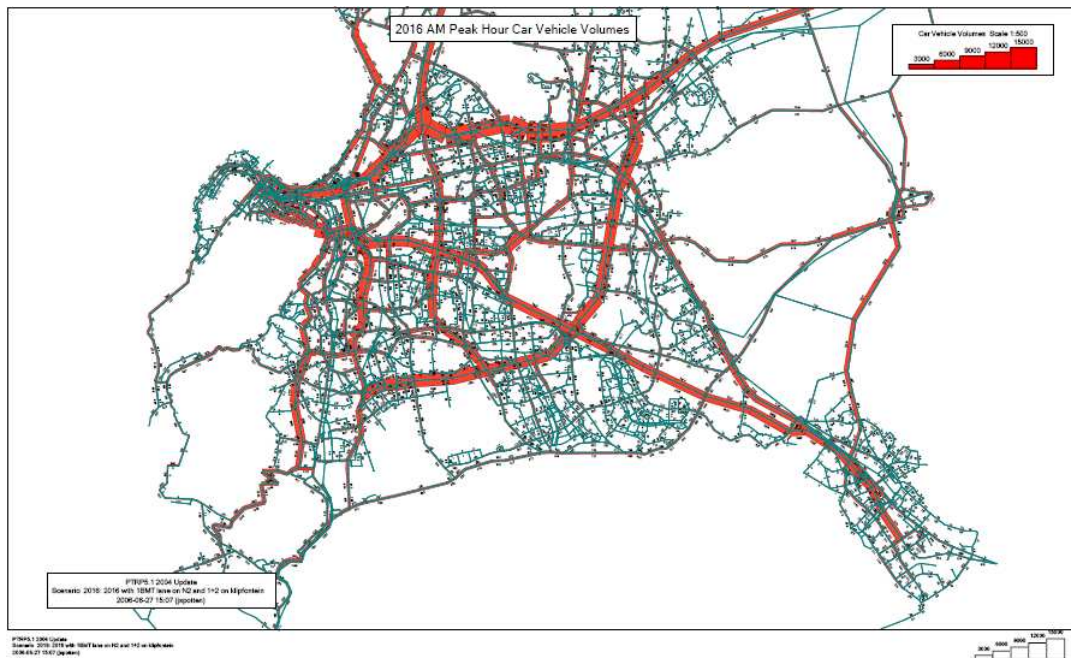
This will result in a public:private split nearing 60:40 being achieved by 2020.

A range of strategies will need to be implemented to attain this modal split:

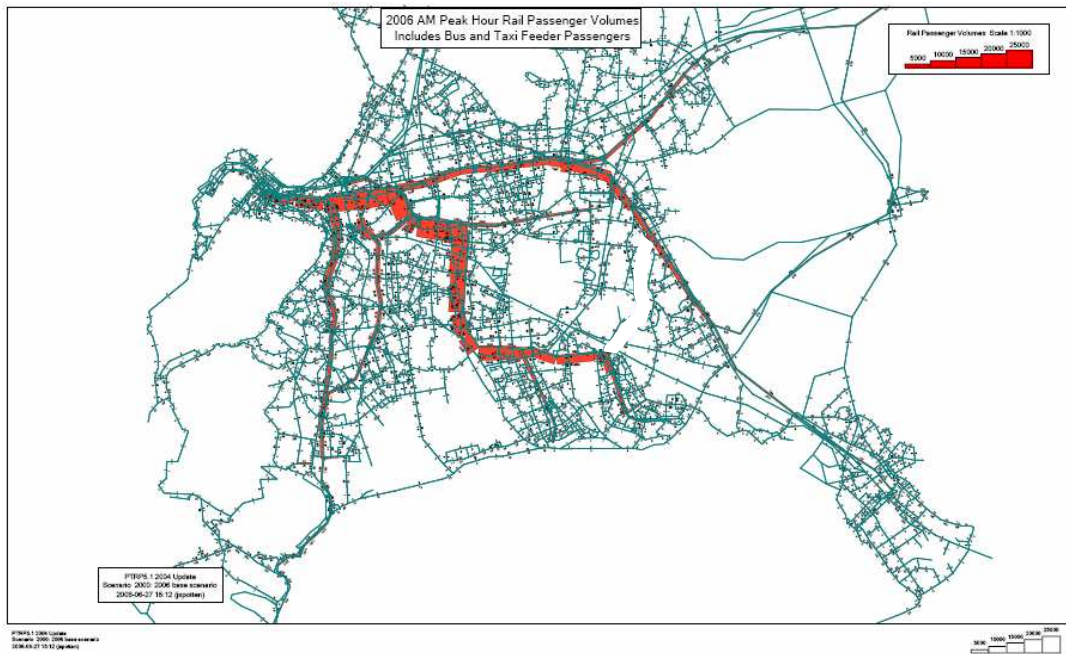
- Substantial investment in the rail system
- Major improvement to the road based public transport system
- Enhance security to and on public transport
- Provision and enforcement of public transport priority lanes and dedicated lanes
- Travel demand measures
- Parking strategies



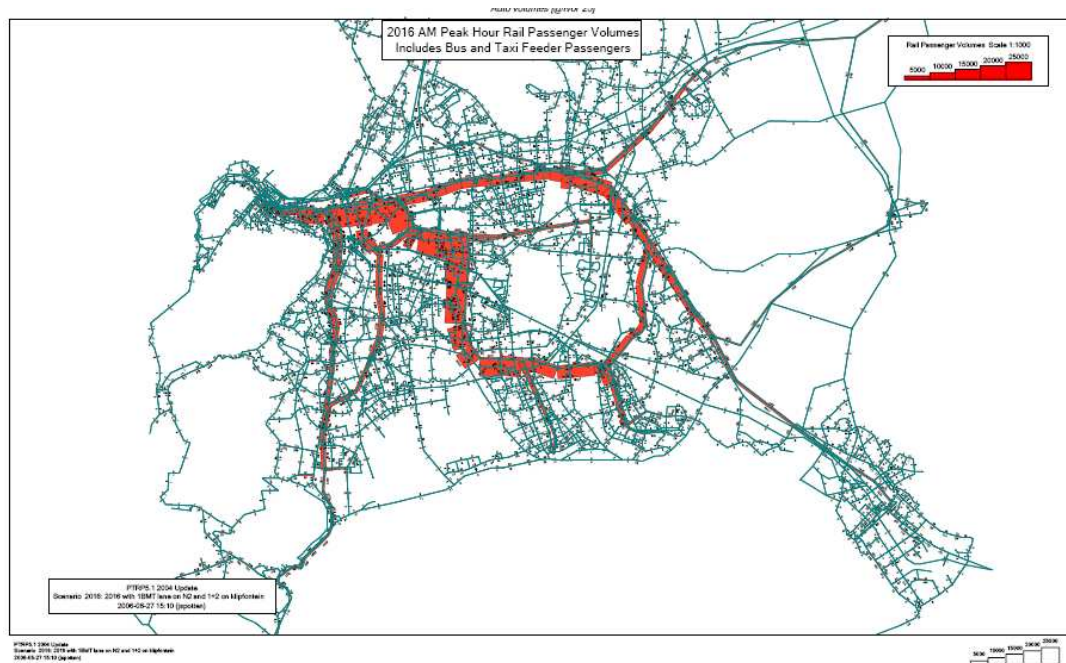
**Figure 23: 2006 Traffic Volumes**



**Figure 24: 2016 Traffic Volumes**



**Figure 25: 2006 Rail Volumes**



**Figure 26: 2016 Rail Volumes**



**Figure 27: 2016 Bus and Minibus Volumes**

## 6.5 Summary

From the forecast, it can be seen that traffic congestion will increase, most jobs are still in the Central City and that Bus and Minibus volumes are the most significant on the N2.

Clearly this is not sustainable as congestion is already high, and increased congestion will have a severe impact on the environment, the economy and our social well being.

It is thus clear that to change the forecasted scenario we as a City need to make a concerted effort to change the way transport works. The City needs the following intervention:

- Better, safer and more convenient public transport is necessary
- Improved and safe cycling and walking facilities
- Less reliance on private vehicle
- Central Business Districts must have a regular and affordable distribution system

# 7. Corporate Plans and City Strategies

Based on the principle and approach of developmental local government and integrated development planning as prescribed in the Municipal Systems Act of 2000, it is imperative that the transport policies and strategies in the Integrated Transport Plan must be aligned and integrated with corporate plans policies and strategies.

This section provides an overview of how various policies and strategies in the City, have been conceptualized and formulated, with a distinct integration with and relationship to transport (See Figure 28); these reports are available from the City’s Communications Directorate.

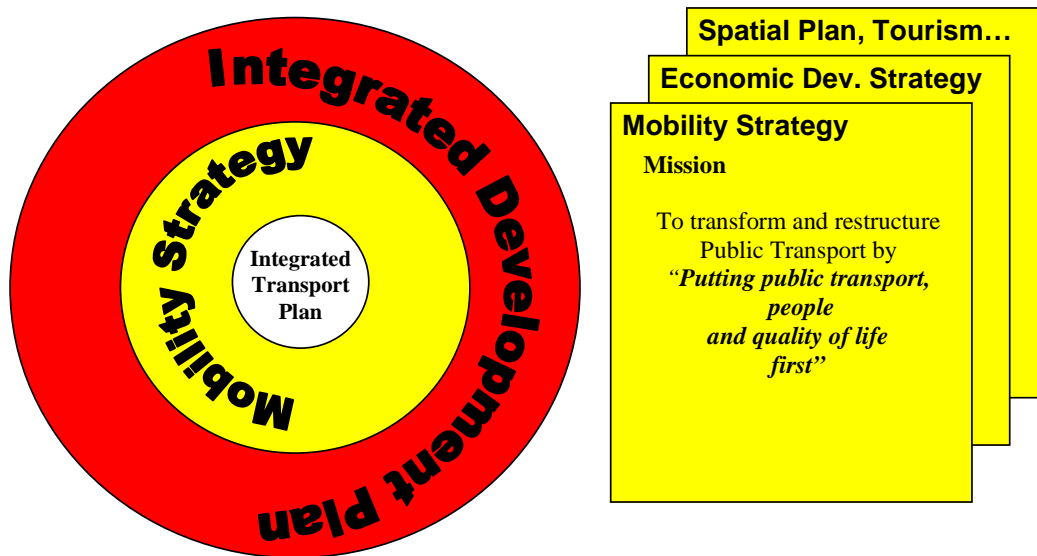


Figure 28: Relationship between ITP and City Strategies

## 7.1 Integration of Transport Strategy with Integrated Development Plan

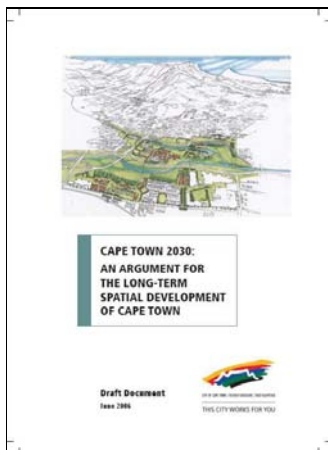
These programs within the Access and Mobility Strategy are linked to the City’s other key strategies as set out in the table below:

**Table 20: Integration of Transport Plan and Integrated Development Plan**

<b>Transport Programs</b>	<b>IDP Strategies</b>
Well-planned Transport	Focussing on the Urban Core/Economic backbone
Safe Integrated Transport	Improving existing settlements, Building cohesive self reliant communities
Accessible Transport	Improving existing settlements, Building competitive advantage Building cohesive self reliant communities,
Productive Transport	Sustainable job creation for all, Service infrastructure maintenance, replacement and improvement
Intelligent Transport	Building competitive advantage

**7.2 Sectoral Strategies**

**7.2.1 Cape Town 2030: An Argument for the Long-Term Spatial Development of Cape Town**



The spatial plan for the City<sup>17</sup> identifies the ports of Cape Town and Saldhana, the airport and national road network as the key elements of the regional economy. It argues that greater clarity is required with regard to the longer-term roles of and relationship between the two regional ports. Similarly, the long-term appropriateness of the current location of the airport in the physical centre of the city, adjacent to its economic backbone, needs to be questioned.

It is noted that the radial rail and road structure, focussed on the Cape Town CBD, does not adequately accommodate the multi-directional movement patterns which have emerged with the dispersal of commercial and employment activity. Nor does it accommodate the increased south-north travel demand. Furthermore, the inefficient, poor public transport network and services and increased

17 Draft Cape Town 2030: An Argument for the Long-Term Spatial Development of Cape Town

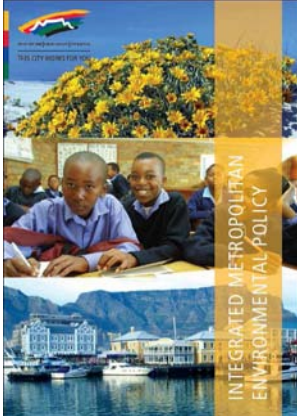
road congestion are negatively impacting on accessibility and the operation of the economy. It is argued that existing patterns of movement will have to be revisited if the city is to work for its residents into the future. It is proposed that an equitable pattern of access based on a hierarchical system of relative accessibility, where people have easy access to a broadly similar range of opportunities, facilities and special places, be put in place. It is further proposed that an integrated public transport system, operating along rationalised routes be introduced. To address the separation of work, residence, amenities and the emphasis on private transport the decentralisation of community facilities and economic activity along development and activity routes is to be encouraged and housing densities are to be increased.

### 7.2.2 City of Cape Town Sustainability Report

The City of Cape Town Sustainability Report of 2005 clearly reflects on key aspects of transport that need to be acknowledged. Specifically, these are, the biophysical and social components, as fundamental requirements, for sustainability. The biophysical aspects relate to how increased traffic volumes negatively affect air pollution and ecology by harmful emissions through vehicle exhausts, while the social aspects identify how congestion and noise pollution in the city negatively impacts on commuter times and thus on peoples' quality of life and stress levels.



### 7.2.3 Integrated Metropolitan Environmental Policy

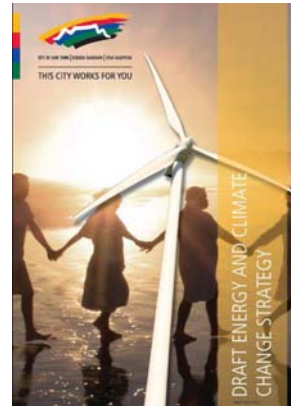


The City of Cape Town of 2003<sup>18</sup> similarly recognizes that transport is needed to access facilities and work opportunities, but consumes valuable resources and contributes to environmental degradation. The policy proposes to commit to maximize the benefits while minimizing environmental costs of transport systems, working towards a public transport system that is safe, accessible and affordable, minimizing the need to travel and promoting the use of public transport as the preferred mode of passenger travel and promoting appropriate transportation systems which reduce environmental impacts while increasing mobility for all.

#### 7.2.4 Energy and Climate Strategy (Draft)

The City of Cape Town Draft Energy and Climate Strategy of 2006<sup>19</sup>, recommends key requirements to move toward sustainability. These are:

- Steadily reduce dependency on fossil fuels
- Efficient public transport and moving to cleaner alternatives to current transport fuels
- Introduction of cleaner fuels such as natural gas into the current fossil fuel mix where feasible Increased use of renewable energy
- Introduction of cleaner fuels such as natural gas into the current fossil fuel mix and, where feasible, increased use of renewable energy



The same strategy highlights transport in the context of energy consumption and pollution accountability, indicating that the transport sector is responsible for over half of energy use (Transport 54 %; Commerce and Industry 29 %; Residential 15 %; Local Authority 2%), while total transport fuel use breakdown is petrol 74%, diesel 23%; electricity 3%. The transport sector also accounts for approximately 26 % of Cape Town's total carbon emissions. The strategy identifies two key transport related targets:

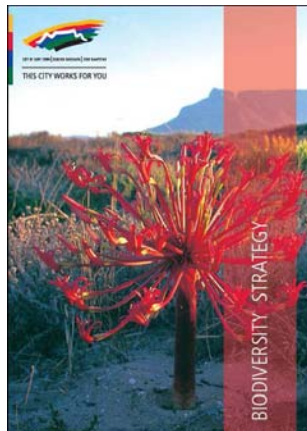
<sup>18</sup> City of Cape Town. 2003. Integrated Metropolitan Environmental Policy  
<sup>19</sup> City of Cape Town Draft Energy and Climate Strategy of 2006

- Rail transport share of modal split increased by 10% by 2010
- Number of private vehicles commuting into the city decreased by 10% by 2010.

### 7.2.5 Air Quality Management Plan



The mission of the Air Quality Management Plan for the City of Cape Town<sup>20</sup> is “To reduce the health effects of the poor air quality on the citizens of Cape Town especially during the "brown haze" episodes”. Complementary to the mission, the vision is “to be the City with the cleanest air in Africa”. The strategy further specifies objectives to control vehicle emissions in the city, consideration of air quality in land use and transport planning and identifies national fuel reformulation, motor vehicle emission control, transport demand management instruments and the promotion of public transport.



### 7.2.6 City of Cape Town Biodiversity Strategy

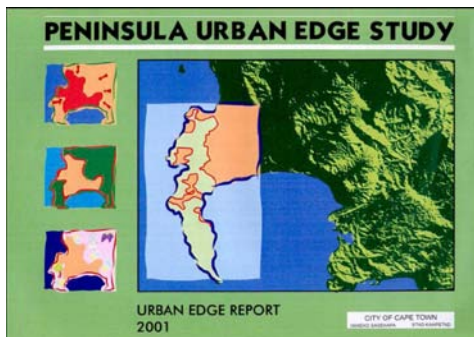
While the City of Cape Town Biodiversity Strategy 2003<sup>21</sup>, recognizes that the Transport Department is a key partner in approaching and formulating strategies toward sustainability. It also specifies that “Open space may play a role in the conservation of biodiversity and includes amongst others, rivers, ecological buffer zones along rivers, areas forming part of stormwater management system, linear parkways, parks, scenic drives, road verges, servitudes and transport routes”

### 7.2.7 Peninsula Urban Edge Study

<sup>20</sup> City of Cape Town. 2005. Air Quality Management Strategy

<sup>21</sup> City of Cape Town. 2003. Biodiversity Strategy

The Peninsula Urban Edge Study, 2001<sup>22</sup>, explains the role of the urban edge, as part of a spatial restructuring strategy and one of a range of instruments to manage the growth and development of the metropolis, to contain urban sprawl. The demarcation of an urban edge is intentionally to curtail the pattern of low density, haphazard and discontinuous development within the urban fringe. As such it was designed to assist in overcoming the



current the current problems of under utilization of land, excessive energy consumption and air pollution due to greater use of motorized transport, high cost of infrastructure provision and declining aesthetic quality of urban fringe landscapes.

The study further recommends various policies. A policy of densification is promoted within the urban edge context and is supported by the provision of more efficient and cost effective public transport. It also recommends gateways - places of access to protected natural areas and serves to channel visitors as part of a broader conservation strategy. Gateways, as articulated in the report, are best established at accessible points on main road systems and routes that are close to public transport. In terms of management of the urban fringe, the urban edge seeks to contain and direct the outward growth of the Cape Metropolitan Area, not curtail it. It is part of a package of reforms, (amongst other sectoral interventions), aimed at promoting public transport and local economic development in impoverished communities, by way of integrated systems of activity nodes and corridors.

### **7.2.8 City of Cape Town Draft Economic and Human Development Policy Framework**

The City of Cape Town Draft Economic and Human Development Policy Framework 2005<sup>23</sup>, acknowledges the role transport plays in economic development and proposes key interventions to bridge and ensure greater inclusiveness of the first and second economies and redress of historic imbalances, while through a “social package “ strategy, facilitate universal access to basic needs and social services, enable bulk and business

<sup>22</sup> City of Cape Town. 2001. The Peninsula Urban Edge Study

<sup>23</sup> City of Cape Town. 2005. Draft Economic and Human Development Policy Framework

infrastructure subsidies and assist and facilitate capital subsidies and grants for assets for the poor and assist with social services infrastructure and subsidized access to basic services (indigent policy).

The problem statement in the report reflects on the reconstruction of the apartheid city, as “a huge task” that require specialized and costly interventions to redirect urban development patterns and rebuild the system of administration. It is argued that In some instances, it requires the generation of new methods and institutions of management to achieve the vision of an integrated, equitable and sustainable city planning and spending on the transportation infrastructure needs, to move away from the past emphasis of on private cars and shift the balance toward public transport, in order to ensure affordability and sustainability.

### 7.2.9 City of Cape Town Draft Tourism Development Framework 2005



The City of Cape Town Draft Tourism Development Framework 2005<sup>24</sup> identified two key objectives that relate to transport:

- Institutionally, partnerships with other sectors are fundamental for success
- Success will lie in the progressive incorporation of tourism considerations into broader government initiatives such as human settlement plans, transport plans and environmental policies.

The framework amplified that issues relating to transport and tourism need to be resolved. Key priority programs to improve transportation access to the destination and to tourism areas and attractions in the City are necessary. Besides the development of a Tourism Transport Action Plan, the framework identifies the following key programs: Working with Transport Planning in the City and the rail operator to introduce pilot projects; Defining and encouraging walkways and other non-motorized facilities for tourists; Improving air access; Establishment of a passenger liner terminal in the port of Cape Town, and the need for a rail link between the City centre and the airport.

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24 City of Cape Town. 2005. Draft Tourism Development Framework

Key projects recommended for integration between transport and tourism reflected on in the framework, are, tourism signage along the Atlantic seaboard, the Blaauberg conservation area and the Grand Parade, tourism information, signage and operational improvements along the Muizenberg to Simonstown rail line as a pilot project, provision of signage and information at Constantia Nek Gateway – the hub of tourism flows, improving the image and operations at the Cape Town station railway node and the airport to city rail link. The strategy formulated an important target:

- By 2010 destination Cape Town will have excellent air and rail services, high quality public transport and road networks.

The methodology adopted by the Social and Cultural department of the City of Cape Town, embraces the approach to direct and mainstream an integrated service delivery culture that will contribute to a proud and vibrant community through targeted, equitable public sector programmes. Key themes within the strategy are poverty reduction, youth development, women empowerment and gender equity, ECD; street people and homeless support, neighbourhood and area development forums, social preparation and community participation. A number of key areas of alignment between the transport strategy and the social and cultural programme are the HIV/Aids strategy where transport at this stage has ensured and provided “Voluntary Counselling and Testing” facilities at the Bellville and Claremont public transport interchanges; the process to mesh and integrate the 2010 FIFA World Cup Transport planning with that of the provision of sports and recreational facilities; an integrated transport approach on the N2 Gateway project; acknowledging the developmental premise of transport corridor strategy through implementing heritage elements like the Guguletu Seven Memorial and the Trojan Horse Memorial amongst others along, the Cape Town-Klipfontein-Khayelitsha Corridor and the Expanded Public Works Programme along the same corridor. The planning, location, form and access to libraries, public pools, beaches, resorts, heritage elements and other public facilities are fundamental to transport planning and provision of facilities, with particular emphasis on universal access, non motorized transport, public transport and tourist transport. The Social and cultural programme aspires to improve collaboration and integration with other sectors like transport at various institutional scales.

#### **7.2.10 Integrated Human Settlement Plan**

The Integrated Human Settlement Plan of the City of Cape Town, nests within the National Housing Policy Framework of “Breaking New Ground”. Key aspects of the national perspective are, progressive informal settlement upgrading, promoting densification and integration, enhancing location of new housing projects, urban renewal and inner city regeneration, expanding scope of the housing mandate and developing social and economic infrastructure. The transport response is required to address issues of city efficiency, spatial integration of the city with a focus on public transport and the equitable and maximum benefit of the public transport subsidy. The policy also requires transport to respond in creating a compact and dense city; providing continuous public transport routes; integrating and linking transport and public space; providing public facilities; and encouraging intense private sector activities along transport routes while maximizing the yield and densities along transport routes.

The Integrated Human Settlement Plan aligns with the access and mobility strategy of the City, through intentionally planning to locate housing along transport corridors and to utilise vacant sites near public transport interchanges, amongst other strategies. The strategic transport response to reinforce the Integrated Human Settlement Plan are the public transport corridor strategy, the transport demand management strategy, communication and marketing strategy, the universal access and non motorised transport strategy and the continued transport collaboration on N2 Gateway Project.

### **7.3 Overview of Alignment of Transport with Key Sectors**

Table 20 below is a summary of the strategies and how this plan supports them.

**Table 21: Summary of policy alignment**

<b>Policy / Strategy</b>	<b>Vision/Mission</b>	<b>Objective(s)</b>	<b>Target</b>	<b>Sectoral Proposals for Integration &amp; Coordination</b>	<b>Respective response/ Transport Programs</b>
Draft Cape Town 2030: an argument for the long-term spatial development of Cape Town	The development of a city within a region  An equitable pattern of access	A co-ordinated approach to regional planning, budgeting and infrastructural development  Shift from a radial network to a multi-directional grid based system  Align the movement system and land use  Create an efficient public transport network and services	Develop a medium to long-term vision re roles of the ports.  Identify an appropriate location for the airport in the longer term.  Accessibility grid where the base level is the pedestrian (+2 kms) building towards longer distance public transport (+ 8 kms).  Align land use and transport planning on activity and development routes  18 hour line haul service to be run along activity and development routes  Extension of passenger line to Du Noon and over time to Atlantis Completion of the Khayelitsha/ Belville rail link	Preparation of a regional plan by all sectors and spheres of government  Preparation of a regional plan by all sectors and spheres of government  Reinforce the south-north movement axes  An integrated plan for each route  Co-ordination with respect to the rationalization of bus/ taxi network.  Co-ordination re the medium to long-term planning of the rail network	Cape Town Port and Airport strategy  Public Transport Corridor Strategy Regional Rail Plan  Mobility Strategy  Regional Rail Plan  Non motorized Transport Strategy  Transport Demand Management Strategy
Draft Energy and Climate Strategy 2005	A City with an efficient and equitable transport system, based on public transport and compact planning, to enable all residents to enjoy the benefits of urban life	An efficient public transport system, encouraging efficient public transport use and discouraging inefficient private vehicle use  Bicycle and pedestrian transport use maximised  Compact City planning, which reduces the need for multiple and long trips	Rail transport share of total modal split increased by 10 % by 2010  Numbers of private vehicles commuting into city centre decreased by 10 % by 2010	Establish Task team with key planning departments of the City to ensure that spatial planning clearly integrates transport efficiency and coordinates developments with public transport	Mobility Strategy  Transport Demand Management Strategy  Public Transport Corridor Strategy  Intelligent Transport Strategy  Regional Rail Plan  Non motorized Transport Strategy
Air Quality Management Plan	To be the City with the cleanest air in Africa	To control vehicle emissions in the City	City of Cape Town introducing roadside vehicle testing of diesel driven vehicles in terms of the Air	Establish the Transport, Planning and Vehicle Emission Working Group chaired by Transport	Mobility Strategy  Transport Demand Management Strategy

Policy / Strategy	Vision/Mission	Objective(s)	Target	Sectoral Proposals for Integration & Coordination	Respective response/ Transport Programs
	To consider air quality in land use and transport planning		Pollution control bye law  Collaboration amongst relevant sectors to ensure that the relevant authorities, policies, strategies and plans take into account the potential influence of land use and transport planning on air quality		
Economic and Human Development Strategy 2005	The vision of an integrated, equitable and sustainable city and the vision of iKapa Elihlumayo	To strengthen the link between the first and second economy  Achieve efficiency of transport infrastructure and logistics systems - crucial to access primary export markets (USA and Europe)	Improvement in the public transport system to capture the 24 hour call centre market	Strategy specifies that it is a fundamental requirement Integration and coordination of spatial, transport, housing, town planning and economic and human development streams to promote economic development	Mobility Strategy  Public Transport Corridor Strategy  Capital Implementation Program  Expanded Public Works Program  Cape Town Port and Airport strategy
Draft Tourism Development Strategy 2005	The Tourism Directorate of the City is a leverage destination management department that strives to develop Cape Town as one of the worlds' sought after destinations	Through Sector Support – Work to ensure that Cape Town has quality product and services that match the needs and expectations of markets and help to disperse visitors geographically and seasonally	By 2010 destination Cape Town has excellent air and rail services and high quality public transport and road networks	Establish a working group with representation from relevant stakeholders such as metrorail, Golden Arrow, Transport Department from the City in order to develop action plans addressing the promotion of public transport amongst tourists, improving the operations and image of public transport	Mobility Strategy  Tourism Transport Plan  Public Transport Corridor Strategy  Transport Demand Management Strategy  Metropolitan Transport Information Call Centre (MTI)  Communication and Marketing Strategy  Non Motorised Transport Strategy
Social and Cultural Strategy	Social Development: Create and enable an environment conducive to holistic development	Integrated engagement with other units within the City Developing an agenda for youth development, HIV/Aids, Intercultural dialogue Reduce poverty and improve quality of life of all citizens particular – vulnerable	Implement lead programme for youth development and gender equity	Support HIV/Aids awareness and prevention programmes to reduce it's impact.	Communication and Marketing Strategy  Public Transport Infrastructure Programme (HIV clinics @ interchanges- Bellville and Claremont)

Policy / Strategy	Vision/Mission	Objective(s)	Target	Sectoral Proposals for Integration & Coordination	Respective response/ Transport Programs
	Arts and Culture: Enrich community life by encouraging, integrating and supporting the development of Arts & Culture	groups  Support Access to information, education, libraries, beaches, resorts, recreational facilities, public pools and heritage facilities	Implement lead programme to support persons with special needs including the physically disabled  Upgrade of sports facilities toward 2010 World Cup, other recreational facilities, libraries and resorts	Awareness Campaigns and Events  Develop constructive partnerships with other departments, other spheres of government and other stakeholders	Universal access and non motorized transport strategy  EPWP job creation programme  Mobility Strategy  FIFA 2010 World Cup Transport Plan  Transport corridor strategy (Guguletu Seven Memorial, Trojan Horse Memorial, etc.)
Integrated Human Settlement Plan	To provide sustainable human settlements to all in Cape Town in support of the National policy called "Breaking new Ground", which is aimed at addressing housing backlogs, upgrading of informal settlements, affordable inner city housing, provision of social and economic infrastructure and rental housing.	<ul style="list-style-type: none"> <li>• Inform citywide spatial development frame-work.</li> <li>• Develop urban core via social housing projects, land restitution initiatives, mixed used developments and densification and the development of strategic sites.</li> <li>• Accelerate affordable housing delivery which includes new housing as well as serviced sites for own development.</li> <li>• Upgrade informal settlements.</li> <li>• Improve settlement planning, integrated community and human development as well as development of sustainable living environments via area based Urban Renewal; and</li> <li>• Strengthen the effective management of City-owned rental stock.</li> </ul>	Breaking New Ground requires upgrading of informal settlements by 2014.	The plan recognises that this is not a problem of housing but a city-wide problem of apartheid planning that requires a city-wide intervention in unlocking socio-economic opportunities for the City's poor.	All City programmes on the IDP are relevant in terms of finding solutions to Human Settlements programmes.

# 8. Integration with Land Use Planning

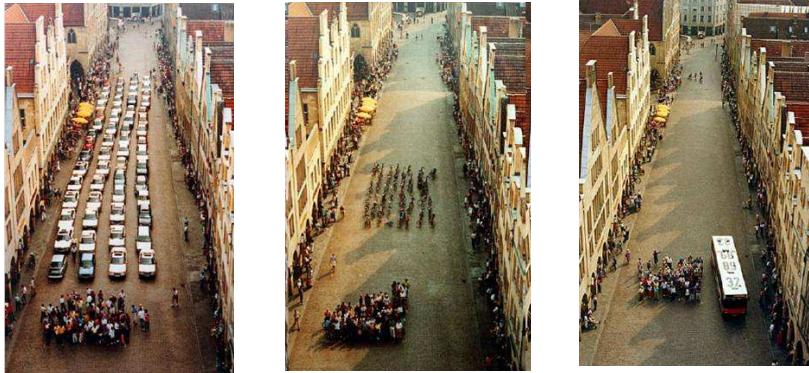
## 8.1 Introduction

Land use and transport systems are reciprocal, mutually supportive and intrinsically related. Increasingly there is the realisation that transportation systems cannot be planned in isolation of land use or vice versa and that urban development must take transport into consideration to be successful in an urban growth management approach.

In any urban environment, a demand for trips is generated because people need to travel between activities, e.g. home to work, education, shops and places of worship. The location of these activities or land uses impact on the trip distance, and the type of transport modes provided together with travel conditions impact on the effectiveness of the urban system. But the reverse is also true: the structure and form of the city generally requires a particular type of transport system. For example, many residential or commercial developments are designed in a spatially spread-out way. This makes walking difficult because destinations are too far apart for a comfortable trip, while low densities and long, winding roads also make utilising public transport as means of travel difficult.

This spatial–travel relationship makes it difficult to separate transport and land use. Yet these two disciplines are still largely planned and implemented separately. Approaches of professionals within the disciplines remain considerably diverse and responsibility for land use and transport often lies within different departments or sections, which result in projects within either sector still being identified and implemented in isolation.

The City of Cape Town recognises the importance of the relationship between transport and land use and understands that the Integrated Transport Plan (ITP) cannot be truly integrated without incorporating strategies for better coordination between spatial planning, housing or other activities that impact land use and development.



**Figure 29: Space requirements of different modes of transport**

## **8.2 Status Quo**

The following trends are noted that impact on the relationship between transport and land use in the City of Cape Town:

### **The Legacy of the Past**

The City's current land use pattern is a result of South Africa's past. The poor are still largely located on the periphery, particularly in the south-east sectors, with the employment opportunities located in the CBD or in other commercial and industrial nodes. Travel times to access economic and recreational opportunities remains long and with a large portion of trips taking place on public transport because the poor do not have sufficient income to purchase or maintain private vehicles.

### **Development continues to take sprawled and dispersed forms<sup>25</sup>**

Although government has recognised the need to increase densities there has not been great success in achieving such higher densities. Market demand and developers still largely dictate the nature of development in Cape Town, which continues to have a sprawled and dispersed form, particularly in the major growth areas such as along the north-west coast (Tableview and Parklands) and north-east corridor (Durbanville and Tygervalley). Residential development in the more greenfield developments tend to be largely single residential with densities of around 10du per hectare. Some infilling has been taking place with higher density developments in the inner City and the southern suburbs, but these have been

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25 Spatial Development Issues and Challenges Facing the City of Cape town, Draft Spatial Development Framework for the City of Cape Town, Spatial Planning Branch, City Spatial Development Directorate, City of Cape Town, February 2006

small by comparison to the peripheral growth areas. A number of commercial developments have been constructed or redeveloped in existing shopping areas, but these have continued to be dispersed and reliant on freeway access.

### **Coordination of land use and transport occurs only at planning stages**

There has been an increasing recognition of the integrated nature of land use and transport. Coordination in government between the two disciplines currently occurs in various forms and on a number of projects, but this remains largely in the planning stages only and results of these efforts are yet to be felt on the ground. The approaches in the two disciplines still continue to be somewhat divergent, and trade-offs will be needed when projects find themselves nearing implementation.



**Figure 30: NMT compete for space with motorised modes**

There is growing recognition of the need to re-align current zoning schemes to work towards and achieve sustainable development and transport. To this effect, revised parking requirements have been proposed. Recommendations have also been made to modify the traditional traffic impact assessments as part of developments. It is suggested that analysis now include a broader investigation into other transport modes as well, such as public transport and non-motorised transport (NMT).

### **Private vehicle ownership and usage continues to grow, increasing congestion**

Vehicles sales continue to grow in Cape Town with record sales achieved in January 2006. Vehicle ownership and usage is steadily increasing and people are moving from public transport to less sustainable single occupancy vehicles modes. In the past 10 years the average daily traffic on the major metropolitan roads has grown by an average of about 50% (a 3% growth rate per year).<sup>26</sup> Capacity on current transport infrastructure is becoming increasingly problematic with longer peaks and increased congestion on most roadways. This impacts on the location

<sup>26</sup> R. Haiden, Traffic Management and Congestion in the City of Cape Town, Draft paper prepared for Construction World, June 2003 Edition.

and size of commercial development because congestion limits the effective movement of goods between manufacturing and markets. To continually support a growing City, focus will need to be placed both on sustainable transport modes as well as sustainable development.

### **The economy and population continues to grow, increasing demand for space**

The population of the City of Cape Town is currently about 2.89 million but continues to grow by between 2-3% per year. The City's economy is booming, which is apparent from the large number of commercial and residential construction sites throughout the metro area. If this economic and population growth continues, it will be associated with an increasing demand for development space which will need to be accommodated in the future. It will be important to undertake "smart-growth" practices in order to be proactive about the sustainable use of land.

## **8.3 Issues**

Due to the increasingly dispersed nature of development, rising demand for space, increasing private vehicle usage and the growing congestion in the City, the following issues arise that must be addressed through integrated land use and transport strategies.

### **Increasing demand for space**

Current growth trends in economy and population together with market demand for low density housing is unsustainable. There is an increasing demand for space in the City, but due to natural barriers and existing development, patterns and growth in the City is directed northwards. This northward growth is problematic and in conflict with environmental issues due to major bulk infrastructure constraints. Transport infrastructure in these areas is also largely inadequate to cope with the growing travel demand generated by the additional development.

The City's plan is to try to accommodate this growth pressure by directing development into existing infill sites and to expand the existing CBD into a broader central geographic area. This will move travel patterns away from its current radial bias to a more balanced grid travel pattern.

### **Transport and land use do not reinforce each other**

Although coordination between transport and land use has increased within the City it has taken place mostly at a planning level. Patterns for land use and transport currently still do not reinforce each other. Increasing private vehicle ownership continues to demand development forms that support its usage. Current land use does not support the thresholds that are required for effective mass operations i.e. public transport, while current public transport levels of service in turn does not support quality and liveable environments. It is important to coordinate between land use and transport to inform which corridors should be encouraged for higher development densities and prioritised for public transport and non-motorised transport infrastructure and service improvements.

### **Poor liveability and integration of neighbourhoods**

Expansive road and rail transport infrastructure negatively impacts on the opportunities for positively integrating various neighbourhoods. The increasing demand for road space with little provision for pedestrians or special needs persons creates sterile environments that are unfriendly to people. Mixed land use and service activities that support dynamic and lively neighbourhoods must be implemented, underpinned by an effective and sustainable transport system.



**Figure 31: Poor quality urban environment**

Transport connections perform specific functional roles, i.e. either mobility or connectivity. It will be necessary to plan and obtain agreement between transport

and spatial planning on which roadways perform which functions and ensure that supportive land use and access is provided.

### The environment is being compromised

Current trend in private vehicle usage is environmentally unsustainable with respect to demand for space, air and noise pollution as well as usage of limited fossil fuel reserves. It will be necessary to develop transport and land use solutions that take cognisance of these environmental issues.

### 8.4 Strategies

The following strategies have been identified in order to better integrating land use and transport to achieve the overall City objectives of sustainability:

**Table 22: Strategies for Integrating Transport and Land Use**

Focus Area	Strategy
<b>Integrated Planning and Implementation</b>	<ul style="list-style-type: none"> <li>• Develop a common vision for transport and land use.</li> <li>• Coordinate financial investment spatially for development, transport and other bulk infrastructure sectors.</li> <li>• Ensure integration of land use and transport in both planning and implementation.</li> <li>• Include public transport and NMT infrastructure considerations in new developments.</li> <li>• A multi-directional grid based transport and access system countering the existing radial transport network focussed on the Cape Town CBD needs to be considered.</li> <li>• North-south linkages across the city, supporting the economic backbone/core and facilitating integrated movement and access from the south (the Metro South-East), and growth to the north</li> <li>• Development of urban nodes/centres, densities and mixed uses, and business and industrial complexes along development axes and along development and activity routes with an emphasis on public transport provision.</li> </ul>
<b>Sustainable Development</b>	<ul style="list-style-type: none"> <li>• Promote public transport-supportive development along priority corridor routes.</li> <li>• Develop design guidelines and standards that support sustainable development (e.g. TIA that include public transport and non-motorised facilities, building codes)</li> <li>• Promote integrated land use.</li> <li>• Develop a growth management plan with land use and transport input.</li> <li>• The standards for roads and road classification in terms of its transport functions require review with a view to improve local accessibility and integration of transport and land-use</li> <li>• Strategies need to be implemented to create greater accessibility and improve the development possibility on roads in urban areas</li> <li>• Improved public transport linkages between jobs, housing densities and other urban activities within development axes and along development and activity</li> </ul>

Focus Area	Strategy
	routes
<b>Sustainable Transport</b>	<ul style="list-style-type: none"> <li>• Promote sustainable transport modes such as public transport and non-motorised transport.</li> <li>• Coordinate with spatial planning on priority areas to focus on transport investment.</li> <li>• Monitor and control vehicle emissions.</li> <li>• Convert to clean fuel vehicles, particularly as part of recapitalised public transport fleet.</li> </ul>
<b>Quality Urban Environments</b>	<ul style="list-style-type: none"> <li>• Ensure hard and soft space designs support dignified and quality urban environment.</li> <li>• Plan and implement transport to support quality urban environments.</li> </ul>

### 8.5 Projects

Specific projects which include both land use and transport considerations would be the best way to improve integration between land use and transport. These have taken the form of larger corridor projects such as the Klipfontein Corridor, or new residential (N2 Gateway) and commercial (Vangate Mall) developments. Significant projects that focus on City structure and movement would include:

- A spatially aligned growth management and urbanisation strategy for the City of Cape Town needs to be prepared.
- A long term spatial framework which includes concept, strategy and implementation framework for transport and spatial structures.
- A land use plan in support of a system of strategic development and activity routes including north-south linkages across the city.
- Completion of the integrated zoning scheme and zoning regulations that support public transport through higher densities, mixed land use and reduced parking requirements.
- Transport impact assessments need to take into account revised parking requirements, the access and provision of public transport, and the provision of non-motorised facilities.

# 9. Mobility Strategy

The Mobility Strategy was approved by the City of Cape Town, in May 2003. A Mobility Strategy is a long – term, a Year 2020 vision for managing, delivering and meeting access and mobility needs for all citizens, visitors, goods, and services in the City of Cape Town.

The Strategy sets all acceptable standards regarding travel times, costs, frequencies, flexibility comfort levels and safety standards which should be regularly reviewed.

As a macro strategy, the Mobility Strategy focuses on comprehensive, integrated planning and ensures strong strategic partnerships and improved relationship with stakeholders and key role players. By the year 2020, the City of Cape Town will have a safe, integrated, equitable, affordable and sustainable transport system with frequent seamless journeys for all. The improvement in access and mobility will be achieved through implementation of a Mobility Strategy and the following priority programme areas, namely:

- Safe integrated Transport
- Transformation and
- Restructuring of Public Transport
- Well – Managed Transport
- Well – Planned Transport
- Accessible Transport
- Intelligent Transport
- Productive Transport
- Communication & Marketing
- Funding Strategy
- Performance Monitoring

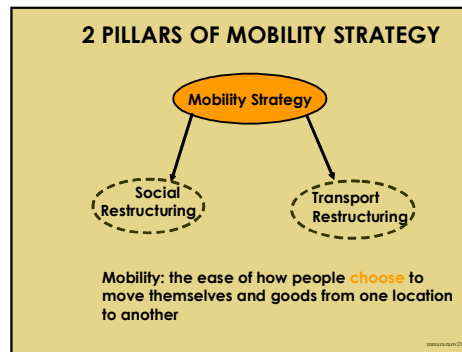
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The purpose of the Mobility Strategy is two fold, namely:

- To facilitate the transformation and restructuring process of the current private car model oriented transport system and implement a new model, focusing on “**putting Public Transport, People and Quality of Life First**”, and a new culture that allows all the citizens to participate in the construction of a future model, and particularly how the different modes of transport will play their role in the development of the City.
- To ensure that access and mobility needs of all citizens, visitors, goods and services are well managed, delivered and met in a socially just, equitable and sustainable manner.

The two pillars of the Mobility Strategy include:

- Social – Economic Restructuring (non-public transport systems or support functions) but deals with the ease of movement, access. Transport infrastructure was used to separate land uses and population groups through use of freeways, rail, buffer strips and government designated land uses
- Transport restructuring (what should be done to transform and restructure the system).



In the pursuit of ways for improving transport in the City, the City of Cape Town and the Provincial Government of the Western Cape with the support from National Government have embarked on a joint initiative to develop a Mobility Strategy in order to facilitate the transformation and restructuring of transport, with a proposal for a City – Wide Roll Out Plan of 9 potential public transport corridors. Phase 1 on the Cape Town CBD – Klipfontein Rd. – Khayelitsha Corridor is currently being implemented.

The objectives of the Mobility Strategy are:

- Support and promote the City of Cape Town's Vision, Goals and Strategies
- Support and provide for Social Inclusion and Quality of Life
- Maximize accessibility to facilities and opportunities
- Support and promote Demand Responsive Transport
- Support and promote Public Space Enhancement
- Support and promote "Streets for People" Programme
- Support improvement in Quality of Residential Environments and Quality of Life
- Protect and enhance health and the Environment
- Support and promote economic development, housing, social upliftment and urban regeneration
- Support the development an Integrated Intelligent Transport System and
- Services and Communications
- Support for access for location and development decisions

- Support and promote job creation through public works
- Support Integration with long distance and rural transport

The Mobility Strategy identified a number of integrated corridors where public transport investment will be focussed. See Figure 32.

The public transport system will be structured along corridors and services will operate at high frequencies and be safe, affordable, reliable, efficient, convenient and accessible. Social and economic restructuring of the City will be encouraged at the highly accessible nodes where these corridors intersect.

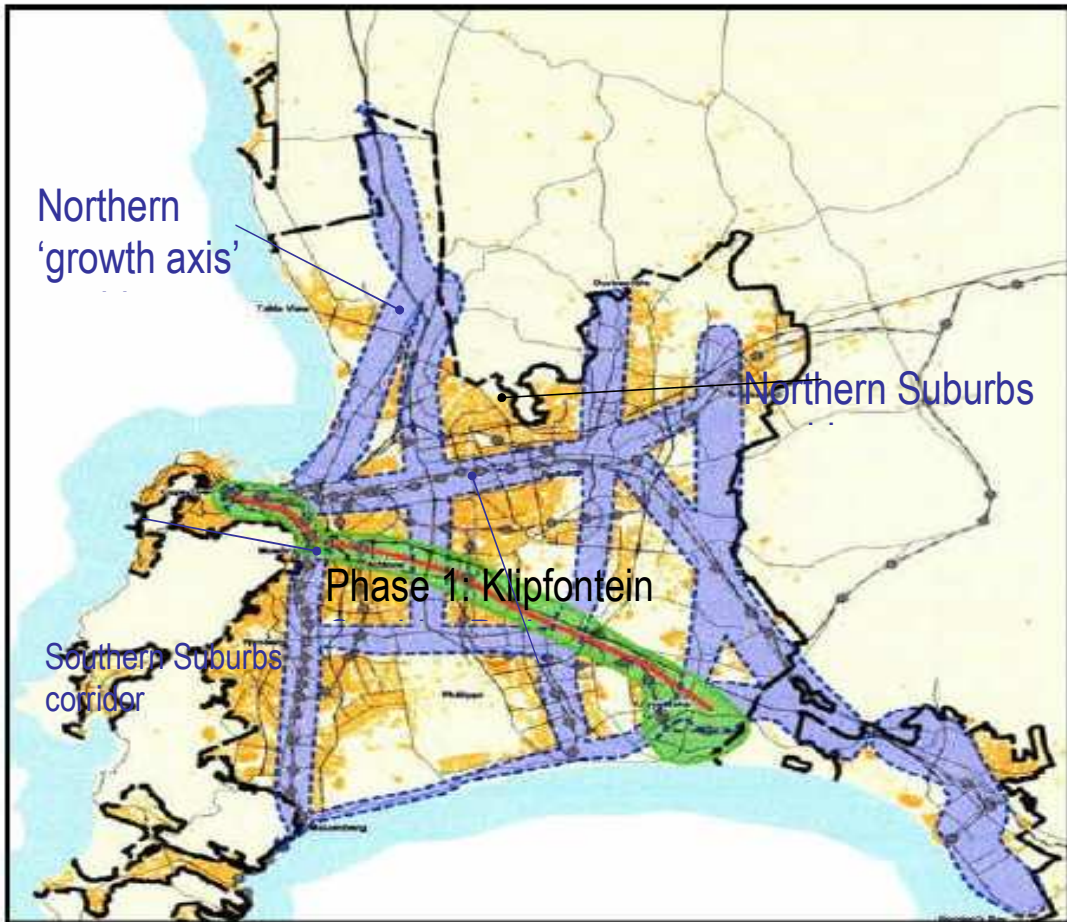
The Mobility Strategy directs investment along these corridors that would;

- Encourage sustainable economic development within the identified transport corridors and at public transport interchange points
- Encourage the desired thresholds of land use development within these corridors to support an all day public transport system
- Encourage the mix of development that will provide the all day surveillance required to secure the corridor environment, and in particular at public transport interchange points
- Encourage the use of public transport and NMT over the use of the private car

The overarching thrust of the Mobility Strategy is:

- to improve public transport for the benefit of existing and potential users,
- to derive developmental and socio-economic objectives from an improved public transport system,
- to bring about a shift from the use of private vehicles to public transport through the incentive measures of improved public transport and;

- Restraint measures in the use of private transport through travel demand management measures and stringent enforcement of dedicated public transport lanes, signal pre-emption, etc.



**Figure 32: Mobility Corridors**

The Cape Town CBD-Klipfontein Road-Khayelitsha Corridor and the Blaauwberg-Atlantis Corridor are examples of mobility corridors.

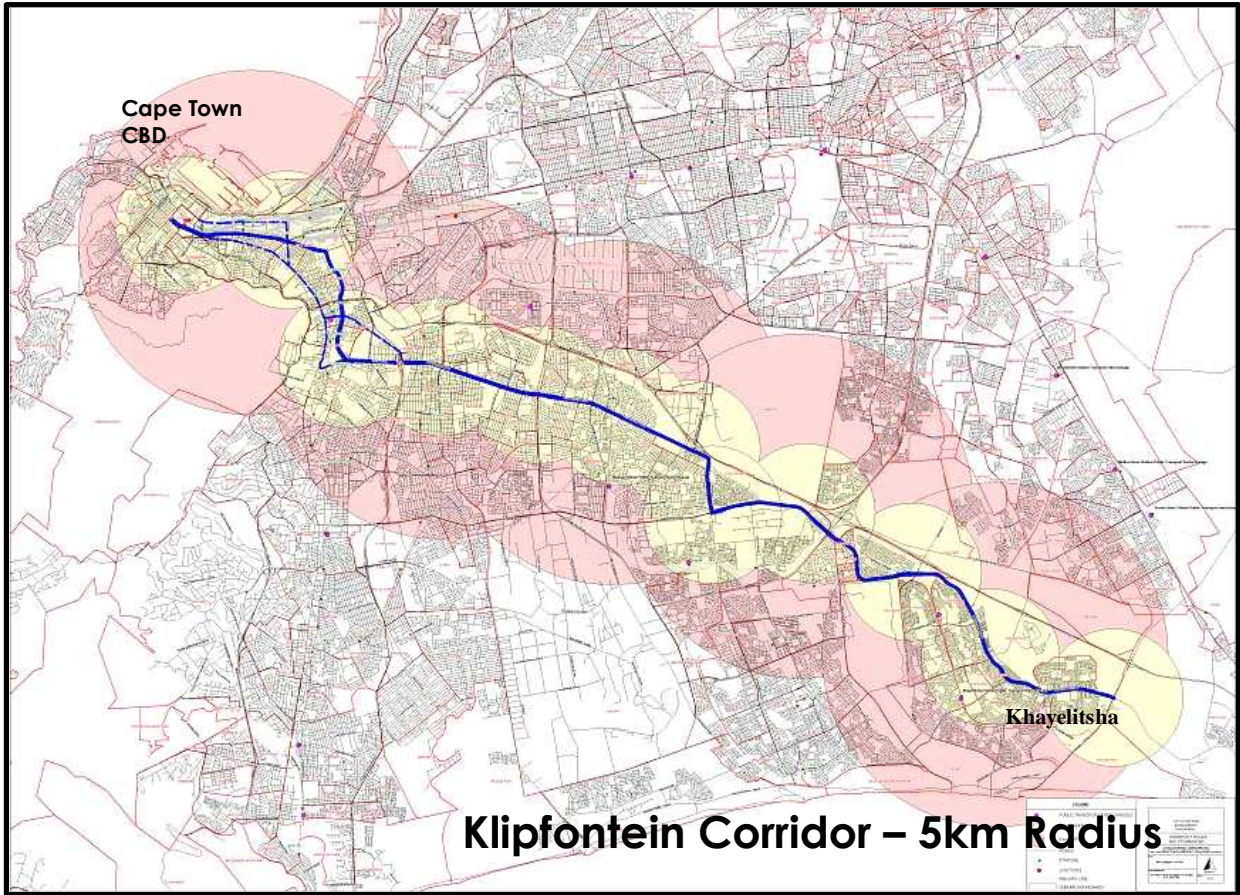


Figure 33: Cape Town CBD-Klipfontein Road-Khayelitsha Corridor

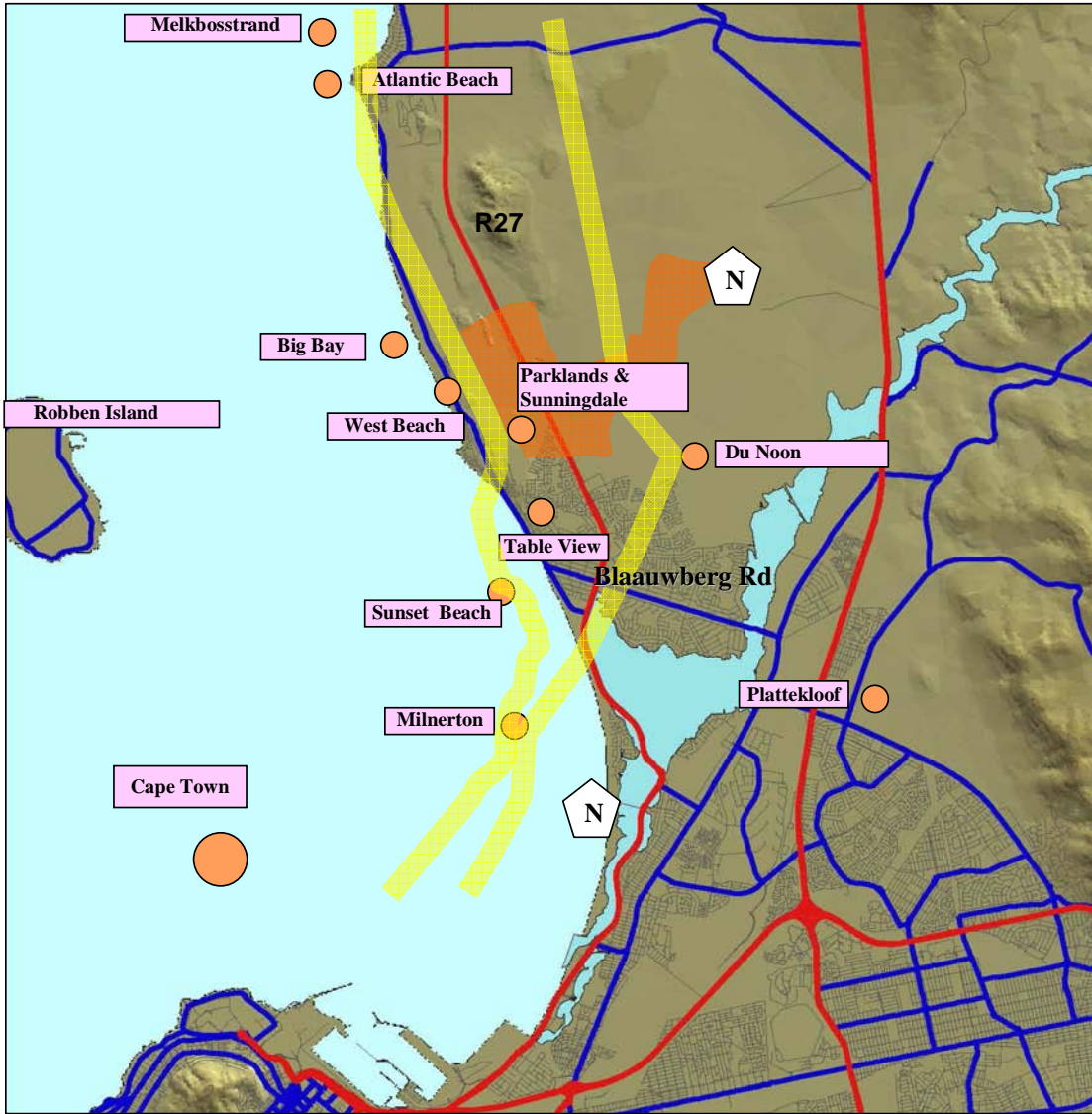


Figure 34: Blaauwberg-Atlantis Corridor

# 10. Institutional Arrangements

## 10.1 Introduction

This chapter sets out the strategy and programme for establishing a Transport Authority in the City of Cape Town.

The concept of transport authorities in metropolitan areas of South Africa has attracted interest over many years. Transport authorities are not new concepts, and they have been in existence in various forms in numerous metropolitan areas and cities throughout the world for over 30 years.

In the review of transport policy leading up to the publication of the White Paper on National Transport Policy in 1996, it was recognised that the fragmentation of functions and responsibilities for transport among the various spheres of government was one of the major problems besetting the proper management, co-ordination and provision of transport services in metropolitan areas.

In line with the provisions of the Constitution, the White Paper on national transport policy directed that transport functions should be devolved to the lowest appropriate sphere of government where they could be most effectively administered.

## 10.2 Status Quo

The City of Cape Town is designated in terms of the Municipal Demarcation Act (Act 27 of 1998 as amended) as a unitary Metropolitan municipality. It exercises executive authority and the rights to administer municipal functions listed in Part B of Schedules 4 and 5 of the Constitution.

The Constitution defines municipal functions in Part B of Schedules 4 and 5 as follows:

- Municipal public transport

- Municipal roads
- Traffic and parking
- Municipal planning

In terms of the Constitution, the City is empowered, mandated and required to perform a wide range of transport functions, and it is designated as a Core City in terms of the Urban Transport Act (Act 78 of 1977).

Whilst a large number of transport functions are assigned to municipalities in terms of the Constitution, the responsibilities for certain crucial components lie elsewhere. The most significant are:

- The Rail System lie with the Department of Transport, South African Rail Commuter Corporations, Metrorail and Spoornet
- The Bus Contracts and Bus Subsidy lie with the Department of Transport and transport providers, currently Golden Arrow Bus Services.
- Regulation of Bus and Taxi Services lie with the Department of Transport, Provincial and Local Government and are supplied by taxi associations
- National and Provincial Roads within the Metropolitan Area
- Airport, Harbour and Freight Related Issues lie with the Airports Company of South Africa, Transnet and the private sector.

### **10.3 Issues**

The case for a Transport Authority revolves around the need to address the institutional dysfunction which currently exists. The White Paper on National Transport Policy (DOT, 1996) identified the fragmentation of transport functions across the various spheres of government as one of the major impediments to an efficient, well managed integrated transport system. It recognised the need for single unified structures at the municipal sphere of government with responsibility for all the key components for efficient transport services delivery: policy, planning and co-ordination across all modes, provision of

services, regulation, and enforcement. For this initiative to succeed, it will require cooperation between local, Provincial and National Governments.

Two key changes are required:

- Institutional responsibility for transport needs to be reconfigured so that the system as a whole can be governed, managed and grown in a far more strategic and integrated way
- Investment in transport infrastructure, maintenance and operations need to be increased focussing mostly on public transport

#### **10.4 Strategy**

A weakness of the NLTTA model is that there is no sustainable funding mechanism for the Transport Authority to raise its own funds.

An alternative model of “internal” mechanism is proposed which offers better approach to achieving the objectives of the NLTTA using the Constitution and the Municipal Systems Act (No.32 of 2000) to achieve the objectives of the transport authority.

During the last two years, the City has undergone a major restructuring aimed at streamlining the organisation and grouping functional units to ensure more co-ordinated and effective service delivery. The transport, roads and planning functions have been combined into a single service called Transport, Roads and Planning which is now responsible for all the transport functions currently assigned to the City under the Constitution, namely municipal public transport, municipal roads, and municipal planning. It is therefore well positioned, as an integrated unit of the City, to take responsibility for the full spectrum of transport functions through an internal municipal structure, reporting to the appropriate committee of the City. It will perform the professional, technical, administrative functions related to transport.

It is proposed that the City request the assignment of the three critical functions listed above, namely the rail function, the bus function, and the regulation function on a phased basis. The City will enter into negotiations with the respective spheres of government on this process. It will be necessary to undertake detailed investigations on the implications

and phasing of the assignment of these functions. The proposed process and timelines for establishing the Transport Authority are shown in Table 23 below:

**Table 23: Transport Authority Process and Timeframe**

	2005/06	2006/07	2007/08	2008/09
Establishment of TA	Approve business plan as basis for negotiating with other stakeholders	Gain support of national and provincial government for CTTA concept. Approval by MEC for TA (not essential, but represents recognition)		
Assignment of functions	Trigger assignment of Public Transport function (System's Act) with formal memo to Minister of PLG			
Revenue Sources	Submit memoranda to NT, DPLG and DoT on revenue issues	Engage national departments together with other cities on new revenue sources for transport		
Rail entity arrangements	Engage with DoT and SARCC on way ahead	New national rail entity established	Recognition of cities as metropolitan rail authorities	Geographical ring-fencing within national rail entity of operations by metro
Bus operations restructuring	Work jointly with province on finalising bus contracts and associated vision and projects for infrastructure	Continue with implementation of bus improvement initiatives	First bus contracts awarded on basis of new dedicated bus lanes on some corridors; bus subsidies flow via City from 1 April 2008	

# 11. Public Transport

## 11.1 Introduction

Public transport is a vital and essential element of this vision in providing the opportunity for all citizens and visitors to access the full range of facilities which the City offers, whether for work, education, recreation, health, and social activities etc. It is particularly important for the poorer sections of the community, without access to private cars, in providing mobility through accessible, safe and affordable public transport. An improved public transport system also offers major advantages to the City by providing an alternative for car users thereby benefiting the environment, and reduced travel costs through easing congestion and lowering the costs of doing business in the City. A good public transport system also serves to promote the City for investment, for further growth in tourism, and for major events, such as the FIFA 2010 Soccer World Cup.

The Public Transport Plan sets out the City's vision, objectives, strategies and projects for developing and managing the public transport system in Cape Town. This chapter is a summary of the City's Public Transport Plan which is available from the Transport Directorate.

As mentioned in Chapter Four (Section 4.3), the City is committed to improving public transport and promoting it over private transport. The short term goal is to achieve a target split of 50:50 for public transport and private transport. The long term goal is to achieve a public:private split of 60:40 by 2020.

## 11.2 Status Quo

Over 1,1 million passenger trips<sup>27</sup> are made in the City of Cape Town by the three main modes: rail, bus and minibus-taxi (this excludes metered taxi, long distance bus, etc). Rail accounts for 53% of daily passenger trips, minibus-taxi 29%, and bus 18%. The modal split is shown in Figure 35 below:

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<sup>27</sup> Current Public Transport Record 2004/2005

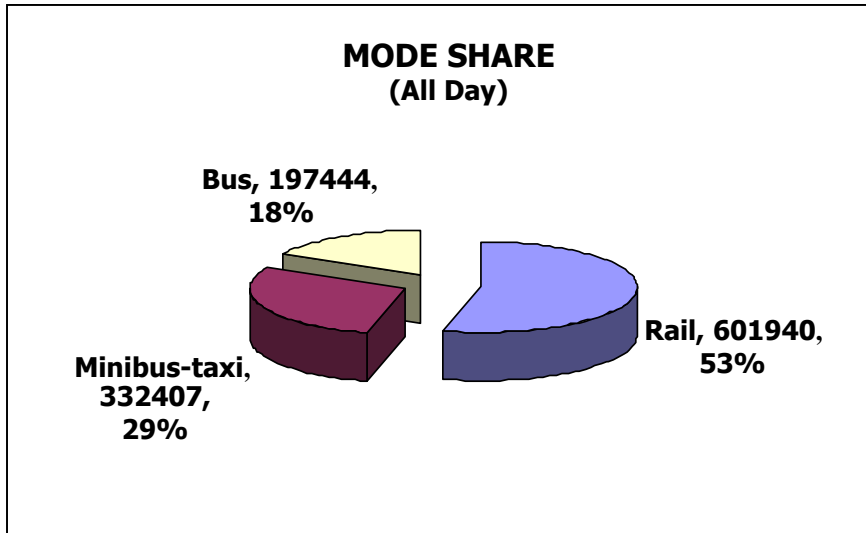


Figure 35: All Day Modal Shares

### 11.3 Issues

The major key issues facing the City in delivering high quality public transport service are:

- Long standing lack of investment in the rail system leading to the poor and worsening state and condition of the rail system, particularly the state of the equipment i.e. rolling stock
- The scheduled bus services which continues to be provided under an interim contract. This uncertainty precludes investment to the operator and has led to an aging fleet and low standard of service quality
- The unsustainable minibus-taxi services with major overtrading, large number of illegal operations
- The absence of sufficient public transport priority measures and lack of enforcement where priority lanes have been implemented
- Inadequate provision for Special Needs Passengers on public transport services

- The lack of an integrated fare management system to provide seamless travel journey
- Poor passenger information system
- Fragmentation of responsibilities between authorities
- Safety and security
- Lack of enforcement

A number of key issues are further outlined below:

### **Rail System**

The passenger rail service is used by 53% commuters in the City of Cape Town and adjoining areas. In contrast with the rail network in other cities in the country, it penetrates extensive middle to high income areas as well as low income areas, and therefore has the potential to serve a wide range of travel markets. Apart from its predominant role of serving passengers captive to public transport, it has the potential in the longer term to attract existing and future car users.

Its ability to realise its full potential in delivering high quality public transport services, has been hampered by a long standing lack of investment over many years with the result of a declining service, loss in patronage and a decline in market share in recent years.

Key issues facing the rail system are:

- *Institutional Arrangements* - Rail is a current function and responsibility of the national sphere, falling under the ownership and management of the SARCC. In exercising its mandate to develop and manage the system in response to passenger demands, this has in the past largely been done in isolation and without the meaningful participation of the City of Cape Town.

- *Funding* - There has been insufficient funding over many years for the upgrading of rolling stock, stations and other system components in the Cape Town rail system leading to a worsening service.
- *Rolling Stock* - The availability and condition of the rolling stock is the biggest problem facing the operation of the rail system. This severely affects the ability to increase services and train frequencies, reliability of the services, the quality of the service, as well as the ability to attract particularly choice passengers with attractive modern up-to-date equipment. The withdrawal of train sets has been largely on the grounds of condition and safety considerations.
- *Age of Rolling Stock* - The rolling stock is an average of 29 years old.
- *Patronage* - Ridership has declined by 7% from 2000 to 2004 from 670 000 to 621 300 passengers per day. (These figures refer to the regional system and include passengers from beyond the City boundary such as Stellenbosch, Wellington, etc which accounts for some 19 000 passengers per day). The main decline has been on the Khayelitsha/Kapteinsklip lines amounting to a decline of 44 300 passengers per day amounting to 14%.
- *Reliability* - The reliability of the service has dropped.
- *Service Levels and Overcrowding* - The 2004 Rail Census showed significant levels of overcrowding in the peak hour on certain lines, especially the Kapteinsklip, Khayelitsha and Strand lines.
- *Passenger Perceptions* - The consistent and common theme across all respondents surveyed is concern about personal safety and overcrowding (69%).
- *Special Needs Passengers* - There are extremely limited facilities for passengers with special needs especially the mobility and visually impaired.

#### **Scheduled Bus Service**

Key Issues facing the scheduled bus service are:

A number of problems and challenges need to be addressed to deliver an efficient and effective contracted scheduled bus service in line with the public transport vision.

- Service Viability - The existing bus service compares unfavourably with Third World international best practice benchmarks such as passengers/bus/day, kilometres/bus/day, passengers/bus/km, etc

This does not necessarily imply inefficiencies by the operator, but can be attributed to inherent inefficiencies in the public transport system manifested in the various modes operating in inappropriate operating environments, the lack of modal integration, destructive competition, etc. A contributing factor is undoubtedly the urban structure characterised by low densities, extensive distances between residential and work places, absence of appropriate land use arrangements which can support and encourage bi-directional and off peak demand.

- Increasing Subsidy Requirement - The subsidy has risen sharply in recent years. The imperative is to ensure financial efficiency and economy in the provision of the service. The funding authority needs to be assured that the required level of service is provided at least cost.
- Dispersed Routing - The service offers a wide coverage over a very dispersed network. Whilst the service offers good coverage, it restricts the option of providing higher frequencies and route permanence which can support and enhance the Mobility Strategy, aimed at all-day, high frequency services along the development corridors. On average, the route network translates to no more that 6 trips per route per day in both directions.

Inspection of the bus network also shows extensive services and trips within the main public transport market areas of Mitchells Plain, Khayelitsha, and Blue Downs which are of an internal/feeder/distribution type role. It is

suggested that this role would be more appropriately left to smaller vehicles, and allow the higher capacity buses to concentrate on the line haul, higher density routes. The appropriate positioning of the various modes in their most effective and economic environment is a vitally important issue in developing an effective integrated service.

- Destructive Competition - A comparison between the bus and taxi network shows that there is a virtually complete overlap between the two services. Significantly the scheduled bus services also provides an almost equivalent collection/distribution service in most areas as that provided by the unscheduled, minibus taxi services so as to protect their line haul market.
- Parallel Subsidised Services with Rail - The subsidised bus service also competes with subsidised rail service on a number of routes, notably the services from Mitchells Plain, Khayelitsha, Main Road, and Voortrekker Road. National and Provincial policy is aimed at eliminating parallel subsidised services. It must be noted, however, that the rail system currently operates near capacity with severe overcrowding. Investment in rolling stock is required to address this.
- Integration of Services - There is no effective integration of services through integrated ticketing systems. The correct positioning of the various modes in terms of their most effective and economic operating environment in terms of cost and service trade-off is a key issue.
- Interim Contract - The uncertainty from the continued short term extensions of the interim contract precludes long term investment in the service including fleet upgrading, ticketing systems, monitoring of the service, etc.
- Traffic Congestion – Congestion affects the trip times and is the main cause of delay to passengers. Travel time is a key factor for encouraging people to use public transport. Bus priority projects are necessary to reduce travel time.

### **Minibus-Taxi**

The key issues facing the unscheduled services provided by minibus-taxi are:

- Major overtrading on a large number of routes. This leads to unsustainability of the service, inability to recapitalise the fleet and the potential for violence
- A large number of illegal operators. 43% of operators do not have operating licences.
- An aging fleet
- Inappropriate vehicle design for large volume of passengers
- Conflict within industry – sometimes competition for routes and passengers results in conflict between minibus operators which sometimes lead to the tragic loss of life and affects service delivery.
- Safety of passengers – The Cape area has not been exempt from accidents involving minibuses where lives have been lost. While this aspect receives attention from the authorities, more needs to be done to ensure that drivers stay within speed limits, and that appropriate infrastructure is provided.

### **Priority Lanes**

Public transport services are severely affected by traffic congestion, resulting in low journey speeds and long travel times. Where priority lanes have been implemented, there is a lack of enforcement which renders them ineffective.

## **11.4 Strategies**

The overall strategy for public transport is set out in a number of key policies:

- To give priority to public transport over private transport
- To direct investment in transport infrastructure, services and facilities to enhance social and economic development
- To focus on public transport to stimulate development on mobility corridors
- To provide public transport to meet the needs of all users
- To support investment in rail
- To support the use of the most appropriate mode in terms of cost/service trade-off
- To restructure the minibus-taxi industry into a unified formal public transport sector
- To provide access to transport for persons with special needs
- To ensure safety and security
- To encourage investment, growth in sustainable mobility corridors
- Transform the interim contract into tendered or negotiated contracts on a phased programme
- To restructure the existing bus and minibus-taxi services operating in competition into a unified scheduled service utilising the optimum vehicle into line haul routes, distribution and feeder services.
- To restructure the scheduled services to align with the Mobility Strategy and Corridor Strategy and based on the City's Rationalisation Plan
- To develop tendered (or negotiated) contracts to provide enhanced quality of service in line with a public transport service charter, extended 18 hour day service on the primary accessibility routes, provision for Special Needs Passengers, strict monitoring of service quality and timetabling, etc
- To restructure service in main residential zones into feeder and local distribution services
- To introduce an integrated fare management system

## **11.5 Planning Programmes**

The planning programme over three years will involve the following planning initiatives:

- Review and update of statutory plans
- Demographic forecasts and land use integration

- Update and refinement of the transport model
- Corridor feasibility studies
- Project identification and feasibility
- Public transport impact studies
- Funding strategy
- Taxi recapitalisation programme
- Transport information system
- User preference surveys and user attitude surveys
- Environmental policy for transport and alternative technologies
- Transport operational plans for the FIFA 2010 World Cup
- Restructuring of road based public transport

The NLTTA requires services which are continued to be subsidised to be operated as subsidised service contracts as provided for in section 47 (1):

*“47(1) After expiry of any interim contract or current tendered contract, if the public transport service that had been operated in terms thereof will continue to be subsidized, that service must be operated in terms of a subsidised service contract.”*

The GABS service is currently operating as an interim contract, and this needs to be transformed into either a tendered or negotiated contract through the restructuring of the public transport system. The longer term concept for the transformation of scheduled road based public transport in the City is designed to support the Public Transport Vision put forward in Chapter 2, and draws on the national and provincial policy objectives, as well as the City’s Mobility Strategy.

The concept for the restructured public transport system has the following components.

- An integrated public transport system with seamless transport between modes through an integrated fare management system
- A unified public transport service taking into account the existing bus and taxi market
- The use of the appropriate mode to reduce total system costs based on passenger numbers and operational characteristics

- Core routes on the main corridors identified in the Mobility Strategy providing 18 hour day services, 7 days a week
- Additional peak period services on high speed routes to provide direct services and reduced travel times
- Public transport priority lanes on the main core routes and high speed routes where feasible
- Community services which will provide good penetration and coverage within the main residential areas to include;
  - Feeder services to line haul routes
  - Feeder services to rail
  - Distribution within residential areas to activities such as schools, hospitals, shopping centres, recreational areas, institutional complexes etc.

The service will be broken down into a number of contracts and these will be either tendered contracts or may be negotiated or a combination of the two. The contracts will be divided to achieve operational and financial efficiency as well as other objectives such as opening up the transport market to new entrants, removing barriers to entry, removing the potential for conflict, etc.

An integral component of the restructured system in the longer term, with its objective of an integrated unified system, is the participation of the taxi industry and SMME bus operators in the provision of the subsidised scheduled services. The concept is aimed at removing the artificial distinction between modes based on vehicle size, bus or taxi, and move towards a unified service using the most appropriate mode. Through the establishment of business entities, the taxi industry will, either on their own or through joint ventures or other suitable mechanisms, be in a position to tender or negotiate for scheduled subsidised services. It follows that existing taxi services operating in parallel with the restructured unified line-haul service will need to be withdrawn. Similarly, existing bus services operating in parallel to restructured routes best served by midi and minibuses will also need to be withdrawn.

This restructuring represents a bold intervention directly in line with national, provincial policy as well as the two pillars of the Mobility Strategy, namely public transformation for greater mobility and integration, and socio-economic integration and opportunity enhancement.

It must be recognised however that there are current realities and major impediments to the immediate implementation of the restructured system. A carefully designed implementation strategy needs to be developed to bring about the phased introduction of the proposed restructuring.

### **Current Constraints and Impediments**

The major impediments are outlined below:

1. The taxi industry is not currently structured or formalised to the degree necessary to enter into tendered or negotiated contracts. Extensive negotiations still need to be completed on acceptable models for participation of the taxi industry. The taxi services transport nearly double the existing subsidised bus passengers and are therefore a vital stakeholder in the unified public transport service. Suitable empowerment models need to be developed and agreed to ensure the industry's meaningful participation.
2. The process of conversion of permits to operating licences is incomplete and needs to be brought to a conclusion. The permit conversion process offers an opportunity to rid the system of dormant permits. The CPTR surveys show that there are about 4000 legal vehicles which were observed to operate in Cape Town whilst the Operating Licensing Board records show that there are about 10 000 legal permits/operating licences. This indicates the potential of some 6 000 dormant permits and illegal operators. The applicant for conversion must show proof that they had been operating on a regular basis for at least a period of 180 days before the date of application for conversion. Permits which do not pass this test must not be converted and the Board should withdraw the permit.
3. The taxi recapitalisation process is not ready to be rolled out in an efficient manner due to the existence of a large number of dormant permits. There is a danger that

these dormant permit holders will use the recapitalisation project to claim the R 50 000 scrapping allowance to leave the industry thereby increasing the financial burden of the recapitalisation project.

Furthermore, the restructured system aims to rationalise the system to make use of the most appropriate vehicle size in terms of financial efficiency and the operating environment. It would be entail major abortive expenditure if a large number of vehicles were to be recapitalized only to be replaced by more appropriate vehicle once the restructured system is implemented.

1. The existence of dormant permits will also affect the restructuring project. The intention is to use the appropriate vehicle size to reduce total costs. This means that, where appropriate, the existing 16 seat vehicles will need to be replaced by 35 seat vehicles, standard buses or articulated buses on certain routes. Operators will either have to be offered suitable alternatives (including participation in the new operating entity) or compensated. The existence of large numbers of dormant permits will merely exacerbate the problem of finding alternatives or increase the costs of compensation when the restructured system is implemented. There is little doubt that the restructured system will lead to attrition in the current taxi industry, but this problem will be much greater if the existence of a large number of dormant permits/operating licences is allowed to persist.
2. The management of the operating licences strategy relies on proper and sustainable enforcement. The lack of enforcement capacity is also a major constraint and will need to be addressed.

The existing infrastructure is not suitable to accommodate articulated vehicles which are proposed in the restructured system for the high demand routes. It will take time for the facilities to be redesigned and built to accommodate the larger vehicles. Also, the ratio of bus to taxi facilities will change.

In summary, a consolidated approach by the City, the Department of Transport and Public Works, and the Provincial Operating Licensing Board is required to ensure that no

dormant permits are converted to operating licences. An implementation plan to modify and/or build facilities which are suitable for larger vehicles is also necessary.

## **11.6 Programmes and Projects**

### **11.6.1 Rail**

The City's strategy for rail has short term, medium term and long term components. The essential strategy derives from the acknowledgement of the extensive nature of the rail system and the limitations of funding for additional expansionary investment. It is imperative that confidence in the rail system be restored by bringing the existing system to a state of good repair and good condition in order to retain and attract ridership in the established rail travel markets.

The short term strategy is to bring the **existing** system on **priority corridors** to a good state of repair and good overall condition through fleet upgrading and service improvements aimed at:

- Retaining current ridership
- Regaining lost riders on priority corridors
- Attracting new riders in existing travel markets through a higher quality and more attractive service

The Priority corridors are:

**Priority 1: Khayelitsha/Mitchells Plain - Cape Town**

**Priority2: Strand - City Line including services from Bellville  
Simon's Town/Cape Flats - Cape Town**

**Priority 3: Remaining lines**

The investment as part of the short term strategy is to:

- Upgrade and modernise the fleet
- Additions to the fleet
- Upgrade stations

- Make provision for special needs passengers
- Improve service levels
- Improve safety and security
- Introduce integrated fare management system

The medium and long term strategies extend these investments to the other corridors in priority order and consider new and extensions to the rail system subject to full financial and economic evaluations.

A comprehensive Regional Rail Plan (RRP) is currently being developed by the South African Rail Commuter Corporation in consultation with the City. The purpose of the RRP is the integration of the national adopted policy of corridor investment strategy with the City's priorities as defined in its Rail framework. In-principle alignment has been achieved on the role of rail and identified current and future priority corridors and the completed RRP, providing the Business Case for rail investment in the Cape, is expected to be included in the ITP by September 2006.

#### **11.6.2 Restructuring of Public Transport Services**

It is essential that these major impediments be satisfactorily removed before the restructured system can be fully implemented. A strategy has therefore been developed which addresses these concerns, and can lead to a managed implementation of the restructured system over the next two to three years. The restructured system will be implemented in phases through the following initiatives:

##### 1. Regulate and Clean up the Status of Existing Operating Licences

The conversion process provides the opportunity to clean up the system and rid it of dormant permits. The intention is to complete the conversion process and remove dormant permits so that they will not become eligible for the scrapping allowance. This will reduce the cost of the recapitalisation project in the City, and lessen the burden of compensation or other alternatives when the restructured system is implemented.

The taxi recapitalisation project will be delayed for 6 months to allow the process of conversion of permits to operating licences to be completed. For the reasons given above, close liaison between the City, the Department of Transport and Public Works, and the Provincial Operating Licensing Board will take place to address the issues of dormant permits.

Parallel to the process of conversion is the need to bring the operating licences into alignment with the transport plans of the City. The application for renewal of operating licences also requires proof of regular operation to be supplied. The recommendations of the City on the need for the service must also be taken into account by the Board in disposing of the application. This process allows the system to be cleaned up both by removing dormant licences and removing operating licences which are not in line with the transport plans.

## 2. Implement the Operating Licences Strategy

The Operating Licences Strategy showed that 70% of the routes in the City are overtraded. It is important however to note that the majority of these are feeder/distribution routes. On the line haul routes, some waiting times are longer than acceptable and additional service is required on many routes.

However, in the light of the restructuring project, it would create future difficulties for the project to grant additional operating licences. Not only would this lead to additional job losses when the project is fully implemented but it would place an additional financial burden on the City to pay compensation if these operating licences need to be withdrawn.

It is legally not possible to impose a moratorium on the granting of operating licences and the Board must exercise its mind in each case. However, the City will discourage the granting of new operating licences, and will generally recommend against them. There will need to be exceptions in special cases after careful and thorough investigation.

## 3. Establish Effective Law Enforcement

The success of the Operating Licences Strategy is heavily dependent on effective law enforcement. This relies on continuous and sustained effort, and this is best achieved through a dedicated enforcement unit specialising in public transport law enforcement. Negotiations will take place with the Metropolitan Police to establish a specialised dedicated unit for public transport enforcement. Enforcement will take place on the N2 public transport lanes and on the existing and proposed bus lanes in the remainder of the City.

#### 4. Negotiate Contracts for the Restructured Service

Negotiated contracts between GABS, taxi operators, and small bus operators to implement the restructured system will be encouraged. These negotiations will be strengthened and advanced more directly once the initiatives identified above are well under way.

The following steps are proposed:

- Enter into discussions with GABS about forming joint ventures or other types of business entities with taxi associations
  
- Enter into discussions with taxi associations
  
- With the successful cleaning up of the operating licences system as indicated above, and the completion of the detailed design on the restructured system to bring about the use of the optimum mode, the taxi recapitalisation project can proceed. The City's criteria for prioritisation and requirements are as follows:
  - Line haul routes should be targeted first
  
  - The second criterion is the age of vehicle
  
  - Operators on line haul routes should only be allowed to replace existing vehicles with 35 seat vehicles or larger vehicles
  
  - Two 16 seat vehicle operating licences should be handed in for one 35 seat operating licence
  
  - Single operating licence holders should be encouraged to form joint ventures with other operators

- Feeder and distribution routes should be targeted last for recapitalisation
- Existing 16 seat vehicles should only be allowed to be replaced by vehicles of the same capacity
- Identify taxi associations who are willing to form joint ventures or other types of business entities with GABS to operate a unified scheduled service on a particular route
- The joint venture shall be allowed to operate the service with existing vehicles in the short term as part of the negotiated arrangements and receive subsidy. These vehicles can be replaced with recapitalised taxi vehicles or buses in the longer term as appropriate in terms of the negotiated arrangements
- Associations not willing to form joint ventures with GABS should be allowed to continue to operate without the benefit of subsidy.

The following projects form part of the restructuring of public transport:

**1. Provision of Scheduled Bus Services through Interim Contract**

The interim contract with GABS for scheduled services will be continued until such time as it is transformed into the restructured tendered or negotiated contract. This project is being managed by the PGWC Department of Transport and Public Works. In 2004/05 the subsidy was provided by the Department of Transport as was approximately R360 million.

**2. Design and Preparation of Scheduled Service Contract Documents/Negotiated Contracts with Bus and Taxi Operators**

This project entails the design of a restructured unified integrated road based scheduled service to replace the existing interim contract with GABS and include line-haul taxi services. Negotiations with GABS, small bus operators and the taxi industry will be undertaken based on the framework outlined above to implement negotiated contracts on a phased programme.

**3. Provision and Management of Scheduled Service Contracts**

The restructured scheduled subsidised service contracts will be awarded on a phased programme. This project entails the on-going management of the contracts for the delivery of the contracted services.

#### **4. *Monitoring of the Scheduled Public Transport Services***

Scheduled service contracts require to be monitored to ensure operator compliance with the contracted service quality and schedule. This project will entail the development of the method of monitoring, using technology solutions such as the AVL system and manual monitoring. The project will entail the ongoing monitoring of the scheduled services.

### **11.6.3 Mobility Corridors**

Klipfontein Road is the first mobility corridor planned, and infrastructure provision will include the following:

- Public transport priority measures – such as priority lanes for road-based public transport, and/or public transport priority queue jump and by-pass lanes, and priority traffic signalling. This means that road infrastructure will be upgraded mostly for improving the operations of the public transport system
- The Klipfontein Corridor Project recognises both Klipfontein Road and the N2 as a public transport system supporting the corridor. The Project includes both public transport priority measures in Klipfontein Road itself, as well as bus/minibus-taxi lanes on the N2
- Establishment of interchanges and park and ride facilities at key nodes
- CCTV on both Klipfontein Road and the N2 to provide both enforcement of the public transport priority measures as well as enhanced security

- Upgrading of the Golden Acre Terminus or the construction of a new public transport terminal in the CBD to support all priority corridors entering the CBD, including the Klipfontein Corridor
- Upgrading of existing facilities to ensure universal access
- Non-motorised transport (NMT) (i.e. pedestrian and cycle path) network along the full length of the corridor, with bicycle storage facilities at key locations to cater for and provide easy access to the major socio-economic and transport facilities
- Upgrading of key nodal points along the corridor to form Dignified Urban Spaces, supportive of NMT and promoting safe and secure environments for recreation and social interaction
- Provision of public transport signage, passenger information displays, shelters, street furniture, and dedicated stops to be provided on the network
- Safety and security initiatives, including improved lighting where necessary

#### **11.6.4 Public Transport Support Systems**

##### ***Priority Lanes***

Priority lanes will significantly reduce travel times, thus offering commuters a significant benefit over the private car. The reliability of the service will also increase as it is less likely that buses and minibuses will be delayed due to congestion. The City's strategy is to improve journey times for public transport by provision of priority lanes on major routes. Priority lanes currently exist on six routes. The Plan proposes extensions on five routes and proposed priority lanes on a further 14 routes as shown in Figure 36.

Sustained enforcement will be essential to ensure the success of the priority lanes for improving public transport.

## ***Integrated Fare Management***

One of the City's objectives is the transformation of the existing public transport system from one in which commuter rail, buses and minibus taxis operate substantially in competition with each other into an integrated, restructured system which provides a seamless journey for its passengers. A multi-modal, integrated fare management and automatic vehicle location (AVL) system is essential to the success of this objective as it will;

- Provide the passenger with a seamless ticketing interface between public transport modes
- Provide a safer, more user-friendly environment by reducing the risk of theft of cash
- Reduce fare evasion and fraud
- Increase flexibility in implementing new fare structures
- Provide better management and monitoring information
- Provide better fleet management
- Provide real-time passenger information

## ***Metropolitan Transport Information***

### **Background**

The MTI Call Centre was established by the City in 1997 as a national demonstration project linked to the Olympic Bid, and it represented a significant move towards integration of the multi-modal metropolitan public transport system. In May 1999, the MTI call centre was accepted by the City as a core functional responsibility, and since early 2000 it has been operated under contract to the City.

### **Current Operation**

The MTI call centre provides information on all modes of public transport to Cape Town's residents and visitors. It has a single toll-free telephone number (0800 65-64-63) and operates 24 hours per day, 7 days per week in Afrikaans, English or Xhosa. A "teldem" communication facility is also available to assist callers with speech or hearing disabilities.

The call centre provides callers with information on rail and bus timetables as well as minibus taxi routes. Callers are also able to obtain up-to-the-minute information on any changes to scheduled services. The MTI operator is also required to maintain a website ([www.mti.co.za](http://www.mti.co.za)) that makes this information available via the Internet.

The call centre also receives complaints about train and bus services through separate service contracts with MetroRail and Golden Arrow Bus Services. Complaints about the City's Dial-a-Ride service are also received by MTI and passed on to the contracted operator.

There has been a steady increase in the number of calls received since its inception, and in April 2006 the total number of calls received exceeded 180,000.

#### **New Developments & Future Prospects**

The National Department of Transport has awarded the City a R2 million grant to upgrade the MTI call centre equipment in preparation for the 2010 Soccer World Cup, and the new call centre system will be installed in July/August 2006. At the same time, a tender process for the operation of the call centre is underway and it is likely that the new contract will commence in October 2006.

Call volumes have increased steadily over the years despite the fact that there has been no marketing of the MTI service by the City and only limited publicity by the train and bus operators. Considerable further growth can be expected in the years ahead as the City gears up for the World Cup. It is also likely that the call centre will be required to provide operators who can communicate in a wider range of languages.

It is anticipated that the role and functions of the MTI call centre will increase and evolve as the restructuring of the public transport system proceeds. It is likely that the centre will serve a broader transport function, incorporate new information technologies and provide for a wider range of public transport services. Examples of the proposals that are receiving consideration include the provision of dispatch

services for metered taxis, bookings for Dial-a-Ride services and complaints handling for Dial-a-Ride and minibus taxis – in close collaboration with the authorities and the operators of these services.

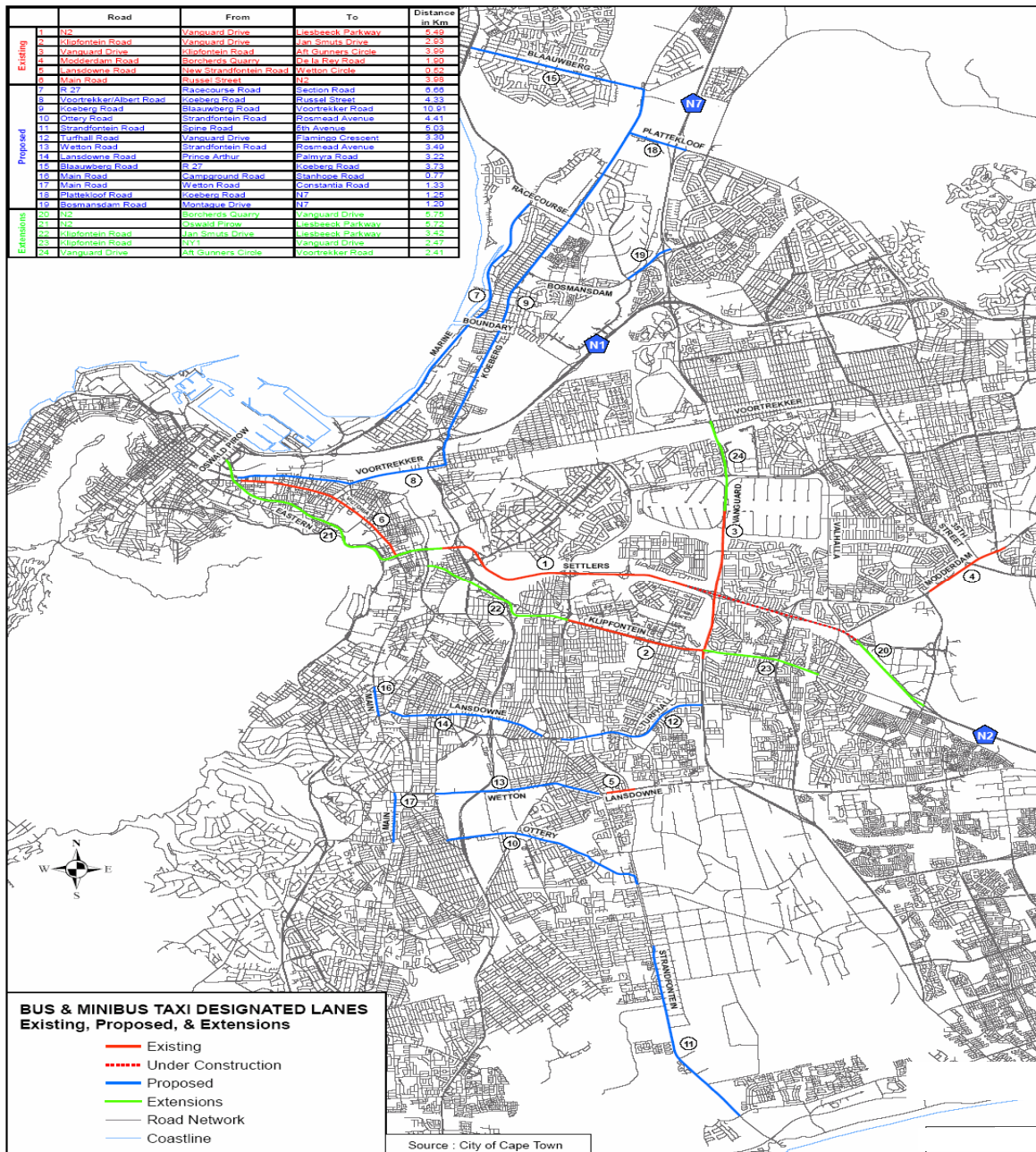


Figure 36: Proposed Priority Lanes

## ***Implementation of an Integrated Fare Management System and AVL***

The Integrated Fare Management System will be implemented to tie in with the implementation of the contracts for scheduled services. The project will include:

- The back office or data warehouse
- Distribution system
- Ticketing system
- Access controls

## ***Public Transport Infrastructure***

### **Project L1: Design and Construction of Improved and New Public Transport Interchanges**

Existing Public Transport Interchanges will be upgraded and improved to bring them to the standard and benchmark required. The need for new Public Transport Interchange will be identified and new interchanges constructed. The design of facilities will need to allow for flexibility to accommodate different sized vehicles, for instance taxi recap vehicles, articulated buses. As the restructured scheduled services are phased in with the appropriate vehicles, facilities will need to be adapted to accommodate these vehicles.

The following low risk/committed projects will be proceeded with;

Fisantekraal, Somerset West, Mitchells Plain Southern Terminal, Khayelitsha Rail Extension (Stations 4 & 4a), Claremont CBD, Khayelitsha CBD, Hanover Park Bus Facility, Lentegeur, Ysterplaat, Nomzamo, Macassar

### **Project L2: Design and Construction of Minibus Taxi Ranks**

Minibus-taxi ranks will be upgraded and new facilities provided where required.

The following projects will be implemented:

- Durbanville Taxi Rank (North)
- Edgemead Taxi Rank
- Imizamo Yethu Taxi Facilities: Hout Bay
- Masiphumelele (Site 5) Taxi Rank
- Table View Taxi Rank (Bayside)

**Project L3: Facilities Needs of Taxi Recapitalisation Programme**

This project will entail the infrastructure needs and design modifications at public transport facilities to accommodate taxi recap vehicles will be assessed. These needs to be met as far as possible by implementing modifications at the facilities.

**Project L4: General Public Transport Facilities**

Improvements of public transport facilities like:

- Bus/Taxi Embayments: General Provision
- Provision of Bus/Taxi shelters
- Station Upgrade
- Signalling

**Project L5: Khayelitsha Rail Extension**

Road-over–Rail Bridges, transport interchanges and access roads will be constructed in order to improve the service.

***Special Needs Passengers***

The Dial-a-Ride (DAR) service will continue to be provided and tenders for the extension of the service will be called for at the expiry of the existing contract.

***Access to Public Transport Facilities***

A phased implementation of improvements to public transport facilities so that everybody is able to use public transport

***Passenger Information***

The MTI call centre will be maintained and further developed. Comprehensive Passenger Information will be developed and implemented.

***Public Transport Branding***

A branding and livery system will be developed and implemented.

***Public Transport Charter***

# 12. Universal Access

## 12.1 Introduction

The Office of the Deputy President said the following: “Among the yardsticks by which to measure a society's respect for human rights, to evaluate the level of its maturity and its generosity of spirit, its by looking at the status that it accords to those members of society who are most vulnerable, disabled people, the senior citizens and its children.”<sup>28</sup>

The Employment Equity Bill, human rights laws and our country's constitution have reinforced the importance of the social integration of people with *special needs* into all areas of our society. This significant development has placed new requirements on the planning and development of all public facilities. *Special Needs Users* (SNUs) are defined as persons who are disabled and life cycle users. *Life cycle users* are defined as persons who are; elderly and or frail users, children, visitors, people with prams and pushchairs, expectant mothers, children and mothers with children. *Disabled Users* are person who are permanently and temporarily disabled and would include; the visually impaired (blind and partially sighted), mobility impaired (e.g. wheel chair users, people on crutches and other walking aids), communication impaired users (include deaf, speech impaired, intellectually and mentally impaired)

While the concept of Universal Design (UD) stems from the provision for people with special needs, the primary objective is to improve the quality of services, products and the environment for *all* users. The ultimate aim of UD is to develop integrated, sustainable design solutions, at no real additional cost or effort. The solutions should be durable, easy to use, meet all functional and technical requirements as well as be integrated seamlessly into its context.

Transport facilities play a critical role in the daily lives of most people in our country. The challenge of creating a transport system that is safe efficient economical and environmentally sustainable to all users is a difficult one, particularly when we have inherited existing infrastructure that is deficient on many levels. The process of

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<sup>28</sup> Integrated National Disability Strategy White Paper, Office Of The Deputy President, November 1997

restructuring and transforming existing transport facilities while still meeting the requirements set out in the legislature of a 'reasonable provision' is also a problem that has to be resolved. This can be achieved by the implementation of a well-developed, clear strategy and policy on UD.

## **12.2 Status Quo**

Currently the City applies the principles of "Universal Design" its projects. However, a broader strategy will be developed on how to apply universal design principles on the process of transformation and restructuring of public transport in Cape Town. UD is a concept that is applied at projects inception and executed throughout at all levels and components of a project.

## **12.3 Issues**

It is important for the Department of Transport to develop clear policies on UD and SNU's in terms of the constitution, equity bill and the human rights legislation. Non-compliance with recent anti-discrimination legislature can have harsh consequences on government departments providing public facilities. In other words it is against the law for the City to provide a new facility which does not provide access for everybody.

## **12.4 Strategies**

- The establishment of a Transport Users Forum (TUF), comprising of representatives from different areas utilizing the various modes of transport. The purpose of the TUF is to ensure that local government acts within the legal framework and take the appropriate action where the law is not being applied.
- The research and development of a Universal Design (UD) policy that can be applied unilaterally across all types of modal transport. The policy will establish a set of criteria and standards that all new facilities must follow.
- A clear policy on the provision for SPU's in terms of the constitution, equity bill and the new human rights legislation should be formulated as part of the UD policy.
- Retro-fitting of existing facilities will be the key focus area in the restructuring and transforming of existing transport facilities. Developing a clear strategy around

retrofitting existing facilities, for example, in terms of a 'reasonable provision' set out in the legislation, is important for the state to avoid potential lawsuits.

- Incorporate processes within design procedure to ensure that universal access requirements are met.

## **12.5 Programmes and Projects**

- Research of precedents on universally designed transport solutions can assist in resolving some problems when applying UD.
- Set up UD consultative workshops/ presentations with the Transport Users Forum, general public and government officials to feed back into the process.
- A monitoring body/authority to be established with representatives from all the major stakeholders.
- Clear UD and SNU policies together with comprehensive environmental access audits that highlight users requirements and their priorities will assist in establishing costs; interventions, levels of service and types of facilities needing upgrading.
- Developing a website for all research and development work in the transport field as well as all projects executed.
- Dignified Urban Spaces Project

Universal Access affects aspects of public life and public buildings. For example a wheelchair user has the right to access libraries, clinics, the Civic Centre, and use public transport such as buses, trains and minibuses. Therefore the road system and its ancillary items such as sidewalks, road crossings, and public squares etc should also provide reasonable and safe access for everybody. This means that all public transport facilities, intersections, vehicles and infrastructure such as pedestrian crossings (dropped kerbs and audio signals), etc should be improved to comply with the law.

## **12.6 Budget**

As stated in the previous section, all public transport facilities, intersections, vehicles and infrastructure such as pedestrian crossings (dropped kerbs and audio signals), etc should be improved to comply with the law. The City commits itself to the application of universal access principles and thus will be drawing a programme of improvements to ensure that it complies with the law. A previous study has shown that approximately R 8 000 000 per annum (2006/2007)<sup>29</sup> should be budgeted for every year to make the necessary improvements.

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<sup>29</sup> Source: KD Govender (KDG Architects), Proposal to develop a strategy for the application of Universal Design  
June 2004

# 13. Non-Motorised Transport

## 13.1 Introduction

Non-motorised transport (NMT) includes all forms of movement that do not rely on an engine or motor for movement. This includes walking, cycling, rickshaws, animal-drawn carts (especially in rural areas) and rollerblading or skating for recreational purposes. Ultimately, NMT grows liveable communities - it is the most basic part of the transportation system and pedestrians in particular contribute to the vibrancy of a community.



NMT is generally recognised as a valuable component of the transportation system and the environment we live in due to the various benefits it holds. These benefits include environmental benefits, increased liveability, improved health, economic gains and transportation benefits.



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

**“Cape Town will be a city where all people feel safe and secure to walk and cycle, NMT is part of the transport system, public space is shared between all users (NMT and motorised users) and everyone has access to urban opportunities and mobility.”<sup>30</sup>**

An important goal in realising this vision, as set out by the City, is to:

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<sup>30</sup> City Of Cape Town: NMT Policy And Strategy, Volume 1: Status Quo Assessment, October 2005

**“Increase cycling 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 cycling and enable walking as modes of travel;
- Create safer pedestrians and cyclists environments
- Develop a quality, attractive and dignified environment; and
- Promote a changed culture that accepts the use of cycling and walking as acceptable means to move around in the city and elicit more responsible NMT behaviour.

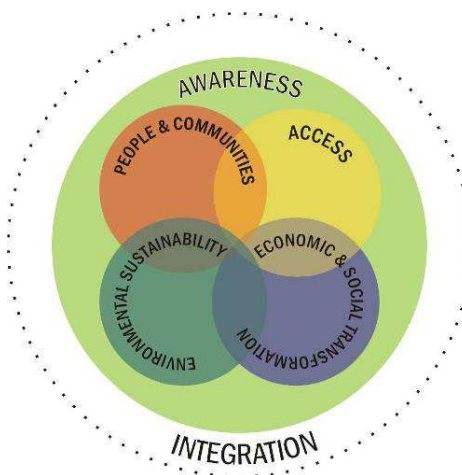
As mentioned in Chapter Four (Section 4.3), the City is committed to improving public transport and promoting it over private transport. The short term goal is to achieve a target split of 50:50 for public transport and private transport. The long term goal is to achieve a public:private split of 60:40 by 2020. NMT can play a significant role in reducing congestion and reducing environmental pollution. A target has not been set for this draft of the ITP; however, it will be included in the update of the ITP next year.

This chapter is a summary of the City’s NMT strategy which is a comprehensive plan addressing all relevant aspects.

**13.2 Status Quo**

In the Cape Town context, NMT is represented mainly by walking and cycling. As such, the policies and strategies are mostly developed around the needs of these users. However, the policies, strategies and resulting design and implementation projects should strive for improved universal access that also takes into consideration the needs of other users such as the special needs people that include the disabled, women with perambulators, shopping trolleys, etc.

The City of Cape Town has until now not had a comprehensive plan guiding the planning and implementation of programmes and



facilities to respond to the multiple needs of NMT users. The Mobility Strategy of the City of Cape Town responded to this critical short-coming and identified it as one of the key elements in an improved transport system for Cape Town.

The NMT Strategy for the City of Cape Town aims to address this critical shortcoming in two ways. Firstly, it presents a policy, accompanied by a set of objectives and strategies to realise an improved NMT environment and culture in Cape Town. Secondly, it develops a Strategic NMT Plan for Cape Town that would identify areas and routes that should be considered as key NMT routes and places in Cape Town where NMT users would receive a certain degree of consideration, if not priority.

### 13.3 Issues

#### Poor Access

Owing to historical reasons, access for all citizens of Cape Town is becoming more problematic and is fundamentally a result of inequity on various levels. These trends are continuing and exacerbated with the development of low-cost housing and informal settlements on the outskirts of the cities, removed from employment opportunities and public amenities, thus increasing the demand for travel, especially the demand for public transport. The Access theme aims to improve connectivity and mobility within the City through NMT. This involves planning and implementing infrastructure that supports access through NMT.



Policy 1.1: All people are entitled to reasonable access to other people, places, goods and services including those using NMT.



Policy 1.2: Safety is a priority for all NMT users, especially learners, cyclists and pedestrians.

Policy 1.3: NMT will not to be compromised over of the needs of motorised traffic.

Policy 1.4: Transport Impact Assessments must respond and address the needs of universal access and NMT requirements.

### **People and Communities**

The NMT environment in Cape Town is generally characterised as a poor quality environment, with the standards of NMT environments being substandard in poorer communities. Public spaces, including NMT routes within road environments, are often not sociable, are poorly maintained, seldom used and suffer from the infiltration of crime. This is often due to poor infrastructural planning, lack of integrated design approach, and difficulties experienced in operation and marketing of public spaces. NMT can promote social and economic transformation by generating economic opportunities and uplifting social conditions. The strategies for this theme have been divided into economic and social opportunities that are promoted through NMT infrastructure development and other low cost mobility initiatives.

The people and communities theme promotes liveability and equity for citizens within the City through NMT. Strategies therefore include elements such as quality of environment, people safety and security.

Policy 2.1: All people and communities in Cape Town are entitled to equal levels of service such that the basic needs of all people, especially women, children, the poor and the physically challenged should be provided for.

Policy 2.2: The public realm should be designed, built, managed and maintained in a way that protects the well-being (physical, mental and social) and safety and security of all people, enhances the quality of life in communities and increases the accessibility and primarily the walkability of the whole of Cape Town.

Policy 2.3: All individuals should be committed to making responsible choices in the interest of their personal well-being as well as for the greater good of the environment.



Policy 2.4: NMT needs and requirements

take priority in development and management of residential areas and public space networks.

### **Economic and Social transformation**

NMT has always been closely associated with environmental sustainability because of its minimal impact on fossil fuel usage, noise and air pollution. NMT is also best supported by sustainable land use development principles.

Policy 3.1: NMT will be employed as a tool to maximise economic gain through the promotion of low cost mobility and the creation of NMT-related employment opportunities.

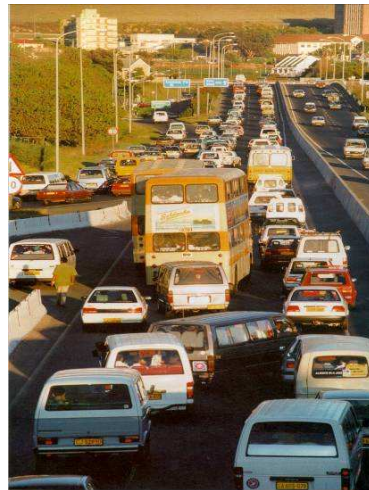
Policy 3.2: NMT considerations will be taken into account to enhance social transformation and the development of a more equitable society through contributions to improvement of quality of life and the provision of independent mobility for captive users.

Policy 3.3 NMT planning and design should take cognisance of the informal trading policy of the City of Cape Town.

### **Environmental sustainability**

The State of Energy report for Cape Town listed some of the issues facing the transport sector in Cape Town and stated that **“urban sprawl causes long commutes, which result in higher transport energy consumption and a corresponding high release of carbon and other emissions”**.

Lack of awareness discourages the use of NMT in the City. The inconsiderate behaviour and unlawful attitude of motorists and NMT users is problematic. This contributes to the high pedestrian accidents that currently exist. NMT needs to be marketed and promoted as a positive transport alternative accompanied by appropriate user behaviour.



Policy 4.1: NMT will be employed as a tool to support environmentally sensitive transport solutions.

Policy 4.2 NMT should be aligned and support Travel Demand Management Strategy of the City of Cape Town, as well as the City of Cape Town Energy and Climate Change Strategy.



### Integration

The lack of integrated planning has resulted in the development of unsustainable and hostile residential environments with inadequate transport, civil services, shops, work opportunities, etc.

The lack of NMT consideration is also displayed in development planning where NMT is not given sufficient attention in the design of buildings, traffic impact assessments, and other management issues. The lack of institutional integration, project coordination and non-alignment of budgets are also impacting negatively on the quality of the NMT environments and the implementation of NMT and public space projects. NMT cannot be implemented in isolation and success relies on an integrated approach i.e. within government departments and between public and private sectors.

Policy 5.1: An integrated development planning approach will be followed when implementing NMT in Cape Town.

Policy 5.2: Through integrated planning, NMT considerations should be addressed with all developments in Cape Town, in particular the Integrated Human Settlements Programme.

Policy 5.3: Through integrated systems design, planning and implementation, NMT networks and facilities should integrate modes of transport, with particular focus on public transport facilities and interoperability.

Policy 5.4: Funding for NMT should be prioritised and coordinated with external and internal parties.

## **Awareness**

NMT is not recognised as a mode of transport. This lack of recognition is manifested in a general lack of consideration for pedestrians by motorists and lawless and reckless attitudes of pedestrians. This lack of consideration for NMT needs is also inherent in infrastructural planning and design of transport elements and the conscious introduction of the culture of walking, cycling and NMT in the mobility environment and the respect towards NMT users in the streetscape environments, are required. Greater awareness is addressed with the following policy response:

- Policy 6.1: NMT shall be recognised as an essential mode of transport.
- Policy 6.2: The culture and respect of NMT must be promoted throughout Cape Town through example by political leaders of City of Cape Town, evidence of projects, supportive law enforcement and visibility of NMT.
- Policy 6.3: The City of Cape Town should support and reinforce programmes and projects that target key markets/sectors and promotes public life and NMT, such as events to reclaim public space, like “Vehicle Free Days” and Night Markets.
- Policy 6.4: The City of Cape Town shall promote and support training of officials and stakeholders with respect to NMT planning and infrastructure design.
- Policy 6.5: The City of Cape Town shall promote NMT by example through the provision of NMT support facilities such as showers and bicycle parking at municipal buildings that include depots, offices and the development of incentives promoting NMT, such as public transport allowances, bicycle travel allowances, etc.

## **13.4 Key Strategic Themes**

Based on the priorities and strategic direction identified by the City of Cape Town in its Integrated Development Plan and a review of current NMT problems areas, key themes have been identified to guide the required interventions. Interventions are required that emphasise:

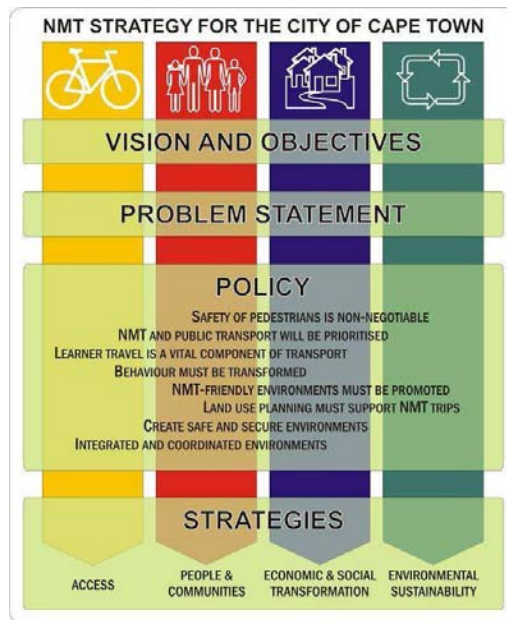
- access for all,
- the importance of people and communities

- the role of economic and social transformation
- environmental sustainability
- integration and awareness

These themes are intrinsically linked and cannot be viewed in isolation.

### 13.5 The City’s Policy and strategic Responses

This NMT Strategy provides a strategic tool to guide NMT thinking, planning and project implementation in the future. The Plan will enable the City to define programs and prioritize actions and to more proactively meet the City’s NMT requirements. The diagram below shows the structure of the NMT Policy Framework and the various elements that have been included as part of the NMT framework package.



Firstly, the “Vision and Objectives” is one of the key drivers of the NMT Plan since it encompasses “how the City visualises NMT”. The NMT Vision is the “ideal” that the City aims to achieve. Various objectives have been identified that are measurable and can evaluate how successful the City has been in realising this NMT vision.

NMT must be part of an integrated solution and the accountability for various interventions lie with various sectors (private, public), various spheres of government (local, provincial, national) as well as various departments (transport, urban design, spatial planning, etc.).

The Metropolitan Bicycle Plan and the Pedestrian Safety Plan was used as informants to develop the City of Cape Town Strategic NMT Plan, illustrated below. This Strategic NMT Plan aims to identify strategic locations/ areas in Cape Town where NMT should be prioritized. The priority is determined by the degree of people concentration, the special consideration given to learner travel to and from school, the needs of the tourism sector and the role of NMT recreation. The Strategic NMT Plan highlights the areas with NMT priority, which also comprises strategic nodes with Cape Town favouring NMT use and the Metropolitan Cycle Masterplan.

This plan is only developed at a strategic level and does not include focus areas at local community/ neighbourhood levels. The NMT priority areas at neighbourhood levels should be developed through the development of local area NMT network plans. The NMT Strategic Plan forms a framework for the development of local area NMT network plans. It should be a dynamic plan that is guided by the development of the local area NMT network plans.

Areas where NMT priority should be given consideration include the following:

- Public transport interchanges, bus and rail stations
- School accesses and key access routes to schools (school priority zones), as well as tertiary educational institutions.
- Areas of intense pedestrian activity such as CBD areas, shopping/service districts, community centres and facilities, etc.
- Tourism sites (where appropriate), heritage sites, conservation areas (where appropriate), and recreational areas/ routes.

Sites, nodes and links of Metropolitan significance within Cape Town are shown in the Strategic NMT Plan below:

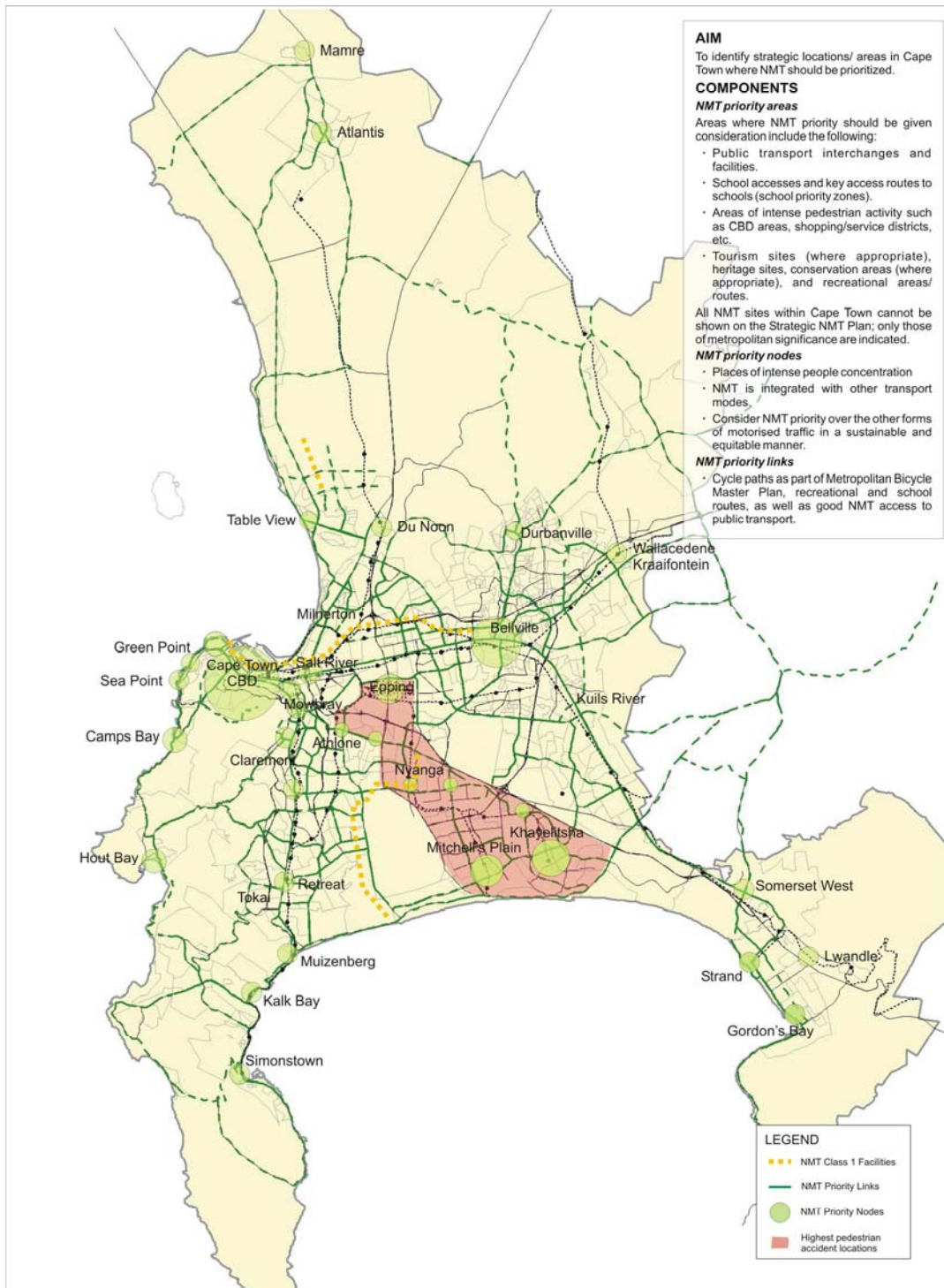


Figure 37: Strategic Non-motorised Transport Plan

### **13.6 Budget**

A description of the projects and budget are set out in the table below:

**Table 24: Non-motorised transport projects**

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# 14. Travel Demand Management: Influence Travel Behaviour

## 14.1 Introduction

The objective of Travel Demand Management in the City of Cape Town is to;

**Promote a diversity of sustainable travel modes and practices that will influence the choices made by commuters in order to reduce the overall number of trips, minimize travel time and optimize travel cost – especially during the peak times.**

A summary of all the available TDM measures were provided in Table 8 of Chapter 3 of this document, classified into the four basic elements of the transportation system as well as grouped into general measures and more specific TDM measures.

The general measures are an essential part of the transport core business and is described and discussed throughout this document. This chapter looks at the specific TDM measures as given in Figure 8 in Chapter 3.

## 14.2 Status Quo

Other than some of the General Measures listed in Table 26 very few specific TDM measures have been implemented in the City. Currently there are some park-and-ride facilities in the City which are not operating successfully for various reasons.

City policies have been encouraging TDM since as far back as 1999 when the Public Transport Strategic Component of the Moving Ahead report advocated political and institutional commitment to implementation policies aimed at restricting unsustainable growth in private car use through TDM. The Strategic Investment and Management Plan contained in the 1999 Moving Ahead report also indicated that TDM techniques need to

be implemented as part of the future transport strategy. This chapter is a summary of the City's detailed TDM Plan which is in the process of being finalised.

### 14.3 Issues

Individually a TDM measure will have a relatively small impact on the total travel behaviour in the City. The impact of the individual measure could also be difficult to measure. However, on the other hand, the cumulative impacts of a comprehensive TDM program can be significant (TDM Encyclopaedia, 2005). The typical impacts of TDM measures are summarized in Table 25: Typical Impacts of TDM Measures and from these it is evident that most individual TDM measures will result in an overall reduction in travel of less than 10 percent.

**Table 25: Typical Impacts of TDM Measures**

Type of Measure	Maximum Portion of Vehicle Travel Affected	Typical Reductions of Affected Travel	Total Reductions
Planning Reforms	100%	10-20%	10-20%
Regulatory Reforms	40%. Mainly urban travel, where alternatives can be competitive.	5-10%	2-4%
Tax Shifting	100%	5-15%	3-10%
Pay-As-You-Drive Pricing	80%. Private automobile travel.	10-12%	8-10%
Road Pricing	30%. Travel on congested roadways and major highways.	10-20%	3-6%
Parking Management	40%. Mainly urban travel.	5-15%	2-6%
Parking Pricing	40%. Mainly urban travel.	10-20%	4-8%
Commuter Trip Reduction	20%. Commute Travel.	10-30%	2-6%
Commuter Financial Incentives	20%. Commute Travel.	10-30%	2-6%
Public Transport and Rideshare Improvements	30%. Mainly urban travel.	10-30%	3-9%
HOV Priority	10%. Major congested roads.	10-20%	1-2%
Walking and Cycling Improvements	20%. Shorter-distance trips, typically less than 3 miles.	10-30%	2-6%
Smart Growth Reforms	40%. Mainly urban travel.	10-30%	4-12%
Location Efficient Housing and Mortgages	20%. Travel by households that could change location.	10-30%	2-6%
Freight Transport Management	10%. Freight and commercial travel.	5-20%	0.5-2%
School and Campus Trip Management	5%. School and campus trips.	10-30%	0.5-1.5%
Car sharing	5%. Households that can reduce their vehicle travel.	20-40%	1-2%

#### 14.4 Strategies

The strategies for the implementation of TDM in the City are classified into the four transport system elements of Mode and Infrastructure, the User, Policies and Land Use. The sectors that will be responsible for implementing the strategy were also identified and are included together with a proposed priority for each of these strategies in Table 26.

In the short-term, the City will focus on the high-priority measures listed in Table 26, i.e. in the next five years. The medium-priorities will be pursued in the medium to long-term, i.e. 5 to 10 year horizon. Most of the strategies identified in Table 26, have been listed with ‘high’ priority. Many of these strategies can be grouped together and can be focussed on by a specific department and can be pursued with little additional resources.

**Table 26: TDM Strategies by strategic focus area**

STRATEGIC FOCUS AREA TDM STRATEGIES		RESPONSIBLE SECTOR	PRIORITIES		
			H	M	L
<b>1a.</b>	<b>Mode: Incentives to use alternative modes</b> i) Develop a suitable parking management strategy ii) Promote higher vehicle occupancies (carpooling, car sharing and HOV priority) iii) Promote alternative travel patterns and trip demand (Work Schedules, Telecommute and guaranteed-ride-home) iv) Develop and promote Park-and-Ride Facilities	CoCT Property, Transport, PGWC, CT Partnership	✓ ✓ ✓ ✓	✓	
<b>1b.</b>	<b>Mode: Disincentives to use single occupancy vehicles (SOVs)</b> i) Pricing (Congestion Pricing, Vehicle Registration, Emission Pricing, Insurance) ii) Taxes (Fuel Levy, etc)	CoCT, PGWC	✓	✓	
<b>2.</b>	<b>User: Education and Awareness</b> i) Marketing of alternative modes (PT, NMT and HOV) ii) Awareness of environmental and economic impacts of SOV's. iii) Awareness of official planning and the implementation of transport and land use projects.	PGWC, CoCT transport	✓ ✓ ✓		

STRATEGIC FOCUS AREA TDM STRATEGIES		RESPONSIBLE SECTOR	PRIORITIES		
			H	M	L
	iv) Private sector awareness of alternative employee travel options.		✓		
<b>3.</b>	<b>Land Use</b> i) Encourage mixed use developments on public transport corridors ii) Discourage decentralisation of job opportunities within residential communities iii) Discourage regional shopping centre developments	CoCT, PGWC	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓
<b>4.</b>	<b>Strategies and Policy Management</b> i) Integration and coordination within departments and agencies. ii) Enforcement and management of TDM strategies. iii) Identify and implement TDM policy incentives, taxation and subsidies. iv) Develop Parking Strategies v) Update Building Codes (Bicycle parking, shower facilities in offices, side walks, etc) vi) Programmes to encourage employers to reduce employee trips (ETRP – Employee Trip Reduction Programme)	Transport, Housing, Education, Health, LED, etc.	✓ ✓ ✓ ✓ ✓ ✓	✓	

### 14.5 Programmes and Projects

Based on the strategies listed and prioritised in Table 26, the following TDM projects are under investigation:

- **Promote Higher Vehicle Occupancies.** Higher vehicle occupancies are to be promoted through ride sharing and/or car pooling. A large number of private motor vehicle trips during the peak hours are single occupant trips. Commuters prefer to travel alone due to a variety of reasons of which one is the absence of reasonable access to other modes or other commute options. The promotion of higher vehicle occupancies will focus on commuters that will benefit from sharing cars with other commuters while providing them with more opportunities to travel.
  - Car Pooling Desk. Establish a phone-in service where commuters can get information on how to car pool, how to start a car pool, what the legal issues are, the different ways to share costs, and to provide realistic cost estimates of travelling. This must go together with a marketing campaign to make users aware of the Service

- Car Pool Website. Establish a website with information on all aspects of car pooling. This can also include options to match commuters that would like to share rides. This must go together with a marketing campaign to make users aware of the Service
  - Establish additional high occupancy vehicle lanes and extension of existing lanes
- **Policies and Tax Incentives.** All travel occurs within a specific legal, policy and tax environment. The policies and tax incentives in the City will be investigated and must be aimed at encouraging not only the individual to use alternative more efficient modes of transport, but also to encourage large employers to focus on the transportation needs of their employees.
    - City Management and the Provincial Government must be encouraged to actively pursue changes in legislation which currently inhibits car pooling and ride sharing.
    - Investigate tax incentives to entice large employers to encourage their employees to travel less and use modes other than private vehicles.
    - Investigate legislation that will force large employers in the City to report annually on the trip making characteristics of their employees.
- **Park-and-Ride.** There are currently several Park-and-Ride facilities in the City of Cape Town. Many of these are underutilised or totally dysfunctional due to a variety of reasons. These facilities must be identified, the use thereof revisited and strategies and implementation plans be identified to encourage their use. This action will include the following:
    - Identify all the current park-and-ride facilities in the City and establish their current usage as well as the operational issues impeding their use.
    - Develop a strategy to improve the usage of these facilities
- **Programmes for Large Employers.** In addition to identifying policies and tax incentives to persuade employers to focus on the travel needs of their employees, there must be several large employers in the City that will do that without legal or policy encouragements. Therefore, it is proposed that large employers in the City be contacted and that a short list of employers be prepared who would volunteer to

be part of a pilot study to investigate reduction in single vehicle employee trips. Specific actions to develop this focus area include the following:

- Identify at least three large employers in the City Bowl that would be prepared to initiate a pilot programme to encourage employees to use other modes of transportation.
  - Develop a pilot programme in conjunction with the large employers to assist them in reducing the number of single vehicles trips to/from the company. This programme could include encouraging of car pooling through preferential parking for carpools, subsidies or rewards for carpools, subsidising public transport tickets, work-at-home programs through telecommuting, subsidies for bicycles and providing bicycle parking.
- **Congestion Pricing.** Within a congested urban environment, the costs of the system are not carried equitably by all users. If road space is un-priced traffic volumes will increase until congestion limits further growth. The need and practicality of congestion pricing in Cape Town must be evaluated.
  - **Marketing and Education.** The City and also the Provincial Administration must pursue the marketing of all alternative modes. This should be a concerted effort to improve the perceptions of all users.

#### **14.6 Budget**

The budget and costing for the abovementioned projects will be developed as part of the final TDM Strategy.

# 15. Tourism Transport

## 15.1 Introduction

Tourism and the hospitality industry has become a very important part of the economy of Cape Town and the Western Cape and further rapid growth is anticipated. In fact, the city and its surrounding region have the potential to become one of the world's leading holiday destinations. This will require planning and coordination in the development of services and infrastructure. Public transport and the transport services provided specifically for tourists and visitors are also an important part of the infrastructure for sustainable tourism development. The development of this infrastructure must be given special attention as the City prepares itself for the additional influx of tourists for the 2010 Soccer World Cup. This chapter will discuss the current situation in Cape Town and identify problems and opportunities as well as a vision for the future and the objectives to be met to achieve the vision. Finally a set of policies and strategies is identified for implementation in the near future.

## 15.2 Status Quo

### 15.2.1 Metropolitan Public Transport System

Generally speaking, Cape Town's public transport system fails to meet the needs and expectations of most international tourists. Rail, bus and minibus-taxi services are provided mainly for the needs of regular commuters and little consideration is given to the differing requirements of tourists and visitors. In fact, many hotels and guesthouses advise their clients not to make use of public transport and to rather use shuttle services, metered taxis or car hire, which are regarded as safer and more reliable but are far more expensive. The region is attracting increasing numbers of visitors from other African countries and elsewhere in South Africa as well as backpackers and persons with limited budgets. The fact that these tourists and visitors simply cannot afford to hire cars, metered taxis or shuttle services indicates that government and public transport providers must take the necessary

steps to improve the public transport system to adequately cater for these special needs.

On the other hand, Cape Town is fortunate in that there is an extensive metropolitan rail network with regular train services throughout the day but no night services. Metrorail also provides special train services in holiday periods, especially on the line between Muizenberg and Simon's Town.

Bus and minibus-taxi services provide fairly good mobility throughout the day in the areas that are most attractive to tourists and could be greatly improved if replaced by better vehicles and timetabled services. Successful implementation of taxi recapitalization and tendered bus services should result in much more attractive and reliable public transport. The MTI Call Centre has been operating successfully for nine years and could be used to provide useful information about public transport services.

### **15.2.2 Specialised transport services for tourists**

There are various types of services that specifically cater for the needs of tourists and the number of operators offering such services has grown enormously over the past 15 years along with the development of tourism in the region. The basic type of service is the guided tour where a group of tourists is met by a tour guide, usually at their place(s) of accommodation and transported as a group on an itinerary to various places of interest or entertainment. Many different types of tours are available – some cater for large groups travelling around in large coaches while others cater for small groups with a special interest or who prefer to travel in a small vehicle with the individual attention of the tour guide.

The Provincial Operating Licensing Board (POLB) records show that in 2004 there were 1699 active operating licenses for “the conveyance of tourists” based in the Western Cape. These 1699 licenses were held by a total of 920 different operators, which means that the average operator holds 1.85 licenses. The POLB records also show that there were 1676 active operating licenses for “the conveyance of other”. This category includes of operators with multiple specified authorities. It is estimated that about half of these multiple authorities have the

right to transport tourists in combination with other types of authority. Thus, there is probably a total of about 2500 tourism transport vehicles in the Western Cape and about 1500 of these are based in Cape Town.

Table 27 below shows the distribution of passenger capacities for the vehicles with operating licences only for the conveyance of tourists.

**Table 27: Passenger Capacity Of Tour Vehicles**

<b>Capacity of Vehicle</b>	<b>Number of Vehicles</b>	<b>Percentage</b>
Less than 9 passengers	1220	71.8%
10 to 19 passengers	208	12.2%
20 to 29 passengers	74	4.4%
30 to 39 passengers	15	0.9%
40 to 49 passengers	132	7.8%
50 to 59 passengers	16	0.9%
60 passengers or more	34	2.0%
<b>TOTALS</b>	<b>1699</b>	<b>100.0%</b>

It is apparent that the majority of vehicles with operating licenses for guided tours are small, and that only 16 percent of the vehicles are designed to carry 20 passengers or more.

Other types of tourist transport service that do not involve guided tours are also provided in response to market demands and the perceived deficiencies of the metropolitan public transport system. These include the so-called “shuttle services” that operate to and from transport terminals such as the airport, harbour and railway station. Prior to the licensing of the airport shuttle services (about 10 years ago) there was a scheduled bus service operating between the airport and Cape Town Station. This service no longer exists and metered taxi operators claim that the shuttle services are creating unfair competition in a market where there was previously little competition.

Other charter and courtesy services operate from hotels or other places of accommodation and provide pre-booked transport to guests and tourists in a completely demand-responsive manner. Similarly, there is demand for up-market “chauffeur” or “limousine” services where a vehicle and driver are hired for a period of time. Some of these services are provided with the necessary operating licenses while others take place illegally or in violation of the license conditions.

One of the most important means of transport for tourists and visitors is car hire and there are many companies serving this market. Tourists can also hire motorcycles, scooters and various types of bicycles.

There are a number of other types of transport service used particularly by tourists to see the sights of the city or and perhaps for the novelty of a different mode of travel. There are regular ferries to Robben Island and a variety of boat trips available from Cape Town, Hout Bay, Simon's Town and Kalk Bay harbours. The Table Mountain cableway and the Cape Point funicular services provide access to major tourist attractions. Helicopter trips are available as well as topless bus sightseeing tours. The City has also received in recent years a number of proposals from prospective operators of novelty transport services such as rickshaws, tuk-tuks and tricycles.

The City has identified a network of scenic routes and these are shown in Figure 38 below. These scenic routes are protected by developmental controls and restrictions on outdoor advertising.

Tourists and business visitors often use metered taxis to travel around the city because they provide a personalized door-to-door service. At present, metered taxi operators are allowed to set their own tariffs and there is inadequate regulation of service quality standards. The result is that there is wide variation in tariffs and service standards and often little relationship between tariffs and service quality. Operators are required to display their tariffs on the sides of their vehicles but many tourists do not know this and are confused by the variability. There are indications that the metered taxi industry is prepared to accept regulation of service quality and tariffs and this should improve the image of the industry.

Tour operators complain that the regulatory system is unfairly restricting their ability to grow and that many of the operating conditions imposed by the authorities are unrealistic and unnecessary. Industry representatives tend to argue that the authorities should remove unnecessary restrictions to market entry while enforcing safety and other quality standards. Despite the fact that the Provincial Operating

Licensing Board (POLB) has taken steps to streamline its administrative processes, there are still inexplicable delays in the granting of new or additional tourist transport licenses.

The market for tourist transport services is generally healthy and flourishing. There is certainly a need for better training – not just tour-guiding knowledge but also the special knowledge and skills to operate a transport service. At present there are no training requirements for tourist transport operators, although industry representatives recognize the need for such training.

### **15.3 Vision & Objectives**

The tourism vision for Cape Town is to have sustainable development of tourism and the rest of the local economy and to rapidly transform the public transport system to ensure regular, integrated scheduled services operating throughout the day and much of the night.

Tourist and visitors will find it easy and safe to travel around the city to visit the many and varied attractions. In those places and times when scheduled services are not available there will be plenty of good quality and inexpensive metered taxis that can be called by telephone or found at a conveniently located rank. Such a public transport system will be of primary benefit to the citizens of Cape Town but it will also meet the expectations of visitors.

To achieve this vision requires a commitment by government and acceptance by operators of the principles of regulated competition. For scheduled services there will be competition for service contracts and restricted competition on routes. Unscheduled services will continue to operate where scheduled services are not currently viable and as feeders to scheduled services, but will not be allowed to operate in direct competition.

There will be no need to regulate market entry for most of the services that are provided specifically for tourists as this competition is healthy. However, there is a very real need to regulate safety and service quality standards. Some of the shuttle and other charter services (such as chauffeured services and limousines) may need to be regulated in

various ways to minimize any detrimental impacts on scheduled services and metered taxis.

## **15.4 Policies & Strategies**

### ***Liaison and Collaboration***

- Transport planning officials in local and provincial government should continue to engage with their counterparts in Tourism to develop and coordinate plans for the development of tourist transport. This Tourist Transport Plan must be aligned with the City's draft Tourism Business Plan.
- Local and provincial government should continue to work together with the providers of public transport services to plan and implement measures to ensure that these services cater more consciously for the needs of tourists and visitors.
- Local and provincial government should liaise and collaborate with organizations representing the providers of services operated specifically for tourists. Such organizations include SATSA, TOACT, COASA and the Tourism Business Council.

### ***Marketing and Passenger Information***

- Public transport marketing and passenger information provision must include tourists and visitors as well as the residents of Cape Town.
- Special brochures and maps should be designed to give tourists and visitors useful information about Cape Town's public transport system. This material should be published in other languages such as French, German, Spanish, Portuguese, Japanese and Mandarin.
- All public transport information should be carefully designed using internationally understood symbols wherever possible and should also include directions to popular tourist attractions; however, it should not be in conflict with the South African Road Traffic Signs Manual.

- The City should market and advertise its MTI call centre to tourist and visitors for the provision of public transport information and complaints handling.
- The City is also in the process of developing a tourism signage policy that will give guidance and momentum to initial efforts to provide comprehensive system of destination information and directional signage for tourist attractions and theme routes. This policy has been developed in consultation with the Regional Tourism Liaison Committee

### ***Regulation of Tourist Transport Services***

- Operating licenses for the provision of guided tours should be granted or renewed without delay provided that the operators comply with basic service quality and safety requirements. Accredited tourist transport operators should be able to easily obtain licenses to enable them to react quickly to market growth and to facilitate a free market for tourist services.
- The authorities should liaise with tourist transport operators and other stakeholders to determine appropriate service quality and safety standards.
- Vehicles used for tourist transport services should be easily identifiable. Unmarked vehicles are not acceptable.
- Operating licensing strategies for certain types of tourist transport such as airport shuttles, hotel courtesy services, chauffeur and limousine services may need to be more restrictive to prevent or minimize any negative impacts on scheduled services and metered taxi services.

### ***Training and Accreditation of Tourist Transport Operators***

- The authorities should liaise with organizations representing tourist transport services and other stakeholders to develop criteria for the accreditation of tourist transport operators.

The authorities should collaborate with the providers of tourism transport services to development of training and accreditation processes.

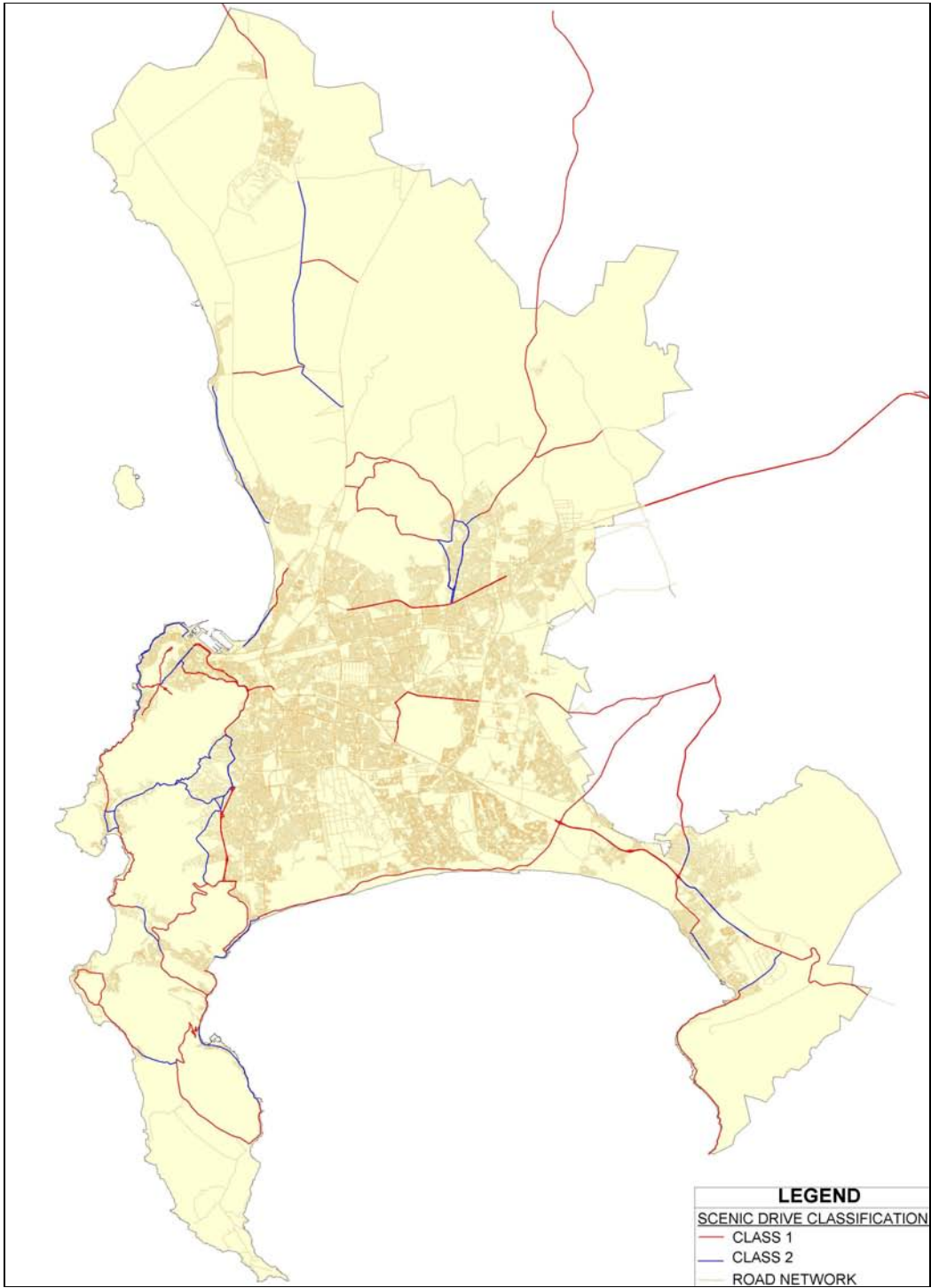
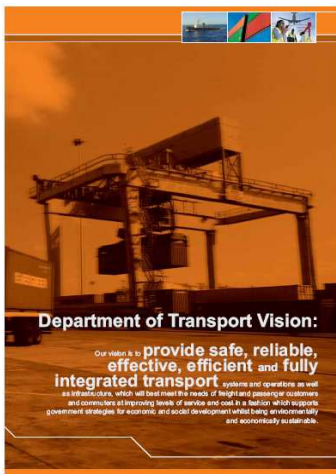


Figure 38: Scenic Routes

# 16. Freight Transport

## 16.1 Introduction

With a deep port harbour facility in Cape Town, an international airport in Cape Town, a well developed network of roads and railways, as well as major cold chain facilities, such as Maitland in Cape Town and a thriving financial sector, Cape Town has become a major freight destination. The National Freight Logistics Strategy<sup>31</sup> indicated that the growth of South Africa has been phenomenal and that the predicted 20-year scenario of Moving South Africa was reached in 14 years. The effect of this growth has placed tremendous pressure on road infrastructure and operations to deliver acceptable service.



The National Government is focusing in the Freight Strategy on the development of the major freight corridors and has initiated the first investigations around the Gauteng / Durban corridor. The importance of the corridor between Gauteng and Cape Town has also been identified and will be receiving attention in the near future.

Rail has the potential of removing some of the pressure of freight on the roads. The establishment of an economic rail regulator is being pursued and

recommendation in this regard as well as the finalisation of the National Rail Plan should give guidance to this role issue in the near future.

Most freight transport is by road and thus a major contributor to the damage to road infrastructure.

In the light of the City's sustainable transport performance indicators, the question is justifiably asked, what is the role, function or responsibility of the city with regards to freight transport? The City has set itself the goal of lowering the cost of movement of

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31 National Freight Logistics Strategy, Department of Transport

goods and services and to reduce the impact that freight transport has on the commuting public. .

The analysis of various policies, legislation and other documentation indicates that freight movement is mainly economically driven. The analysis identified 88 key freight transport issues, which have been categorised according to the sustainability requirements as defined in chapter 3. For the purpose of this document the different documents analysed are:

- White Paper on National Transport Policy - 20 August 1996
- Western Cape Provincial Transport Policy - White Paper June 1999
- Moving South Africa 1998
- National Land Transport Transition Act, 2000
- Road Transportation Act, 1977
- Urban Transport Act, 1977
- Road Traffic Act, 1989, 1996
- Various other product related legislation
- Regulations and Standards

The vision for freight transport in the City of Cape Town can be defined as:

**“Development of a safe and efficient freight transport system, that will ensure Cape Town as a world class City, building the economy by connecting markets, businesses and people in a sustainable and cost effective manner, while supporting and complementing the city’s mobility corridors and strategy.”**

This goal is in line with the City’s overall transport goals and objectives ensuring optimal use of transport facilities and modes resulting in continued economic growth. This chapter is based on a comprehensive Freight Plan which was developed by the City.

## **16.2 Issues**

Eighty eight (88) key freight transport issues were identified through policy investigation and can be grouped into the following main categories:

- Meeting customer needs;
- Economic influence into cost, competition, regulation of monopolies;

- Infrastructure provision, maintenance and optimal capacity provision;
- Promotion of optimal mode, capacity, integration and intermodalism;
- Setting service and safety standards, including hazardous goods, incident reporting and management;
- Promote environmental protection;
- Enhance human resource development;
- Integration of freight transport with rest of transport system through integrated planning.

### **16.3 Strategies**

A goal for freight transport must be inline with the policies and legislation of the National and Provincial governments and the vision for the city as defined in the Integrated Development Plan (IDP) 2004/05.

The vision clearly indicates that Cape Town must grow its economic sector in order to support the social and world class visions it has. This can only be accomplished if all sectors of the City fit together as a whole. Cape Town Port is a major contributor to the economic viability of the City and the internal business in the city is also dependant on an efficient and reliable transport system.

Based on the targets set in the Provincial Growth and Development Summit and the national key performance indicators for economic development and job creation, the City's aims are to:

- Increase economic growth from the current average of 3-4% to 6-7%
- Create jobs – especially blue collar jobs and jobs for youth and women
- Broaden black economic empowerment
- Reduce the gap between rich and poor, while increasing per capita income
- Develop skill levels geared to employment and income generation
- Develop Cape Town as a competitive visitor and business friendly destination.

Private sector, supported by the freight industry plays a major role in economic growth. Economic growth as anticipated in the IDP will place more pressure on the City of Cape Town's infrastructure. This could take the form of increased road usage, increase of rail services with the resultant re-opening of rail lines or the increase of activities in the port,

with the resultant need for access. The City's freight planning will have to be inline with the larger demands resulting from this proposed economic growth.

The implementation of a freight strategy will align freight transport logistics with economic and industrial development strategies, and will also align port development and operations with freight flow demand patterns and ocean freight trends, with the aim of increasing efficiency and lowering costs. At the same time the strategy should be directed towards reducing inland freight cost through lower system costs that should result from increased efficiency and reliability and from lower transit times, thus offering the customer viable choices between modes.

In general freight strategies will include the following as also described in national documentation:

- Excellent support for export customers to enhance their global competitiveness
- Job creation and the encouragement of SMME's, but not at the expense of competitiveness
- The correction of apartheid-driven spatial imbalances, in both development and distribution
- Support for the regional economic integration of development and trade
- Optimal use of scarce resources, with minimal dependence on the fiscus
- Support for RDP objectives, including meeting basic needs.

**Table 28: Freight Strategies**

CATEGORY	STRATEGY	SUPPORT IDP
FREIGHT FACILITIES	<ul style="list-style-type: none"> <li>• Develop an integrated Waste Management Plan</li> <li>• City should facilitate the development of truck stopping facilities by the private sector. The city can identify pieces of spare land which it owns for such development</li> <li>• Identify the strategic freight routes ito height of vehicles, legal loads and weight.</li> <li>• Review the impact of loads on the pavement structure.</li> <li>• Investigate through a pilot project the introduction of a separate right of way for bus and freight vehicles on the N1, through a High Occupancy Toll (HOT) lane</li> </ul>	<ul style="list-style-type: none"> <li>• Integrated Human Settlement</li> <li>• Economic Growth and Job Creation</li> <li>• Access and Mobility</li> <li>• Access and Mobility</li> </ul>

CATEGORY	STRATEGY	SUPPORT IDP
	<ul style="list-style-type: none"> <li>• Develop a strategy around the need for the city to develop weigh bridges within the city.</li> <li>• Develop a strategy with regards to loading and off loading facilities, the city to investigate the feasibility to introduce levies for the use of loading bays.</li> <li>• Investigate the management and restriction of heavy vehicle movement in the peak hours on the following routes:               <ul style="list-style-type: none"> <li>• Platteklouf Road</li> <li>• Hospital Bend</li> <li>• Hout Bay Main Road</li> </ul> </li> <li>• Integrating freight sector movement with broader commuter movement as defined in the Mobility Strategy</li> </ul>	<ul style="list-style-type: none"> <li>• Access and Mobility</li> <li>• Access and Mobility</li> <li>• Access and Mobility</li> <li>• Access and Mobility</li> </ul>
FREIGHT OPERATIONS	<ul style="list-style-type: none"> <li>• Support corridor development by settling business closer to communities</li> <li>• Correction of spatial imbalances, in development of industrial areas</li> <li>• Serving latent demand for freight transport in informal sector</li> <li>• Investigate local distribution networks which can be cost effective and address ways to establish local freight contractors (SMME's)</li> <li>• Development of a strategic freight network.</li> <li>• Develop a City perspective on the role of road and rail freight within the City of Cape Town.</li> <li>• Improved enforcement within the City boundaries</li> <li>• Identify the most cost effective and appropriate mode for transporting the correct goods, develop a city strategy on road vs. rail</li> </ul>	<ul style="list-style-type: none"> <li>• Integrated Settlement Human</li> <li>• Integrated Settlement Human</li> <li>• Economic Growth and Job Creation</li> <li>• Economic Growth and Job Creation</li> <li>• Access and Mobility</li> <li>• Access and Mobility</li> <li>• Access and Mobility</li> <li>• Equitable and Effective Service Delivery</li> </ul>
FREIGHT VEHICLES	<ul style="list-style-type: none"> <li>• Develop strategies regarding emission control, air quality and sound control to ensure the minimum impact on the residence of Cape Town.</li> </ul>	<ul style="list-style-type: none"> <li>• Integrated Settlement Human</li> </ul>
DEVELOPMENTAL	<ul style="list-style-type: none"> <li>• The developmental effect of improved freight systems in marginalised and economically disadvantages communities must be emphasised</li> <li>• Balance essential freight transport needs with the</li> </ul>	<ul style="list-style-type: none"> <li>• Building Communities Strong</li> </ul>

CATEGORY	STRATEGY	SUPPORT IDP
	<p>necessity to protect the environment</p> <ul style="list-style-type: none"> <li>• Develop a strategy on how the city can influence the freight industry to curtail the spreading of HIV/AIDS through education, health services etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Building Communities Strong</li> <li>• Building Communities Strong</li> </ul>

#### 16.4 Projects, Programmes and Budgets

The City of Cape Town will be investigating the freight industry in more detail during the 2006/07 financial year and detailed projects, programmes and budgets will be included during the review of the ITP.

# 17. Transport Network Operations

This chapter discusses the infrastructure that supports the transport system, parking policy, incident and event management, disaster management and traffic calming.

## 17.1 Transport Network Operations

Given the growing demand for improved system performance, transportation agencies are changing the way they plan and operate their transport systems and are focusing more intensely on network operations. Greater reliability of the transportation system and the minimisation of unpredictable delays, greater safety and security are also high on the list of customer expectations.

The objectives of the Network Operations include:

- improving safety on the road system;
- optimising traffic flow on arterial and freeway networks ;
- reducing congestion within and between nodes and activities;
- co-ordinating agency traffic/transit operations;
- managing incidents, reducing delays and adverse effects of incidents, weather, work zones, special events, emergencies and disaster situations;
- effectively managing maintenance and construction work to minimise the impact on safety and congestion;
- informing travellers with timely and accurate information;
- improving the interfaces between modes of transport for passengers and freight;
- eliminating bottlenecks due to inadequate geometrics;
- Providing reliable and convenient public transport services.

The operations refocus is also consistent with the mission of developing Sustainable Transport, providing for the mobility needs of the customer while avoiding critical negative environmental impacts.

### **17.1.1 Status quo**

#### **Network Operations**

The Transport Network is currently operated and managed on two levels. On the strategic road network, roads of metropolitan significance (Road Classes 1-3) and also on the local road network, predominant residential areas (Road Class 1-5e). The metropolitan road network are currently monitored and operated at the N1 House Goodwood joint Transport and Safety & Security Operations Centre.

The traffic are monitored daily from this operations centre, dealing with traffic signals operations, major events in the City, traffic incidents on the major routes and safety and security issues through the use of CCTV surveillance. The centre is inadequate to accommodate future growth and not well integrated with all related services. This will be addressed in the future strategies for network operations.

#### **Intelligent Transport Systems (ITS)**

The existing Area Traffic Control (ATC) System forms the heart of our current ITS infrastructure. The ATC system currently comprises of 1265 signalised traffic intersections and pedestrian crossings, of which 600 are linked to a centralised computer system situated at the N1 City, N1 House network operations centre. The System also uses the Spilt Cycle Offset Optimisation Technique (SCOOT) software application to assist in synchronising 600 interconnected traffic signals. This system can automatically and also manually be manipulated in real time to adjust to changing traffic flows and traffic patterns. This tool provides then excellent options during the management of special events, road works or traffic incidents close to or on the specific serviced networked. The City has a rental agreement with Telkom to provide a telecommunications system to the 600 traffic controller's on-street at an annual cost of approximately R2.5m / year.

The City has over 200 CCTV surveillance cameras located on free ways and major arterials, major public transport interchanges, rail stations and public open space areas. These cameras are used to monitor traffic flows, manage events and incidents and crime prevention and to improve safety and security. These cameras are being monitored at to locations in the city, at the N1 City, N1 house operations centre in Goodwood and the Strategic Surveillance Centre (SSU) in the City CBD, foreshore. The CCTV surveillance

system is currently managed by the Metropolitan Police department. The intention is to grow this system extensively in the following 5 years. The telecommunications to the CCTV surveillance system is currently provided by Telkom, City owned optic fibre and a wire-less transmission.

The City has introduced a City Smart Card. The City Card has been rolled out as part of a new on-street parking meter system as a first phase and to be extended to be an integrated ticketing medium for public transport and other transport services in the future.

### **17.1.2 Issues**

#### **Institutional integration**

Network operations can be characterised by the involvement of many partners in the delivery of services. Different services and agencies are involved in network operations depending on the network hierarchy (highways, urban roadways, etc.), transport modes (private vehicles, public transport, railways, etc.) or the type of service (incidents, events, safety, enforcement, information management, etc.). Effective network operations require functional, organisational, and inter-jurisdictional coordination, cooperation, integration and interoperability within the Cape Metropolitan Transport Area.

The logical outcome of the shared responsibility for network operations is the need to establish partnerships with service level agreements (SLA's). In their organisational, financial and legal aspects, partnerships are often beset with particularly challenging issues.

It is thus not only necessary to analyse the particular needs, operational constraints and priorities of each party involved but it is also essential to define a clear division of roles and responsibilities among various partners, be they from the public or private sectors. Through this approach, various options for the functional, logical and physical architecture can be drawn up and formalised as the institutional framework.

#### **Integrated Operations**

The current network operations are not integrated with the lack of skilled and purposed trained staff. The lack off staff inhibits the operation to be functional on a 24/7 basis, not providing an effective monitoring system and subsequent lower level of service. The key

facilitator to deliver an effective network operations system is to have a joint multi functional integrated transport network operations centre. This facility should integrate service delivery, the use of technology, resources and to deal with the network performance on a real time basis 24/7/365. This facility should deal with the 80% daily transport network activities and only disaster situations escalated to the applicable service.

## **Technology and Systems**

The standards of the current technology used in the network operations centre varies from excellent to old and out dated. Some of the systems cannot be integrated and therefore impacts on the transfer of data and having an integrated information database. This impacts on the information that we could access and provide to the different role players and users.

## **Intelligent Transport Systems (ITS)**

The City needs an integrated ITS strategic plan to guide the roll out and development of an integrated ITS. This plan should provide guidance on all 3 levels, STRATEGIC, TACTICAL and OPERATIONAL. The development of such a plan will have to consolidate the existing systems, guide the establishment of a new paradigm to solve new expectations and challenges, aligning future thinking, implement appropriate technology options and provide sustainable services.

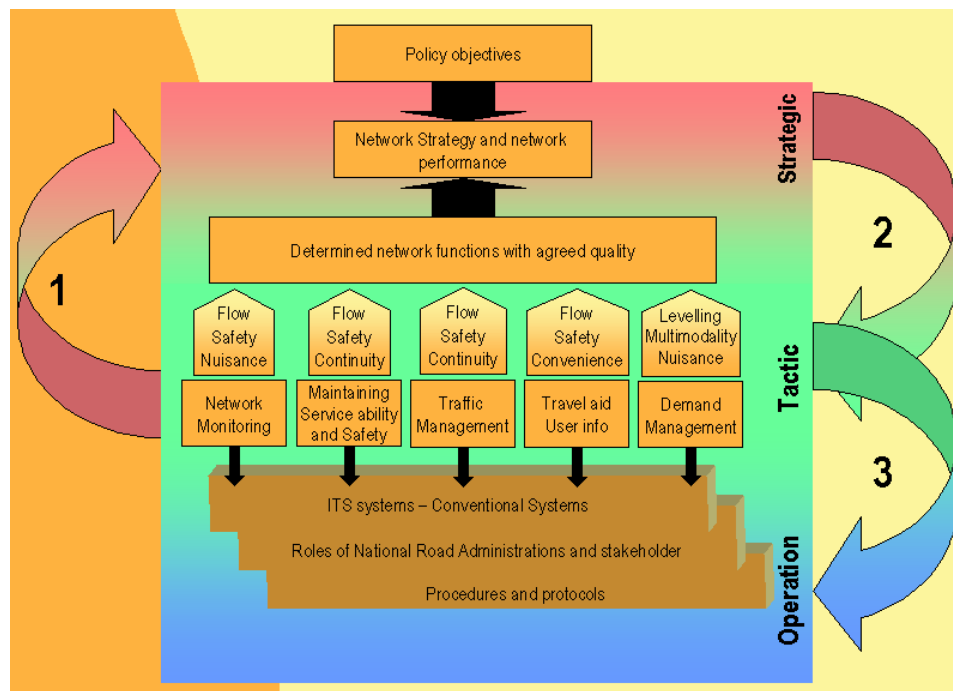
Until recently road administrations main goal was building and maintaining a road network. The “Big Shift” is the transition from this traditional approach to an operation function that includes a policy oriented towards the user. The “Big Shift” can be defined in three levels:

Strategy: this is the level where policy objectives are translated into road network performance requirements in qualitative terms of traffic flow, traffic safety, convenience etc. The strategy will be derived in “missions” as defined later.

Tactical: this is the level where network performance requirements are translated into network “functions” with a certain quality. Furthermore “services” are defined on this level, which indicate the network functionality to be performed at a certain quality level.

Operation: at this level we are confronted with organisational requirements, procedures and protocols and with the implementation of tools and strategies in order to meet the user needs.

The relationship between the three levels may be illustrated as follows:



**Figure 39: The Big Shift**

ITS are present in each level although more specifically in the tactical and operational levels. Although they are not the only tools available to realise the transition to the “Big Shift” their development in recent years and their important potential give them a major role within new road operation policy and more conventional services such as signing, emergency operations, attendant services to the road etc.

### **Strategic Level**

In the global transport framework the National Road Authorities have, in general unambiguous policy goals with regard to traffic safety, traffic flow, and economic sustainability. However these goals are not explicitly translated into road network performance requirements. Formulating recommendations how to do this is the first challenge of the strategic level.

Current practice demonstrates that ITS measures are implemented as a reaction to identified local traffic problems (re-active policy). It is rare that measures are the result of a clear strategic network vision or formulated performance requirements for the road network. Hence ITS measures are not always focused on facilitating transport network functions as a whole or even road network functions (pro-active policy). This is the initial challenge of the strategic level.

### **Tactical Level**

On the tactic level operation services were often implemented to solve local problems and were isolated from a more global framework. In this way they were often considered as additional tasks, complementing major services such as building or maintaining the network.

It is now common that ITS are implemented to solve local traffic problems. For example lane signalling or VMS are in most cases installed to prevent local congestion. It is desirable to aim for the situation where ITS facilitate defined functions in the road network which are necessary to meet the defined road network performance requirements.

The challenge of the tactic level (functions and services) is to take these constraints into account and to integrate them as a whole when following the recommendations of the strategic level.

### **Operational Level**

On the operational level the present practice is one of systems and equipment orientation. Whatever the latter may be it is also considered as an appendix to the road operation without a real recognition of the added value its good implementation and working can bring to the global function "service to the user". In the same way it is common practice to develop and implement new ITS along the road side. In the past two decades the number of ITS used by road network authorities has increased dramatically. And still new systems are being developed and installed.

However, it can be illustrated that neither ITS nor conventional systems and equipment are always operated and maintained properly and effectively. In these cases the

organisations which operate the systems and tools are not always well tuned to their strategic tasks.

Technical solutions can be presented through services. This notion indicates that services are made up of systems installed in organisation trained to operate the systems effectively. These organisations are driven by policy objectives. To meet policy objectives the attitude and behaviour of the road user is often critical. Therefore ITS should be client oriented: oriented towards the road user. Hence a service orientation is desirable rather than a systems orientation which is currently common. The same occurs with more conventional tasks such as the organisation of roadworks, the design of the signing, the emergency call-out, etc.

In many case procedures and protocols have to be reviewed and mirrored against this context of service to the user. This is the major challenge of the operational level.

### **Lack of appropriate Funds**

The lack of appropriate funds has a direct influence on the functionality of an effective ITS system. This inhibits the most appropriate solution and just provides more pressure on the operations to deliver high levels of services with non-effective tools. The funding of ITS systems and the operations thereof must be incorporated in a life-cycle design process. Various funding models must be explored allowing partnerships to provide future financial sustainability and technology transfer.

### **Telecommunications System**

Most of the ITS technology are dependant on a good telecommunications system to support the appropriate functionality. The lack of overall integration, high cost of infrastructure and services and access to telecommunication systems technology are impacting on the roll out and implementation of smart transport solutions using ITS technology.

#### **17.1.3 Strategy**

The following strategies will address the issues raised:

- Develop a Transport Network Operations Strategy.

The objectives include the following:

- Monitor traffic and road environment conditions in the network.
  - Minimise negative impacts caused by recurring congestion or non-recurring incidents within the road network.
  - Maximise operational safety and efficiency of road network.
  - Provide road users with information necessary to help support their judgment on travel and relieve their mental stress while driving.
- Develop an Integrated Metropolitan Transport Network Operations Centre. The function of the TNO is to operate on a 24/7/360 basis, integrating all the relevant services and technology. This will include the use ITS technology including CCTV.
  - Obtain, equip, develop and train relevant staff.
  - To improve performance for the benefit of users.

It is critical to implement processes that enable the assessment of operations. Performance assessment methods must be both reliable and credible and must serve as a means of changing how things are done. It is thus advantageous to establish specific performance indicators, methods of cost-benefit analysis, as well as structured and quantified quality plans. Some of the major reasons for adopting performance include:

- accountability: performance measurement provides a means of determining whether resources are being allocated to the priority needs;
  - efficiency: performance measurement focuses actions and resources on organisational outputs and the process of delivery;
  - effectiveness: performance measurement provides a link between ultimate outcomes of policy decisions and the more immediate actions of transportation agencies. It provides a means to evaluate how well we are achieving our goals;
  - communications: performance measurement provides better information to customers and stakeholders on progress being made toward desired goals and objectives;
  - progress: performance measurement allows periodic refinement of programs and service delivery.
- **Performance management**

Performance management must become an ongoing activity for network operators. The use of performance measurement information will help set agreed-upon performance goals, allocate and prioritise resources, inform operators to either confirm or change current policy or program directions to meet those goals, and finally, report on the success of meeting the goals set.

- Intelligent Transport Systems (ITS)
- Develop an Integrated Transport System (ITS) Strategy

The use of intelligent transportation systems (ITS) makes it possible either to devise new strategies for network operations or to improve existing strategies. An ITS Strategy will provide the road-map for future development and roll of ITS. This will also provides the required standards, guidelines and integrate associated systems.

- Develop an Integrated Transport Telecommunications Strategy

Transport telecommunications is a corner stone for many ITS solutions, systems, applications and communication. Such a strategy will ensure that systems are not duplicated and well integrated.

- Develop an Integrated Transport Information Strategy

#### **17.1.4 Programme and Projects**

- 1 Establishment of an integrated Metropolitan Transport Network Operations Centre.
- 2 Roll out the existing City Smart Card to become the Integrated Ticketing medium as part of the Public Transport Restructuring Process.
- 3 Roll out of the CCTV surveillance system for the Klipfontein Corridor.
- 4 Roll out of the complete suite of ITS infrastructure on the N2 as part of the 2010 WC projects.
- 5 Strive towards an integrated CCTV model in the City.

## **17.2 Parking**

### **17.2.1 Parking Strategy**

The parking strategy aims to help tackle congestion as part of a sustainable transport system through the following seven main parking policies.

Policy 1: Effectively manage and co-ordinate the existing on and off-street public car parking spaces through measures including the supply of spaces, maintenance, charging and enforcement:

Policy 2: Encourage reductions in existing privately owned non-residential car parking spaces, or the usage of these spaces, or both:

Policy 3: Introduce City Of Cape Town Parking Standards to car parking associated with land use development:

Policy 4: Provide adequate cycle parking provision and facilities for cyclists:

Policy 5: Ensure changes to parking provision do not undermine the economic viability of areas or adversely affect local roads and the environment:

Policy 6: Promote high quality facilities for people with mobility impairments in all parking areas:

Policy 7: Improve safety and personal security standards in parking areas:

### **17.2.2 Parking Standards**

Uniform parking standards for the City of Cape Town must still be developed. It will promote sustainable transport by supporting non-motorised transport, public transport and discourage unnecessary parking provision.

## **17.3 Incident and Event Management**

### **17.3.1 Incident Management**

The occurrence of traffic incidents on the metropolitan road network is almost inevitable. However, the goal of providing safe and efficient transport routes for all road-users remains a priority.

The manner in which incidents, and their respective degrees of severity, are handled by the emergency services is generally known as “Incident Management”.

An ‘incident’ is defined as an unplanned or extraordinary event that reduces the roadway capacity or creates a hazard for the road user. For example, an incident could constitute a simple breakdown, an accident which requires a multi-disciplinary response, a hazardous chemical spill or the management of a special event.

An incident management system facilitates the effective co-ordination of the emergency services and their joint response to incidents on the metropolitan road network. This is done through prior planning and the optimal use of scarce resources (human, financial and mechanical). Incident management also strives to minimise road closures and traffic delays through a system of on-scene co-ordination and centralised communications. Typically, the benefits of an effective incident management system include the following:

- improved highway safety by reducing the number of secondary incidents
- improved efficiency among all emergency services by promoting co-operation and professionalism
- more efficient use of equipment and personnel
- improved dissemination of information to all road users
- improved road clearance times and reduced delays
- improved mobility and reduced operating costs for all road users
- improved incident response time – giving the critically injured a better chance of survival
- reduced environmental impacts

The most important overall benefits to road users and emergency services are the increased safety through minimising exposure to hazards and danger, and increased efficiency through optimising responses to incidents.

However, the platform established by Incident Management not only enhances the coordination of emergency response services, but also acts as a catalyst to identify weaknesses in traffic safety and road infrastructure. In this regard, the working groups and steering committee of the CMRIMS offer a unique multi-disciplinary metropolitan forum for addressing traffic safety and traffic management operations.

A Traffic Management Plan (TMP) include the following components: traffic control

- health, safety and security
- route and/or location planning
- parking
- road closures, restricted access, operational alterations, e.g. contra-flow traffic
- impact on/of Public Transport
- impact on traffic movements in adjoining areas
- contingency plans
- advertising changes to all affected parties
- signage
- public consultation

Legislation and standards are being introduced for special events and these include the requirement for TMP's

### **17.3.2 Disaster Management**

Cape Town has the only Nuclear Power Station in South Africa located within its boundaries. In terms of national and international requirements, an evacuation plan is required to evacuate residents within the affected area in the event of a nuclear incident that results in a radiation leak. Such events have three stages:

- **Early Phase** - The time period at the very beginning of a nuclear incident where immediate decisions for effective use of protective actions are required.
- **Intermediate Phase** - This period of time starts when the release has terminated. This may occur in the form of stabilizing a reactor, or ensuring that no subsequent releases are expected.
- **Late Phase** - This time period of a fixed nuclear facility accident begins when recovery and restoration actions are recommended.

Evacuation and Transport Management Plans for the three phases are being revised in conjunction with Disaster Management and other role players subject to current legislation.

## **17.4 Traffic Calming**

### **17.4.1 Introduction**

The nature and character of residential areas has changed dramatically over the last decade and the way we address transport and traffic issues has become increasingly a contentious issue. Transport injuries constitute a serious challenge in Cape Town. The prominence of transport deaths and injuries is reflected specifically in low and middle-income societies. In general, it is thought that the high incidence of traffic incidents are due to several factors, the large percentage of children and youth in these populations, and the inadequate separation of playing and walking from motor vehicles.

The concept of “**People First and Vehicles Second**” is a different approach in dealing with the safety of road users, specifically the vulnerable road users in residential streets and the negative impact of vehicular traffic.

### **17.4.2 Status Quo**

It is important to highlight the distinct difference between mobility routes and quieter residential streets. The primary focus is to provide a framework to guide the management of “calming residential streets for communities” but also to differentiate the role of the network and level of impact on residential areas. Residential streets should not fulfil the same function as higher order Metropolitan routes and should be treated differently.

### **17.4.3 Issues**

Streets are becoming multi functional and we have to develop new design strategies to accommodate this. A more proactive approach is needed to influence new township designs and on the other end, to re-shape existing residential streets. The reactive process will require more dedicated funding in the future to implement the most appropriate solutions to achieve calmer residential streets.

#### **17.4.4 Strategies**

A holistic approach will be accomplished through implementation of the following priority strategies:

- Calming Residential streets for communities in accordance with the policy
- Develop a design strategy for residential areas of “People first – Vehicles second.” Through the implementation of Area Wide Traffic Management Plans
- Improve traffic law enforcement
- Education of the Community and road users with a special focus on vulnerable road users.
- Improve traffic management and capacity on main roads through and near residential areas to discourage extraneous traffic travelling through residential areas.
- Introduce an ongoing monitoring system.

#### **17.4.5 Programmes**

The other policies/strategies/plans that must be developed/implemented to complement calming residential streets for communities are:

- Appropriate Transport Law Enforcement
- Local Area Non-motorised Transport Plans – to promote access, liveability and equity
- Design Strategy for residential areas of “people first - vehicles second”, aligned with the Integrated Human Settlements Programme
- Traffic Management Plans – to keep the traffic on the appropriate routes
- Education Framework – for all the different road users

#### **17.4.6 Projects**

Although currently dealt with in an ad hoc fashion, traffic calming measures can be most effective if implemented as part of a traffic management plan for the area. In this way, the City tries to ensure that traffic problems are holistically addressed and not merely transferred to another location

Subject to the availability of funds and technical feasibility, traffic calming can be implemented if:

- Priority 1: Located at Public Amenities.

- Priority 2: Forms part of a Traffic Management Plan.
- Priority 3: There is excessive speeding.
- Priority 4: There is excessive extraneous traffic.
- Priority 5: An Engineering Analysis justifies a traffic calming solution.

The technical feasibility and the appropriateness of a traffic calming measure has to be determined by the transport officials of the City.

# 18. Safety in Transport

## 18.1 Introduction

This chapter focuses on safety in transport. The first section deals with pedestrian safety, the second with traffic safety, and the last with public transport safety.

## 18.2 Pedestrian Safety

### 18.2.1 Introduction

The cheapest form of transport remains “walking” and the majority of the South African urbanised population will continue to rely heavily on this form of transport to access urban opportunities as even the use of public transport entails a significant amount of walking. Based on the need for the provision of walking as a mode of transport in the City of Cape Town, especially in the low-income household and rural / semi-rural areas, the safety of these pedestrians should be ensured. However, in 2002, 63% of all road accident fatalities in the City of Cape Town were pedestrian fatalities.

### 18.2.2 Status Quo

The National Injury Mortality Surveillance System (NIMSS), 2002, reported that the most traffic-related deaths involved pedestrians (37.3 %) and motor vehicles users including passengers (17.4%) and drivers (14.0%). The data indicates that the safety of these groups should be considered a national priority. The high percentage of pedestrian deaths suggests that there may not be adequate separation and/or integration at the appropriate road hierarchy of pedestrian walking areas and traffic lanes.

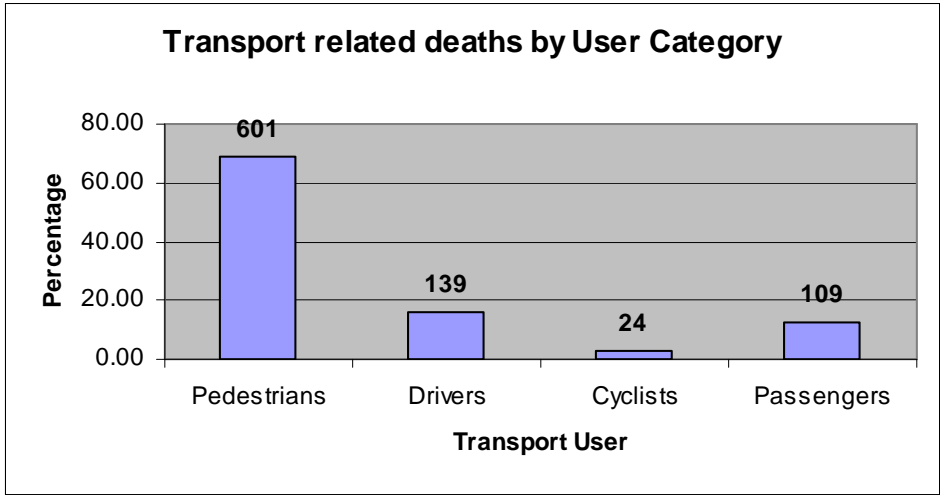
In order to compare South Africa and the City of Cape Town’s pedestrian fatality rates with international statistics, a comparison is made with respect to pedestrian fatality rates per 100 000 population.

**Table 29: Ranking of pedestrian fatality rates per 100 000 population**

Rank	Country	Pedestrian Fatality Rate per 100 000 population	Data Year
1	South Africa	8.20	1997
2	Puerto Rico	5.54	1994
3	Denmark	2.27	1995
4	USA <sup>1</sup>	2.10	1994
5	Australia <sup>2</sup>	2.10	1994
6	Great Britain <sup>3</sup>	2.00	1994
7	Finland	1.38	1995
8	Australia <sup>2</sup>	1.30	2002
9	Norway	1.19	1995
10	Sweden	0.81	1995

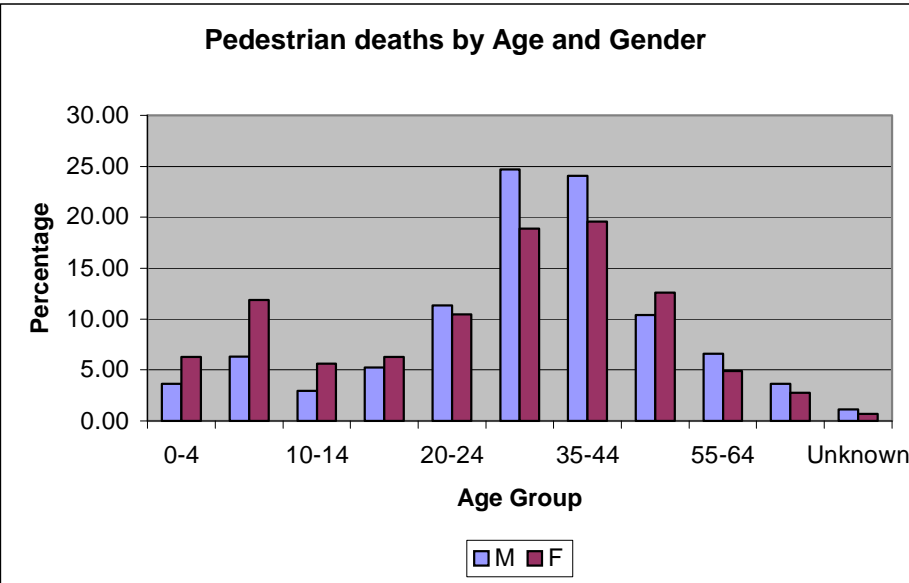
People in low-income settings may be more likely to use road and pavement spaces in their daily activities. Pedestrian deaths peaked in the 30-34 year age group and among children (1-14 years), with the 5-9 year age group most at risk. Of all transport related-related cases tested, 59.9% had elevated blood alcohol levels (BAL's). Pedestrians followed by drivers had the greatest percentage of cases with positive (BAL's). The pedestrian deaths peaked between 17:00 and 22:00 and also during the winter months. This information indicates that the decreased visibility over these periods may be a significant factor in fatal transport accidents.

Figure 40 indicates the transport- related deaths for the City of Cape Town in 2002. It is clearly evident that the pedestrians' deaths are of major concern and that the age group 5-9 years are a large component of 601 deaths. The deaths in this vulnerable age group occurs 80% of the time within 500 m of their homes. They were either playing in the streets or were on their way to school or returning from schools. They are in most cases not supervised by an adult and have to use their knowledge and skills to negotiate the complexities of their local environment.



**Figure 40: Transport related deaths by User Category for 2002**

Figure 41 indicates the pedestrian deaths by age and gender of the City of Cape Town during 2002.



**Figure 41: Pedestrian deaths by Age and Gender for 2002**

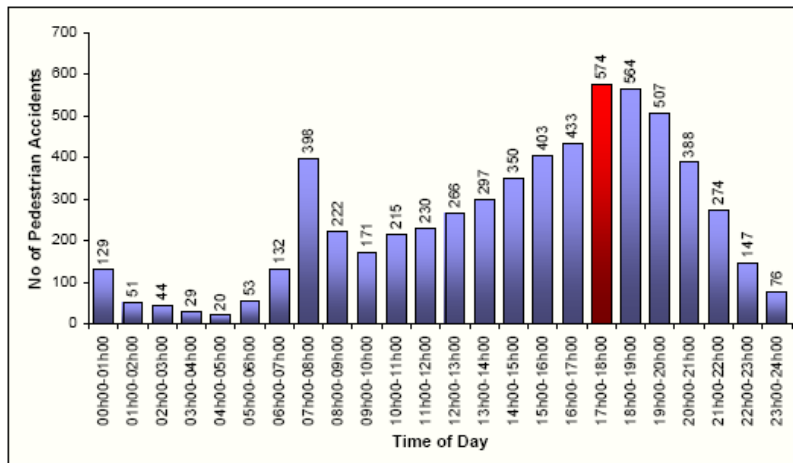
Table 30 shows the top ten police stations where the highest number of pedestrian fatalities was reported. This provides some indication of the areas in where these fatalities occur in the City.

**Table 30: Pedestrian Fatalities by Police Station 2002**

No	Station	Fatalities	%
1	Khayelitsha	88	10.26
2	Kuils River	84	9.79
3	Nyanga	83	9.67
4	Kraaifontein	48	5.59
5	Delft	46	5.36
6	Pinelands	33	3.85
7	Bellville	25	2.91
8	Milnerton	23	2.68
9	Goodwood	21	2.45
10	Grassy Park	21	2.45

The top ten sites represent 55% of all pedestrian related deaths in the City. The total number of pedestrian deaths was 584 people in 2002.

The majority of pedestrian accidents occur between 17h00 and 18h00 (9.6%), 18h00 and 19h00 (9.4%) and 19h00 and 20h00 (8.5% of total number of pedestrian accidents) as shown in 42.



**Figure 42: Pedestrian Accidents by Time of Day (2002)**

The information above provides a background which will inform pedestrian safety strategies. Safety of vulnerable people and speeding stands out and there is also a lack of walkways and bicycle lanes and networks. Conflict between pedestrians and vehicles, frustration of delays, lack of law enforcement and the visibility of the vulnerable road users are some of the issues to be addressed in the strategy to calm residential streets for communities.

### **18.2.3 Strategy**

The strategies used in the past were based on an approach where the total separation of vulnerable road users from vehicular traffic was the predominant mechanism to address traffic calming problems. A large focus was placed on the vehicle and how to manage its impact with a lesser focus on the other road users and their specific needs. This must be seen in the context of a residential area. The integration of road users and combination of a separated approach would be more socially acceptable and provides a more holistic platform to work from.

The policy objectives can be accomplished through implementation of the following priority strategies.

#### **Institutional Integration**

- Improve internal communication between pedestrian safety role players;
- Obtain agreement with national and provincial authorities on strategies and implementation of pedestrian safety projects;
- Establish a working group that will take ownership of the Pedestrian Safety Implementation Plan, the ongoing development of the Plan and the co-ordination of the application of national, provincial and local funding sources; and
- Establish reporting structures within the working group for reporting of pedestrian safety related concerns.

#### **Planning**

- Explore additional funding sources, e.g. national, provincial and private, for pedestrian safety improvements via different line function departments;
- Develop and review transport policy, also review related policy development in other corporate sectors;

- Develop a comprehensive transportation management plan for the City of Cape Town, addressing pedestrian safety at major events and venues;
- Provide pedestrian facilities where there is a reasonable expectation that such facilities will be used by pedestrians, even if the current pedestrian volumes are relatively low;
- Establish a set of approved City of Cape Town pedestrian planning guidelines to improve uniformity of implementation;
- Include pedestrian planning into the City of Cape Town's transportation network planning;
- Ensure that existing pedestrian routes are protected, that development does not sever or prejudice accessibility on foot, and that the developments themselves are easily accessible on foot;
- Ensure that developers provide through routes across major sites where these will result in improvements to the pedestrian network;
- Identify, plan and evaluate new transport and land-use projects, schemes and interventions in terms of technical viability as well as strategic, economic, financial, social and environmental criteria;
- Re-assess the appropriateness of warrants pertaining to the provision of traffic calming or pedestrian facilities;
- Promote more comprehensive pedestrian accident reporting procedures and systems, especially with respect to the location of accidents;
- Maintain an annual transport monitoring and research programme to, amongst others, determine pedestrian safety trends; and
- Move from a reactive to a proactive approach to pedestrian safety for the long term.

### **Road Environment**

- Establish a set of approved City of Cape Town pedestrian facility design guidelines or design requirements for implementation purposes, such as the DoT's Draft Pedestrian and Bicycle Facility Guidelines;
- Identify high pedestrian accident locations through continuous audits, especially on major movement corridors and neighbourhoods, and implement remedial measures;

- Assess appropriateness of posted speed limits at high pedestrian accident locations;
- Assess appropriateness of signage, especially warning signs, at high pedestrian accident locations;
- Assess appropriateness of the proposed location of new pedestrian infrastructure, i.e. does it satisfy pedestrian desire lines or only convenience of construction;
- Assess provision of street lighting at high pedestrian accident locations;
- Improve pedestrian crossing facilities, e.g. raised block pedestrian crossings at schools situated on lower order roads;
- Implement traffic calming measures where appropriate;
- Prioritise the allocation of resources around the understanding of essential pedestrian safety needs;
- Improve quality, accessibility and analysis of pedestrian accident data;
- Monitor and evaluate the effectiveness of remedial measures, i.e. conduct before and after studies to investigate the effectiveness of implemented measures;
- Conduct regular visual inspections for all elements of pedestrian infrastructure assets; and
- Implement a comprehensive maintenance management plan that includes repair of fences, trimming of vegetation, upkeep of walkway surfaces and so forth.

### **Awareness**

- Target behaviours, situations and locations through marketing and mass communication;
- Improve dialogue between and awareness of pedestrian safety issues for national, provincial and local politicians in order to review strategies for pedestrian safety and to obtain political support and commitment to address pedestrian safety related issues;
- Establish Community Road Safety Forums and support their pedestrian safety programmes;
- Promote general community involvement in road safety;
- Promote pedestrian safety awareness by use of communication media such as radio broadcasts or community newspapers;

- Improve communication between the public and officials;
- Develop an appropriate public participation process before the implementation of any pedestrian safety improvements; and
- Market and promote pedestrian safety improvement projects.

### **Education**

- Co-ordinate and improve educational programmes to inform both pedestrians and other road users of the risks to pedestrians;
- Develop educational material and products aimed at pedestrians and according to specific target groups, e.g. effect of alcohol for ages 26 to 40 and traffic rules for children;
- Create an understanding of the role of the use of alcohol and drugs by pedestrians in road traffic and rail accidents;
- Create an understanding of the role of speeding on roads in road traffic accidents;
- Create an understanding of the role of fatigue in road traffic accidents, especially pertaining to reaction times; and
- Create an understanding of the role of visibility of pedestrians in road traffic accidents.

### **Enforcement**

- Identify pedestrian problem areas and address these by enforcement of available legislation;
- Develop a comprehensive pedestrian safety enforcement plan;
- Enforce posted speed limits in areas with vehicular and pedestrian interaction;
- Continue support to scholar patrols; and
- Evaluate effectiveness of enforcement actions on a regular basis.

#### ***18.2.4 Programmes, Projects and Budget***

Projects within the following priority areas were identified:

- Guguletu, Nyanga, Crossroads, Philippi, Mitchell's Plain, Philippi East, Mandalay, Khayelitsha Delft, Belhar, Wesbank
- Du Noon, Doornbach, Gatesville, Langa, Bonteheuwel, Heideveld, Epping

More detail on the proposed projects may be found in the City's Pedestrian Safety report<sup>32</sup>. It is proposed that implementation of pedestrian safety projects after 2009 should continue in the more commercial areas along activity roads such as Voortrekker, De la Rey, Koeberg, Van Riebeeck and Old Paarl Roads and including the Cape Town Central Business District (CBD). No specific projects were, however, identified for these areas. The identification, costing and prioritisation of such projects should form part of the ongoing development of the implementation plan.

### **18.3 Traffic Safety**

#### **18.3.1 Introduction**

The City has over 8 500 km of public roads and traffic volumes been growing steadily over the last ten years at approximately 3% per annum. The road network now carries about 90 million vehicle- km of travel annually and the total annual social cost of accidents is estimated to be more than R1.9 billion. The last road safety project<sup>33</sup> was undertaken in 2002 which had a five year plan. A summary of the report is outlined below, however it must be noted that a study to identify appropriate projects is necessary.

#### **18.3.2 Status Quo**

The following accident statistics for the year 2000 are set out below:

- 75 972 accidents were reported to the South African Police Services and Traffic Departments.
- An average of 208 accidents occurs every day.

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<sup>32</sup> Pedestrian Safety Project, Volume 2, Pedestrian Safety Implementation Plan for the City of Cape Town

<sup>33</sup> Road Traffic Management Operations Plan, 2002, City of Cape Town

- There were 17 579 casualties; an average of 48 per day.
- The 116 traffic fatalities that occurred at intersections during 1998 in the City made up 18% of the total traffic fatalities.
- The majority of intersection accident fatalities in the Western Cape in 1998 occurred at signalised intersections (35%) and uncontrolled intersections (28%).
- The main age groups of non-wearing vehicle occupants are 20 to 29 (25%), 30 to 39 (37%) and 40 to 49 (22%). Vehicle occupants in the 20 to 29 year age group have the lowest seatbelt wearing rate (54%)

### **18.3.3 Strategy**

The City is committed to making its roads amongst the safest in the world. To meet this goal, the Metro Road Traffic Management Coordination Committee (RTMCC) has developed a Road Traffic Safety Management Plan that outlines the broad framework for a road safety strategy based on national and provincial road traffic safety policies and strategies.

The aim of the Road Traffic Management Operations Plan is to develop mechanisms that will be utilised to give effect to the implementation of these strategies in order to achieve the road safety targets.

This Operations Plan aims to reduce the number of casualties resulting from road traffic accidents in the City by 10% over 5 years.

When comparing the rates to international countries, it can be derived that the risk for a person currently travelling in the City to be involved in a fatal accident is similar to that of a person travelling in Peru or Nigeria which is currently 17.2 fatalities per 100 000 people. This level of risk is unacceptable.

The National Department of Transport has set the objective as being “to reduce crashes, deaths and injuries on South Africa’s road by 5% year-on-year. This means that our risk will be reduced to a similar level as in France or New Zealand.

#### **18.3.4 Programmes**

The City is taking an approach to road traffic safety that focuses attention on the most critical problem areas and priority targets, without losing sight of broader road safety issues.

SPPEEDING and ALCOHOL are the biggest contributors to road fatalities in the City and PEDESTRIANS are amongst those who suffer most in road accidents.

While speeding and alcohol is the biggest contributor, SEATBELTS are the most effective means of reducing fatal and serious injuries in traffic accidents. When lap and shoulder belts are used correctly, they reduce the risk of fatal injury to front-seat passengers by 45 percent and the risk of moderate to critical injury by 50 percent.

Seat belts provide the greatest protection against ejection, one of the worst things that can happen to a person in an accident crash. In the USA, three-quarters of those who are ejected from cars are killed. In fatal traffic crashes in 1996 in the USA, only 1 percent of the people wearing seat belts were ejected, compared with 20 percent of the people who were not wearing seatbelts.

The City aim to improve road safety through better community understanding of road safety issues, a systematic change in the planning, design and management of the road network and the enforcement of road traffic regulations.

The City aims to pursue three key areas in meeting the road safety challenge, namely:

4. Safer road users (better drivers and safer pedestrians)
5. Safer roads (safe, sustainable road network)
6. Safer vehicles (roadworthy vehicles)

#### **Safer Road Users**

- *Speed*

Travel speed affects the severity of accidents as well as the risk of involvement in an accident. Compliance with speed limits must be increased to achieve the target, especially in built up areas where pedestrians, cyclists and motorist share the same road space.
- *Alcohol*

Alcohol remains a major factor in a large percentage of fatal accidents in the City. Alcohol, illicit and prescription drugs can affect a driver's performance and a pedestrian's ability to use the road environment safely.
- *Seatbelts*

The seatbelt and child restraint are one of the most important safety features in a vehicle. In an accident the use of a seatbelt, child restraint or protective headgear reduces the risk of death or serious injury. Death and serious injuries will also be avoided if more cyclists wear helmets.
- *Fatigue*

The contribution of fatigue to serious road accidents is difficult to quantify, but cannot be overlooked as a large factor in serious accidents.
- *Driver incompetence*

The National Road to Safety notes that research into recurring patterns of driver error in accident points to a relationship between such error and the low levels of skill and awareness prevailing amongst thousands of drivers on South Africa's roads. This is in turn clearly linked to the prevalence of low standards of driver training-both informal and in many driving schools-and to widespread fraud and corruption in driving licence testing and issuing system.
- *Intersection offences*

Accidents as a result of an offence committed by the driver are one of a variety of factors that contribute to accidents at intersections. Ideally, all possible variables should be taken into account when analysing accidents at

intersections, e.g. human factors, vehicle factors and environmental factors such as the area, road classification, and intersection geometry and control type.

- *Visibility of pedestrians and cyclists*  
Studies have shown that increased visibility of pedestrians and cyclists lead to a significant reduction in fatal and serious accidents.

### **Safer Roads**

- *Speed*  
It is essential that posted speed limits are appropriate to the road environment. Special attention should be given to areas with high pedestrian activities and vulnerable users such as the elderly and school children.
- *Design*  
Road design should focus on the safety of the road user and special consideration should be given to the road users who are more at risk such as pedestrians and cyclists. Improvements to the existing roads and higher safety standards in new road and intersection design will lead to a reduction in accidents.
- *Maintenance*  
Poor maintenance of the road surface results in potholes, flooding of the road and poor ride quality. Broken fences allow animals to stray onto roads. Inadequate road signs and lane markings are important areas that require attention.
- *Safety Audits*  
Road safety audits are essential in assessing the accident risk and safety potential of both existing and the planned roads. "Black spot" programmes target locations with high frequency accidents.
- *Pedestrians and cyclists*

The safety of pedestrians and cyclists can be improved through the provision of adequate road crossing facilities, audio-tactile signals, ramps, pedestrian bridges, cycling lanes etc.

- *Intelligent Transport System*  
Currently road users have limited access to information about hazards, congestion and other traffic safety issues through radio. Through ITS, traffic signal systems can be enhanced to assist law enforcement agencies.
- *Street lighting*  
Visibility of the vehicle and pedestrian is enhanced through the provision of street lighting.
- *Road policies*  
It is the goal of the City to engineer and operate the road network in a professional manner through the implementation of best practises and compliance with appropriate national regulations.

### ***Safer Vehicles***

- *Safety standards*  
Vehicle safety standards and vehicle design can be improved to further increase the protection provided to occupants and minimise the hazard to non-occupants struck by a vehicle.
- *Roadworthy vehicles*  
A large percentage of vehicles on the road are unfit for the road. The National Road to Safety Strategy lists the following as key problem areas: under-inflated tyres; smooth or worn tyres or fitting the wrong types of tyres; poor brakes; faulty steering; poor lights/vehicles visibility; poor general maintenance of other vehicle parts such as the chassis, body, wheel alignment and shock absorbers.

### **18.3.5 Projects and Budget**

As mentioned in subsection 17.3.1, further analysis is necessary to identify a broad range of projects which will be informed by the above strategies.

## **18.4 Public Transport Safety**

### **18.4.1 Introduction**

In assessing the security of a public transport journey, passengers make their judgement on the basis of the whole journey, not just the time spent on the vehicle. The term 'whole journey approach' has been adopted to reflect the need for transport operators and providers to address the journey to and from the stop or station, and the time spent waiting, when considering passenger security. It is based on the premise that the route is only as safe as its most vulnerable part.

This concept presents challenges to the operator or provider, who does not have control over some of these factors. For example, it may involve improvements to lighting in the station car park, cutting back shrubbery in the property adjacent to the bus shelter, or removing graffiti from the trackside buildings. It may involve working with local schools to improve the behaviour of children on school bus journeys, developing an integrated CCTV system which covers both the town centre and the rail station, or making sure that transport planners are involved in wider social planning initiatives. Essentially, it involves working with the other agencies that do have responsibility for these things. It means securing commitment at the highest level, establishing a common agenda, and developing joint initiatives which will benefit both agencies and ultimately the passenger.

### **18.4.2 Status Quo**

A comprehensive audit of safety and security of safety on minibuses and trains was undertaken 2004<sup>34</sup>. The audit shows that there a number of safety and security issues that negatively affect the public transport experience.

The minibus industry is largely incident free on a day to day basis. However certain problems do exist such as:

- Gangsterism is a problem

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<sup>34</sup> City of Cape Town, Public Transport Safety, Security and Enforcement Strategy, November 2004.

- Taxi ranks are either controlled by taxi associations or gangs
- Gangsters are used as guards on minibuses
- Intimidation and extortion take place of drivers and passengers
- The hiring of hitmen for taxi wars and in most cases innocent bystanders and passengers are injured or killed.

The main crimes committed on trains in the Western Cape during 2003 were robbery, assault, vandalism and stone throwing. The areas identified where most of these reported crimes occurred during 2003 were Philippi, Langa, Bonteheuwel, Cape Town, Woodstock, Kraaifontein, Bellville and Salt River stations.

Robberies represented 51%, vandalism 23% assault 15% and stone throwing 11% of the total number of the reported crime incidents within the first seven months of 2003. Most of these crimes were committed during the off-peak times, which are between 09h00 and 12h00 as well as 17h30 and 20h00.

### **18.4.3 Strategy**

The strategy has three focus areas:

**Preventative Controls** – This aspect of the public transport safety and security strategy acts as the first line of defence and cuts across both the controlled and uncontrolled environments. It requires an integrated institutional and organisational base, focused and shared information management and sound public transport safety and security physical design elements. Preventative strategies force compliance with prescribed or desired actions and therefore decrease the opportunity for aberrant events. A large number of undesirable events or factors that compromises public transport safety and security can be blocked out through preventative interventions.

**Detective Control** – Detection of problems within the public transport environment is the second line of defence. Detective abilities are devices, techniques and procedures designed to identify and expose undesirable events that evaded the preventative control measures of the public transport safety and security strategy. As indicated earlier some of

the same activities operative under the preventative control measures are also internalised by the detective control aspects of the strategy.

**Corrective Controls** - The following elements comprise the corrective control:

- Overall Law Enforcement this action takes place around the public transport facility and forms part of the general policing and enforcement strategy undertaken by the South African Police Services, the City Police and the Traffic Department.
- Public Transport Law enforcement – this action provides a safety and security blanket at public transport facilities through the provision of law enforcement programmes aimed at correcting specific “high impact” incidents such as robbery, murder and assault.
- Emergency response – this action provides for the coordinated and focused response of multiple agency deployment in case of major incidences within the public transport environment.
- Post emergency response – this action provides for a ‘corrective plan of action’ after the occurrence of major incidents within the public transport environment and requires the formation of a multi agency emergency response team to review techniques and procedures used in response to major emergencies.
- Lastly, where public transport safety and security design elements have failed to either prevent or detect the potential or actual occurrence of an incident, the same agency cooperation is required in undertaking ongoing safety and security audits of the physical design aspects of public transport facilities so to ensure that the flawed design elements are corrected.

#### **18.4.4 Programmes, Projects and Budget**

Four projects have been identified in support of the above strategies:

##### **PROJECT 1**

<b>Project 1:</b>	<b>Institutional Integration and Coordination</b>
Strategy Focus:	Prevention and Detection
Project Title:	Multi Agency Public Transport Safety and Security Coordination Team
Abbreviation:	MAPSSCOT
Priority:	High and Immediate
Team Members:	City of Cape Town, Public Transport and Storm Water Provincial Department of Public Transport, Provincial Department of Community Safety, Regional Command Structure of the South African Police Service, City of Cape Town Municipal Police Services
Additional members:	Private Sector Public Transport Operators, Non Government Organisations, e.g. Rail Action Group, Other relevant stakeholders
Lead Coordination:	Joint Coordination responsibility between the City of Cape Town and The Provincial Department of Community Safety
Aim:	Develop and drive initiatives and programmes that will ensure a safe trip experience, free from danger and risks brought about through coordinated and where relevant, integrated efforts by statutory and non- statutory safety and security agencies that guards and guarantee or at the very least, ensure the safety of commuters who have rights to a journey untroubled by danger or apprehension
Endorsements:	Western Cape Provincial Legislature including Provincial Parliamentary Portfolio Committee on Community Safety The City of Cape Town, Executive Committee on Public Transport City of Cape Town, Department of Transport, Western Cape Provincial Department of Transport, South African Police Services Private Sector Public Transport Operators
Primary task:	Plan, Coordinate and execute public transport safety and security initiatives
Short Term tasks:	Coordinate the development and establish of an integrated information management system for public transport Coordinate a safety and security audit of all public transport facilities Coordinate the development of benchmark safety and security design principles for all public transport facilities Initiate the redevelopment of public transport facilities that are lacking in its safety and security design elements as per benchmarked standards
Long term role:	The Provision of safety and Security coordination, strategy development and implementation under the proposed Transport Authority
Cost	To be calculated

## PROJECT 2

<b>Project 2:</b>	<b>Integrated Information Management System</b>
Strategy Focus:	Preventative, Detective and Corrective
Project Title:	Public Transport Safety and Security Information Network
Abbreviation:	PTSSIN
Priority:	High and Immediate
Team members:	MAPSSCOT (as outlined earlier)

Additional members:	Information Management Consulting Team
Lead Coordination:	MAPSSCOT - Joint coordination by the City Department of Transport, The City Police and the South African Police Services
Aim:	To coordinate and drive the establishment of an integrated information management system for public transport
Endorsements:	Western Cape Provincial Legislature including Provincial Parliamentary Portfolio Committee on Community Safety, City of Cape Town Executive Committee on Public Transport, City of Cape Town, Department of Transport, Western Cape Provincial Department of Transport, South African Police Services
Primary Task	To enable an improved centralised system of collection, analysis and application of incident data on public transport
Short Term tasks:	Assess current capacity of information management network within public transport, Identify roles, responsibilities and requirements of stakeholders in the collection of incident data on public transport Put forward a detailed costing for the proposed information management system
Long term role:	The information management system should continue to support the safety and security and enforcement strategies of various agencies and act as a multi agency resource to combat crime both within and outside the public transport arena
Cost:	To be calculated

### PROJECT 3

<b>Project 3:</b>	<b>Public Transport Safety and Security Audits</b>
Strategy Focus:	Preventative, Detective and Corrective
Project title:	Safety and Security Facility Assessments
Priority:	High and immediate
Team members	MAPSSCOT
Lead coordination:	City of Cape Town, Department of Transport reporting to MAPSSCOT
Aim:	To assess the physical safety and security design elements off all public transport facilities within the City of Cape Town so to develop a comprehensive physical design redevelopment plan
Cost:	To be calculated

### PROJECT 4

<b>Project 4:</b>	<b>Pilot Study: Community Public Transport Safety Audit</b>
Strategy Focus:	Prevention, Detection and Corrective
Team Members:	City of Cape Town, Department of Transport, the Municipal Police The South African Police Services, the Provincial Department of Community Safety
Additional members:	Community Police Forum and the Local Civic Structures
Lead Coordination:	City of Cape Town, Department of Transport
Aim:	The project aims to select a pilot site (Taxi Rank/Interchange)/Bus terminus) with very high crime levels and a higher propensity to compromise public transport safety and surety and to undertake a community safety audit of the selected facility to establish: Safety and security design flaws at the facility How communities may become involved in populating public transport safety and security A plan for the upgrade of the selected facility and lastly To gain a better understanding of the factors that impact of public transport safety and security in developing a 'public transport safety and security case study and handbook" that may be used as a reference in the implementation of safety and security initiatives at other public transport facilities
Proposed Pilot site:	Public Transport facility along the CBD-Klipfontein-Khayelitsha Corridor
Cost:	R300 000.00

# 19. Road Network

## 19.1 Introduction

In developing an Integrated Transportation Plan for the City of Cape Town, it is important that the basic role of transportation in any major urban area or city be understood. Any major urban area consists of various locations, such as residential areas, education centres, areas of employment, production and manufacturing centres and service sectors. Transportation is the ability to move people and goods from an origin to a desired destination or from one activity to the next. Hence, transportation is also referred to as the "lifeblood of cities"<sup>35</sup>. This movement is facilitated within a system of various transportation forms (private vehicles, buses, rail, trucks, etc), operating along a network of transportation infrastructure (rail, road, etc).

The road network forms an integral part of the greater transportation network. It is the public right of way along which most of the society's transportation needs are met and forms the spine along which most economic and social activities take place. These needs include the following; movement of goods, movement of people between home and work, educational trips, business trips, as well as recreational movement to social activities. Furthermore, coupled with land use planning in an intricate dynamic relationship, the road network provides the form and structure of any major urban area. Hence, an urban area that is lacking in a good road network will suffer economically and socially.

For optimal operation of the road network and to ensure that the transportation needs of society are met, roads provide mobility and accessibility functions for people and their vehicles (the particular needs of non-motorised transport (NMT) users in the road environment is dealt with in a separate chapter). Mobility is the ease with which people can travel at relatively high speeds without interruptions on a road. Accessibility or access is the ability of people to get to surrounding land uses such as shops, schools and residential areas. To support these functions, roads have been categorised according to a functional classification. It allows for the different travel functions, namely that of

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35 V. Vuchic, Transportation for Livable Cities, Centre Urban Policy Research, New Jersey, 2nd Edition 2000

accessibility and mobility, to be accommodated on a certain road. This distinction is essential for the coordination and integration of land use and transportation planning activities as it determines where development access can be promoted and where it should be discouraged to facilitate safe transport operations. Furthermore, it protects the mobility function of the city's main road network, it ensures adequate access opportunities in activity nodes and it protects the quality of residential streets.

## 19.2 Status Quo

Cape Town is characterised by quite an extensive road network that stretches across the metropole. Cape Town has historically developed radially with major expressways (N1, N2, M5, etc) all leading towards Cape Town CBD. Major north-south movement opportunities are limited to the N7 and the R300 freeways, supported by primary distributors such Modderdam Road.



**Figure 43: Congestion in Cape Town**

The population of Cape Town is currently estimated at 2.89 million and is still growing at 2-3% per annum<sup>36</sup>. This has been accompanied by an increase in daily traffic at very high rates. Owing to residential suburbs being located on the periphery of the metropole, lack of good public transport alternatives and the convenience of private transportation, private vehicles still retain a major share of the modal split between private and public transport with 40% trips to work being undertaken by private car in Cape Town<sup>37</sup>.

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36 R. Haiden, Traffic Management and Congestion in the City of Cape Town, Draft paper prepared for Construction World, June 2003 Edition.

37 National Household Travel Survey, as cited in the Draft Western Cape Program, 2006.

This increase in traffic has not been coupled with a similar investment in road or public transport infrastructure provision, resulting in extreme congestions on the city's major roads during peak hours. These corridors include the Marine Drive, N1 between Durban Road and Koeberg Road, as well as the N2 between Vanguard Drive and Cape Town CBD. The increases in traffic along the N1 and Marine Drive, especially, have been fuelled by rapid expansion of Durbanville and Table View/Parklands, respectively, in recent years. A rapid increase in population densities in the metro south-eastern part of Cape Town, traditionally the poorer parts of Cape Town with low vehicle ownership levels, has resulted in an increase in traffic in this region, mainly through an increase in public transport use.

These corridors mentioned are experiencing extreme congestion. Additional road links have been proposed to the metropolitan road network to alleviate traffic congestion. These links are illustrated in Figure 44 below:

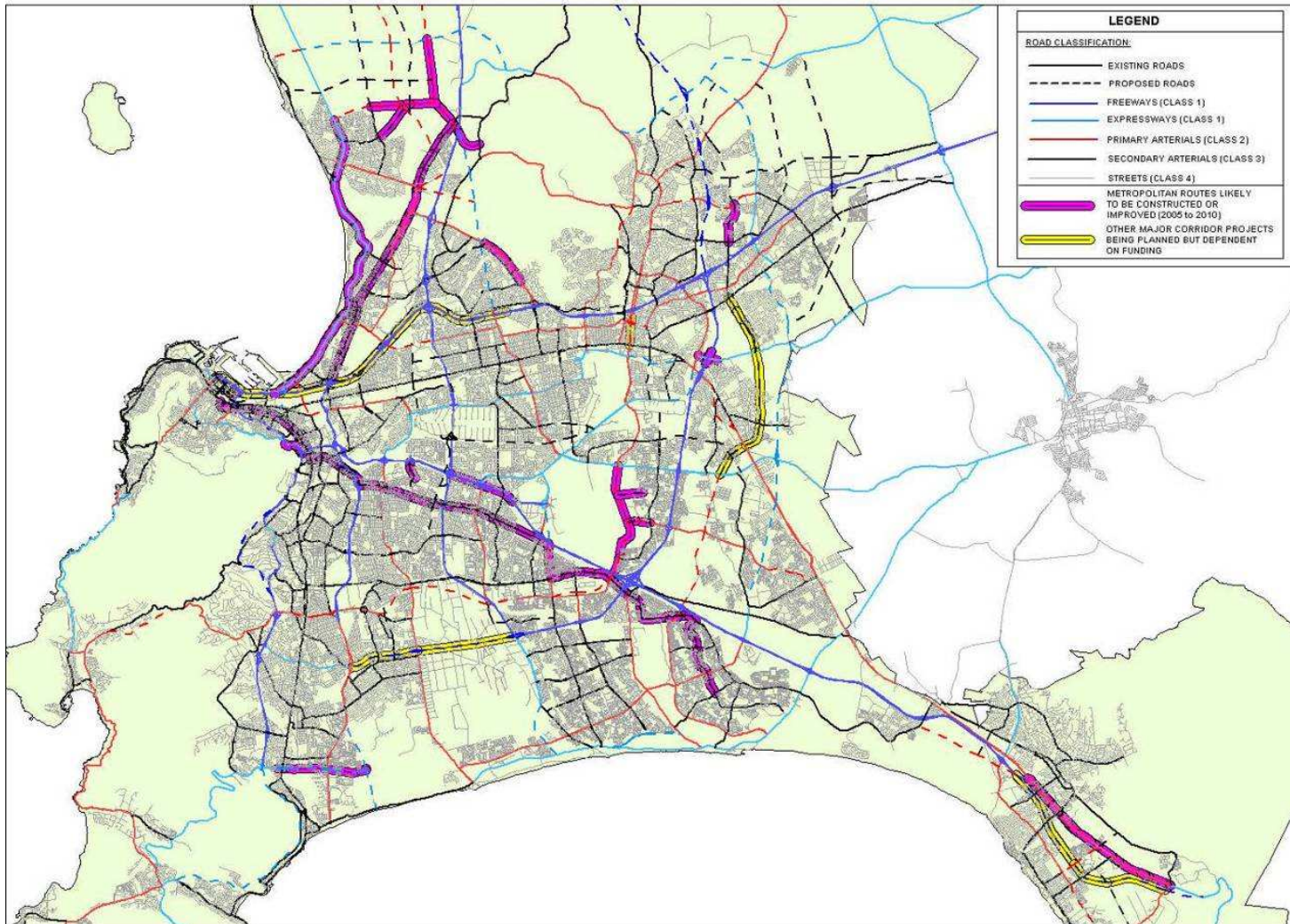


Figure 44: Metropolitan road network and proposed improvements

### 19.3 Issues

Owing to increased traffic along Cape Town's extensive road network and increased congestion along major links, the following problems are being experienced:

#### ***Increased congestion on road network***

Capacity problems are being experienced along major links such as Marine Drive, the N2, the N1 between Durbanville and Koeberg interchange. For example, Koeberg interchange has become a major bottleneck in the primary road network as it is the strategic junction of the N1 and the M5. An increase in travel demand from the southern suburbs to the northern suburbs has also placed tremendous pressure on the south-north turning capacity at Koeberg interchange.

Whereas congestion was previously limited to the peak hours and only impacted commuters, the impact of congestion is now extending to economic activities in the region as travelling to work is becoming longer and more problematic and freight traffic is also experiencing longer travel times to reach destinations. Public transport is facing similar problems to private vehicles in that it also has to contend with congestion. This is impacting on the convenience and acceptability of road-based public transport as a travel option as it is not providing a faster journey for users.

The increased congestion and increased vehicle ownership levels also have a significant impact on the environmental conditions in Cape Town. These negative impacts include the following:

- Poor air quality, especially in CBD environments
- Increased demand for road space, which in turn is impacting on the quality of the urban environment.

Capacity problems are also being experienced on the lower order network as vehicles are following alternative routes through residential areas to avoid the congestion on the primary road network.

Sufficient funding for road and public transport infrastructure to address the congestion problems is not readily available and is resulting in inappropriate use of the existing road network.

### ***Road Safety***

With increased traffic volumes in recent years, road safety conditions along Cape Town's roads have also worsened with approximately 77500 road accidents reported in 2003, a 3.8% increase from 2002. The increasing vehicular conflict and poor road safety conditions is also impacting on pedestrian safety with 59% of all road accidents reported in 2003 involving pedestrians<sup>38</sup>. However, with increased demand for road space and improved operations of the road network to improve traffic flows during peak conditions, pedestrian movement and safety requirements are being compromised. Refer to the chapter on road safety for more detail.

### ***Overloading***

The increase in road-based freight in recent years has resulted in the number of instances of overloading observed along Cape Town's major routes.



**Figure 45: Heavy freight vehicles**

### ***Lack of road maintenance***

The road maintenance budget for the City of Cape Town for the last few years indicates a decline in the amount of funds spent on road maintenance. This has resulted in a maintenance backlog in Cape Town.

### ***Missing links***

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<sup>38</sup> City of Cape Town, Transport Directorate, Traffic accident statistics 2003.

The extreme congestion currently experienced in certain sectors of the Cape Town such as the northern areas of Cape Town (Durbanville and Parklands) is a result of various factors, of which one is the lack of strategic road links to support the residential development boom in this northern growth area. The southern sector of Cape Town, although supported by roads such as Baden Powell and Lansdowne Road, lacks direct freeway connectivity to the N2 and R300 systems. These missing links are resulting in inappropriate use of the existing network (residential streets included) and impacting on quality of life of people and communities.

### ***Integration with spatial planning and town planning***

The State of Energy Report<sup>39</sup> for Cape Town noted that “urban sprawl causes long commutes, which result in higher transport energy consumption and a corresponding high release of carbon and other emissions. Long commutes also require longer delays away from home, with less productive time, which decreases quality of life, primarily for the poor”. Furthermore, this lack of integration between road network planning and spatial planning has resulted in negative unsustainable legacies where the road networks and community activities are conflicting. Examples include the location of Delft and Wesbank on either side of the R300 freeway.

Furthermore, development accessibility on the road network is also causing conflict between spatial/ town planning and transport planning frameworks. Development accessibility has to be carefully managed to ensure that the integrity of the road network is not compromised and hazardous road safety conditions are created. An example is the Cape Gate development along the N1 and its lack of accessibility for pedestrians and public transport. The inclusion of NMT (non-motorised transport) and public transport measures in Traffic Impact Assessments, as well as greater care with regard to access management along Cape Town’s strategic road network, can remedy this.

## **19.4 Strategies**

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<sup>39</sup> City of Cape Town, State of Energy Report for Cape Town, Cape Town, 2003.

In line with the spatial planning directive of “Access for All in Cape Town”, the strategic direction for the road network sector of Cape Town is to provide greater access to opportunities, of which the greatest current inhibitor is the congestion problem on the primary network. The City of Cape Town’s approach is not to build their ways out of congestion, but to better manage the road network (strategic and lower order network) and where road infrastructure is required, it is aimed at supporting public transport and quality of life. Strategies aimed at supporting this strategic direction are listed in Table 31.

**Table 31: Strategies for improving the road network**

Focus Area	Strategy
<b>Congestion</b>	<ul style="list-style-type: none"> <li>• Combat congestion through the promotion of public transport, Travel Demand Management (TDM) strategies, Intelligent Transportation Systems (ITS) and Transportation Systems Management (TSM) measures.</li> <li>• Provide new links in new growth sectors.</li> <li>• Provide public transport infrastructure along dedicated corridors, in line with the Mobility Strategy.</li> </ul>
<b>Road Safety</b>	<ul style="list-style-type: none"> <li>• Improve road safety through road safety remedial measures, maintenance of roads and maintenance of traffic network operations.</li> <li>• Traffic calming measures on local road network in accordance with Traffic Calming policy.</li> </ul>
<b>Integration with spatial planning and town planning</b>	<ul style="list-style-type: none"> <li>• Better integration in road network planning and land use/spatial planning/ town planning.</li> <li>• Review of design standards</li> <li>• Review of road classification</li> </ul>

### 19.5 Projects

The full list of road schemes is shown in Table 50.

# 20. Airports

This chapter covers Cape Town International Airport which plays an important role in our economy. The City of Cape Town is responsible for the transportation network to the airport.

This chapter sets out a brief overview of the airport and envisaged future requirements to better serve Cape Town and strengthen our economy.

## 20.1 Introduction

Cape Town International Airport is the most important airport of the Western Cape region and the second busiest one in South Africa.

The airport is served by more than 20 airlines connecting the Western Cape Region with all the important airports in South Africa and with most of the main hubs of Europe and some important gateways in North and South America, and the Far East.

Cape Town International Airport is presently experiencing significant growth of passengers, exceeding 14% per annum. In 1999 the airport handled 4.6 mppa (million passengers per annum), while in 2005 6.8 mppa used the airport.

The principal airport authority of the region, the Airports Company of South Africa (ACSA) responds to the demands imposed on it by the aviation industry, and has embarked on a process of identifying the capital expenditure required to ensure that the development of airport infrastructures will be relevant to the larger airport stakeholder community.

The airport capacity is continually upgraded. The upgrading of the international terminal is completed while the upgrading of the domestic terminal enters in the construction phase. A multiple parking structure serving the domestic terminal was completed in March 2006.

The development at the airport is guided by the Masterplan of 2000 and subsequent updates.

The masterplan contains the following objectives with regard to land development, access and planning.

#### *Land Development*

- Land development should enhance Airport capacity and primarily serve aviation uses.
- Priority should be given to developing projects that accommodate the needs of the aviation users of the Airport and their employees.
- Non-aviation land users should provide an economic return that helps support the development of aviation facilities.
- Special considerations should be given to land development opportunities which have significant regional economic impacts and that require on-Airport locations.
- Land development policies should be compatible with surrounding community land use plans.

#### *Access Roads-Parking-Ground Transportation*

- The definition of the overall access network concept must be clearly identified.
- Terminal area capacity must be supported with adequate roadway, adequate road junctions, proper curb frontage, public and staff parking.
- Provision for a future public transport system (railway) has to be taken into account, not only considering the airport needs but also of the surrounding communities.

## **20.2 Status Quo**

In 2005 about 6.8 million passengers used the Airport. According to forecasts from ACSA this number of passengers will increase to about 10 million in 2010 and about 20 million in 2020.

### **20.2.1 Access to the Airport**

Access to the airport is provided by the airport approach road which connects to the N2 by means of a half diamond and quarter cloverleaf interchange. Further access is provided from Borchards Quarry road which connects south of the airport approach with the N2 by means of a diamond interchange and north of the airport approach road with Modderdam Road. Borchards Quarry is a Class 2 road which also provides access to the industrial development west of the road, Airport Industria and to Airport City Industrial Park situated east of Borchards Quarry Road and just north of the N2.

Borchards Quarry Road connects with the airport approach road by means of a half clover-leaf interchange with signalised intersection on Borchards Quarry Road.

### **20.2.2 Public Transport Access**

Cape Town International Airport is not connected to the scheduled metropolitan public transport network.

Hire vehicles form the main component of the public transport at the airport and consists of:

- Metered taxi services
- Airport shuttle services
- Chartered buses

Passengers, workers and visitors who wish to access the airport by scheduled metropolitan services, have to use services on Borchards Quarry Road.

Similarly, people who work in the airport development precincts have poor public transport access to their work.

### **20.2.3 Modal Split**

Private car, including car rentals account for 79% of transport to and from the airport. Hire vehicles account for 21% and the distribution of the various modes is shown in the table below.

**Table 32: CTIA Modal Split**

<b>Modal Split / Car Occupancy</b>					
<b>Survey Date : Thursday, 20 February 2003</b>					
<b>Modal Split</b>	<b>Private Car</b>	<b>Metered Taxi</b>	<b>Shuttle</b>	<b>Bus</b>	<b>Total</b>
Vehicle	8 898	301	649	56	9 904
Occupancy	1.5	2.25	2.7	22.54	1.73
Persons	13 436	677	1 752	1 262	17 127
Modal Split (%)	79	4	10	7	100

#### **20.2.4 Parking**

The existing parking facilities and predicted parking bay requirements can be seen in the table below. The estimated parking provision is shown in the next table but due to phasing of construction, at the airport, the available bays might be less till 2010, when most of the construction should be completed.

#### **Existing and Predicted Parking Requirements**

**Table 33: CTIA – Parking Requirements**

<b>Parking Requirements</b>				
<b>Year</b>	<b>Public Parking</b>	<b>Staff Parking</b>	<b>Car Rental</b>	<b>TOTAL</b>
2000	2 600	774	786	4 160
2005	3871	946	1 007	5 824
2008	4 431	1 000	1 007	6 438

#### **Parking Provision**

**Table 34: CTIA - Parking Provision**

<b>Parking Provision</b>				
<b>Year</b>	<b>Public Parking</b>	<b>Staff Parking</b>	<b>Car Rental</b>	<b>TOTAL</b>
2000	2 600	774	786	4 160
2006	4 000	946	1 007	5 953
2008	5 827	1 000	1 000	7 827
2010	5 827	1 000	2 000	8 827

### **20.2.5 2010 Capacity Improvements**

The following capacity improvements have been completed or are scheduled for completion in 2010

- Upgrading of the terminal buildings.
- Construction of multi-storage Parking1, completed March 2006.
- Construction of multi-storage Parking 2.
- Construction of public transport plaza between the two multi-storage parking garages.
- New facilities for car rental operations.
- Upgrading of the internal access road system.

These proposed capacity improvements are shown in the diagram below

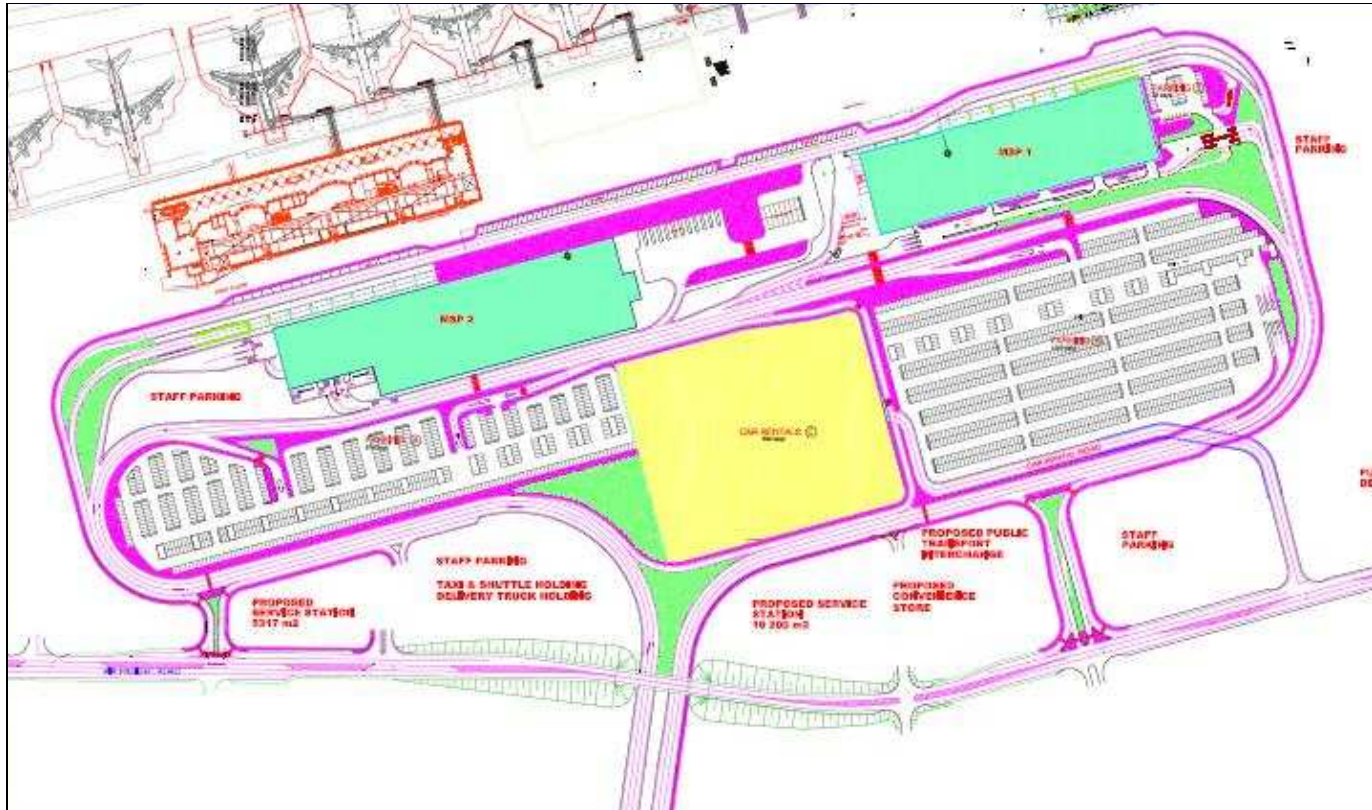


Figure 46: Airport Master Plan

## **20.3 Issues**

### **20.3.1 Planning Issues**

The City of Cape Town published a contextual framework (CF) for Cape Town International Airport and environs in June 2000. The main aim of the CF was to guide the growth process of the airport, to maximize the benefits whilst minimising the disbenefits to Cape Metropolitan Region.

Some of the issues raised in the CF are summarised below:

- Non-aviation related commercial development in and around the airport precincts should not compromise the primary function of the airport as an air/land transport interchange.
- The non-aviation development proposals (and its impact on shared infrastructure) will be assessed using the normal public sector land development management procedures and requirements.
- A distinct division between the aviation and non-aviation developments must be made with regard to their respective transport and bulk engineering services infrastructure requirements. This will enable the authorities to agree on the scale of infrastructure required to maintain a high level of accessibility to the airport for its main function as a transport interchange.
- ACSA will ensure that the internal road network serving CTIA is designed and constructed to a standard that will facilitate and recognise the growth and future access requirements of the airport.
- Existing and future access to CTIA must be designed to provide a high standard of safety and convenience, taking into account existing and future traffic flows.

### **20.3.2 Access Issues**

#### ***Public Transport Access***

In order for the airport to remain accessible both with regard to the internal and external road system, the promotion of public transport becomes of utmost importance.

The public transport services to the airport should not only cater for passengers but also for aviation workers and development precinct workers.

For the short to medium term (up to 2015) road based public transport might be adequate to serve the airport. The opportunities of connecting the airport to the metropolitan rail network or to provide dedicated rail transport to the airport should be investigated.

### ***Road Access***

The operational performances of the main access routes to the airport need be analysed to determine when access to the airport becomes problematic. The provision of public transport lanes and priority measures for public transport might prove the stimulants to shift the modal split toward public transport.

## **20.4 Strategies**

Public transport needs to be improved to ensure the accessibility of the airport. Public transport should not be limited to dedicated public transport routes to the airport but it should also be integrated within the metropolitan public transport network. This will involve the following:

- Provide public transport facilities which are convenient to use and provide time and cost benefits to users which will influence their mode choice to the airport.
- Short to medium term public transport could be provided by road based public transport. The provision of rail links to the airport should be investigated, to determine when rail facilities would be economically feasible and how they would enhance the operation of the airport.
- Improvements to the major access routes and access intersections should be investigated to ensure that the road accessibility to the airport is maintained.

- Assessment of feasible public transport routes to the airport.
- Assessment of integration of metropolitan public transport with airport public transport including aviation and development precinct workers' needs.
- Transport study of access roads to airport incorporating the TIA undertaken for the Airport to assess improvement required to maintain an acceptable level accessibility to airport.
- Alignment feasibility study of rail connection to the airport including different forms of rail operation.

### **20.5 Projects and Budget**

The City and its funding partners are involved in the upgrading of the N2 road in the vicinity of the airport. The scheme involves the extension of BMT lanes on the N2 from and to the Airport (Total cost R174million).

Other schemes are still to be developed in conjunction with the Airport Authority.

# 21. Ports

## 21.1 Introduction

The Port of Cape Town is the major seaport in the Western Cape region for cargo import and export. Freight transport to and from the seaport is one of the key areas where the City of Cape Town and the Port of Cape Town have a common interface. The majority of freight is hauled via road-based transport. Thus the future correlation between the City of Cape Town and the Port of Cape Town is of cardinal importance to ensure a transport system that operated at acceptable levels of service.

A Strategic Environmental Assessment Report was subsequently completed for the Port of Cape Town in August 2003, which described the existing conditions within the port. The outcome of this process was an identification of the strengths and weaknesses within the Port of Cape Town, which was translated into the following high priority issues;

- Transportation (Road/Rail/Congestion)
- Security
- Maintenance
- V&A Waterfront
- Strategic Planning

## 21.2 Status Quo

### 21.2.1 External Land Based Transport System

#### Road Access

The port is currently served by road and rail networks, the trend are towards road-based cargo. This is as a result of dwindling rail infrastructure and the flexibility of the road base transport.

The road network serving the Port can be broken down into two distinct parts, 1) internal port roads that fall under the authority of the National Ports Authority; and 2) external road network which services the port directly but contains a mix of port and public traffic. These roads and their level of service for the am peak period are set out in the table below:

**Table 35: Port Access Roads and LOS for AM peak period**

Road	V/C Ratio	Level of Service
N1 Tablebay Boulevard	0.73 – 0.99	F
Marine Drive	1.03 – 1.19	F
N2 Eastern Boulevard	At Capacity	F
Dock Road	0.44 – 0.75	E
South Arm Road	0.44 – 0.75	E
Heerengracht Street	No information available	No information available
Oswald Pirow Street	At capacity	F

With some exceptions, these roads all suffer from congestion during peak periods due in part to their close proximity to and locations within the Cape Town CBD and Rat Running traffic using Duncan Road to travel to the CBD.

Currently, the metropolitan roads network operated at capacity and without expending the transport infrastructure access to the harbour becomes problematic. There is spare capacity on the South arm and Dock Road but this is merely a linkage road between the metropolitan road network and the internal harbour road network.

### **21.2.2 Rail**

The Port of Cape Town is linked to the Spoornet Railway System via two lines, from the north to the container handling area and via an underpass from the Esplanade line to the southern quays and the Clock Tower Precinct.

### **21.2.3 Non-Motorised**

Pedestrian access to the port is via an uncovered pedestrian bridge between Esplanade and the Port. Other pedestrian activities are from Cape Town Station via the CBD towards the Port and the Victoria & Alfred Waterfront.

## **21.3 Issues**

### **21.3.1 Proposed Future Road Improvements and Access to the Port**

The review of the relevant land use and transport planning studies has indicated that the existing accesses to the Port by both rail and road are likely to remain for the foreseeable future. Initial indications by the Port Authorities to the proposal for an additional access via the Lower Church Street intersection (as per the Culemborg Development Framework) have been negative. It is therefore anticipated that the status quo will be maintained regarding points of access to the Port. The future traffic situation has therefore been assessed based on the assumption that the current access intersections to the Port have been maintained.

Access to the proposed Port Industrial Park situated on the ICS Power Station Site has been assumed via the Marine Drive/Paarden Eiland Road intersection.

As the N1 Corridor Conceptual Planning Study is currently evaluating alternative interchange alignment and configurations for the Marine Drive Interchange, together with possible public transport proposals for both the Marine Drive and N1 Corridor, the ultimate layout of this interchange has yet to be determined. It should therefore be noted that the proposed realignment of the Marine Drive Interchange as per the Port Development Framework is only one of a number of alternative alignments/strategies that is being considered.

### **21.3.2 Road Based Public Transport**

Public transport traffic generated by the Port is concentrated predominantly at the South Arm and Heerengracht access intersections to the Port. The Heerengracht provides the least congested traffic route between the Cape Town Station and the Port during the weekday AM and PM commuter peaks, and should remain relatively free-flowing in the

future. The route to South Arm via the Buitengracht corridor is already congested for extended periods during the weekday AM and PM commuter peaks, and this situation is likely to get worse over time. Based on the projected growth Port activities, it is likely that peak period public transport demand will increase.

Two way taxi and bus flows on various sections of Duncan and Container Roads are indicated in the table below:

**Table 36: Traffic Volume on Port Roads**

Route Section	Two Way Flow (vehicles per hour)			
	Weekday AM		Weekday PM	
	Buses	Taxis	Buses	Taxis
Duncan Road	3	18	12	83
East of South Arm	4	12	6	11
West of Heerengracht	1	10	2	14
East of Oswald Pirow	1	2	2	8
East of Container Road				
Container Road	0	2	2	8
North of Marine Drive				

The Port is well served by both buses and taxis, predominantly as feeder services from Cape Town Station. Significant taxi flows were measured on Duncan Road in the vicinity of South Arm Road, which is possibly serving as an informal pick up point during the weekday PM peak period. The bus services are a contracted service between Cape Town Station, South Arm Road and the Container Terminal Building.

### 21.3.3 Rail Based Public Transport

Currently there are no public transport access, via rail to the Port and Waterfront. This is an area that could provide better connectivity between the greater metropolitan area and the port in future. The infrastructure does exist but is underutilized.

### 21.3.4 Access and Congestion

Congestion on the Metropolitan Road Network does have an effect on the operational performance of the Port of Cape Town. Access in the peak periods is limited due to congestion.

#### **21.4 Strategies**

- Improve access
- Provide improved access to the port
- Increase the usage of rail freight transport
- To improve planning and cooperation between the City and the Ports Authority.

#### **21.5 Projects**

- Provide better public transport connectivity (road, rail and non-motorised transport routes)
- Improve road links and upgrade interchanges
- Draft guidelines for rail freight mode
- Promote rail freight
- Establish a planning and cooperative framework agreement

Note, that at the time of drafting this report, the City and the Ports Authority were in the process of concluding a planning and cooperative framework agreement.

#### **21.6 Budget**

Joint planning with the Port Authority will identify projects and related budgets.

# 22. Asset Management

## 22.1 Introduction

The City has to maintain its facilities and public infrastructure at an acceptable level so that the general public have access to an acceptable level of service, and also so that the taxpayer receives value for money.

## 22.2 Status Quo

The City is responsible for the maintenance of the following assets:

- Public Transport Facilities / Interchanges (190) which include some or all of the following facilities:
  - a) Pavement areas (vehicles and passengers)
  - b) Drainage
  - c) Buildings, canopies and shelters
  - d) Lighting
  - e) Road signs and markings
  - f) Landscaping, street furniture, fencing
  - g) Other : CCTV, access control
  - h) Bicycle lockers
  
- Major and local road systems including the following:
  - a) Bridges
  - b) Culverts
  - c) Sea and retaining walls
  - d) Stairs
  - e) Gulleys, catch pits and connections, reticulation outlets, underground pipe systems, silt traps
  - f) Refuse racks
  - g) Stormwater pump stations
  - h) Road traffic signs, gantries and overhead sign structures.

- Bus/Taxi Stops (3000 stops, 1100 shelters) which consists of pavement areas, shelters, road signs and markings
- 4500 on-street kerbside parking areas
- Open parking areas (Formal and Informal)
- Parking Garages
- Traffic Monitoring Equipment which include 15 Mikros data loggers, one portable visual speed display sign (VMS), and one LOTOS laser system (RTMS)
- 29 CCTV camera
- 1259 Traffic Signals in the City of which
- (934 Traffic Intersections and 325 Pedestrian crossings)

The average age of Traffic Signal Controllers is approximately 8 years, while most Controllers need to be replaced by the time they are 10 years old. Currently there are 5 % of controllers that are as old as 18 years.

### **22.3 Objective**

To develop and provide an Asset Management Strategy (AMS) for the Transport Department within the ambit of the Municipal Finance Management Act (MFMA), Generally Accepted Municipal Accounting Practice (GAMAP), Immovable Assets Management Bill, 2006 and corporate legislative framework with SAP as the information monitoring system and database.

### **22.4 Key Strategies**

The AMS will include the development of the following:

- Asset Management Policy
- Fixed Asset Information Management System on SAP Plant Maintenance and GIS
- Movable Asset Management Register as per the Corporate Asset Control Policy and Procedures document
- Asset Maintenance Management Plan
- Staff Resource Plan will enhance a recruitment and training strategy of suitable and adequately qualified and experienced professionals to execute the legislative mandate.

## **22.5 Challenges**

The most important challenges in respect of asset management are outlined below:

- Asset management in Transport currently is silo based within Branches and leads to a fragmented level of service- this leads to poor budgetary allocations and inefficiencies in the condition assessments, life cycle, operation and maintenance planning of assets.
- Key information is lacking to enhance optimum management principles and interventions
- Technical skills are lacking in facilities management
- Regular performance assessment of fixed assets needs to be undertaken.

## **22.6 Risks**

Asset management has certain risks that need management:

- Asset stripping
- Inadequate funding and lack of operational and maintenance funding
- Retention of key staff and enhancement of applicable skill sets
- Lack of focus in maintaining the 5point AMS and the asset register and database
- Custodians and users of the assets not being satisfied and avoid using the facilities and assets created
- Low service quality where internal service delivery agents being used i.e. Property Services, Roads & Stormwater, Corporate Services (Building Maintenance) focus on other priorities

# 23. Special Projects

## 23.1 N2 Gateway Housing scheme

### 23.1.1 Introduction

The N2 Gateway Housing Scheme stems from the Constitution which affords everyone the right to have their dignity respected and to have access to adequate housing.

The Constitution, Housing Acts, and Systems Act give all three spheres of government responsibility for the provision of access to adequate housing and basic services and mandate them to cooperate with one another and mutual trust and good faith in matters of common interest. In terms of the aforementioned Acts, the City must ensure that people within its jurisdiction have access to adequate housing on a progressive basis through its Integrated Development Plan.

The Sustainable Human Settlements Plan<sup>40</sup>, approved by Cabinet in August 2004, requires all three spheres of government to work together and to ensure the development of sustainable human settlements that provide residents with a safe environment with adequate access to economic opportunities, basic services, transport, education, health, and community facilities. The Settlements plan will transform the City and reduce the current backlog of 260 000 units.

The N2 Gateway Housing Scheme has been chosen as a lead project in which all three spheres of government will work together to pioneer an innovative approach to developing sustainable settlements.

### 23.1.2 Scheme Description

The N2 Gateway Housing Scheme is a pilot, intergovernmental project being implemented as part of the Sustainable Human Settlements Plan.

The goal of the project is to create integrated and sustainable human settlements in the areas that have been identified for inclusion in the project, which seeks to address in an

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<sup>40</sup> Breaking New Ground: A Comprehensive Plan for the Development of Sustainable Human Settlements

innovative way, the urgent needs of households in the identified areas for services, shelter, and socio-economic development based on the principles of sustainable development. Housing schemes have been identified in the following areas: Joe Slovo, NW Epping Site, Delft (Towns 7-9), Delft Symphony (Towns 14-16), Boys Town, New Rest, Kanana, and Driftsands.

Some of the projects are already under construction which will deliver 22 000 houses.

### **23.1.3 Projects and Budget**

From a transport perspective, the City aims to provide facilities which support non-motorised and public transport systems and to link and integrate communities to the broader metropolitan area through providing regional transport infrastructure. Since most of the identified implementation areas, have communities that depend on walking and public transport, particular attention will be paid to providing quality non-motorised transport facilities (walking cycling, landscaping etc) and public transport facilities (embayments, interchanges, drop off and collection points, street furniture). Necessary metropolitan road infrastructure will be provided to improve access and mobility and to integrate isolated communities

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## **23.2 Inner City Transport**

This section sets out details of the transport situation in the Inner City and promotes the idea of an Inner City Transport system that will be integrated with all other modes of transport, particularly walking and cycling. The Inner City is highly accessible by public and private transport; however, it lacks a distribution system to serve the transport needs of workers, leisure seekers, and tourists. The Inner City has a high potential to be more pedestrian and cycle friendly because of its accessibility and the high number of pedestrians throughout the day.

### **23.2.1 Introduction**

The inner city area is a metropolitan attractor, pulling people from as far a field as Khayelitsha and the northern areas. It attracts commuters, students, scholars and tourists who access the area by train, bus and mini-bus taxi patronise higher order facilities such as the numerous tertiary education institutions and health institutions, work places and tourist locations. Pedestrian volumes are thus high during the peak hours especially at the points at which individuals disembark from their respective transport modes. The CBD and main activity roads within the Corridor such as Victoria, Albert and Somerset Roads are busy throughout the day as they service those working, studying and living in the area with shopping, banking and other civic opportunities. The Central City is an area of great tourist interest with a combination of historical buildings (notably The Castle and Bo-Kaap) and modern attractions (e.g. the International Convention Centre).

Daily some 240 000 people commute to the Central City which provides almost 30% of the employment opportunities within the entire City. More than 50% of these people arrive by public transport- either at the Cape Town Commuter Rail Station, the Station Deck minibus taxi terminal or the Golden Arrow Bus Terminal. Their onward journey then involves either a substantial walk (e.g. into the Dock's area or Gardens/Oranjezicht) or finding a minibus taxi at one of the minibus taxi ranks that are scattered around the Central Area and located by availability of road space rather than passenger needs.

The Central City is a place of historical, cultural and symbolic significance. It is an international tourist destination and an important residential area which is growing in size. It is also a major generator of income (R180 million in property rates in 2002) which is redistributed to other parts of the City.

### **23.2.2 Status Quo and Issues**

The existing inner City transport system is an ad-hoc mixture of buses, minibus taxis, metered taxis and courtesy services all of which compete with each other for passengers, road space and boarding/alighting facilities. Thus, there is no distribution system that caters for business, leisure or tourist transport demand in a convenient and regular fashion.

The existing services are fragmented and do not operate on a schedule, and makes it almost impossible for those who have appointments or who have a set time within which to do their business to do so using the available transport.

There is thus a need to have an integrated system that acts as both a distribution system for people moving around the Central City and a feeder service for people using Cape Town Station to board/alight from the extensive commuter rail network, which overall carries more commuters than bus or minibus modes. Many rail commuters come from the residential areas of Khayelitsha, Philippi, Nyanga and Mitchell's Plain to travel to/from the Central City.

The need for high quality public transport system was quantified by a study undertaken in 1996 (the Integrated Inner City Public Transport Study), which investigated a light rail and road-based solution. It concluded that a pilot road-based solution should be implemented first.

Based on the findings of the 1996 Study, the City completed in 2002 the design and tender documentation necessary to procure and operate 11 low entry 36 seat buses within the Central City. The project had progressed to an advanced stage, when the City cancelled it for a number of reasons, the main one being that there were no other sponsors involved, which meant that the City was financially liable for the entire capital and operating costs. The project progressed to the point where road works for stops were completed, static passenger information displays were designed, and a contract for the supply of the ITS equipment such as electronic smart card ticketing, GPS fleet management and monitoring systems and an extension of the CCTV safety and security surveillance system, was also well advanced.

The project would have provided high quality, high frequent services initially on the core north-south axis with a link to V&A Waterfront. It was intended to expand the service to Sea Point, East City, Culemborg and the Table Mountain Lower Cable Car Station as patronage for the service was established.

### **23.2.3 Strategy and Project Proposal**

The need for an Inner City Transport System can be creatively fulfilled through partnerships. The City has discussed the proposal with the Cape Town Partnership who are supportive of the scheme as a revised circulatory service in the CBD and other Business Districts as an integral part of the City's Integrated Transport Plan. The key elements of the revised conceptual bus service are as follows:

- Circulatory transport service will operate in the CBD and other BD's e.g. Mitchells Plain as part of feeder system to Transport Interchanges
- Circulatory transport service will allow linkage and integrations of destinations within the corridor concept and supporting the commuter rail system and dedicated bus lanes
- The proposed redeveloped Cape Town Station Interchange will be linked to the Convention Centre and the Victoria and Alfred Waterfront allowing all access and mobility within the CBD
- Business is prepared to support the operation of the service
- City will not have to purchase special vehicles-concept is based on the previous City Hopper concept. Operation will have to be placed on public tender.
- BEE operators will be favoured in terms of the City's Procurement Policy
- City's contribution will be limited to the provision of infrastructure e.g. embayments, shelters and information system.
- Comprehensive process of engagement with all stakeholders
- Much of the work done for the Inner City Bus Service Demonstration Project can be used in the CBD e.g. the design of the routes and the use of the CCTV cameras and other system previously bought under previous contracts but not optimally employed to date
- The circulatory service can be bought on line relatively quickly and in time for 2010

- The proposal is sustainable and not for a period of only 5 years as the previous Inner City Bus Service Demonstration project.

The implementation of a Public Transport Central City Distribution System is both a social and economic development project from which the entire City will benefit. The following beneficiaries and benefits have been identified:

- The 240 000 people who commute to the Central City daily
- Residents of the Central City
- Tourists to the Central City
- Special Needs Passengers (especially those in wheelchairs)
- Existing public transport operators who combine to form the entity providing the service (bus, minibus taxis, small bus and metered taxi operators)
- Economic development throughout the Central City by increasing public confidence
- Formal and informal traders
- Environmental management of the City through reduced traffic congestion and pollution
- Improved safety and security
- Opportunities for the minibus taxi and small bus operator industries to participate in the broader subsidised public transport industry
- The improvement in the public transport distributions system will assist all SMME's within the Central City to move around the area more easily thereby reducing their costs.
- The tourism signage will also encourage tourists to visit lesser-known sites where SMME's will have the opportunity to market their goods.
- Opportunities for participation in service delivery by small, medium and micro enterprises (SMME's), both during planning and detail design stages and during implementation.
- Firms having SMME status will be responsible for the planning and design of the works.
- During construction, opportunities will be created for contractors with SMME and BEE status to be part of the total construction process.
- Facilities like bike-shops, bike hiring, and bike-lock-ups will be developed for small traders to be involved.

Liaison undertaken for the previous Inner City Public Transport project revealed support from the Cape Town Partnership and the Chamber of Commerce & Industry. Surveys undertaken by the Partnership also showed overwhelming public support (82% of respondents) for the public transport service.

The principal risk of providing the high quality vehicles is obtaining the support of the minibus taxi and metered taxi industry to participate in the project instead of continuing to operate to their current vehicles. Another significant risk is that the revenue obtained from fares will not cover the operational costs of the service. This may occur due to many reasons, including insufficient passengers or a non-economic fare being charged so as to support other policies of the City. In such cases an operating subsidy will also be required.

The proposed public transport system will integrate the existing modes to form a “community service” providing a co-ordinated feeder and distribution system. This will allow passengers to continue their journey to the various destinations within the Central Area with efficiency, comfort and dignity. The system will support the current planning of the provincial Government and the City to transform the existing bus and minibus taxi service by combining them into a single, unified corridor and feeder service network based upon the City’s Mobility Strategy. The Strategy puts “public transport, people and quality of life first”.

The proposed distribution system is to be a combination of the following elements:

- High quality public transport vehicles with stylised staging points
- Improved facilities for metered taxis
- Improved facilities for cyclists
- Improved facilities for pedestrians

The system will be complimented by improved way-finding signage. All elements will comply with the principals of Universal Design so as to be usable by the majority of people, irrespective of their local knowledge or any disability.

The conceptual route for the high quality public transport will eventually link Cape Town Station and Central Business District to the following important areas of the Central City and with each other:

- North-South axis of the Central City (Long Street/Loop Street/ Buitengracht Street which is the commercial/retail axis of the City)
- V & A Waterfront (retail and tourist centre)
- Somerset Road/Main Road (Eastern activity spine)
- Table Mountain Lower Cable (tourism)
- Cape Town International Convention Centre
- District Six Land Restitution Area
- Woodstock and Salt River
- Culemborg Redevelopment Area/Cape Peninsula University of Technology
- East City Redevelopment Zone Budget

The improvement of the facilities for metered taxis will concentrate upon rationalising the current locations of the designated loading bays and matching the size of these facilities to demand. It will also provide at selected locations basic facilities for drivers.

A key feature of the distribution will be to provide cycling and pedestrian facilities to encourage people to use non-motorised means to move around the Central City. The improved facilities for cyclists will include the provision of a Bicycle/Pedestrian network for the Central Business District incorporating bicycle lanes/routes lock up facilities, bicycle hire facilities and improved tourism signage along all identified routes.

Improved way-finding signage will be provided to enable tourists (and residents) to locate these important sites.

The project will provide a high quality public transport system and non-motorised network to distribute spectators of the FIFA World Cup to and from their hotels to the mainstream public transport system that will take them to the Stadiums within the City. It will also provide the visitors with public transport to the many tourist and retail attractions within the Central City.

The implementation of the Central City Distribution System, utilising a combination of high quality vehicles and provisions of non-motorised facilities, will complement the proposed joint Provincial and City initiative to transform the subsidised scheduled public transport service within the City. This project intends to unify the existing bus and minibus taxi industries into an integrated service provider which utilises the optimum vehicle size to transport its passengers.

Services are intended to operate on core corridors with community services (such as the Central City distribution system) providing the local feeder and distribution services.

The high quality vehicles will aim to attract choice users (who currently travel in private cars) to use public transport. This will assist the Travel Demand Management initiatives that the City is implementing in an attempt to reduce the high peaking characteristics of the current morning travel period. On-board the vehicles will be electronic ticketing systems to provide the passengers “through ticketing” between modes thereby supporting the integration of public transport.

The provision of facilities for cyclists and pedestrians will support the City’s IDP Strategies, Public Transport policies and the Central City SDF.

#### **23.2.4 Project Budget**

The implementation time frame of the project depends upon the availability of funds. It should also link to the commencement of the transformed subsidised public transport services.

Detailed budgets for the different components of the projects are not available. However, an indication of the funding requirements is given in the table below:

**Table 37: Indication of Inner City Transport Project Cost**

<b>Component</b>	<b>Indication of Cost</b>
<p><b>Central City core routes (north-south link and V&amp;A Waterfront)</b></p> <p>Acquisition of 11 high quality low entry 36-seat buses and basic fleet management/monitoring ITS by successful tenderer.</p> <p>Stylised staging points and static passengers information signage for boarding points route planning information (30 locations)</p>	<p>R27 million</p> <p>R5 million</p>
<p><b>Expansion of Central City services to East City and Sea Point</b></p> <p>Acquisition of 15 additional low entry vehicles and basic ITS by successful tenderer</p> <p>Road works necessary for boarding points (30 locations)</p> <p>Stylised staging points and static passenger information signage (60 location)</p>	<p>R30 million(1)</p> <p>R3 million</p> <p>R10 million</p>
<p>Improved facilities for metered taxis</p> <p>Improved facilities for cyclists</p> <p>Improved facilities for pedestrians</p> <p>Improved tourism signage</p>	<p>R2.5 million</p> <p>R6 million</p> <p>R10 million</p> <p>R2.5 million</p>
<b>TOTAL</b>	<b>R96 Million</b>

The success of this project on high quality vehicles which also cater for needs of special needs passengers. The cost of the buses and the full electronic ticketing system is approximately R2 million per bus. The operating cost will be covered by fare revenue, however as the acquisition of the buses is normally undertaken by the successful tenderer, the authorities is responsible for providing a subsidy. This way the capital outlay is minimized by the City, as well as the risk associated with an immovable asset.

The table below shows the budget allocations needed from the various funding sources, including a possible grant from the Public Transport Infrastructure Fund and the Provincial Government of the Western Cape (still to be secured) for the project.

**Table 38: Budget Sources and Amounts**

<b>FINANCIAL YEAR</b>	<b>2005/06</b>	<b>2006/07</b>	<b>2007/08</b>
<b>CoCT</b>	4	6	4
<b>PGWC</b>	4	6	4
<b>PTIF</b>	4	3	4
<b>TOTAL</b>	<b>12</b>	<b>15</b>	<b>12</b>

The target completion date for the whole project is June 2009.

## **23.3 Minibus Taxi Recapitalisation**

### **23.3.1 Introduction**

The Taxi Recapitalisation Programme (taxi recap) is a National Initiative supported by the National Land Transport Transition Act No 22 of 2000 as well as the National Traffic Act as amended in October 2005.

The minibus taxis (MBT) industry has long provided a community-based public transport service as an alternative to subsidised scheduled services. Operating licensing strategies were produced by various planning authorities including the City of Cape Town. This indicated that in many areas, routes were overtraded, leading to fierce competition. In some instances, violent confrontation amongst the operators occurred. This overtrading has also resulted in large parts of the industry being economically unsustainable, resulting in a fleet of aging and unroadworthy taxis.

In response to this, the taxi recapitalisation programme was initiated in September 1999, when National Cabinet approved that the current aging minibuses be replaced with purpose built 18 and 35 seater vehicles. This was a rather ambitious project, which had multiple objectives such as providing safe and affordable transport, the regulation of the MBT industry and the development of downstream manufacturing and job creation underlined by Black Economic Empowerment.

### **23.3.2 Status Quo**

This process has not been without its problems, with the tendering process for both new vehicle manufacturing and the electronic management system having to be abandoned. What remains in the reformulated programme has been the National Minister publishing regulations outlining safety regulations, a once off scrapping allowance of R50 000 per scrapped vehicle, and the operators being allowed to purchase any vehicle of their choice as long as it complies with the seating and safety specifications. It is envisaged that that the programme will begin in the 2006/2007 financial year and unfold over a 7 year period, at a total estimated cost of R7, 7 billion.

### **23.3.3 Implications of Recapitalisation for the City of Cape Town**

There are an estimated 7,500 15-seater MBT vehicles operating within the City of Cape Town (2004/2005 Current Public Transport Record. Results obtained from the 2004/5 Current Public Transport Record show that only 4253 of these legal permit holders were observed during the survey process. This means that approximately 60% of the permits issued for the City of Cape Town area are dormant or inactive.

To recapitalize the vehicles linked to these dormant permits would place a tremendous financial burden on government and it is absolutely critical to withdraw these permits before taxi recap is implemented. It should also be noted that a number of operators have attempted to bring these dormant permits back into operation in order to qualify for the scrapping allowance. This practice compromises quality standards and the safety of commuters and should be discouraged by government. It is also common for taxi associations to allow illegal operators to operate with these dormant permits. It has been widely documented that 70% of the routes in the City of Cape Town are overtraded and the withdrawal/cancellation of dormant permits could alleviate some of the overtrading taking place on MBT routes and this could make the industry more sustainable.

The success of taxi recap is also dependant on the current permit conversion process. This process offers an opportunity to eliminate all dormant permits. Before a permit can be converted to an operating licence, the operator must be able to prove that the service authorised by the permit has been provided on a regular basis for a period of 180-days before the date of application for conversion (unless the permit was granted less than 180-days before application for conversion). This "proof" must take the form of written confirmation from the planning authority.

### **23.3.4 Law enforcement**

Effective law enforcement will be a key factor in determining the successful implementation of the recapitalisation programme within the City. When the programme was launched in 1999, significant funding of law enforcement strategies to support this process was proposed in the national transport budget. Local law enforcement agencies are currently experiencing a lack of adequate staff, equipment and infrastructure. The establishment of joint action plans across all three spheres of government has as yet not

been initiated. Also, far more communication will be required to ensure there is cooperation between various agencies, and decisions made about the provision and funding of the full range of resources, to enforce public transport. Operational plans need to be drawn up urgently which will focus on priority areas and the execution of specific enforcement actions or operations. For example, the review and funding of impoundment facilities for unroadworthy and illegal vehicles will have to be finalised as soon as possible. The development and funding of training programmes for traffic officials must be introduced, and well before the recapitalisation programme gets under way. In other words, all administrative and institutional structures pertaining to enforcement must be in place in its totality, to prepare for the recapitalisation programme.

### **23.3.5 Infrastructure requirements**

The City of Cape Town is well provided for in terms of both bus and MBT facilities, from which operators provide public transport. Minibus-taxis operate from 203 facilities, many of which are located next to other modes such as rail or bus, allowing passengers to interchange relatively easily.

The National government has recognised that the “roll-out” of the programme contains critical elements, especially those pertaining to changes in the physical structure of these facilities, and the cost implications of such changes. It was decided that guidelines needed to be developed, facilities for the roll-out prioritised, budget and other impacts be calculated and discussed, and that certain minimum standards be accepted by the provinces and local planning authorities.

### **23.3.6 The way forward**

The taxi recapitalisation programme is a massive and complex intervention within the public transport system in the City, requiring significant funding and institutional cooperation. There are clearly huge expectations on the part of stakeholders, operators, and more importantly, the commuting public, who deserve better a more dignified service. The mini-bus tax industry is also highly volatile, and any failure on the part of the various authorities to successfully implement this programme, will only serve to further destabilize this sector. The City is committed to achieving an integrated public transport system, and will work with other authorities in implementing a successful recapitalization programme.

# 24. Soccer World Cup:2010

## 24.1 Introduction

On Saturday, 15 May 2004, history was made when South Africa became the first country on the African continent to be awarded the privilege to host the 2010 FIFA World Cup by the world soccer governing body, known as Federation International Football Association (FIFA). Among other cities in South Africa, Cape Town was selected as one of the suitable venues to host games of this magnitude.

Initially, Athlone Stadium was selected as the match venue in Cape Town, with Newlands and Green Point Stadium being preferred as the practice venues. In February 2006, FIFA in conjunction with the South African government decided that a new 68 000 seat stadium be constructed on the Green Point Common, shown in the figure below, for a semi-final match and be designed as a multi-purpose facility. Athlone Stadium will now receiving match practice venue status and Newlands Stadium remaining a practise venue.

The proposed Green Point Stadium will lie within the Green Point Commonage on the Western side of Cape Town's CBD. The Green Point Common lies west of the Port of Cape Town and the Victoria & Alfred Waterfront and approximately 1km south of the Atlantic coastline. It is surrounded by public roads such as, Western Boulevard, Somerset Main Road, Portswood Road and Beach Road. In order to comply with FIFA's conditions for hosting such an event, among other things, South Africa is required to provide efficient public transport infrastructure

This is as a summary of the main aspects and strategies of the 2010 FIFA World Cup Regional Transport Plan.



Figure 47: Proposed location of 68,000 Seat Stadium

## **24.2 Planning Objectives and Principles**

### **24.2.1 DoT's 2010 Transport Action Plan**

The 2010 FIFA World Cup will be a success if the accelerated transport investments secured in preparation for 2010 yield a lasting legacy of quality transport services, infrastructure and systems. Transport services and infrastructure provided in 2010 must meet the efficiency, safety, quality and cost-effective requirements of the modern era, and must be accessible to all, visitors and residents alike.

The DoT's vision, set out in the Action Agenda document and endorsed by the National Treasury, is:

- To use the 2010 FIFA Soccer World Cup to speed up a lasting legacy for public transport in South Africa.
- To ensure that the 2010 Soccer World Cup will quietly showcase appropriate sustainable mobility solutions that will serve the majority of South Africans at the venue cities both during and after the 2010 event.
- To have assisted major South African cities to accelerate the implementation of the first phases of their integrated transport plans, and to fast track key public transport, non-motorised transport and transportation management projects.
- For these newly integrated systems to cater for the needs of the estimated 3 million 2010 FIFA Soccer World Cup ticket holders and to demonstrate the initial benefits of the long-term economic and social transformation such a system enables.

### **24.2.2 Western Cape Transport Mission Statement**

The Provincial Land Transport Framework sets out its transport mission statement as follows:

“to deliver an integrated, accessible, safe, reliable, affordable, sustainable and quality transport system and property infrastructure through socially just, development and empowering processes, to improve the quality of life for all”.

In order to achieve the above mission statement, the Provincial Department of Transport & Public Works has identified the following strategic goals:

- Community development and economic empowerment of the poor.
- Job creation.
- Providing access and opportunities to all communities with a bias towards the disadvantaged
- Enhancing the mobility of all communities particularly those currently without or with limited access.
- Facilitation and enhancement of economic opportunities.
- Promotion of rural development.
- Internal transformation and capacity building to improve service delivery.
- The promotion of co-operative governance.
- Alignment of all planning processes with the broader development goals of the Department’s iKapa Elihlumayo initiative.
- Generation of revenue.

### **24.2.3 Strategic Development Framework**

Five inter-related Integrated Development Plan (IDP) strategies have been developed to guide the City’s development:

- Creating Integrated Settlements
- Economic Growth and Job Creation
- Access and Mobility
- Building Strong Communities
- Equitable and Effective Service Delivery

Access and Mobility (Strategy 3) has an emphasis on transport although the attainment of the City's vision relies on harnessing the synergies among all five strategies. The strategy has been developed in some detail as part of the restructuring and transformation of public transport based on a new paradigm for transport - A Mobility Strategy.

### **24.3 FIFA Requirements and Key 2010 World Cup Transport Components**

#### **24.3.1 World Cup FIFA Family**

A total of 20 200 FIFA Family members are expected to land in South Africa for the World Cup. The FIFA Family includes FIFA members and officials, players and team officials, referees, medical officials, media and sponsors and suppliers. FIFA requires that 1 700 parking bays be provided at the match venue and also requires a dedicated transport system for the World Cup Family.

#### **24.3.2 World Cup Accommodation**

Cape Town is an attractive destination, with quality accommodation and as a main 2010 venue city, it is estimated there will be up to 55 000 international supporters based in Cape Town. In addition regional supporters of around 6 000 to 8 000 will also be seeking short term accommodation. Quality transport provision (both public and private transport mode) needs to be planned for all these visitors for the entire stay, and not solely for access to the match stadium.

#### **24.3.3 Spectator Movements and Travel Demand**

An initial travel demand projection for South Africa was conducted by the Department of Transport. There will be approximately 400 000 international ticket holding visitors to South Africa during the 2010 World Cup. Following the most recent FIFA Soccer World Cup Guidelines, planning for 2010 assumes teams will move venues between matches, as opposed to having a

“home” venue for the group stage. Thus, there will be large daily movements between venues by supporters putting pressure on regional transport networks.

#### **24.3.4 Green Goal Programme**

This year Germany will host the first FIFA World Cup games, which incorporates FIFA’s new Green Goal Programme. This initiative strives to offset carbon emissions through supporting Gold Standard projects. The Gold Standard is an internationally recognised guarantee of the highest social and environmental standards. Green Goal’s target is to reduce the global climate impact of the FIFA World Cup games to a minimum.

There are five core areas covered by Green Goal: water, refuse, energy, mobility and climate neutrality. The event inevitably requires the transportation of vast numbers of supporters, players and officials resulting in a significant increase in greenhouse gasses. For the 2006 FIFA World Cup Germany is boosting public transport to account for 50% of transportation to strive to reduce emissions. Promoting public and non-motorised transportation plays an important role in reducing the effects of greenhouse gases on the climate.

Transportation and effective transport planning plays a major role for Cape Town and South Africa in attaining the standards set by FIFA’s Green Goal Programme.

#### **24.3.5 Location of Big Screen Expo Venues**

Another important part of the overall World Cup concept is the location of a number of big screen expo venues, which can easily be accessed by non-ticket holders.

The big screen expo venues will play the following roles:

- Allow non-ticket holders to be part of the excitement and fun of the World Cup.

- Divert non-ticket holders away from the vicinity of the match venue.
- Can provide important commercial opportunities for local businesses, in terms of food, beverages and World Cup merchandise.
- The large screen expo venues must be limited in number; however, they must be located in such a way that they provide easy access to a large number of local people. The location and number of these large screen venues needs to be dealt with in the next planning phase.

#### **24.3.6 Location of Practice Venues**

One of the SAFA's objectives of hosting the 2010 FIFA World Cup is to leave a legacy of improved football facilities throughout the country. One aspect of improved facilities is the construction of new, and upgrading of existing, football venues for the run-up period to the 2010 World Cup.

The following stadiums have been made part of the overall 2010 FIFA Soccer World Cup by being selected as potential practice venues:

- Newlands Stadium
- University of the Western Cape
- Stellenbosch University
- Swartklip Sports Complex
- Barcelona Sports Complex
- Vygieskraal
- Hartleyvale

Transportation issues regarding these stadiums will need to be addressed in the 2010 Regional Transport Plan.

#### **24.4 World Cup Priority Transport Projects**

The World Cup transport system focus on making the best use of air, road and rail infrastructure in place by 2010, supplemented with additional services only where necessary to ensure fast and efficient access between venues.

The Department of Transport intends to use the excitement and focus of the 2010 events to catalyse a lasting legacy for public transport in South Africa.

To-date, R 3.5 billion in new and additional monies have been set aside for public transport and non-motorised transport infrastructure and systems investment, with priority to venues supporting the 2010 soccer events. The DoT now oversees these monies under the Public Transport Infrastructure and Systems Fund (PTIF). The PTIF has been created as a vehicle to accelerate the pace of implementation of investment in sustainable mobility infrastructure. While support to 2010 host cities is the initial priority of the PTIF, the Government intends grants in later years and potential additional replenishments to support public transport improvement in every corner of the country. Overall around R 2.1 Billion has so far been allocated in the two rounds of PTIF applications in 2005.

#### **24.4.1 Priority Statements**

The Priority Statements aim to accelerate and fast track projects forming part of the integrated transport strategy for the City with an emphasis on the improved delivery of public transport services, key public transport interventions including facilities, non-motorised transport, and transport management for the 2010 FIFA Soccer World Cup.

The Priority Statements consist of the projects that were established for Athlone Stadium with one or two of these projects applicable to the proposed Green Point Stadium. The revised Priority Statements for Green Point Stadium will be developed as part of the 2010 Regional Transport Plan. The two tables below illustrate the two previous priority statements submitted and the projects that received approval.

Funding secured for non-rail improvement projects totals R 292.15 million, with specific rail improvements at R 220.69 million.

**Table 39: Priority Statement Application Submitted in May 2005**

No.	Category	Description	Applicant	PTIF Funding	Allocated	Project Priority	
						Athlone	Green Point
1.1	Non Motorised Transport	Athlone Stadium Bicycle Facility	CCT	R 0.75 m	x	High	Low
1.2		NMT Facilities to Athlone stadium	CCT	R 4.0 m	x	High	Low
1.3		Belgravia Road / Athlone Stadium Forecourt Precinct	CCT	R 2.5 m	x	High	Low
2.1	Public Transport	Multimodal Public Transport Services Plan	CCT	R 0.3 m	x	Medium	Medium
2.2		Multi-modal Ticketing System	CCT	R 0.3 m	x	Medium	Medium
3	Public Transport Services	MTI Call Centre	CCT	R 2.0 m	✓	High	High
4.1	Travel Demand Management	Upgrade of Area Traffic Control System	CCT	R 3 m*	✓	High	High
4.2		Installation of a Road Traffic Monitoring System	CCT	R 2 m*	✓	High	High
4.3		Extension of CCTV Coverage on the N1	CCT	R 2.5 m*	✓	High	High
5.1	Roads Projects Linked to Public Transport	Hospital Bend – Westbound – Pre-Selection Lane	CCT	R 5 m	x	Medium	High
5.2		Hospital Bend – Eastbound – Pre-Selection Lane	CCT	R 1 m	x	Medium	High
5.3		N2 BMT Lanes – Vanguard Drive to Borchards Interchange	PGWC	R 23 m	x	Medium	High
<b>Total Funds Allocated</b>				<b>R 8 m</b>			

\* Note: Only R 6 million of the requested R 7.5 million was awarded for these three projects.

**Table 40: Priority Statement Application Submitted in July 2005**

No.	Description	Applicant	PTIF Funding	CCT / PGWC Contribution	Allocated	Project Priority	
						Athlone	Green Point
1	World Cup Transport Plan	CCT	R 1.65 m	R 0 m	x	High	High
2.1	N2 BMT Lanes – Vanguard Drive to Borchards Interchange	PGWC	R 100 m	R 78 m	✓	Medium	High
2.2	Hospital Bend – Westbound – Pre-Selection Lane	CCT	R 29 m	R 29 m	✓	Medium	High
2.3	Hospital Bend – Eastbound – Pre-Selection Lane	CCT	R 11 m	R 12 m	✓	Medium	High
3	Klipfontein Public Transport / NMT Scheme	CCT	R 90 m	R 240 m	✓	High	Medium
4	Central City Transport System	CCT	R 11 m	R 28 m	x	Low	High
5	Long Distance Coach Terminals	CCT	R 11 m	R 23.5 m	x	High	High
6.1	Inter-operable, Integrated Fare Management System	PGWC	R 65 m	R 35 m	x	High	High
6.2	City-wide Non-motorised Transport Plan	CCT	R 20 m	R 25 m	✓	High	High
6.3	Strategic Public Transport Network Development	CCT	R 93 m	R 92 m	x	Medium	Medium
7.1	Network Operations Incident Management Centre	CCT	R 10.15 m*	R 50 m	✓	Medium	Medium
7.2	N2 and Klipfontein Road Corridor ITS	CCT	R 30 m*	R 26 m	✓	High	Medium
8.1	Improvements to Athlone, Heideveld and Langa Stations	SARCC / Metrorail	R 60 m	R 0 m	✓	Medium	Low
8.2	Upgrades to Cape Town Station	SARCC / Metrorail	R 40 m	R 0 m	✓	Medium	High
8.3	Pedestrian cross-over and Access Improvements**	SARCC / Metrorail	R 40.23 m	R 0 m	✓	High	High
8.4	Passenger Communication Improvements**	SARCC / Metrorail	R 40.23 m	R 0 m	✓	High	High
8.5	Security and Security –related IT systems infrastructure**	SARCC / Metrorail	R 80.46 m	R 0 m	✓	High	High
<b>Total Funds Allocated</b>			<b>R 545.07 m</b>	<b>R 460 m</b>			

\* Note: Only R 34.15 million of the requested R 40.15 million was awarded for these two projects. The missing R 6 million was awarded in the first PTIF application.

#### **24.4.2 Possible public transport routes for the World Cup**

The following routes have been identified as major routes that will possibly play a significant role in terms of providing transport infrastructure for the World Cup (See Figure 48):

- Cape Town Airport to City Centre/Stadium – Freeway linkage (N2) by dedicated public transport lane.
- Northern Suburbs to City Centre/Stadium - Freeway linkage (N1) by dedicated public transport lane and rail
- Southern Suburbs to City Centre/Stadium, by rail and road along Main Road and Eastern Boulevard.
- Southern Suburbs to Airport, by rail interchange to N2 Freeway link.
- Accommodation nodes in the Winelands (Stellenbosch, Somerset West and Paarl) link to the airport and Stadium/City Centre via N2 Freeway

#### **24.5 Proposed Green Point Stadium Transport Impact Assessment (TIA)**

The proposed Green Point Stadium TIA will feed into and to a certain extent, direct this Regional Transport Plan. Some of the following aspects fall within the TIA.

Western Boulevard has been earmarked for the shuttle service to and from the Stadium. Somerset Main Road has been earmarked for walking, cycling and special needs people to and from the Stadium.

Culemborg and V&A Waterfront have been identified as the potential parking area around Green Point Stadium. It is intended that public and private transport passengers will travel towards the city and park at Culemborg, from where they will be transported by shuttle services to the match venue along Western Boulevard. Pedestrian facilities will also be provided along Somerset Main Road towards the match venue.

## **24.6 WAY FORWARD**

The 2010 Regional Transport Plan will assess and expand on the aspects discussed. A detailed implementation schedule for the 2010 Transport Regional Plan is currently being drawn up. The preliminary completion date of the plan is July 2007.

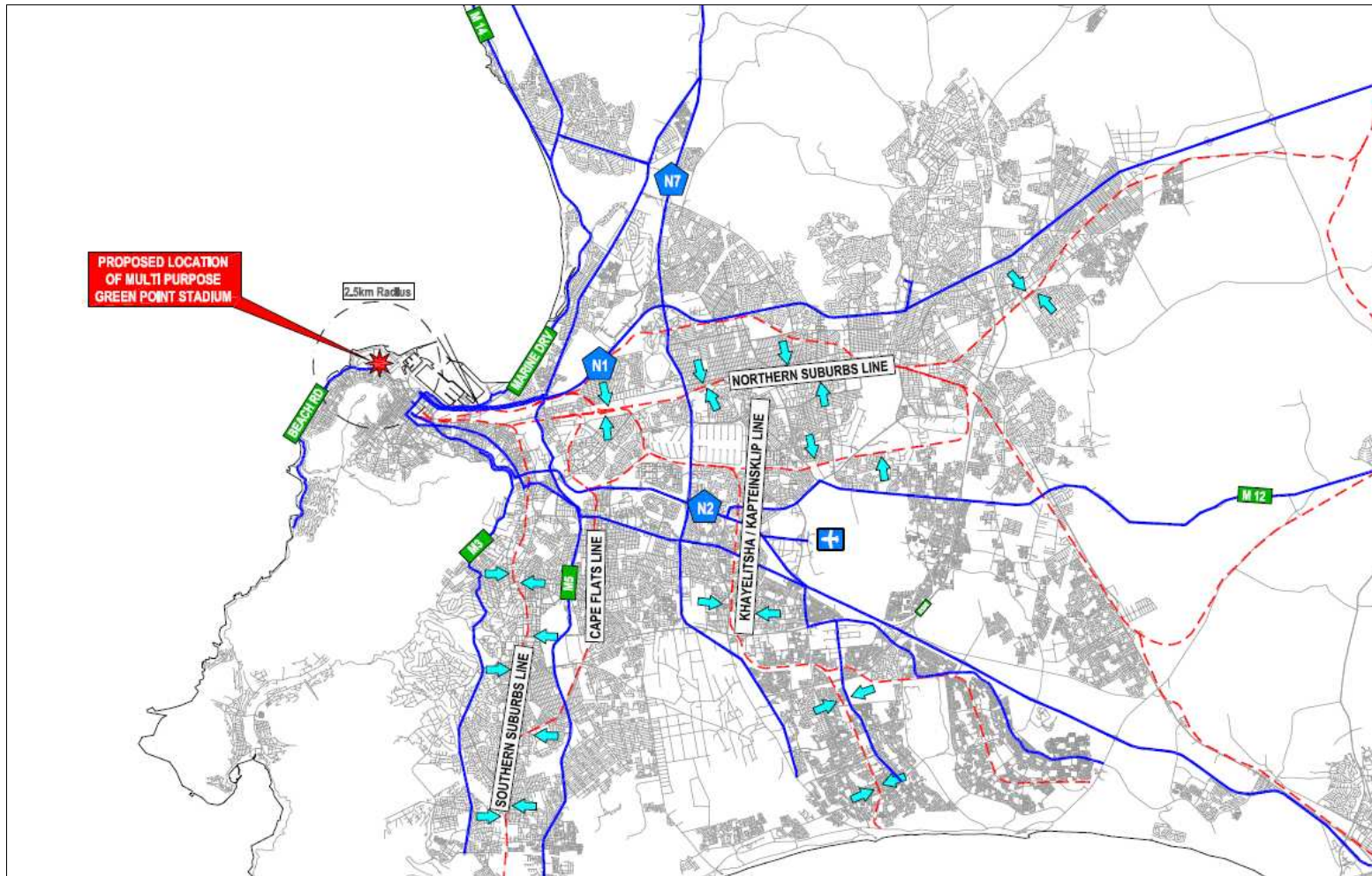


Figure 48: Major Routes for 2010 World Cup

# 25. Expanded Public Works Programme

## 25.1 Introduction

The Expanded Public Works Programme (EPWP) is a nationwide programme to create work opportunities within all spheres of Government. A further aim is to create 100 000 jobs in the Western Cape and to halve the level of unemployment by 2008.



relates to 700 number of job opportunities being created within current projects. The objective is to support job creation through public works & construction and labour



## 25.2 Strategy

The strategy in Transport is to link the EPWP with the relevant IDP objectives, identify suitable projects and align the Budget priorities accordingly. Further, to use Transport Infrastructure as leverage for economic development, job creation and social inclusion. Current estimates in the Transport SDBIP 06/07 relates to 700 number of job opportunities being created within current projects. The objective is to support job creation through public works & construction and labour intensive activities by linking of Transport Infrastructure & Service delivery.

It is recognised and accepted that the NMT projects are currently fulfilling a primary role in the delivery within the EPWP framework. The NMT field by nature is suitable for the integration of the EPWP

principles. The projected Transport Budget provision between 2005 -2009 amounts to R187m (see table below).

### ***Internal Partnerships***

The EPWP strategy includes building relationships and partnerships with stakeholder departments i.e. the EPWP Unit, Roads & Stormwater, Procurement, Local Community Economic Development (LEAD) and City Spatial Development.

### ***External Partnerships***

It is important for the Transport Department to link and build partnerships with the Department of Transport, SETA's, PAWC and Department of Public Works.

This will have added benefits in terms of co-ordinated and a more focused approach in terms of planning, contractual issues, budget alignment, programmes, transfer of skills, project implementation and "lessons learnt".

## **25.3 Future Scenario and Challenges**

- 1 to include the maintenance component of projects which will aide community participation and ownership
- 2 to create continuity and sustainability of projects with the community and business partners through training via the SETA programmes
- 3 to interlink the EPWP with the Accelerated and Shared Growth Initiative South Africa (ASGISA) – the programme's objective is to halve unemployment and poverty by 2014
- 4 the identification, further Education and Training for skills on NQF standards within the requirements of the SETA through training in artisan learnerships, ABET, HIV/AIDS, supervisory and business leadership
- 5 to identify and engage local entrepreneurs in a sustainable manner to enhance business skills in the BEE sector on Capital Projects
- 6 to engage women and youth organisations to built capacity in terms of the maintenance programme
- 7 to build relationships and partnerships with internal stakeholder departments for an integrated approach towards planning and delivery of projects

- 8 to improve the integration of the EPWP and ASGISA principles within the current Supply Chain Management Policy of the City

**Table 41: Transport Budget**

Transport NMT Budget 2005 - 2009						
Project Definition Description (40 Characters) SAP Field	2005/2006 Current Budget Proposed Adjustment May2006	Proposed adjusted provision 2006_2007	Proposed adjusted provision 2007_2008	Proposed adjusted provision 2008_2009	Fund Source Desc	IDP Theme
Klipfontein Corridor: NMT Facilities	28,801,506	30,000,000	28,000,000	30,000,000	4 CAPE METRO TRAN FN	Access and Mobility
NMT and Dignified Spaces	3,835,665	2,000,000	5,500,000	6,000,000	1 EFF	Access and Mobility
NMT and Dignified Spaces	0	0	5,000,000	5,000,000	4 MIG	Access and Mobility
Local footways/cycle tracks	0	2,000,000	0	3,000,000	4 CAPE METRO TRAN FN	Creating Integrated Human Settlements
Univ Access NMT & Dignified Spaces	1,200,000				CMTF	
Ped Footways/Bicycle Path: Ktsha/Mplain	7,383,065	5,500,000	10,500,000	0	4 CAPE METRO TRAN FN	Access and Mobility
Univ Access NMT & Dignified Urban Spaces	1,200,000	12,800,000	0	0	4 CAPE METRO TRAN FN	Access and Mobility
<b>TOTAL INVESTMENT</b>	<b>42,420,236</b>	<b>52,300,000</b>	<b>49,000,000</b>	<b>44,000,000</b>		<b>187,720,236</b>

# 26. Financial Framework

## 26.1 Introduction

Implementing the Integrated Transport Plan requires marshalling the financial resources to do so.

From a financial perspective there are currently two critical and related challenges on which the Financial Framework should seek to give guidance.

- Firstly, an increase in financial resources above current trajectories is required if the envisaged public sector improvements in the transport sector are to be realized
- Secondly, the institutional framework and associated revenue generating powers must be enhanced

Any actions taken over the next few years should be consistent with a long term vision. Thus, this chapter seeks to sketch out such a vision from a financial perspective before focusing on the more immediate steps to be taken.

There is some evidence of financial innovation in the transport sector. Overall, however, the current arrangements for financing transport in Cape Town represent significant missed opportunities. The first part of the chapter suggests how this could be remedied.

The second part of the chapter seeks to give a rough indication of the levels of financial resources required to address requirements, informed by the ten year perspective developed in the recently prepared Transport Authority Business Plan. It outlines the current sources of capital and operating revenue and suggests how these might be enhanced in the context of a new financing vision for transport.

The third part of the chapter focuses on the practical steps that should be prioritized in the short to medium term in pursuit of that vision.

## **26.2 Enhancing the basis of transport funding**

The current basis for financing transport represents significant missed opportunities. Taxes and charges are easiest to raise in a context where:

- a clear link can be drawn between the revenue raised and the benefits provided
- the revenue raised and costs of public provision represent a relatively small proportion of the economic activity which is taxed
- the revenue raising activity helps limit socially or environmentally destructive behaviour

All these characteristics are potentially available in the transport sector yet generally not capitalized upon because of poor institutional design, relatively poor revenue instrument design, and poor communication around the links between revenue paid and benefits received.

The integrated transport plan can be funded through sources generated locally, or through grants from national government. Ultimately, grants from national government must be financed through taxation. National government has access to a wider range of higher yielding tax instruments than local government, although there are strong accountability and efficiency arguments for financing services out of local revenue sources. In practice a combination of the two is likely.

Transport costs consist of both recurrent and capital costs. Unless capital is received in the form of grants it needs to be borrowed and repaid – with interest – over time, or paid directly out of recurrent revenue. Infrastructure should logically be loan financed by loans over periods which match the life of the asset provided. Thus the beneficiaries pay for the infrastructure.

Once a reliable stream of revenue can be assured it should be possible to raise capital finance for infrastructure provision. The key thus lies in the recurrent revenue flows, which must be sufficient to finance new infrastructure as well as maintain and operate it and the services it supports.

## **26.2.1 Suitable local revenue instruments for the financing of the transport sector**

### ***Fuel levy***

Levies on motor vehicle fuel are arguably the most suitable mechanism for financing public goods and services in the transport sector.

There is a strong link between revenue raised and benefits received. The volume of fuel used is closely linked to distance travelled, while heavier vehicles – which cause more damage to the road surface – also consume more fuel. Indeed, the link is so direct that a fuel levy could almost be viewed as a form of road user charge.

The fuel levy currently levied by national government (of R1.00 a litre on diesel and R1.16 a litre on petrol) represents less than one fifth of fuel costs – which, in turn, are only a limited portion of total vehicle costs. Yet in 2005/06 this was estimated to raise approximately R2.050 billion a year from within the metropolitan area of Cape Town – well in excess of the total recurrent spending by the public sector on transport in the area, including subsidization of the commuter rail and bus services.

Vehicle emissions are polluting, thus the taxation of fuel tends to reduce fuel usage and thus pollution. Concomitantly, it tends to support less fuel intensive public transport modes.

### ***Taxation of property***

Property value is generally enhanced by good transport infrastructure and services. Private dwellings need access to the transport network while the commercial and retail sector needs to be conveniently and comfortably accessible. Industrial property is also dependent upon good transport linkages. The value lies not just in the link to the network but in the effectiveness of the transport network as a whole.

Property can be taxed differently for different purposes.

### **Taxation for maintenance and general expansion of the overall network**

All properties benefit from the overall efficacy of the transport sector and should pay a common cent in the rand to promote and maintain it. This should be part of the general rate, but could usefully be identified separately from other general rates to enhance willingness to pay and enable ring-fencing of revenue.

#### **Taxation for specific enhancements to the network**

Some enhancements have impact mainly on an area or a group of properties. Here it is feasible to levy an additional rate on the direct beneficiaries to finance the infrastructure. This is not currently common in South Africa, but the new Claremont Boulevard project financed to the tune of R26 million through an additional rate levied on properties falling in the Claremont Improvement District represents a highly significant example of such an instrument. The rate is to be levied over a 20 year period to pay for the interest and redemption costs of the capital project.

#### **Taxation for infrastructure for new developments**

Where new developments are created this often requires new infrastructure linkages to be built. Development contributions, linked to the cost of new direct infrastructure requirements are currently levied. There are strong arguments, however, for broadening this to take into account some of the wider impact on network use beyond the immediate new linkages required. This may also be linked to the significant value enhancement arising from rezoning or the granting of development permission.

These contributions are often provided in kind through the developer directly providing the new infrastructure required.

These are once-off revenues, and are thus an instrument for financing capital expenditure directly.

#### **Provision of facilities through public-private partnerships**

There is scope for expanding the use of development contributions to more pro-actively provide for new transport facilities. Stations and public transport interchanges, in particular, can offer huge market opportunities for the commercial and retail sector, and the costs of such infrastructure may in some cases be entirely covered by the commercial and retail beneficiaries.

This would generally represent a form of capital financing, but could also extend to more recurrent uses, where, for example, a property owner bears some ongoing responsibility for the maintenance and operation of facilities provided through this mechanism.

### ***Local business tax***

In some countries transport is financed to a large degree through local business taxes. The logic of this is that business efficiency is often highly dependent upon effective transport systems. While the benefits of good transport systems are often reflected in property values this is not always the case; industrial property may be substantially dependent upon the transport network, but not have as high a value as other non-residential property. This suggests the need to complement local property taxes on business with other local business taxes.

In France public transport is largely financed through a local payroll levy – almost identical to the payroll component of South Africa’s recently abolished Regional Services Council levies.

In recent years the total annual RSC levies (turnover and payroll components) have approximated the total recurrent expenditure on transport in Cape Town by all three spheres excluding bus and rail subsidies.

National government envisages introducing new local revenue instruments to replace the RSC levies, with a new local business tax viewed as one possibility.

### ***Vehicle licenses***

In 2004/05 approximately R400 million was collected in vehicle licence fees in the metropolitan area over and above the costs incurred in implementing the licensing system and collecting revenue.

These revenues are paid to the provincial government, but not earmarked specifically for financing the transport system.

Vehicle license fees are an appropriate instrument for financing transport costs incurred by the public sector.

### ***Parking and congestion charges***

Revenue can be raised by charging levies on parking bays in designated areas, and by charging fees to enter certain areas of the city at certain times – so-called ‘congestion charges’.

However the amount of revenue that is collectable on this basis is somewhat limited. Such charges should be viewed primarily as instruments for travel demand management. Overuse of such mechanisms can lead to inducements for developments to shift elsewhere, contributing to urban sprawl rather than reducing private car use.

### ***User fees***

User fees are attractive since they are based on a clear link between payment and benefit received. Yet there are some important constraints on the scope for basing the financing of transport costs on user fees.

### **Fare revenue**

For public transport users, fare revenue is an obvious revenue source. The constraint is that public transport users tend to have less ability to pay, while pricing public transport too high will result in a shift to private motor vehicle use. For this reason there is a need to subsidise fare revenue contributions.

International experience suggests that fare box revenue should cover about half of the operating costs of public transport providers, with the remainder covered in subsidies. Large capital investments, such as rail networks or dedicated bus lanes would have to be separately financed by the public sector.

### **Tolling**

Tolling of roads is an effective means for raising revenue for long haul routes. However, it is largely inappropriate within the boundaries of a metropolitan area since it requires significant entrance and exit control and is inimical to the network nature of metropolitan transport systems.

Road tolling is not supported within the metropolitan area other than on highly specific scenic routes, such as Chapman's Peak drive which do not display the normal characteristics of metropolitan transport routes.

### ***Traffic fines***

Traffic fines are a useful source of revenue which should accrue to the transport sector, but should be viewed primarily as part of the enforcement system rather than as a key revenue earner. There are strong arguments for dedicating traffic fine income to improving enforcement. In 2004/05 the City of Cape Town's fine income was close to R100 million.

### ***Carbon credits***

The enhancement of the public transport system in Cape Town would significantly reduce projected carbon emissions in the city. There may be potential for covering a portion of the infrastructure costs through earning carbon credits. This option needs further investigation, although initial evidence suggests that it would not yield very significant revenue compared with envisaged needs.

## **26.2.2 Sources of loan finance for capital expenditure**

As indicated above, once a continuous revenue stream can be assured it is usually possible to access loan finance.

There are broadly three different approaches which can be taken to loan financing, although within each approach there are a variety of different ways in which finance can be structured mainly related to different ways of addressing risk.

### ***Loans from private and public sector financial institutions***

These include the commercial banks, as well as public sector institutions such as Development Bank of Southern Africa, and the Industrial Development Corporation. The public sector lenders tend to offer some limited form of subsidy, often reflected in the fact that they are willing to embrace certain risks more easily. However, they are often not a substantially cheaper source of revenue than the private sector.

### ***Bonds***

Bonds are often used internationally to raise money for transport infrastructure. They can be especially effective where they are repaid out of a clearly identified revenue stream – linked ideally to the benefits flowing from the infrastructure provided. They are not substantially different from loans, but can offer the scope for smaller investors – and even citizens – to participate profitably in the financing of infrastructure in their own city. Currently there is an expanded appetite for investing in bonds both nationally and internationally.

### ***Off-balance sheet financing***

A wide range of possibilities are available which essentially involve a private provider raising capital, rather than the public sector doing so itself. Concessions, and build, operate and transfer schemes (BOT's) are examples of this.

In such instances a private provider raises capital and provides new infrastructure and services which generate a revenue stream out of which the private provider repays the

loans and generates a profit. The advantage of such schemes lie in private providers being able to raise capital at lower interest rates and design and run the service more efficiently than the public sector.

The provision of facilities through public-private partnerships, as mentioned above, would fall into this category.

### **26.2.3 Institutional changes to enhance revenue generation**

While the introduction of appropriate revenue instruments will greatly enhance the financing of the transport sector, the effectiveness of such instruments would be further enhanced by appropriate institutional change.

- Firstly, responsibility for the transport sector must be much better configured
- Secondly, revenue streams should be clearly identified and earmarked for transport provision

Other sections of this document deal with recommendations on the reconfiguration of transport responsibilities; thus they are not dealt with here. In essence, where responsibility for transport is clearly and suitably assigned, revenue streams can also be clearly identified and linked to benefits received. The earmarking of revenue streams further supports this.

The earmarking of revenue is a contentious issue in public finance. Critics argue that it introduces inflexibility and thus a misallocation of funds, and that it infringes on the powers of the duly elected representatives to allocate resources as they see fit.

On the other hand, in a sector such as transport it

- can assist very significantly in overcoming taxpayer resistance to new or increased taxes,
- allows the benefit principle to be more rigorously applied, matching revenue streams to specific infrastructure and services
- can often lead to a reduced cost of capital, and
- can assist in ensuring adequate resources for maintenance of infrastructure, which saves substantial costs over the long term.

The earmarking of revenue does not require that a Transport Authority be set up as a separate and independent entity. Indeed, earmarking may be more feasible within the context of the Transport Authority remaining a ring-fenced business unit internal to metropolitan government.

### 26.3 Ten Year Vision

While the integrated transport plan deals with a shorter time period, for the purposes of developing a financial framework, a ten year vision helps give context and background to the priorities in the short to medium term.

A recent study was done to develop a business plan for a Transport Authority in Cape Town. This entailed making very broad estimates of total financial requirements for all elements of the transport sector over a 10 year period, based on a reasonably ambitious but realistic programme to improve transport in the metropolitan area.

#### 26.3.1 Capital requirements

The following table gives a very rough estimate of the capital requirements for all spheres of government for the transport sector in the metropolitan area of Cape Town over the coming 10 years.

**Table 42: Estimates of 10 year capital expenditure requirements of public sector**

Category	10 yr capex (Rm constant prices)	Description
<b>Rail</b>		
Rail network	2 900	Upgrade and extend the rail system in the City. Excludes expenditure on rail operations.
Rail operator	1 700	Mainly the renewal and expansion of rolling stock. Included in this table, but this should be the responsibility of the rail operator and not the infrastructure provider
<b>Strategic road network: new works</b>		
Key road network, major missing links and strategic roads on corridors	4 000	The term 'key roads' is used for the lower trafficked roads which are nevertheless part of the key road network. Strategic roads include higher trafficked roads and intersections concentrated along the nine corridors. The major missing links are key projects required on high volume roads which are currently the responsibility of Province and DoT.
Busway specific	1 450	The City's transport strategy requires the development of

Category	10 yr capex (Rm constant prices)	Description
roads		dedicated busways along four of the corridors: Klipfontein Road; Landsdowne/Wetton Road, Koeberg Road and Vanguard Drive. In addition the establishment of public transport priority lanes is required on the N1, N2, M5 and R27. Provision is made separately for this expenditure as it is specific to public transport.
Prov/national roads	1 200	Many of the highest level roads in the City are under the jurisdiction of the Province and national Department of Transport (with SANRAL acting as its agent). Several require major expenditure to upgrade them and improve interchanges.
<b>Roads - new (local)</b>	2 600	New local roads are required as new housing and commercial areas are developed.
<b>Roads &amp; SW - rehabilitation</b>	2 200	Rehabilitation capex for all roads (municipal and provincial) and for the stormwater systems. Road resurfacing is excluded as it is provided for under maintenance (an operating account activity).
<b>Pedestrian and cycle ways</b>	460	Estimates for capital required for non-motorised transport infrastructure are included.
<b>Modal interchanges &amp; depots</b>	685	With the re-structuring of the bus operations, improvement of the rail system and new smaller model interchanges for bus to taxi, substantial expenditure is required. This includes for a major new modal interchange at Culemborg in the city centre. Provision for the acquisition of bus depots is included.
<b>Rail bridges etc for new lines</b>	150	Provision is made for infrastructure which will be required to accommodate the extension of the rail lines from Khayelitsha.
<b>ITS &amp; single ticketing</b>	610	Key innovations relating to the improvement of the transport system in the City relate to new technology both for Intelligent Transport Systems and for single ticketing.
<b>TOTAL</b>	18 200	

Source: abridged version of table from 'City of Cape Town, 2006 Transport Authority Business Plan '

### 26.3.2 Required operating revenue

The following table provides a summary of expenditure on each component of operating expenditure for the management of transport infrastructure in the metropolitan area. It excludes public transport operators. It is based on the modelling done for the TA Business Plan, and predicts expenditure increases over 10 years, given the envisaged 10 year programme.

This analysis indicates that a large increase in operating expenditure is required by the public sector to keep the transport infrastructure functioning effectively. In real terms an increase of 7% per annum is required giving a total increase in real terms of almost 100% over the next 10 years.

**Table 43: Summary of operating expenditure on management of transport infrastructure**

Item	Opex (R'000s – constant 2006 prices)		Description
	2005/06	Predicted 2014/15	
<b>CITY BUDGET</b>			<i>This includes items currently on the City's budget and future expansion of activities to provide for a well functioning TA.</i>
<b>Transport (excl infra)</b>	148,696	194,014	This figure is provided for the cost of running the transport unit of a new TA, based on current organisational structure. This includes for transport planning, management of the public transport system and regulation of operators.
<b>Roads &amp; stormwater (excl maint)</b>	136,572	178,195	The roads and stormwater unit is responsible for maintenance of all public transport infrastructure and the stormwater system, and for implementing new infrastructure projects.
Maintenance - strategic roads	66,007	269,357	Maintenance includes for resurfacing of roads.
Maintenance - Local roads	99,011	178,522	Includes resealing.
Maintenance - Transport facilities	33,004	43,062	
Maintenance - stormwater	39,604	51,675	
<b>Town planning</b>	148,724	194,051	The town planning unit is included with the transport sector due to the close linkages between transport and spatial planning.
<b>Enforcement services</b>	-		Currently not included as part of transport activities.
<b>Capital charges (interest + deprec)</b>	195,101	702,559	Capital charges are calculated based on average lifetime and loan repayment periods of 15 years.
<b>Total City budget (excl approp)</b>	<b>866,718</b>	<b>1,811,435</b>	
<b>PROVINCIAL BUDGET (CITY SERVICE)</b>			<i>At present this is provided for separately from envisaged transport authority operations. However this may change in the future with devolution.</i>
Public transport	34,549	45,079	The province provides for planning and transport operator regulation.
Roads excl maintenance	1,660	15,213	This item provides for the part of the provincial roads unit overheads which can be assigned to activities within the metro.
Roads maintenance	6,428	86,674	Provincial roads maintenance expenditure for 2005/06 is taken as a proportion of the total provincial allocation. Figures are increase to provide for road repairs and resurfacing.
<b>Total province</b>	<b>112,637</b>	<b>146,966</b>	
<b>SARCC BUDGET (CITY INFRA)</b>	<b>55,000</b>	<b>71,763</b>	This figure for the management and maintenance of rail infrastructure is only a rough estimate. It is separated from operation and maintenance of trains.
<b>TOTAL</b>	<b>1,034,355</b>	<b>2,030,164</b>	

Source: 'City of Cape Town, 2006 Transport Authority Business Plan'

In addition, subsidies are required to subsidise bus and rail public transport operators. Based on numerous assumptions, including a projected subsidy of 50% of operators'

costs the modelling envisages the subsidy would increase as follows over the 10 year period:

**Table 44: Projection of Subsidy**

	Current amount per year (Rm)	Amount per year in 10 year's time (Rm)	Increase over 10 years	Average annual rate of increase in real terms
Rail	380	607	60%	4.4%
Bus	337	513	52%	3.9%

This modelling also assumes increases in average fares for travel in the City as follows:

**Table 45: Fare Increase Projection**

	Required increase in fares (average per annum in real terms)
Rail	6.2%
Bus	4.4%

### 26.3.3 Sources of capital financing

The table below sets out the current mechanisms for capital financing for the various types of infrastructure, and public transport operators, with some comments on proposed changes. This table is based largely on a similar table provided in the Transport Authority Business Plan except that it includes public transport operators and a number of new suggested financing sources. The key new innovations are:

#### ***Expansion of private financing of interchanges and similar facilities***

There is a substantial flow of passengers, and thus potential consumers, through many of the interchanges and stations. This makes them convenient locations for other public sector facilities as well as for shopping, entertainment and office accommodation.

Partnerships need to be investigated with private developers for the expansion of existing facilities and the provision of new ones.

#### ***Replication of the Claremont Boulevard approach for certain key infrastructure***

New transport infrastructure in Claremont is being financed in partnership with the Claremont Improvement District through a surcharge on the rates account for business property owners in Claremont.

There may be substantial opportunities for this approach to be expanded into particular instances in other parts of the City.

***Expansion of the Development Contributions/Levies to take into account the broader impact on infrastructure of new developments***

Current provincial legislation appears to preclude the possibility of taking into account the broader impact of new developments on the transport and other networks, and levying contributions accordingly. Investigation is required into what impacts should be taken into account so that current policy and legislative within other spheres of government can be influenced.

**Table 46: Current mechanisms for capital financing**

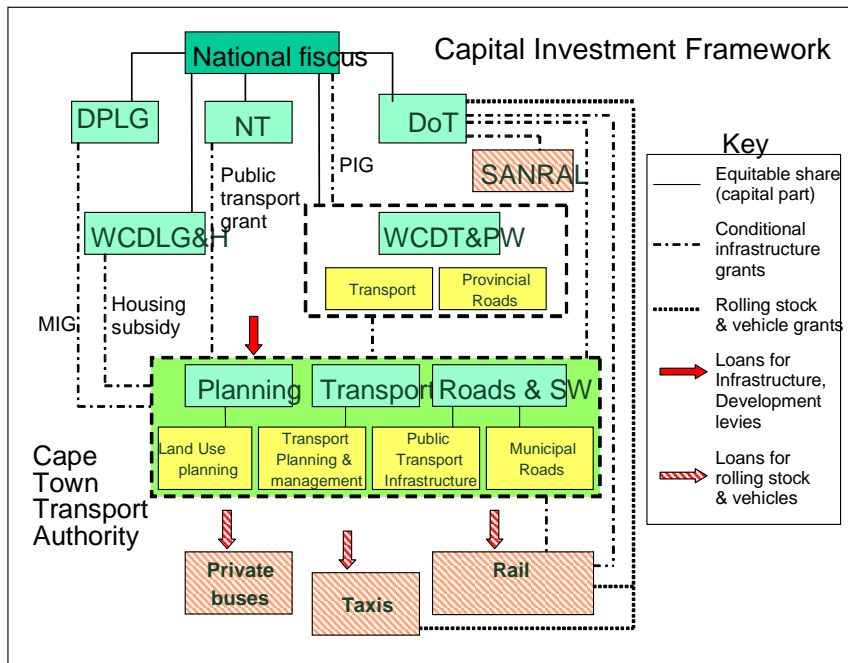
	Current	Proposed
<b>Local roads</b>		
Housing subsidies	Local roads for new housing projects for the poor.	Possibly incorporated into the Municipal Infrastructure Grant in future
Developer finance	Local roads for new housing projects for middle to high income households and commercial developments.	To continue. Investigate scope for expansion of developer contribution to embrace impact on broader transport infrastructure network
MIG	Basic roads infrastructure for the poor not covered by housing subsidy. Includes rehabilitation.	No change
City 'own sources'	The City applies its own sources of finance to local roads to some extent (20% of total local road cost funded by City is assumed).	No change.
<b>Strategic roads network (including busways)</b>		
MIG	A portion of MIG funding could be blended into funding package for the strategic roads network (MIG cannot be used to cover total cost of SRN as this is not only basic infrastructure for the poor).	Needs to be assessed in relation to expansion of new public transport grant being considered by National Treasury
Developer finance	Bulk services levies applied to commercial and high income residential developments.	To continue. Investigate scope for expansion of developer contribution to embrace impact on broader transport infrastructure network
Provincial roads 'own funding'	Province spends its equitable share and PIG funds on roads within the City (which are part of the strategic road network).	If City takes over provincial roads then associated grant from national fiscus is required.
Transfers from province	Province transfers limited funding to the City for roads and public transport infrastructure	Should continue unless replaced by other sources
National roads funding	DoT funds national roads within City boundary. (via SANRAL).	This arrangement will remain in place if national roads remain within City boundaries.
Public transport grant from NT	The new grant is intended for public transport specific infrastructure and currently linked to 2010.	The grant should and probably will be restructured to fund public transport more widely

	<b>Current</b>	<b>Proposed</b>
City 'own sources'	City commits substantial amount of its own funding for the strategic roads network.	To continue. Investigate scope for area specific infrastructure to be financed through rates surcharges as with Claremont Boulevard
<b>Public transport facilities (Modal interchanges, depots etc)</b>		
MIG	MIG funding can be used for public transport infrastructure for the poor. Typically requires blending with other sources.	No change
Public transport grant from NT	As for Strategic Road Network (SRN).	As for SRN
City 'own sources'	City commits own funds.	No change.
Private sector	Limited contribution by private sector to public transport facilities	Investigate much more extensive involvement of private property sector developers in joint provision, and maintenance of interchanges and other facilities with substantial customer flows
<b>Rail infrastructure and operator</b>		
DoT funding to SARCC	Currently all rail infrastructure capital is funded from national fiscus via DoT to SARCC.	If a TA is established which includes commuter rail, a national commuter rail entity is likely to continue, but funding should be channelled via the TA. Funding from national would not be required if sufficient revenue sources, such as fuel levy are devolved
Loans raised by rail entity	Evidently SARCC and Transnet have not raised capital for the commuter rail system in the past.	Rail entity to raise capital, providing it is 'bankable' which implies that its operating viability must be assured.
<b>Bus operator</b>		
Private financing raised by bus service provider	Golden Arrow funds capital through raising private loans and other mechanisms	No change. Where new providers emerge based partly on taxis, these to be assisted by the taxi recapitalisation program.

### 26.3.4 Institutional framework for capital investment

The following diagram illustrates an envisaged capital investment framework assuming a Transport Authority created as an internal ring-fenced business unit within the City of Cape Town.

The diagram shows all capital financing arrangements, including the capital financing of the bus, rail and taxi operators.



**Figure 49: Capital Investment Framework**

As can be seen from the diagram, the Cape Town Transport Authority, envisaged here as an internal, ring-fenced business unit within the City of Cape Town would finance capital development by means of:

- Municipal Infrastructure Grants from DPLG and Housing subsidies from Western Cape Department of Local Government and Housing in new low income areas
- Conditional public transport grants from National Treasury
- Possibly some conditional grants from Western Cape Department of Transport and Public Works
- Conditional grants from national Department of Transport
- Loans from the private sector and public finance lenders (e.g. DBSA)
- Development Contributions

Bus and taxi operators would raise private loans, with some support from the taxi recapitalisation programme, while the rail operator may also raise loans while continuing to receive grants for rolling stock upgrades.

While much will depend upon the devolution of revenue sources, it is envisaged in terms of the 10 year vision that a quarter of the total envisaged finance – or over R4 billion – would have to be raised by the City of Cape Town. This requires a substantial ramping up of borrowing from current levels.

### **26.3.5 Recurrent revenue framework**

The above sections have indicated that there will need to be a significant increase in revenues to the transport sector if the transport challenges are to be addressed – whether or not new institutional arrangements such as a Transport Authority are to be introduced.

There are broadly three potential sources of increased recurrent revenue

- Increased contribution from public transport fares
- Increased grants from other spheres
- Increased taxes, or an increased share of existing taxes

Improved infrastructure such as dedicated bus lanes and enhanced rail services are likely to lead to increased ridership and a notable increase in fare box revenue. However, these are likely to be applied to further enhancing services, especially through extending routes and expanding off-peak services.

The current flow of grant funding to the transport sector in Cape Town is relatively low. However there does appear to be a rising awareness nationally of the need to address transport issues, especially improving public transport, and this may result in additional grant funding. However, such funding is subject to changes in national grant systems and can never be as reliable as locally generated recurrent funds from own revenue sources.

The following table summarises the estimated yields of some of the various key revenue sources discussed above, giving the total yield of each tax currently – although none are currently fully allocated to the transport sector.

**Table 47: Key Revenue Sources**

<b>Revenue source (2005/06 – except for traffic fines collected, which are 2004/05 figures)</b>	<b>Estimated amount</b>
Total RSC levies budgeted in 2005/06	R928m
Assumed revenue of a local business tax were it to replace the RSC levy	R928m
Current general fuel levy (R1.16c per litre on petrol and R1.00 on diesel) generated within City of Cape Town area (70% of 14.18% of R20650m)	R2050m
Property tax	R2310m
Current motor vehicle license fees generated within metropolitan area	R400m
Traffic fines collected in 2004/05	R102m
Building plan scrutiny fees	R80m

The existing operating costs of the City’s Transport, Roads and Planning directorate could be viewed as being covered by 15% of total property rates and 50% of the total RSC levies, together with R80 million levied in building plan scrutiny fees.

These do not include operator subsidies.

National Treasury has replaced the RSC levies on an interim basis with a compensating grant, while indicating that it envisages replacing this with an ‘own revenue source’ such as a local business tax – or possibly some form of revenue sharing from the fuel levy – within the next three years. Assuming the levies are replaced with an equivalent local business tax, the modelling for the 10 year vision indicates that:

- If the Transport sector’s share of each of the above taxes were to be held constant there would remain a significant deficit over the ten year period, rising from approximately R120 million in the coming fiscal year to R565 million a year.
- If a fuel levy were to be introduced to cover this amount it would need to amount to approximately 20% of the total estimated fuel levy collected in the metropolitan area by the sixth year, and be held constant thereafter. 20% of the total levy represents approximately 23 cents per litre at current prices.
- If the deficit were to be covered by income from motor vehicle licences approximately 100% of vehicle licence fees would be required by the fifth year.

- If the fuel levy were to replace the total current RSC levy/business tax contribution as well as cover the increased costs envisaged, 42% of the total fuel levy (50 cents per litre) collected in the metropole would have to accrue to the transport sector. This assumes a continuation of 15% of property tax revenue flowing to the transport sector.
- If the metropolitan transport sector were not to be funded to any degree by property taxes, but only by the fuel levy, the building plan scrutiny fees, the existing grant revenues for the rail operations, and the devolved portion of the provincial equitable share, 59% of the total fuel levy (70 cents per litre) collected in the metropole would have to accrue to the transport sector.

The following diagram shows the institutional framework for recurrent revenue, assuming a Transport Authority taking the form of an internal ring-fenced business unit within the City of Cape Town.

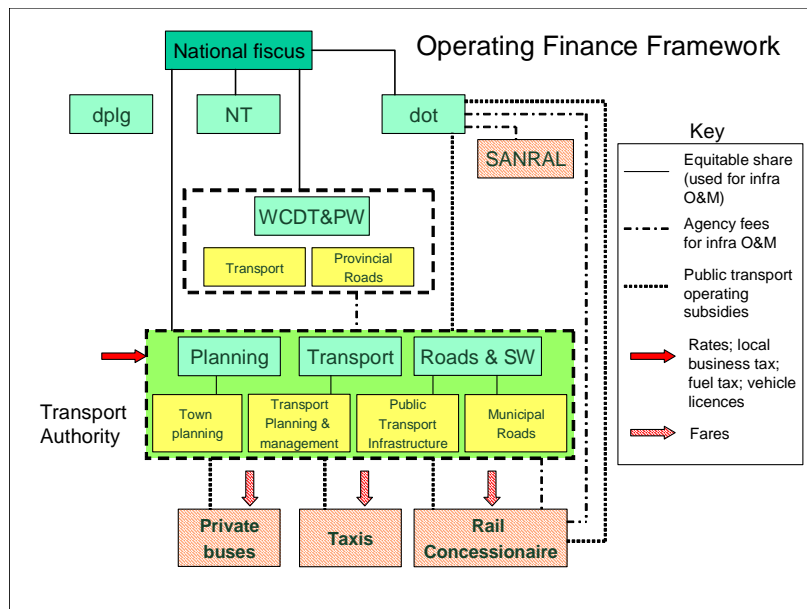


Figure 50: Institutional Framework for Recurrent Revenue

### 26.3.6 Affordability of public transport for poor residents

The affordability of fares for public transport is central to the success of any transport strategy. This can be gauged by estimating the percentage of household income which needs to be spent on transport.

The modelling based on the 10 year vision contained in the Business Plan for the Transport Authority suggests the following proportion of household expenditure on transport for a household living in Khayelitsha with one person travelling for a 15 km return trip per day.

**Table 48: Household Expenditure on Transport**

Household location, monthly income and mode of travel	% of household income paid on transport for 10 trips per week for one person	
	2004	2014
Khayelitsha R800/month		
Train	6%	12%
Bus	19%	29%
Taxi	54%	72%
Khayelitsha R1600/month		
Train	3%	6%
Bus	9%	15%
Taxi	27%	36%

Note: No increase in household income is assumed. In calculating figures for 2004 and 2014.

Assuming that it is reasonable for 10% of household income to be spent on transport, then the train service is evidently the only viable option for poorer people.

The modelling envisaged less ambitious increases in subsidy than those assumed in the course of current discussions around the subsidization of bus services. The estimated total operating cost for the restructured subsidised road-based public transport for the metropolitan area implies a subsidy requirement of approximately R1.2 billion per annum. As the subsidy paid to GABS for 2004 amounted to R356 million, this implies an increase in subsidy requirement of approximately 233%, although because the number of passengers covered by the subsidy will also be increasing, on a per passenger basis, the subsidy requirement is envisaged to increase by 79%, from R1,782 to R3,191 per annum. There is little evidence that this level of subsidy will be forthcoming.

#### **26.4 Next steps to promote a sound financial framework for transport**

The following initiatives should be taken in order to begin to develop a sound financial framework for transport in the Cape Town metropolitan area.

- Develop arguments that demonstrate the social and economic returns arising from increased allocation of resources to the transport sector, and lobby key stakeholders to this end
  - Engage with key stakeholders to promote the rationalization of responsibilities for transport thereby enhancing the scope for an improved financial framework
  - Engage with key stakeholders, especially other metropolitan authorities, in order to develop a common national view on expanding own revenue sources to the transport sector, linking it to the replacement for RSC levies and focusing on the possible implementation of local fuel levies and/or a local business tax
  - Lobby for the eventual earmarking of revenue flows for the metropolitan transport sector based on, at least, 15% of general property taxes, and a devolution of at least 50% of the current national fuel levy on an origin basis, depending on the final configuration of transport responsibilities and subsidy arrangements.
- 
- Explore the possibility for expanding the scope of the current Development Contributions to include compensation for the impact of new developments on the broader transport network
  - Explore the scope for applying the financing arrangements used for the Claremont Boulevard, based on an additional rate, to other instances in the metropolitan area
  - Explore the scope for joint public-private partnerships in the development and expansion of public transport facilities, such as interchanges

# 27. Implementation Programme

## 27.1 Introduction

The strength of the Integrated Transport Plan (ITP) lies in its ability to evaluate and prioritise projects across a range of sectors, as well as ensuring that investment efforts are coordinated to achieve the desired vision for transport in the City of Cape Town. The ITP also serves as direct input into the City's Integrated Development Plan (IDP) and it therefore becomes important to ensure that projects are aligned to broader City goals.

Financial and resource capacity remains extremely limited in the City. Limited funds for transport make it important that the implementation programme reflects the City's transport goals and that project budgets are focused in areas where there is the greatest need.

The implementation programme has been developed to include a 10-year horizon to reflect the medium term context, but focus has been placed more on the short term timeframe i.e. five-year plan. It is important to remember that transport is a long-term investment, and that the five year project plan is only a building block towards achieving the overall transport vision.

## 27.2 Long Term Vision for Transport

Refer to Chapter 3 for a more detailed description of the City's transport vision and objectives. The following are summary points that are considered important informants to help guide the implementation programme:

- A more compact city with land use and transport effectively supports sustainability. Priority is given to supporting infill rather than dispersed developments and densification is encouraged where population thresholds are required along public transport priority corridors.
- A more effective transport system that is sustainable and accessible, which incorporates a restructured network to move away from radial CBD trips.

- A good quality transport system that provides for basic mobility for the economically disadvantaged but also provides a competitive alternative to the private vehicle w.r.t. convenience, comfort, network coverage and accessibility.
- A well functioning transport system that supports a growing economy and the needs of freight movement.
- An integrated transport system that ensures coordination across the various modes to maximize service coverage and promotes comfortable transfers between them.
- A transport system that reflects environmental sensitivities and is sustainable for future generations.
- A transport system that incorporates applicable technologies and innovations to achieve its goals.
- A transport system that discourages unsustainable transport modes such as the single occupancy vehicle (SOVs) and prioritises public transport and non-motorised transport.
- Sustainable transport is a key structuring element for the ITP. Projects that incorporate environmental, economic and social sustainability will be prioritised.

Projects with an environmental priority would focus on transport modes or activities that achieve the following:

- Reduction in energy consumption,
- Reduction in green-house gas emissions, and
- An increased usage of sustainable transport modes such as public transport and NMT.

Projects that achieve economic priorities would:

- maximize effective utilization of transport budgets
- Reduce average journey time to economic opportunities
- Maximize the number direct and indirect jobs created

Projects that achieve social priorities would:

- Reduce cost per household for transport
- Increases safety on transport
- Increases accessibility for people, particularly for mobility disadvantaged and the poor

- Increases the liveability of environments

To assist with alignment to IDP incorporation, the projects have been presented according to the following IDP categories:

- Creating Integrated Human Settlement
  - Area based urban renewal and local area transport plans
  - Coordinating infrastructure investment across departments and disciplines
  - Economic growth support
  - Supportive land use and transport
- Building Strong Communities
  - Improving crime prevention
  - Promoting social integration
  - Participatory input from communities and transport users
- Access & Mobility
  - Improved Public Transport
  - Improved Transport Networks
  - Integrated Transport Corridors
  - Non Motorised Transport Considerations
- Equitable Services
  - Maintain and improve a safe and secure city
  - Improved access to opportunities
- Enabling Institutional Framework
  - Improving Systems and process
  - Internal Systems Infrastructure and Delivery
  - Institutional structure responsible for transport delivery
  - Capacity of officials required to deliver ITP
  - Integration with national, provincial and local area transport representatives.

### **27.3 Methodology for Project Prioritisation**

A formal evaluation process and methodology to prioritise projects has not been undertaken for this first round of the ITP. An evaluation process together with a monitoring

process will be developed and included in follow-up ITP documents. In the absence of a formal evaluation method a strategically focused methodology has been employed which reflects the broader City goals. The broad evaluation process included the following steps:

- Projects, budgets and timeframes were assembled by transport sector as outlined in the respective ITP transport chapters.
- Projects were organized according to IDP categories.
- A high, medium or low priority was allocated for the three sustainability indicators i.e. environmental, economic and social.
- Projects were then incorporated based on their strength to holistically support the sustainability indicators and directed to reflect greatest geographic needs.
- Where available, 10 year budgets have been included to provide a broader funding context, but focus has been placed on the 5-year implementation timeframe required for ITPs.
- The implementation programme will require more extensive participation and review to be finalized.
- The list of projects will be appended and modified as part of annual ITP updates.

*Note: It is recognized that evaluation of projects according to the above methodology is subjective and could arguably be prioritised differently. It is assumed that broad consensus will be achieved by review and debate, but that the final implementation programme will ultimately reflect the greatest travel needs for the City in its sustainable context.*

#### **27.4 Project Programme**

Table 49 shows the list of priority transport projects for the City, its implementation timeframe and estimated budget. Projects have been included by transport sector and are assembled by IDP category.

**Table 49: Five Year Implementation Programme**

Programme Name	Project Name	Priority Focus Areas			Ten Year Programme (in 2006 Rmillion)						Funding Source
		Env.	Eco.	Soc.	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	Future	
<b>Strategic Road Network: Public Transport and Development Priorities</b>											
	CLAREMONT/NEULANDS AREA										
	Claremont Relief Rd & Public Transport Interchanges		High		12.0	10.0					CoCT/CID
	Claremont Main Rd		High	Med	1.0	3.0					CoCT/CID
	CENTRAL N1 DEVELOPMENT CORRIDOR										
	Granger Bay Boulevard		High		13.0	10.0					
	Koeberg Interchange improvements (incl M5 improvements)		High		10.0	100.0	100.0	11.0			PG:WC/V&AW
	Marine Drive & Church Street Interchanges(Pirow Str to R27)		High		6.0	35.0	29.0	4.0			PG:WC/DoT
	Public Transport Priority lanes on N1 & lane balance (incl ITS)		High		5.0	68.0	90.0	68.0	11.0		PG:WC/DoT
	Paarden Eiland Interchange & links to Port		High		5.0	27.0	27.0	3.0			PG:WC/DoT
	Foreshore Freeway: Completion of reduced scheme		High		15.0	165.0	165.0	165.0	25.0		NPA
	Buitengragt/Coen Steytler Ave: Pedestrian bridge and landscaping		High		1.0	6.0	6.0				CoCT/PG:WC
	Berkley Road Extension: M5 to Malta Road		High			2.0	18.0				CoCT
	Frans Conradie Dr. extn & Sable Rd: Vanguard Dr. to Marine Dr.		High		4.0	40.0	70.0	40.0	8.0		CoCT
	Century City Transport Improvements to permit additional bulk		High			23.0	45.0	23.0			CoCT/Land Rest
	Culemborg Spine Rd: Church Street to Adderley Street		High				3.0	30.0	20.0	3.0	Developers

Programme Name	Project Name	Priority Focus Areas			Ten Year Programme (in 2006 Rmillion)						Funding Source
		Env.	Eco.	Soc.	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	Future	
	N2 CORRIDOR										
	Hospital Bend : Westbound pre-selection lanes		High		5.0	28.0	28.0	3.0			2010 DoT Legacy
	Hospital Bend: Eastbound pre-selection lanes		High		1.0	10.0	10.0	2.0			2010 DoT Legacy
	N2 BMT lane extension to Cape Town International Airport		High		23.0	23.0	23.0	23.0	5.0		2010 DoT Legacy
	M5 BMT Lanes N2 to N1		High			2.0	35.0	2.0			
	KLIPFONTEIN ROAD CORRIDOR										
	BMT lane extension: NY1 to Vanguard Drive		High		30.0	2.0					PG:WC/CoCT
	BMT lane extension: Jan Smuts Dr to Mowbray		High			10.0	10.0				PG:WC/CoCT
	Liesbeeck Parkway/Malta Rd to Salt River		High			2.0	18.0				
	ATLANTIS DEVELOPMENT CORRIDOR										PG:WC
	N7/M12 Interchange & M12: Potsdam to Contermanskloof		High		50.0	4.0					CoCT
	M12: Diep River Bridge		High		25.0	2.0					Developers
	Sandown Road: Braselton to Parklands Main Rd		High		5.0	10.0					Developers
	Wood Drive: Ravenswood Rd to Sandown Road		High								2010DoTLegacy
	R27 : Contraflow PT lanes and TSM improvements		High		20.0						CoCT/Dev
	R27: Additional lanes and intersection improvements		High		26.0	16.0	18.0	20.0			PG:WC
	Bayside PTI (Blaauwberg)		High		5.0						Developers
	Parklands Main Rd: Gie Rd to Sandown Rd		High		6.0						Developers
	Raats Dr: Widening: Short to Parklands Main Rd		High		4.0						Developers
	Parklands Main Rd: 2nd carriageway: Park Dr to		High			6.0	10.0				Developers

Programme Name	Project Name	Priority Focus Areas			Ten Year Programme (in 2006 Rmillion)						Funding Source
		Env.	Eco.	Soc.	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	Future	
	Sandown Rd										
	Sandown Road:Parklands Main Rd to M12		High			7.0	7.0				Developers
	M12: Sandown Rd to N7 & Sandown Rd to Industrial Area		High			8.0	9.0			3.0	PG:WC/DoT
	Koeberg Rd PT Priority lanes		High			16.0	23.0	24.0	3.0		PG:WC/DoT
	Potsdam Rd PT Priority Lanes		High			1.0	15.0	13.0			
	DURBAN RD/SYMPHONY WAY/SHEFFIELD RD CORRIDOR		High			10.0	40.0	80.0	80.0	10.0	PG:WC/CoCT
	WETTON RD/LANSLOWNE RD CORRIDOR		High				5.0	50.0	50.0	5.0	PG:WC/CoCT
	VANGUARD DRIVE CORRIDOR		High			5.0	60.0	60.0	80.0	520.0	PG:WC/CoCT
	MAJOR MISSING LINKS										
	Cape Flats Freeway (R300) Extn: Vanguard Dr. to M5/De Waal Rd.		Med		4.0	57.0	57.0	6.0			PG:WC/DoT
	Steenberg Rd Extension/Zandvlei Parkway		Med			17.0	17.0	2.0			CoCT/PG:WC/DTI/Dev
	N2: Helderberg Freeway		Med		10.0	100.0	200.0	100.0	20.0		
	R300(N21): Extension N1 to N7 & R27		Med				10.0	100.0	200.0	15.0	
	CENTRAL AREA: ROAD IMPROVEMENTS & LINKAGES										
	Jan Smuts Dr: N2 to Viking Way: 2nd carriageway		Med			12.0	12.0				CoCT
	Viking Way: 2nd carriageway		Med			12.0	12.0				CoCT

Programme Name	Project Name	Priority Focus Areas			Ten Year Programme (in 2006 Rmillion)						Funding Source
		Env.	Eco.	Soc.	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	Future	
	SOUTH AREA: ROAD IMPROVEMENTS & LINKAGES										
	Ottery Rd/South Rd/Constantia Rd		Med			2.0	20.0	30.0	20.0	4.0	
	Baden Powell Dr: Strandfontein Rd to Prince George Dr		Med			2.0	15.0	15.0	2.0		PG:WC/DoT
	Strandfontein Road: Dualing of carriageway and BMT priority		Med					4.0	20.0	32.0	CoCT/PG:WC/DTI/Dev
	M5: Additional lanes & Wetton Rd Interchange		Med					4.0	30.0	22.0	PG:WC/CoCT
	Ou Kaapse Weg: Climbing lanes		Med						4.0	42.0	CoCT
	NORTH AREA: ROAD IMPROVEMENTS & LINKAGES										
	Bottelary/R300 Interchange		Med		35.0	35.0	35.0	25.0			CoCT
	Brackenfell Boulevard: De Bron to Langeberg		Med			11.0	13.0				CoCT
	Wimbledon / Eersteriver Way (M12 to Hindle Rd)		Med			3.0	12.0	7.0			CoCT
	Buttskop Rd: Level crossing elimination & road network imp.		Med			3.0	17.0	17.0			CoCT
	Hindle Rd: Raymond Ackerman to Forest Rd		Med			3.0	16.0	1.0			CoCT
	Oostenberg: Public Transport facilities		Med		3.0	3.0	3.0	3.0			CoCT
	Amandel Road: Langverwacht to Brackenfell Blvd		Med				7.0				CoCT
	Brackenfell Blvd: Van Riebeeck to Old Paarl Rd		Med		9.0	18.0					CoCT
	Oostenberg bridges		Med			3.0	3.0	3.0			CoCT
	Okavango Road - Stellenbosch Arterial to Old Paarl Rd		Med				7.0	26.0			
	Maroela Extension - Okavango to Botfontein		Med								
	Le Belle/Old oak - Van Riebeeck to Old Paarl		Med								
	Bottleray - Okavango to Old Paarl		Med						12.0		
	Church Street		Med						5.0		
	Cilmore Road - Amandel to Old Paarl		Med					5.0			

Programme Name	Project Name	Priority Focus Areas			Ten Year Programme (in 2006 Rmillion)						Funding Source
		Env.	Eco.	Soc.	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	Future	
	Old Paarl - Okavango to Bottelary		Med								
	Langverwacht Road - Okavango to Van Riebeeck		Med						4.0		
	Wellington Road		Med			10.0	10.0				
	New lageberg Road		Med					13.0			
	De Villiers Road		Med			7.0	9.0		8.0		
	R 300		Med								
	Brackenfell Blvd		Med		10.0		8.0				
	Okavango		Med								
	Darwin (de Bron Ext)		Med		6.0			6.0	7.0		
	Fairtrees		Med			2.0	4.0		2.0		
	Durban / Durbanville		Med								
	Koeberg		Med								
	Vissershok		Med								
	Carl Cronje		Med					13.0			
	Old Oak		Med								
	Bill Bezuidenhout		Med								
	Race Course		Med								
	N2 GATEWAY										
	Bhunga		High	Med		15.0	20.0				
	Symphony		High	Med	20.0	22.0					
	Hindle		High	Med				15.0			
	Silversands		High	Med	9.0						
	Driftsands		High	Med			5.0	10.0			

Programme Name	Project Name	Priority Focus Areas			Ten Year Programme (in 2006 Rmillion)						Funding Source
		Env.	Eco.	Soc.	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	Future	
	<b>Strategic Road Network Sub-Total</b>				<b>378.0</b>	<b>988.0</b>	<b>1,376.0</b>	<b>1,026.0</b>	<b>616.0</b>	<b>656.0</b>	
<b>Non-Motorised Transport (NMT)</b>											
	<i>NMT Improvements</i>										
	Construction Khayelitsha: Pedestrian and Bicycle Paths/ Mitchell's Pedestrian Footways	Med	Med	Med	5.5	10.5	0.0				
	Klipfontein Corridor: Design and Construction Public Transport Improvements	Med	Med		3.0	7.0	1.0				
	Klipfontein Corridor: Design and Construction Public Transport Improvements	Med	Med		23.0	0.0	0.0				
	Klipfontein Corridor: Design and Construction of Pedestrian and Cycle Improvements	High	Med		0.5	1.0	1.0				
	Klipfontein Corridor: Design and Construction of Pedestrian and Cycle Improvements	High	Med		0.0	5.0	5.0				
	Mobility Strategy: Bicycle and Pedestrian Facilities	High	Med		30.0	28.0	30.0				
	NMT and Dignified Spaces	Med		High	2.0	5.5	6.0				
	NMT and Dignified Spaces	Med		High	0.0	5.0	5.0				
	Universal Access NMT and Dignified Urban Spaces		Med	High	12.8	8.0	8.0				
	<i>Pedestrian Safety Projects</i>	High		Med							
	Gugulethu/ Nyanga/ Crossroads	High		High	10.7	2.8					
	Mitchell's Plain	High		High	6.6	5.3					
	Philippi East/ Mandalay/ Khayelitsha(N)	High		High	9.5	4.5					
	Khayelitsha (S)	High		High		6.9					
	Delft/ Belhar/ Wesbank	High		High		8.9					

Programme Name	Project Name	Priority Focus Areas			Ten Year Programme (in 2006 Rmillion)						Funding Source
		Env.	Eco.	Soc.	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	Future	
	Du Noon/ Doombach/ Langa/ Epping/ Heideveld/ Bonteheuwel	High		High							
	Signals/ Signage (NMT /Universal Access)		Med		2.5	2.5	2.5				
	Bicycle Lockers		Med		0.3	0.5	0.5				
	<b>NMT Sub-Total</b>				<b>106.4</b>	<b>101.4</b>	<b>59.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	
<b>Public Transport</b>											
	<i>OPERATIONS</i>										
	Provision of Scheduled Bus Services through Interim Contract				430.0	200.0					Other
	Design and Preparation of Scheduled Service Contract Documents				2.0						Other
	Provision of Scheduled Service Tender Contracts/Negotiated					400.0	700.0				Other
	Monitoring of the Scheduled Public Transport Services					4.0	7.0				Other
	Model Contracts for Learner Service				0.2						CCT
	Model Contract for Staff Services					0.2					CCT
	Development of Integrated Fare Management & AVL System				0.7						Other
	Implementation of an Integrated Fare Management System					60.0					Other
	Provision of the Dial-a-Ride Service				14.5	16.0	17.5				CCT, Other
	Investigate Services for SNP					0.5	0.5				CCT
	Special Public Transport Enforcement Unit										

Programme Name	Project Name	Priority Focus Areas			Ten Year Programme (in 2006 Rmillion)						Funding Source
		Env.	Eco.	Soc.	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	Future	
	CCTV Enforcement on Public Transport lanes				164.4	120.9	130.0				CCT
	Demand for Learner Transport					0.4					CCT
	Demand for Staff Services						0.3				CCT
	Pilot Project of Public Transport Safety & Security Audit				0.5	0.5					CCT
	Establishment of a Transport Authority				0.2	0.3					CCT
	Transport Operational Plan for FIFA 2010				0.2	0.4	1.0				CCT
					<b>612.7</b>	<b>803.2</b>	<b>856.3</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	
	<i>INFRASTRUCTURE PLANNING &amp; DESIGN</i>										
	<b>GENERAL IMPROVEMENTS</b>				<b>147.7</b>	<b>73.8</b>	<b>0.0</b>				
	Bus/Taxi Embayments :General Provision				1.5	1.5					other
	General Public Transport Facilities				6.5	7.0					other
	Oostenberg Improvements - Public Transport facilities				2.9	2.9					other
	Parow Station: North Side				3.0	2.0					other
	Provision of Bus/Taxi shelters				1.0	1.0					other
	Public Transport Facilities: Signage				0.7	0.8					other
	Accessibility to Public Transport Facilities										
	Klipfontein Public Transport Corridor: Public Transport Improvements				129.0	55.5					CCT, Other
	Provision of New and Improved Facilities				0.2	0.2					CCT
	Station Deck Long Distance				3.0	3.0					Other
	<b>PUBLIC TRANSPORT INTERCHANGES</b>				<b>50.9</b>	<b>49.4</b>	<b>0.0</b>				
	Bellville Transport Interchange: Design and Construction of Long Distance Facility										
	Station Deck PTI for Long Distance services				3.0	2.0					CCT

Programme Name	Project Name	Priority Focus Areas			Ten Year Programme (in 2006 Rmillion)						Funding Source
		Env.	Eco.	Soc.	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	Future	
	Fisantekraal Transport Interchange										
	Guguletu PTI										
	Hanover Park Transport Interchange					5.5					Other
	Improvements at Nyanga Transport Interchange										
	Khayelitsha CBD PTI				3.6	4.9					Other
	Lentegeur & Mandalay Station PTI's:Const				8.0	6.0					CCT, Other
	Macassar PTI				1.2						Other
	Mitchell's Plain Station TI				18.1	17.0					Other
	Mitchells Plain Station TI (East)				5.0	6.0					CCT
	Nomzamo PTI: Strand				2.0	2.0					Other
	Somerset West PTI				5.0	3.0					CCT, Other
	Stock Rd Transport Interchange										
	Stock Road Transport Interchange Construction										
	Ysterplaat PT Facilities Improvements				5.0	3.0					CCT, Other
	<b>TAXI FACILITIES</b>				<b>26.2</b>	<b>7.5</b>	<b>0</b>				
	Allocation of Ranks in the V&A Waterfront				0.5	0.5					CCT
	Claremont CBD:Taxi Facilities				14.5	3.0					CCT, Other
	Durbanville Taxi Rank (North)										
	Edgemead Taxi Rank				0.5						CCT
	Imizamo Yethu Taxi Facility: Hout Bay				2.0						Other
	Kuilsrivier CBD Taxi Facilities				1.5	2.0					Other
	Masiphumelele (Site 5) Taxi Rank				0.8						Other
	Mfuleni Ext 5: Bus/Taxi Rank (South)				0.1						CCT
	Samora Machel Taxi Rank: Philippi				1.5	1.0					Other

Programme Name	Project Name	Priority Focus Areas			Ten Year Programme (in 2006 Rmillion)						Funding Source
		Env.	Eco.	Soc.	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	Future	
	Southern Delft Taxi Rank				2.0						Other
	Table View Taxi Rank (Bayside)				0.5	1.0					Other
	Wallacedene Taxi Rank				2.3						Other
	West Bank Taxi Rank										
	<b>Infrastructure Needs of Taxi Recapitalisation Programme</b>				<b>0.8</b>	<b>0.8</b>	<b>0.0</b>				
	<b>Khayelitsha Rail Extension: Construction of two Road-over-Rail Bridges, two Transport Interchanges and Access Roads</b>				<b>27.5</b>	<b>23.0</b>	<b>0.0</b>				<b>CCT, Other</b>
	<b>NMT</b>				<b>55.5</b>	<b>69.0</b>	<b>0</b>				
	Klipfontein Corridor: NMT Facilities				30.0	28.0					Other
	City Wide: Pedestrian & Cycle				15.0	25.0					Other
	NMT and Dignified Spaces				5.0	5.5					Other
	Ped Footways/Bicycle Path: Khayelitsha/Mitchells Plain				5.5	10.5					Other
					<b>308.6</b>	<b>223.5</b>	<b>0.0</b>				
	<i>FACILITY MANAGEMENT &amp; MAINTENANCE</i>										
	Management of Long Distance Bus and Minibus Taxi Ranks				0.1	2.0	2.0				CCT
	Rank Management & Interchange Management Advisory Committee				5.8	6.3	6.4				CCT
	Deployment of Security Services				19.5	21.2	22.0				CCT
	Co-ordinate Strategy for Security on Public Transport						0.0				

Programme Name	Project Name	Priority Focus Areas			Ten Year Programme (in 2006 Rmillion)						Funding Source
		Env.	Eco.	Soc.	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	Future	
	PTI's: Improved surveillance (CCTV) on Khayelitsha and Mitchells Plain Rail Corridor				2.0	2.0	200.0				CCT
					27.3	31.5	230.4				
	<i>REGULATION &amp; SURVEY</i>										
	OLS Management for Unscheduled Services				0.2	0.2	0.2				CCT
	Surveys for Unscheduled Services				0.2	0.1	0.1				CCT
	Service/Call centre for metered taxis					0.5	0.2				CCT
	Allocation of rank V&A Waterfront				0.2	0.1	0.1				CCT
	Surveys of Long Distance Bus and Minibus Operators					0.2					CCT
	Accreditation of Tourist Services					0.2					CCT
	Code of Conduct and Operating Practices for Metered taxi services				0.2	0.2					CCT
	Accreditation of Driver Training for Metered Taxi Operators				0.1	0.2	0.5				CCT
	Taxi Recapitalisation Programme				0.2	0.3	0.3				CCT
					1.1	2.0	1.4				
	<i>MARKETING &amp; PASSENGER SERVICES</i>										
	MTI Call Centre				7.5	8.3	9.0				CCT

Programme Name	Project Name	Priority Focus Areas			Ten Year Programme (in 2006 Rmillion)						Funding Source
		Env.	Eco.	Soc.	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	Future	
	Development of a Comprehensive Passenger Information System				0.5	1.0					CCT
	Implementation of Comprehensive Passenger Information System					5.0	5.0				CCT
	Develop Public Transport Branding				0.3						Other
	Develop the livery for Contracted Services				0.2						Other
	Develop and Implement a Comprehensive Marketing Strategy				0.3	0.5	0.5				CCT
	Development of a Public Transport Charter				0.3	0.1					CCT
					<b>9.1</b>	<b>14.9</b>	<b>14.5</b>				
	<i>PUBLIC TRANSPORT PLANNING</i>										
	Review and Update of Statutory Plans										
	Current Public Transport Record				1.5	1.5	1.0				CCT
	Operating Licences Strategy				0.2	0.2	0.2				CCT
	Rationalisation Plan				0.2	0.2					CCT
	Public Transport Plan				0.8	0.8	0.8				CCT
	Integrated Transport Plan				0.6	0.6	0.6				CCT
	Demographic Forecasts & Land Use Integration				0.4	0.5	0.2				CCT
	Update & Refinement of the Transport Model				0.4	0.4	0.4				CCT
	Corridor Feasibility Studies				1.0	1.0	1.5				CCT
	Project Identification and Feasibility				0.3	0.3	0.4				CCT
	Public Transport Impact Studies				0.3	0.3	0.3				CCT

Programme Name	Project Name	Priority Focus Areas			Ten Year Programme (in 2006 Rmillion)						Funding Source
		Env.	Eco.	Soc.	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	Future	
	Funding Strategy				0.2	0.1					CCT
	Environmental Policy for Transport & Alternative Technologies				0.4						CCT
	User Preference & Attitude Surveys				0.8	0.8					CCT
	Integrated Information System				0.5	0.5	0.5				CCT
					<b>7.6</b>	<b>7.2</b>	<b>5.9</b>				
	<b>Public Transport Sub-Total</b>				<b>966.4</b>	<b>1,082.3</b>	<b>1,108.5</b>	<b>0.0</b>	<b>0.0</b>	0	
	<b>TOTAL FOR ALL TRANSPORT PROGRAMMES</b>				<b>1,450.7</b>	<b>2,171.7</b>	<b>2,543.5</b>	<b>1,026.0</b>	<b>616.0</b>		

## 25.1 Financial Implications

Table 51 below sets out the budget requirements of the City to implement the required transport projects on a year by year basis:

**Table 50: Financial Requirements for Five Year Transport Implementation Programme**

<b>Financial Years</b>	<b>Total Cost of Programme R million</b>	<b>Expected Budget R million</b>	<b>Financial Short-fall R million</b>
2006 - 2007	1,450.7		
2008 - 2009	2,171.7		
2000 - 2010	2,543.5		
2010 – 2011	1,026.0		
2011 - 2012	616.0		

# 28. Performance Monitoring

## 28.1 Introduction

In order to ensure that the City of Cape Town achieves a World Class Sustainable Transport System, indicators and targets have to be identified, measured and continuously monitored to evaluate progress.

The City is currently investigating actual targets for each of these indicators and this will be included in the review of this ITP. Until then, the City will strive to achieve to improves these indicators and therefore move to a more sustainable transport system

## 28.2 Key Performance Indicators

Table 51 sets out the key performance indicators.

## 28.3 Alignment of Projects

In the revision of this document projects listed in the implementation program will be aligned in more detail to the specific indicators to ensure effective achievement of the goals and objectives of this ITP. (See Figure 51).

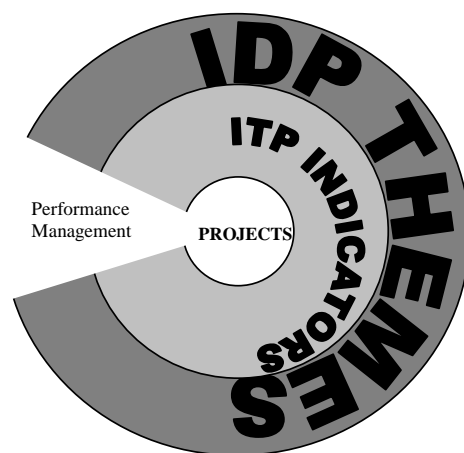


Figure 51: Monitoring Relationship

**Table 51: Key Performance Indicators**

Element of ITP	Focus Area	KPI's
Sustainable Transport	Economic	Improve access to opportunities by reducing journey times
		No. of Job Opportunities, commercial services and education facilities within 5km of residents
		Generalised cost of movement of goods and services
		Condition of transport infrastructure its operating efficiency
	Environment	Energy use & greenhouse gas emissions by transport
	Social	Accessibility of transport infrastructure by mobility disadvantaged
		Liveability of communities
		Public Participation
Public Transport	To give priority to Public Transport over private Car	% of budget towards public transport improvements
	To ensure that Public Transport is the preferred mode of transport.	Modal Split (% of Public Transport users in 2010 - 50%, 2015 – 53%, and in 2020 – 57%.
	Improve PT Quantitative factors; Affordability Public Transport Reducing journey time on public transport	% of Household income on public transport Average travel time to work on public transport modes
	Improve PT Qualitative Factors; Safety & Security	Average number of incidents per month on the public transport system
	Convenience	Integrated fare system and ITS
	Reliable	On average the percentage of public transport modes being on time
	Comfort	Survey of passenger satisfaction
	Increase investment Public transport infrastructure	% of transport budget
	To ensure that Public Transport meets the needs of all users including persons with special needs	Number of complaints
	To transform the mini-bus taxi industry into a unified formal public transport sector	% of permits converted to operating licensing
Non Motorised Transport	Increase usage of Non Motorised Transport	Modal Split (% of NMT users)
	Increase safety for NMT users	% of pedestrian and bicycle involvement in accidents
Travel Demand Management	Promote Higher Vehicle Occupancy	Average vehicle occupancy during peak periods
	Park and Ride	Number of vacant parking bays at modal transfer facilities
	Programmes for large employers	Number of Car commuters/ Employer
	Congestion pricing	Volume/ Capacity
	Marketing & Education	Test of knowledge and awareness
Transport Safety	To reduce the number of total accidents	Per capita accident cost for fatal and serious accidents

# 29. City Partnerships

Transport discipline alone cannot solve the transport problems in Cape Town. It requires a multi-disciplinary approach in order to achieve the vision of achieving sustainable transport.

Amongst others, the key requirements are;

- Multi agency co-operation
- Multi modal corridor projects
- Modal integration/ intermodalism
- Multi disciplinary approach
- Multi sectoral integration

Partnership is a critical ingredient in each of these requirements and therefore the City of Cape Town will strive to engage with all its partners to make this plan a reality

Our partners are:

- Residents of the City
- City of Cape Town Departments
- CBD City Partnerships
- Taxi operators
- Bus operators
- Metrorail
- Academics
- Chamber of Business
- Provincial Government of the Western Cape
- South African Rail Commuter Corporation
- Ports Authority
- Airports Company of South Africa
- Civil society
- Department of Transport

# 30. Marketing and Communication

## 30.1 Introduction

The marketing plan and its phased methodology of engagement is to mobilise stakeholder and public opinion in favour of the Restructuring and Transformation of Public Transport process over the short to medium term while devising priorities and strategies for long term sustainability. On the other hand the marketing plan contingencies must make this plan robust enough to withstand the political and socio / economic dynamics, which have become symptomatic with change.

## 30.2 Status Quo

Institutionally, the legal frameworks that persuade the Marketing, Public Participation/Consultation and Empowerment position are amongst other;

- The National Constitution
- National Land Transport Transition Act
- Urban Transport Act
- Municipal Structures Act
- Municipal Systems Act
- Companies Act
- Provisional Illegal Eviction Act
- Environmental Act
- Systems Act
- Access to Information Act
- Preferential Procurement Act
- Structures Act
- Skills Development Act
- Small Business Act
- Local Government Structures Act

- Various Enabling Provincial Policies

Definitions within the marketing function are presented below to clarify and create a common understanding of terms used in this communication exercise. These terms include;

- Stakeholders
  - Internal Stakeholders
  - External stakeholders
  - Local Area Stakeholders
  - General Stakeholders
  - Political Stakeholders
  - Institutional Stakeholders
  - Business Stakeholders
  - PAWC
  - CoCT
- Public
  - General Public
  - Corridor Community
  - Directly Affected Community
  - Indirectly Affected Community
  - Business Community and Business Associations
  - Resident Associations
  - Politicians
  - Political/Institutional Structures interface with communities
- Interested and Affected Parties

The City has received an ICLEI award, for excellence in creating bicycle friendly cities, as well as recognition for its labour intensive projects and EPWP Learnerships.

The following launches were completed between the period October 2005 and March 2006:

- Car Free day
- SALGA Conference
- Public Transport month – October 2005
- Dial a Ride – Saturday 28/01/06
- ICLEI World Congress – 27/02/06 until 03/03/06
- Velo Mondial Conference – 5 March until 8 March 2006
- Transport Symposium – 17/02/06
- Opening of Transport Interchanges
  - Bellville Transport Interchange – 25/10/05
  - Hanover Park Transport Interchange – 15/02/06
  - Mitchell's Plain Transport interchange – 23/02/06
  - Gugulethu Transport Interchange

### **30.3 Issues**

- Lack of funding
- Shortage of marketing expertise
- Intra organisational dynamics
- Influence of politics

### **30.4 Strategies**

The fundamental mind-set of the marketing strategy must encompass the core purpose of the Mobility Strategy in transforming and restructuring public transport in the City of Cape Town. The foundation of which is putting “Public Transport, People and Quality of Life” first, through;

- low-cost, smooth and safe public transport
- safer places for walking and riding bicycles
- sustainable transport
- investing in low cost mobility

### **30.5 Projects**

Public transport will be marketed through the launch of the following facilities:

- Transport Road show
- Public Transport awareness month
- Launch of Joe Qabi, Stock road, safety facility, wash bay and artwork
- Launch of Wesbank Transport interchange
- Launch of Mfuleni Transport Interchange
- Launch of NMT products with City Police and Traffic and other interested parties

Brochures of the following projects and events were published:

- Gugulethu Transport Interchange - NY1 Non-motorised Transport Improvements
- National Public Transport awareness month
- Hanover Park Transport Interchange
- Bellville Transport Interchange
- Dignified Urban Spaces
- Transport Department
- A Transport Authority for the City of Cape Town

The City promotes public transport through the following items that raise the profile of public transport:

- Caps
- T-shirts
- Lanyards
- City Of Cape Town folders

## **30.6 Public Participation**

### **30.6.1 Introduction**

Community involvement is essential for achieving a sustainable world class transport system. It is, therefore, essential that the user of such a transport scheme be involved from inception which includes amongst other, the design process so as to optimize the real systemic challenges, selecting alternative solutions and be a part of the monitoring and review course of action. This technique presupposes that effective and resourceful implementation will be made possible as well as facilitating the establishment of this envisaged sustainable world class system.

The purpose of public participation amongst others includes;

- Promote sustainable development
- Encourage community ownership
- Promote transparent government
- Identify community needs and priorities
- Foster integrated approach to planning
- Enhances quality of decisions and product
- Improves relationship between communities and government
- Improves community awareness
- Addresses inequality

Public Participation is also mentioned in the following legislation;

Constitution (Section 52): "...encourage involvement of community...in matters of local government"

Municipal Systems Act (2000): "... municipal council must...enable residents, communities and stakeholders... to participate in the local affairs of the municipality..."

White Paper on Local Government (1998): "... participative planning to continuously engage citizens, business and community groups..."

### **30.6.2 Status Quo**

This edition of the Integrated Transport Plan has not gone through an extensive public participation process and is submitted as a technical document to meet the gazetted deadline of 30th June 2006.

However through developing of this document the following interactions occurred;

- IDP transport sector workshop
- Transport Symposium
- Continual interactions with Cooperate departments
- Presentation to the Chamber of Commerce: Transport

### **30.6.3 Issues**

To meet the prescribed deadline, this document could not follow an extensive public participation process. This process is an essential criterion for developing a quality plan towards a world class sustainable transport system.

At this stage, this document is submitted as a technical document.

#### **30.6.4 Way Forward**

- To complete a comprehensive public participation exercise that actively involves the community in producing an Integrated Transport Plan for Cape Town.
- Prepare regular Community empowerment and Stakeholder engagement reports as an imperative for making high-quality decisions on transport development.
- Developing a framework for constantly reviewing and updating of the Integrated Transport Plan with respect to public participation

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