



**LIMPOPO**  
PROVINCIAL GOVERNMENT  
REPUBLIC OF SOUTH AFRICA

**DEPARTMENT OF  
ROADS & TRANSPORT**

## ***Travel Demand Management Study***

***Capricorn District Municipality***

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<b>SYNOPSIS:</b>  A TDM Study was undertaken for Capricorn and Mopani District Municipalities. This study included a desktop study of available documents, stakeholder analysis and proposed business plans.				
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## List of Acronyms

Acronym	Meaning
BRT	Bus Rapid Transit
CBD	Central Business District
CPTR	Current Public Transport Record
HOV	High Occupancy Vehicle
IDP	Integrated Development Plan
IRPTN	Integrated Rapid Public Transit Network
ITP	Integrated Transport Plan
ITS	Intelligent Transport Systems
MDM	Mopani District Municipality
NLTSF	National Land Transport Spatial Framework
NMT	Non Motorized Transport
OLS	Operating License Strategy
PLTF	Provincial Land Transport Framework
PT	Public Transport
RNMS	Road Network Management System
RTQS	Road Traffic Quality System
SADC	South African Development Community
SDF	Spatial Development Framework
SDI	Spatial Development Initiative
SMME	Small Medium Enterprise
TDM	Travel Demand Management
TSM	Travel Supply Management
ZCC	Zion Christian Church

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## **Travel Demand Management Executive Summary**

### **1. INTRODUCTION:**

The Department of Roads and Transport: Limpopo Province appointed SSI Engineers and Environmental Consultants (Pty) LTD to undertake a Travel Demand Management Study, covering Capricorn and Mopani district municipalities.

Travel Demand Management is an intervention to influence travel decisions so that more desirable transport, social, economic and environmental objectives can be achieved. It is mainly concerned with managing traffic congestion. However, due to the predominantly rural nature of Limpopo Province, the focus of this study is widened to cover harmonisation of travel in the smaller towns and rural villages.

The study included review of literature, stakeholder consultations, physical observation of identified areas of concern and specialist analysis of the information gathered, arriving at identified strategies for intervention and recommendations on how the issues may be addressed.

Business plans for further and detailed intervention studies were compiled and they form part of this report. The plans are meant to guide interventions, resulting in specific programmes and projects.

This report is in respect of Travel Demand Management in Capricorn District Municipality.

### **2. FINDINGS:**

The study findings were summarised as outlined below. Most of the problems can be addressed together through the recommended detailed studies at the local sphere of government as they require street by street surveys in all towns and villages. For these types of challenges, further studies are recommended, supported by business plans.

The main travel demand challenges point to the following:

- There is a need for improvement of the road network management including maintenance of roads and repair of potholes throughout the district..
- There is insufficient public transport in the rural villages.
- There is a serious shortage of Non- Motorized Transport infrastructure and facilities.
- The need for parking management in the city of Polokwane.
- There is traffic congestion mainly in Polokwane during peak hours mainly along Nelson Mandela drive which is used by trucks as western bypass of NI.

- Need for the organisation of public transport routes within the City of Polokwane.
- Serious traffic congestion on Church Street at Pick & Pay and Taxi Rank between Rissik and Jorrison streets in Polokwane.
- Lack of fences on roads throughout the district, leading to stray animals causing accidents.

### **3. RECOMMENDATIONS:**

A series of recommendations were developed based on the identified concerns. These recommendations comprised a set of Business Plans and individual responses to specific areas of concern. The Business Plans were prepared in stand-alone format, but are included in the report. It is recommended as follows:

- A road management system for future years (i.e 5 year period) should be introduced and maintained.
- A Non- Motorised Transport Study covering all towns and villages in the district need to be undertaken to cater for NMT facilities and services.
- There is a need for a Public Transport Demand study to be conducted to determine public transport requirements, route network, facilities and the effectiveness and efficiency of the current system.
- A detailed Travel Demand Management study need to be conducted for Capricorn and/or Polokwane on a street by street basis.
- Polokwane municipality to conduct a parking study, repair parking meters and employ people to facilitate parking control. The existing parking guards can be formalised and used.
- Implement HOV lane for Nelson Mandela Street between Polokwane and Seshego.
- Limit Church Street between Rissik and Jorrison to pedestrians and taxis only.
- Fencing of roads in the district to prevent stray animals.
- Improve quality of work on the repair of potholes throughout the district.
- Implement traffic calming at T- Junction on road between Boyne and Chuenespoort.

### **4. CONCLUSION:**

Thanks to the foresight of the department of Roads and Transport, this study will go a long way towards improving and harmonising travel in Capricorn District Municipality.

The above is a summary of the findings made and the recommended interventions. We thank the officials of the Department of Roads and Transport, Capricorn District Municipality and all the stakeholders consulted. The above and the representatives of the local municipalities made this study possible. Their cooperation is appreciated.

## 1. Project Background

SSI Engineers and Environmental Consultants were appointed by the Limpopo Provincial Government, Department of Roads and Transport to undertake a Travel Demand Management study for the Capricorn and Mopani Districts of Limpopo Province.

Limpopo Province consists of five districts and the demographics of Limpopo are summarized in the following table:

**Table 1.1: Size and Population per District**

DISTRICT	SIZE OF DISTRICT (KMsq)	POPULATION SIZE	UNEMPLOYMENT RATE
Capricorn	1 697 030	1 154 690	42%
Sekhukhune	1 326 4	1 024 748	69%
Vhembe	21 407	1 199 880	65%
Waterberg	4 951 9	614 158	31%
Mopani	15 706	1 062 780	45%

Due to the differences between the two districts, it was decided that a separate report would be produced for each of the two districts included in the study. This report relates to the Capricorn District.

## 2. Introduction to Travel Demand Management (TDM)

Travel Demand Management is an intervention to change travel decisions (without major infrastructure improvements), so that more desirable transport, social, economic and/or environmental objectives can be achieved, thereby reducing the negative impact of travel.

Implementation of TDM can:

- Reduce highway congestion and traveller delay;
- Improve air quality; and
- Improve access to jobs, schools and other opportunities;
- Reduce fatalities;
- Reduce the demand for single occupancy vehicle trips.

TDM is mainly concerned with managing traffic congestion. However, due to the predominantly rural nature of Limpopo Province, the focus of TDM in this study is widened to cover the harmonization of travel in the rural areas and the smaller towns.

## 3. Travel Demand Strategies

There are many Travel Demand Management (TDM) strategies that are available and that can be introduced in order to achieve improvements in transport. TDM Strategies that can be adopted, include interventions such as:

- Promoting Non-motorized Transport (NMT);
- Upgrading public transport;
- Promoting the use of Public Transport;
- Making public transport affordable;
- Making private transport expensive;



- Active trip reduction programs;
- Car parking controls on availability and pricing;
- Providing “real time” traffic and parking information;
- Traffic signal co-ordination;
- Public education;
- Stagger working hours to reduce peak travel trips;
- Implementing Road Access Management;
- Introducing exclusive Bus or High Occupancy Vehicle (HOV) lanes;
- Re-routing freight and delivery vehicles to avoid congested areas;
- Improving road signage (to SA Road Traffic Signs Manual standard);
- Accommodating “special needs” road users;
- Controlling development.

#### **4. Project Methodology**

The methodology adopted for the study is based on a series of individual tasks, which need to be undertaken in a specific order. The tasks undertaken for this project can be summarized as follows:

- Set up Project Steering Committee;
- Obtain relevant documentation;
- Study available documentation;
- Determine relevant stakeholders / transport forums;
- Interview relevant stakeholders / forums;
- Identify transport related areas of concern that need intervention;
- Undertake field observation of areas of concern;
- Identify suitable TDM measures;
- Develop TDM Plan to address the areas of concern.

The success of the project is largely dependent on the successful interaction with stakeholders. It is very important that the concerns of the relevant stakeholders should be accurately determined, in order to guide the progress of the project to a successful conclusion.

#### **5. Stakeholders Consulted**

A list of relevant stakeholders was prepared in consultation with officials from the Department of Roads and Transport. These stakeholders include the following:

- Local authority (engineers, town planners);
- District Taxi Council;
- Bus operators;
- Bus operator's Task Team;
- Local Business Chamber;
- Commuter Association;
- Provincial Department of Roads & Transport;
- Provincial Department of Health & Social Development;
- Department of Education;
- South African Police Service;
- Traffic Police (municipal/provincial);
- Department of Health;
- Emergency Services;
- Department of Sports, Arts & Culture;
- Department of Economic Development, Environment & Tourism.

Selected representatives from each of the above stakeholder categories were invited to attend interview sessions, where transport related concerns were identified. It was decided to restrict

the number of attendees at these interview sessions to a minimum in an attempt to obtain the most meaningful interaction with the stakeholder.

## **6. Literature Review**

Travel Demand Management is supported by literature, at international, national, provincial and local levels. This became evident in the National policy and strategies, particularly the National Public Transport Strategy of 2007 and its Action Plan as well as the Provincial Land Transport Framework and the Integrated Transport Plan of Capricorn.

The following documents were obtained from various sources in the Limpopo Province:

- Polokwane SDF. Capricorn Integrated Development Plan (IDP);
- Capricorn Integrated Transport Plan (ITP);
- Capricorn Spatial Development Framework (SDF);
- National Public Transport Action Plan Final;
- National Public Transport Strategy Final;
- Limpopo Provincial Land Transport Framework (PLTF).

These documents were studied in detail and the issues that are relevant to Travel Demand Management were identified. The status quo of transport in the district and the TDM issues that were identified, are presented in this report.

A Car Ownership and User study was recently commissioned by the National Department of Transport. Unfortunately the Car Study has not been completed and permission to access this information for the purposes of this TDM Study was not granted. It is believed that information from this report would have provided valuable input to this study.

## **7. Public Transport Status Quo (Based On Literature Review)**

### **7.1 Taxi**

According to the 2007 Integrated Transport Plan of the Capricorn District Municipality there are a total of 285 identified taxi routes and 107 minibus taxi facilities. Most of these facilities are informal. Approximately 50% of the taxis operate in Polokwane, where there are 1 440 taxi vehicles.

Informal metered taxis operate from Polokwane International Airport, Savannah Shopping Centre, Meropa Casino and Ultra City.

### **7.2 Bus**

Buses in Capricorn are operated by one parastatal organization and other bus services which are private contractors. There are 180 subsidized bus routes (108 in Polokwane, 49 in Aganang, 19 in Lepelle-Nkumpi, 3 in Blouberg & 1 in Molemole). Subsidized bus travel is the major commuter mode.

Subsidized Bus Service providers In Capricorn are summarized in the following table:

**Table 7.1: Subsidised Bus Service Providers in Capricorn District Municipality**

DISTRICT MUNICIPALITY	SUBSIDISED OPERATORS
CAPRICORN	Great North Transport
	Bahwaduba Bus Service
	Madodi
	Kopano bus Service

### **7.3 Proposed Integrated Rapid Public Transport Network (IRPTN)**

A study of the feasibility of providing an Integrated Rapid Public Transport System (Bus Rapid Transit) in Polokwane was undertaken. This study indicated that the system was viable and the proposed system was approved by National Parliament in 2007.

The study identified a North-South Corridor between Moletji/Seshego and Polokwane CBD as the most viable route. An East-West Corridor between Mankweng and adjacent areas and the Polokwane CBD was also identified, but due to the predicted lower passenger demand, this route was considered to be not viable at this stage, but should be considered for implementation at a later date. Additional corridors, which are predominantly rural long-distance services, were identified. These corridors do not have sufficient passenger demand to justify full Bus Rapid Transit (BRT) status and these could be regarded as complementary services.

The proposed IRPTN corridors in Polokwane are indicated on the drawing in the Annexure.

### **7.4 Rail**

The whole rail network in the Province is owned by Spoornet and serves only long distance passengers. There are no commuter rail services. The infrastructure is in relatively good condition.

The Bosvelder is the only scheduled mainline service operating daily to and from the Limpopo province as follows:

Johannesburg to Makhado (Louis Trichardt) to Musina; and return.

### **7.5 Air**

The following airports are situated in the Capricorn District area:

- Polokwane International Airport (Regular services – passengers and freight);
- Private airstrips (tourism).

## **8. Road Infrastructure Status Quo (Based On Literature Review)**

The Spatial Development Initiative (SDI) supports corridor development initiatives. There are four sub-corridors in the Limpopo province:

- Dilokong Sub-corridor;
- Phalaborwa Sub-corridor;
- Trans-Limpopo Sub-corridor;
- East-West Sub-corridor.

The three Strategic Corridors in Capricorn District that were identified in the literature study are:

- Trans-Limpopo Sub-corridor (Polokwane to Musina);
  - N1 from Mokopane to Musina;
- East-West Sub-corridor (Polokwane to Botswana via Groblersbrug);
  - D3390 from Polokwane to Gilead;
- Dilokong Sub-corridor:
  - Polokwane to Burgersfort (P33/1 and P33/2), via Mafefe.
  - Flag Boshielo Dam through Lebowakgomo and Mafefe, linking the Sekhukhune district with the Phalaborwa and Kruger National Park areas;
  - Chueniespoort via Boyne to Mankweng.

Where-ever possible, development should be focused along transport corridors.

## **9. TDM Related Problems Identified (Based On Literature Review)**

### **9.1 TDM Issues Identified in Capricorn**

#### **9.1.1 Public Transport**

The following problems were identified in the literature:

- Major over-supply of taxis in urban areas;
- Few taxis on rural roads;
- Poor road conditions result in reduced vehicle life, high operating costs & poor passenger Level of Service;
- The transport system is inadequate to meet the basic accessibility needs (to work, health care, schools, shops) in many developing rural and urban areas;
- Transport services are not affordable;
- Transport system is not flexible to respond to customer requirements;
- Infrastructure is not tailored to the needs of operators and customers.

#### **9.1.2 Roads**

Problems identified in the literature include:

- Congestion in urban areas;
- Church Street in Polokwane is congested in peak periods due to taxis;
- Heavy vehicles travelling through urban areas;
- Transportation of hazardous materials through populated areas;
- Inadequate loading areas on local street network in urban areas;
- Inadequate maintenance of gravel roads, particularly in rural areas;
- Inadequate road signs (route names, numbers, speed limits and distance signs);
- Inadequate fencing (wild and domestic animals on the roads);
- Road accidents;

- Vandalism of existing fences;
- Need for bicycle and pedestrian facilities on R71 between Nobody and Mankweng;
- Need for traffic calming on R71 between Nobody and Mankweng.

### **9.1.3 Institutional**

Problems identified in the literature include:

- Lack of Non-motorized Transport Plan & implementation of related projects;
- Lack of Special Needs Transport Plan;
- Lack of Freight Transport Plan.

## **10. TDM Interventions Required (Based On Literature Review)**

### **10.1 Public Transport**

The following public transport related Travel Demand Management interventions were identified:

- Develop new public transport routes in line with the Operating Licence Strategy (OLS);
- Develop public transport facilities along the following corridors:
  - Seshego environs to Polokwane;
  - Mankweng environs to Polokwane;
  - Lebowakgomo environs to Polokwane;
- Develop inter-modal public transport facilities at the strategic nodal points;
- Establish a Transport Hub in the City of Polokwane;
- Develop a Public Transport Distribution System in the City of Polokwane;
- Implement low capital improvements at public transport ranks (e.g. lighting, street furniture, passenger information, etc.);
- To ensure a stable and safe environment and the integration of all modes of transport;
- Develop an intra-provincial route coding system for taxi vehicles;
- Timetables, and route maps must be displayed at all public transport facilities;
- Need for dedicated bus lanes and reversible lanes (urban);
- Improve network coverage and service frequency especially in rural areas;
- Improve access for special needs users;
- Plan land use to support public transport;
- Subsidize school trips longer than 5km.

### **10.2 Infrastructure**

The following infrastructure related Travel Demand Management interventions were identified:

- Upgrade Road Signs:
  - Implement name changes to towns, roads, and streets;
  - Replace aged and outdated road signs;

Replace road signs that do not conform to the SADC Road Traffic Signs Manual;

- Congestion Management (in urban areas):
  - Traffic Signal Optimisation and Synchronization;
  - Traffic Signal Maintenance & Management;
  - Re-routing freight vehicles from congested areas;
- Road Access Management:
  - Access to developments and properties to be controlled;
  - Access to comply with Municipal policies;
- Parking Management:
  - Maximize road user charges (high parking cost);
  - Restrict number of available parking bays;
  - Allow for special needs parking, bicycle racks, and motorcycle parking;
  - Designate on-street loading zones;
  - Car guards could be formalised as a form of job creation and provide change;
  - Alternatively parking payment machines must accommodate payment by both notes and credit cards;
- Road Network:
  - Develop a road network classification system.

### **10.3 Non-motorized Transport (NMT)**

The following Non-motorized Transport related Travel Demand Management interventions were identified:

- Identify existing network facilities e.g. sidewalks, cycle paths and cycle lanes;
- Prepare plan of bicycle paths and lanes;
- Prioritize development and maintenance of sidewalks cycle paths and cycle lanes;
- Encourage NMT where schools are situated within a 5km radius;
- Initiate publicity campaign to promote use of NMT;
- Educate cyclists and pedestrians on their responsibilities;
- Upgrade NMT infrastructure:
  - Provide lighting to improve security;
  - Provide signage, route markers and information kiosks;
  - Provide pedestrian crossings;
  - Upgrade intersection treatments;
  - Provide bicycle parking;
  - Investigate pedestrian only streets;
  - Install traffic calming measures;
  - Investigate potential for bicycle taxis and pedi-cabs;
- Revisit NMT Projects (Polokwane):

- Donkey cart project;
- Established 4 bicycle outlets in district.

## **10.4 Institutional**

The following Institutional related Travel Demand Management interventions were identified:

- Stagger working and school hours;
- Zion Christian Church (ZCC) located at Morija of great importance for the local economy and should be recognized in future planning (framework planning) of the area;
- SMMEs in the rural transport sector, particularly new entrants from previously disadvantaged communities, to be nurtured and a guideline linking rural road and transport planning processes to be developed;
- Rural transport interventions to be co-ordinated.

## **11. Stakeholder Consultation**

### **11.1 Introduction**

As discussed in the previous section, stakeholder consultation was undertaken in July 2010. All notes were combined and analysed. The following broad categories were identified as relevant for this District Municipality:

#### **11.1.1 Road network management system:**

- Road network management (does management system exist?)
- Road marking maintenance
- Adequate road signs and maintenance (sign management system?)
- Fencing of road reserve (for cattle)

#### **11.1.2 Public transport**

- Sufficient frequency and network coverage of public transport
- Adequate infrastructure, i.e. ranks, bays, shelters, toilets and signage
  - Consider HOV lanes in larger centres like Polokwane (only on main routes such as Nelson Mandela to/from Seshego).
- Consider intermodal public transport facilities that will permit safe and efficient transfer of passengers from one mode of transport to another.

#### **11.1.3 NMT**

- Need for NMT infrastructure on heavily used routes;
- Need for adequate lighting for safety;
- Need for cycle ways on heavily used routes;

- Need for NMT at schools, try and locate schools on same side of road as community. Where not possible look at providing safe crossing for learners i.e. raised pedestrian crossing, scholar patrol, traffic calming.

#### **11.1.4 Parking**

- Repair parking meters and maintain, consider employing people to facilitate parking control (for example Tzaneen and Thohoyandou);
- Determine if sufficient on-street parking is available, if not investigate appropriate locations for off-street parking;
- Investigate suitable areas for park and ride facilities.

#### **11.1.5 Awareness and communication**

- Provide traffic/transport information frequently to the public via newspapers, advertisements and broadcast on the radio

The input from the stakeholders that were interviewed were grouped according to these categories, which best describe the TDM areas of concern in the district.

### **11.2 Road Network**

- Excelsior Street needs rehabilitation due to heavy traffic volumes carried;
- Roads need to be upgraded. There are many potholes in the major roads in the rural areas;
- Gravel areas;
  - Mashashane (Setotolwane road);
  - Matlala;
  - Sebayeng;
  - Molepo;
  - Ga-Maja;
  - Blouberg to Radichaba road;
- Road signs – Improve road signage (e.g. signage for bypass from N1 to Tzaneen via Moria);
- In rural areas with poor gravel roads, contractors are not prepared to tender for the provision of public transport for learners due to the poor state of the roads;
- Problems with domestic animals on the roads, upkeep of fencing e.g. on road from Seshego to Gilead, Blouberg, to Chuniespoort and other roads in Molemole;
- Gravel roads indicated to be currently in poor condition:
  - Chebeng to Mashashane (very poor condition - top priority);
  - North of Bochum to Ratshatsa (via My Darling) – not tarred all the way;
  - The gravel road near Silicon Mine close to the village of Mothiba Ngwanamago (approximately 22 km in length);
  - Polokwane to Mashashane – damage to ambulances;



- Rachaja to circle – sandy gravel ( Bochum);
- Molepo villages – Drakensberg pass;
- Mothiba to Manthorwane (bad condition)
- Matlala to Mashashane (bad condition – corrugation)
- On the road from Boyne to Chuniespoort, there is a dangerous T-junction (see **Figure 11.1**). The intersection is poorly designed with negative cross-fall and very poor road signage. Many accidents are reported at this location. This is confirmed by broken glass and damaged road signage in the vicinity of the intersection. The approach from the east (as seen in the accompanying photograph) is on a steep downhill. Remedial measures should be undertaken urgently (warning road signs and road marking should be improved and alternative measures like rumble strips should be considered to alert drivers).



**Figure 11.1: Dangerous T-junction on road from Boyne to Chuniespoort**

- Mafefe – cable river crossing between villages – bridge required

### **11.3 Traffic Signals**

- In Polokwane traffic signal co-ordination on Grobler Street is good. Co-ordination on Excelsior, Church, Nelson Mandela and Rissik streets should be improved.
- Pedestrian heads required at traffic lights.
- Nelson Mandela Drive to Seshego – poor traffic signal timing was identified at the Squatter Camp and at the Dendron Road intersections. The existing traffic signal timing plan at the Squatter Camp intersection allocates more green time to the side road than to Nelson Mandela Drive ( approx 20 seconds green for main road and 30 seconds green for side road).

#### **11.4 Street lights:**

- Matlala Road to Rissik Street Ext – street lights required.
- New Era Road should have sufficient lighting. Visibility is low and it is a high accident zone.

#### **11.5 Public Transport:**

- Potential HOV Lanes (to be investigated in detail):
  - Nelson Mandela Drive (to and from Seshego) which could reduce congestion along R521 (Dendron Road);
  - Demarcated Public Transport lane already along Schoeman Street (enforcement required).
- Inadequate lay byes for public transport to pick up passengers on New Era Road;
- Khensani Road in Seshego- Area does not have a formal pick up area so streets get congested because taxis park on the side of the road;
- Improve public transport scheduling, in Schoeman Street - when buses and taxis arrive at the same time there is major congestion;
- Need for additional bus shelters in Seshego;
- Severe congestion at Pick and Pay rank;
- Need for a taxi rank at the disabled school in Freedom Drive;
- Bus stations need to be upgraded (throughout Polokwane);
- Possible ring road for public transport along Excelsior Street, Schoeman Street, Bodenstein Street and Church Street;
- Congestion due to taxis at Church Street, Pick 'n Pay, Checkers and Council Buildings;
- Congestion reported in Indian Complex area (Schoeman – Devenish – Church);
- Congestion at Zebediela rank;
- Taxi congestion in the Afternoon peak period in Rissik Street;
- Existing taxi routes in Polokwane:
  - Moletjie – Seshego Taxi Association – Landdros Mare - Excelsior- Schoeman – Bodenstein – Church – Paul Kruger - Nelson Mandela;
  - Moletjie – Makhado Taxi Association – Landdros Mare – Excelsior - Indian Centre;
  - Mankweng-Tzaneen-Solomondale Taxi Association – Thabo Mbeki – Church - Pick 'n Pay – Grobler;
  - Burgersfort Lebowakgomo Taxi Association – Church - Pick 'n Pay – Church;
  - Mashashane Taxi Association & Ext 44 Taxi Association – Rissik – Paul Kruger – Church - Pick 'n Pay – Devenish - Nelson Mandela.

## **11.6 NMT**

- Pedestrian sidewalks needed on whole stretch of Nelson Mandela Drive
- Safe pedestrian crossings are required on Nelson Mandela Drive at the traffic signals on the Nelson Mandela Drive at Ext 44, Legae la batho and Madiba Park settlements.
- Pedestrian traffic signal heads required at some traffic lights.
- Investigate pedestrianisation of Church Street between Rissik and Jorrison Streets (with public transport vehicles permitted also).
- Ditlou Street, Freedom Drive, Kgoro Street and Oliver Tambo Drive require sidewalks in Seshego
- All streets with schools need pedestrian walkways
- Westenburg to Matlala Road require sidewalks
- Need for sidewalks and street lights (perhaps cycle path) on Matlala Road – new RDP housing;
- Sidewalks required at:
  - Nelson Mandela Drive;(Polokwane to Seshego).
  - Freedom Drive in Seshego.
  - Kgoro Street in Seshego.
  - Oliver Tambo Drive in Seshego.
  - Ditlou Street in Seshego.
  - Police Station in Seshego.
  - Plaza area in Seshego.
  - Mankweng (university & shops);
  - Boyne to ZCC (& pedestrian bridge);
  - Soekmekaar;
  - Dendron;
  - Bochum;
  - Lebowakgomo (currently under construction).

## **11.7 Parking**

- Parking issues in Polokwane need to be addressed. People park anywhere in the city, all day because the parking meters are not functional. This affects business negatively as turn-over of on-street parking bays during business hours are reduced.
- Repair parking meters in Polokwane and keep maintenance up, consider employing people to facilitate parking payments (as used in Tzaneen) e.g. employ parking wardens and provide them with hand held parking meters (include in proposed parking study)

### **11.8 Law Enforcement and Road Safety:**

- Law enforcement needed on New Era Road. A lot of incidents of drunken driving occur here.
- Demarcated Public Transport lane already exist along Schoeman Street - enforcement required to restrict usage by private transport vehicles
- Collisions occur in General Joubert Street and Jorissen Street
- Speeding problem on road from Airport to N1 – need for traffic calming.

### **11.9 Trucks**

- Identify routes for trucks within the city centre and enforce accordingly
- Heavy vehicle bypass road has poor signage
- Investigate need for long term bypass for heavy vehicles to avoid the CBD

### **11.10 Awareness and Communication**

- Make the public aware of all public transport information in the district municipality and conduct campaigns for certain specific items i.e. HOV lanes, public transport scheduling, new NMT infrastructure and new parking arrangements in town.

### **11.11 Special Events**

- ZCC Church at Moria – congestion during the Easter period and in September

### **11.12 Schools**

- Congestion at schools – need to deploy traffic officers
- Consider staggering the start times of schools to reduce congestion – might have negative impacts on parents' trip chaining on their way to work.

## **12. Recommendations**

Generally, it has become clear that detailed TDM studies need to be undertaken at district and local municipality level in respect of Polokwane. This will enable street by street surveys and resultant detailed strategies to be developed.

An analysis of all the information gathered including the physical observation of identified areas of TDM concern resulted in the following recommendations:

- A proper RNMS (road network management system) for future year periods (i.e. 5 year periods) should be introduced and maintained. The system will prioritize all roads requiring maintenance (i.e. fencing, road markings, road signs, pavement maintenance) or upgrading (road widening, new surfacing). It will then be possible to determine when a particular section of road will require attention and will allow accurate budgeting for expenditure on upgrading and maintaining the road network in the most efficient manner.
- Non-Motorized Transport Planning projects should be initiated in both Capricorn District Municipality as well as Polokwane Local Municipality. A NMT Study covering all towns and villages in the district need to be undertaken to cater for NMT facilities and services.
- A proper Public Transport Demand Study should be undertaken to determine an adequate public transport route network, size of fleet required, location and size of ranks/intermodal facilities, route network, and the effectiveness and efficiency of the

current system and schedules. Adequate communication with public transport users should be taken into consideration.

- A detailed Travel Demand Management study needs to be conducted for Capricorn and/or Polokwane on a street by street basis.
- The use of Landdros Mare Street as part of the morning public transport loop (route), which is only used to drop off passengers, should be investigated.
- The proposal to restrict the use of Church Street to pedestrians and public transport vehicles only should be investigated in detail.
- A detailed parking study should be undertaken in Polokwane CBD to determine if sufficient on-street parking is available. If parking is not sufficient, park and ride facilities or potential sites for off-street parking (parking garages) should be investigated. The proposed policy of restricting the amount of off-street parking should be taken into account. The Polokwane Municipality should repair parking meters and employ people to facilitate parking control. The existing parking guards can be formalised and used.
  - Implement HOV lane for Nelson Mandela Street between Polokwane and Seshego.
  - Limit Church Street between Rissik and Jorrison to pedestrians and taxis only.
  - Fencing of roads in the district to prevent stray animals.
  - Improve quality of work on the repair of potholes throughout the district.
  - Implement traffic calming at dangerous T- Junction on road between Boyne and Chuenespoort.

It should be noted that not all the recommendations may have been included in the above list. There may be additional recommendations in the body of the text in previous sections of the report.

In order to address these issues, a series of detailed Business Plans have been developed. These Plans are listed in the following section of this report.

### **13. Business Plans**

Based on an analysis of the literature, stakeholder consultation and discussions with relevant parties, the following business plans for Mopani have been prepared to address the issues that were identified during the study:

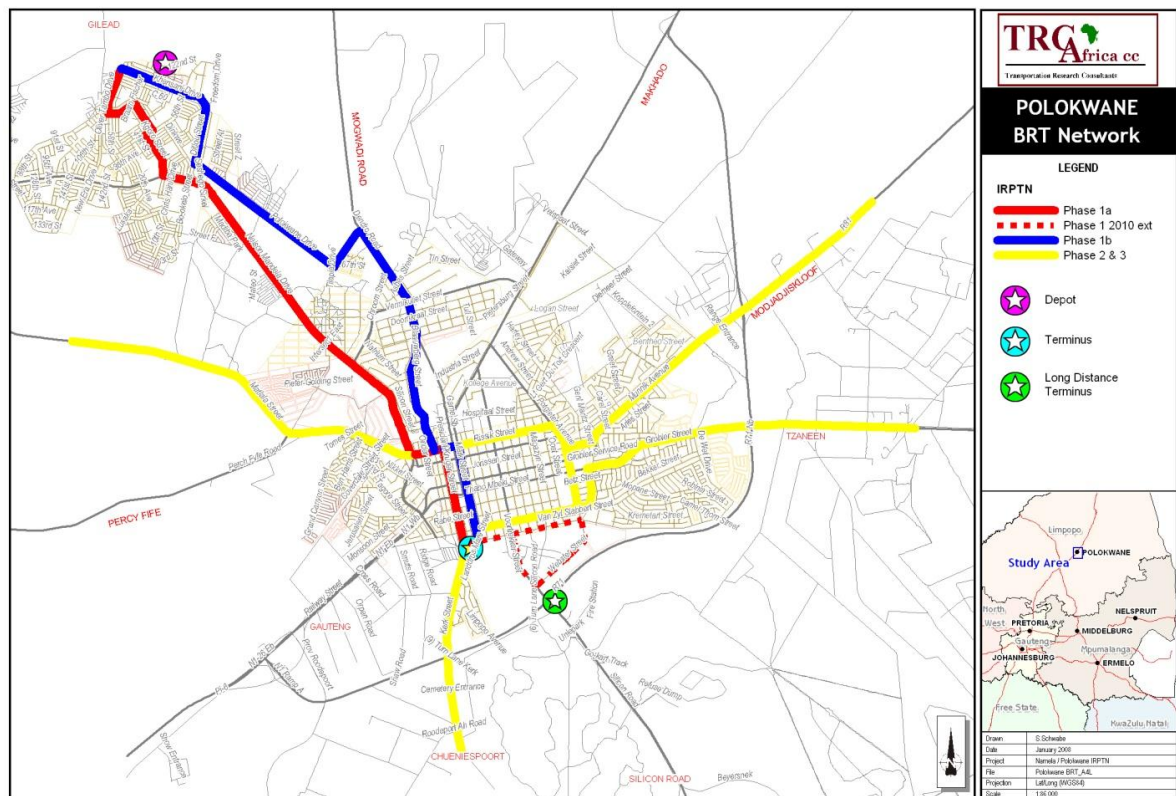
- Capricorn Road Network Management System (RNMS) Business Plan;
- Capricorn Parking Study Business Plan;
- Capricorn Non Motorized Transport (NMT) Business Plan;
- Capricorn Public Transport Demand Study Business Plan.

These detailed Business Plans have been prepared as independent stand-alone reports, but have been included as Annexures to this report.

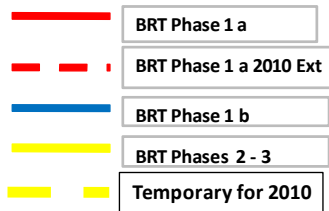
## **Annexure A**

### **Proposed IRPTN in Polokwane**

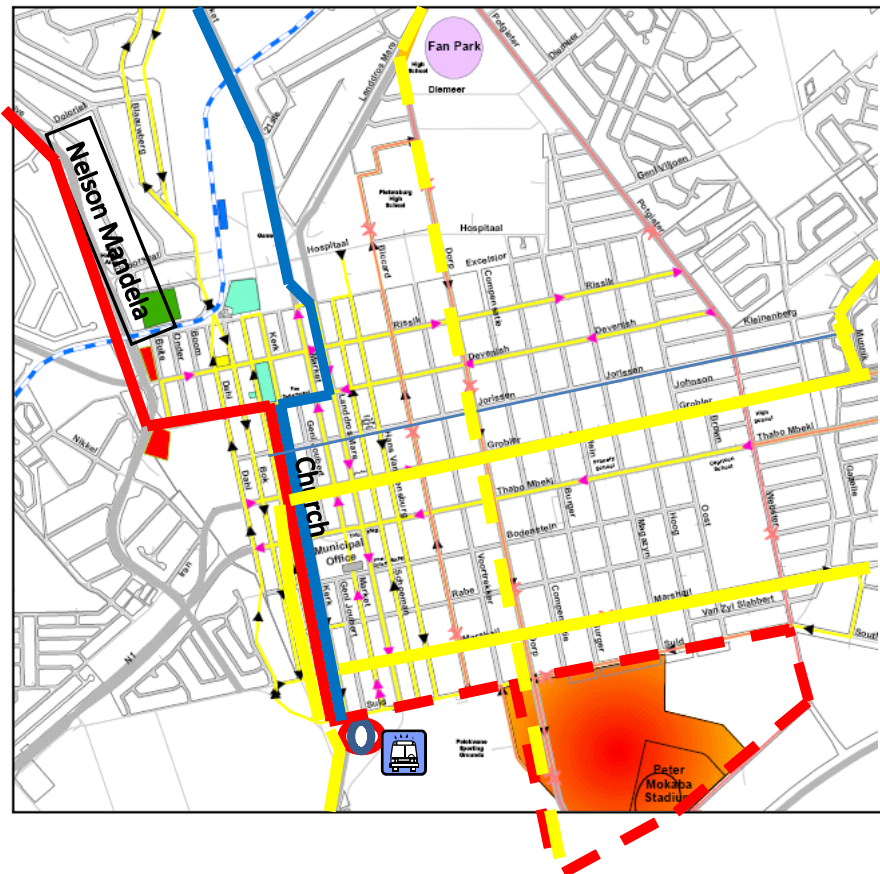
## Polokwane IRPTN Phases



## CBD - BRT Network System



Phase 1a - 13.973 km  
Phase 1 2010ext - 5.471 km  
Phase 1 Temporary - 6.71 km  
Phase 1b - 14.872 km  
Phase 2&3 - 56.117 km  
TOTAL EX TEMPORARY





## **Annexure B**

### **TDM Data from Documentation**

## **1. Public Transport Strategy 2007**

### **1.1 Vision for PT legacy 2007-2020**

#### **PHASING IN A LASTING LEGACY**

- Vision until 2020 is to develop a system that places over 85% of a metropolitan city's population within 1km of an IRPTN trunk or feeder corridor.
- Also to achieve a modal shift of 20% of car work trips to public transport networks.

#### **REDUCED TRAVEL TIME**

- Journey times reduced to a door-to-door total journey of under 60mins in metros.
- Key to high speed service is dedicated median bus ways with pre-board fares.

#### **NETWORK COVERAGE**

- 2020 aim is to place nearly all residents of the large cities within 1km walking distance of the network. Network will link major origins and destinations.

#### **MULTI-MODAL INTEGRATION**

#### **ACCESS FOR SPECIAL NEEDS USERS**

- The core network should be 100% accessible to wheelchair users and others with special transport needs such as the blind and the deaf.

#### **ACCESS FOR LEARNERS**

- The core urban and rural public transport, walking and cycling networks will aim to link schools and communities.

#### **NON MOTORISED TRANSPORT NEEDS**

- Walking and cycling networks

#### **CAR USE AND PARKING DEMAND MANAGEMENT**

- IRPTN will form a viable, car competitive mobility option

#### **URBAN CBD RENEWAL AND PUBLIC TRANSPORT NETWORK SUPPORTIVE LAND USE**

- Integrated public transport service networks form a major component of creating dignified and liveable urban spaces. A prioritised network will serve as a basis for anchoring land use development in order to maximise network utilization and to minimise travel distance and time. It (redesigned network) should also do away with the need for private parking spaces and public transport ranks and parking spaces in prime city areas.
- Freed up space can be used for commercial purposes to generate income.

### **1.2 Public transport Strategy**

#### **Transforming mode-based vehicle recapitalisation into Integrated Mass Rapid PTN**

## MODAL UPGRADING

- Consolidating the passenger rail sector;
- Rolling out the National Passenger Rail plan;
- Implementing Taxi Recapitalisation.

## 2. IRPTN

- Promotion of a growing public transport sector that is able to meet the needs of current and new users

## VISION FROM BASIC COMMUTER OPERATIONS TO ACCELERATED MODAL UPGRADING AND INTEGRATED MASS RAPID PTN IN SA

- 85% of all residents within 1km of Rapid PT Network by 2020;
- Upgraded modal fleet, facilities. Stops and stations;
- Extended hours of operation (16-24hrs);
- Peak frequencies (5-10mins) ; off peak (10-30mins);
- Full special needs;
- Safe and secure;
- Electronic fare collection;
- Integrated feeder services;
- Car competitive PT option.

## Metered taxis and park and ride facilities

## Long distance public transport

Expand rural passenger transport services and combined rural passenger and freight

## 3. Limpopo Provincial Land Transport Framework 2007

### Locality and Composition

Structurally, the province comprises of five district and twenty five local municipalities. The area size of the different district municipalities and the population sizes of these districts are given in **Table 3.1**.

**Table 3.1: Size and Population per District**

DISTRICT	SIZE OF DISTRICT (KMsq)	POPULATION SIZE	UNEMPLOYMENT RATE
Capricorn	1 697 030	1 154 690	42%
Sekhukhune	1 326 4	1 024 748	69%
Vhembe	21 407	1 199 880	65%
Waterberg	4 951 9	614 158	31%
Mopani	15 706	1 062 780	45%

Source: [www.str.com.au](http://www.str.com.au) (accessed on 2006-06 -27)

## **Rail network**

The CPTR indicates that the whole rail network in the Province is owned by Spoornet, serving only long distance passengers. The infrastructure is in relatively good condition, there are no commuter rail services.

## **Rail Transport**

Commuter rail transport currently falls within the competency of the national sphere of government. According to the White Paper on National Transport Policy (September 1996) this function should, in future, be devolved from the national sphere to other spheres of government situated at lower levels.

At present no commuter rail transport services are operated in the Limpopo province except a main line service provided along the N1 route towards Zimbabwe.

It is generally acknowledged by all authorities that rail has an important role to play in the transport of passengers within a hierarchy of modes. The National White Paper in its transport vision, states that: *“Rail is seen as an essential long-term component of the network for both freight and passenger transport”*.

## **Bus Transport**

Service providers per district municipality:

The following **Table 3.2** shows the subsidised bus service operators per district municipality in the Province.

**Table 3:2. Subsidised Bus Service Providers per District Municipality**

DISTRICT MUNICIPALITY	SUBSIDISED OPERATORS
<b>MOPANI</b>	Risaba Bus Service
	Mathole Bus Service
	Great North Bus Service
<b>WATERBERG</b>	Great North Transport
	Lowveld
	Putco
<b>SEKHUKHUNE</b>	Great North Transport
<b>CAPRICORN</b>	Great North Transport
	Bahwaduba Bus Service
	Madodi
	Kopano bus Service
<b>VHEMBE</b>	Great North Transport
	Mabidi Bus Service
	Mabirimisa Bus Service
	Magwaba Bus Service
	Mukondeleleni Bus Service
	Mulaudzi Transport
	Netshituni Bus Service
	R. Phadziri Bus Service
	Enos Bus Service

## Taxi Transport

Taxi facilities in the Province are given in **Table 3.3** per District Municipality.

**Table 3.3: Taxi Facilities in the Province**

District Municipality	Number of Ranks
Mopani	64
Capricorn	107
Vhembe	32
Sekhukhune	82
Waterberg	47
<b>Total</b>	<b>332</b>

Source: IDP 2006-2011

## **CORRIDOR DEVELOPMENT**

### **Limpopo Provincial Policy Framework**

The following policy statements regarding corridor development and land-use restructuring are contained in the Provincial White Paper:

"Where possible, development should be focused along transport corridors. The following categories of corridors should guide corridor developments in the Province:

The Spatial Development Initiative (SDI) roads support corridor development initiatives and these roads would link up with other provincial roads and also ultimately lead to the border posts and the Maputo corridor. There are four sub-corridors in the province:

- Dilokong Sub-corridor;
- Phalaborwa Sub-corridor;
- Trans-Limpopo Sub-corridor;
- East-West Sub-corridor.

### **Dilokong Sub-corridor**

There are two important roads along this corridor within the CDM area:

- Polokwane to Burgersfort (P33/1 and P33/2), via Mafefe;
- Flag Boshielo Dam through Lebowakgomo and Mafefe, linking the Sekhukhune district with the Phalaborwa and Kruger National Park areas.

### **Phalaborwa Sub-corridor**

The Phalaborwa corridor connects Mpumalanga (Hazyview) with Phalaborwa and Tzaneen via smaller towns to the west of the Kruger National Park. The following road sections form part of the corridor. There are two core routes:

- Route sections P17/3-5, D726, P112/1-3, P43/2, D1308 and P54/1;
- Road section P146/1 from Klaserie to Blyde River, P116/1 from Hoedspruit to Ohrigstad via the Strijdom Tunnel, and P181/1 from the Oaks to Burgersfort.

### **Plan of Action**

The plan of action is as follows:

- Develop new routes in line with the Operating Licence Strategy;
- Develop inter-modal public transport facilities at the strategic nodal points;
- Develop an intra-provincial route coding system for taxi vehicles;
- Timetables, and route maps must be posted at all facilities.

## NON-MOTORISED TRANSPORT

### BACKGROUND:

Figure 3.1 depicts a rural transport system which reflects rural travel and transport patterns. The rural travel and transport patterns show that:

- the main means of transport is head loading (foot Vs, vehicles)
- transport is mainly around the village (internal Vs external)
- subsistence needs predominates over others (basic Vs. socio-economic)
- the main burden of transport falls on women ( female Vs. males)

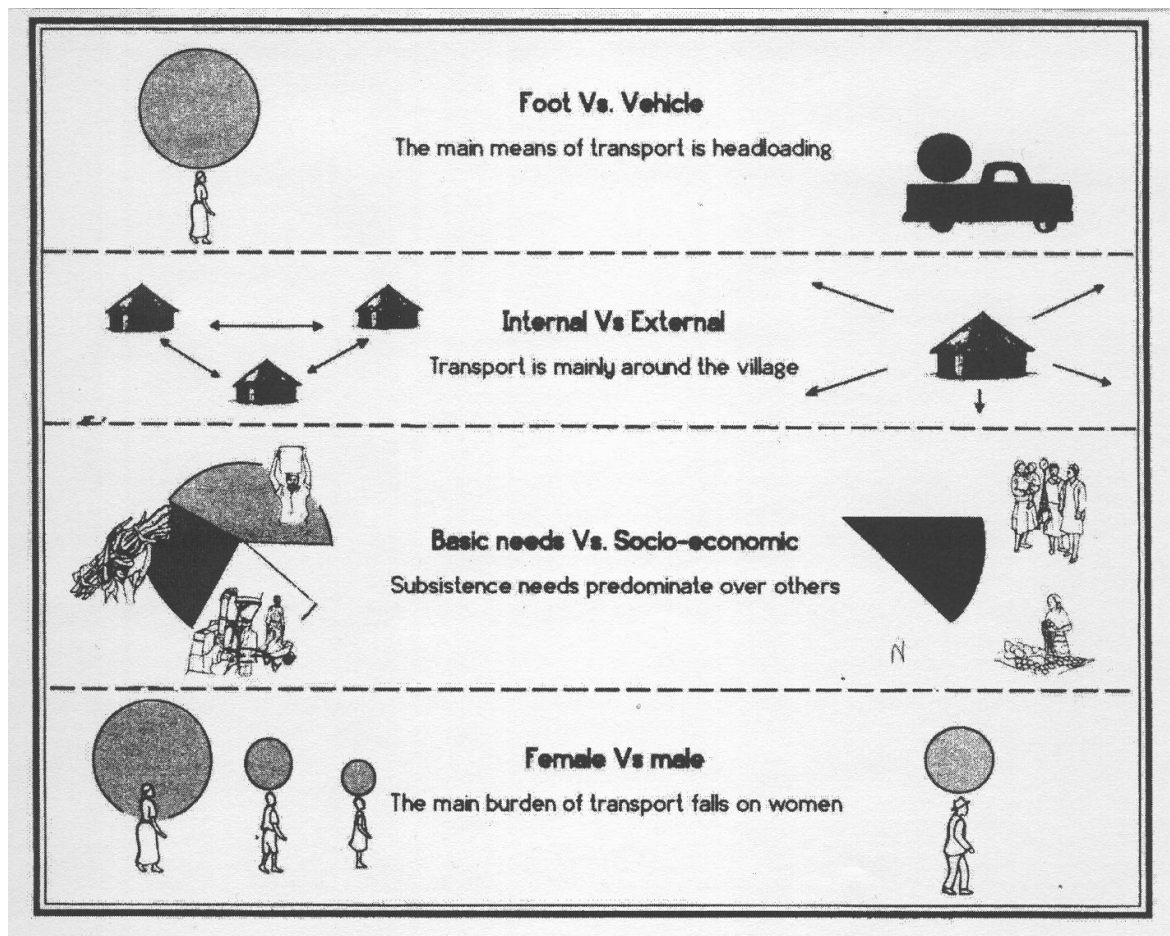


Figure 3.1: Rural Transport System

### Strategy and action plan

Strategies relating to rural transport contained in the NLTSF are as follows:

- Rural transport interventions will have to be co-ordinated and should incorporate the objectives of the ISRDS;
- A guideline linking rural road and transport planning processes will have to be developed;

- The development of rural access roads will have to be improved;
- Infrastructure for non-motorised transport will have to be provided in each of the 13 nodes;
- SMMEs in the rural transport sector, particularly new entrants from previously disadvantaged communities, will have to be nurtured.

## **INTELLIGENT TRANSPORT SYSTEMS MEASURES**

Intelligent Transport Systems (ITS) can be simply described as transport systems that apply information, communication and control technologies to improve the operation of transport networks. The various ITS tools are based on three core features that help operators and travellers make better and more co-ordinated decisions. These three core functions are information, communications and integration. ITS strategies include both technical and institutional components. Hence the need to ensure that the relevant parties and structures involved work together in a co-ordinated manner and agree on the building blocks for ITS.

An international Awareness Symposium on ITS was held in June 2000 where the first opportunity arose to publicly disseminate information on ITS amongst important role players in the country as well as SADC. This Symposium launched ITS officially in SA and leading speakers included the National Minister of Transport.

### **National Policy Framework**

National endeavours indicate that modern “operations technology” such as ITS will have to be incorporated to increase capacity.

### **Limpopo Provincial Policy Framework**

The Limpopo White Paper on the Provincial Transport Policy, April 2000, states the following with respect to information systems:

“The effective implementation of the RTQS requires that reliable information be available on operator and vehicle registrations, technical fitness of vehicles and traffic offences. These need to be co-ordinated on a national level”.

The objective of TSM is to optimise the existing transportation infrastructure by initiating certain construction, operational and institutional actions to improve the functioning of the system. Minor upgrades to intersections, signalisation, climbing lanes, road signs, pavement management, paint marking and road stud maintenance are some examples of TSM. TSM are low cost, short term to medium term improvements to the existing transportation system to accommodate travel demand.

## **Road Signs**

Recently there were name changes to towns, roads, and streets. Further, many road signs are aged and outdated and do not conform to the standards of the SADC Road Traffic Signs Manual. Therefore there is need to upgrade road signs including name boards, tourism signs, destination signs, and regulatory signs.

Signs could be upgraded through holistic road projects, but road projects are carried out by sections and implementation spans over several years. It is therefore proposed



that a comprehensive road sign upgrade project be implemented for the District Municipality.

## **Urban Streets**

Congestion management is one of the primary objectives in urban areas. TSM mechanisms are effective in urban areas to optimise traffic flow, reduce congestion, and as a result improve road safety, reduce emissions, etc. Some of the mechanisms include:

### **Bus Lanes and Reversible Lanes**

- Signal Optimisation and Synchronized;
- Traffic Signals Maintenance & Management;
- Access Management; and
- Parking Management.

## **Bus Lanes and Reversible Lanes**

During peak periods public transport shares the road space with cars and freight vehicles. As discussed previously in this chapter, ideally freight vehicles should not be routed through the town and especially not during peak periods. However, where necessary, adequate parking and designation for loading zones must be provided. Further, during peak periods bus lanes should be designated, as there is greater passenger volumes compared to mostly single occupancy cars. Reversible lanes are also effective during peak periods.

## **Traffic Signals**

Signal optimisation is obtained by updating signal-timing plans with updated traffic counts. There is need for a program to consistently obtain traffic counts at strategic signalised intersections to update the signal timing plans, in the absence of an automated system. Additionally signal synchronisation improves traffic flow. Careful consideration must be given where the street has a steep gradient and could result in run-away heavy vehicles. In general there is need for a specific program to maintain traffic signals.

## **Road Access Management**

Access Management is critical and must be addressed pro-actively in the Traffic Impact Study. Currently, the Road Access Management Guideline document is in development and should be applied in the design of streets.

## **Parking**

Furthermore, for new developments, the Traffic Impact Study must specify parking requirements for private vehicles. Instead of requiring a minimum number of parking spaces for each new development, a maximum number of parking spaces must be provided. Thus, a ceiling on the supply of parking is introduced.

Urban areas must develop a parking strategy and a mechanism to maximise user charges. The traditional parking meters are operated with coins, and seem to be inconvenient, as many people do not carry sufficient change.

Car guards could be formalised as a form of job creation and provide change. Alternatively parking payment machines must accommodate notes and credit cards. These options must be considered in the parking strategy.

The parking strategy must also include special needs parking, bicycle racks, and motorcycle parking.

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## **Annexure C**

### **Notes from Stakeholder Consultation**

**Problems identified at the stakeholder consultation meetings held in Capricorn District in July 2010 are listed below:**

**C1. BASED ON SESHEGO MAP**

***Congestion***

Nelson Mandela Road is congested during peak hours

- AM Peak- ( 6.30 -9.30am) ; PM Peak – (4.00 – 6.30pm)
- It is a main corridor
- Midday congestion caused by trucks from Nelson Mandela via Vermikuliet to R521.

New Era Road

- No lay byes for Public transport to pick up passengers
- New Era Rd should have enough lighting. Visibility is low and it is a high accident zone.
- Law enforcement needed on that road. A lot of incidents of drunken driving.
- New Era Rd is the only main PT route in the area.

Khensani Road

- Carries a lot of passengers during peak hours.
- Area does not have a formal pick up area so streets get congested because taxis park on the side of the road

Kgoro, Tlou, Freedom, Ditlou and Oliver Thambo Streets

- Need for sidewalks to be investigated

Dendron Road

- Road is too narrow.

***Public Transport***

- There is a need for a taxi rank by the disabled school
- Bus stations need to be upgraded all over the town
- Seshego had grown and taxis remain using the inner main streets and people walk for too long.
- In Seshego there is a need for signage at bus stops indicating the bus operating hours.
- Need for increase in taxi ranks during peak hours in Seshego.
- Mini taxi rank required at Disabled School in Freedom Drive;
- No bus shelters provided in Seshego;

## ***Pedestrians***

- Pedestrian safety measures needed on all major roads and intersections particularly at schools
- Pedestrian safety measures needed at Ext 44 on the Nelson Mandela Rd traffic lights and also at Legae la batho and Madipa Park settlements along the road. A pedestrian bridge is suggested at Ext 44 traffic signals.
- There are people with disabilities around technical colleges in Seshego.
- Pedestrian sidewalks needed on whole stretch of Nelson Mandela Road

## ***Traffic Signals***

- Problematic traffic signal timings along Nelson Mandela coming from Seshego at squatter camp, site investigation indicated approx 20 seconds green for main road and 30 seconds green for side road
- Traffic lights at Polokwane Rd cause accidents as drivers do not observe the speed limit and usually drive through the red light. Pedestrians are usually knocked down.

## **C2 BASED ON POLOKWANE MAP**

### ***Congestion***

- Grobler St – (used as overflow in the morning instead of Rissik)
- R521
- Thabo Mbeki St
- Jorissen St
- Devenish St
- Rissik St
- Hans Van Rensburg St
- Excelsior St
- Biccard Str
- Nelson Mandela to Rissik congested all day
- Landdross Mare
- Pick and Pay area
- A1 Shopping centre across from Pick and Pay causes major congestion. Tucks load on either of the road.
- Congestion is mainly during peak hours and month end. Main type of accidents in city are rear/front bumper accident (about 15 per day)
- New developments taken to the outskirts
- Commercial Trucks – Polokwane is the entrance and exit to and from South Africa.
- Congestion at schools during drop off and pick up times. Signage to Morija via Tzaneen bypass of N1.
- Congestion is during peak hours only
- All corridors are congested

- Use of bridges to reduce congestion e.g. the bridge by Game
- Proposed plan for a bridge between Westernburg and Nevada
- Suggestion to close road in front of the shopping mall and rank
- Corner of Bok Street and Rissik Street is congested.
- From Buite Str. To Church on Excelciour Str. is also congested.
- Possibility of closure of Church Str. between Devinish and Rissik streets.
- There is congestion at corner of Church and Grobler Streets.
- N1 bypass via Nelson Mandela Drive add to congestion. Possible extra lane on Nelson Mandela drive.
- Possibility of extending N1 western bypass from Nelson Mandela drive to the south.
- People taking children to school also cause congestion near the schools.
- From Taxi holding rank next to the graveyard into Devinish there is a need for a sensing robot or a circle, the taxis cause heavy congestion.
- Speeding problem on Airport Rd to N1 – requested speed humps (pedestrians, Gateway);
- Congestion on R521 in AM and PM;
- Savannah Centre – difficult to exit western gate;
- Congestion on Nelson Mandela (06:00 to 09:00 & 15:30 to 18:00);
- Problem with front-rear collisions;
- Marshall St is used as bypass road;
- Long distance heavy vehicles need to stop in Polokwane to shop;
- Few learners cycle to school in Polokwane – no problem;
- Congestion at schools – need to deploy traffic officers;
- Heavy vehicle bypass road has poor signage;
- Loss of heavy vehicle business in CBD;
- Nelson Mandela not widened – narrow verges, shoulders – also public transport.
- Congestion along N1 from airport road into town
- Delays occur at traffic circle as one is entering Polokwane from the south
- Nelson Mandela to Seshego is a very busy road
- Link to south required from Seshego to Matlala Road;
- Sidewalks required at:
  - Nelson Mandela;
  - Freedom Drive;
  - Kgoro St;
  - Oliver Tambo;
  - Ditlou St;
  - Police Station;
  - Plaza area;
- Congestion Devenish to Pick n' Pay;
- Westernburg to Matlala – sidewalks required;
- Access from Westernburg is very limited – bridge planned (Nirvana?);
- Congestion reported in Indian Complex area (Schoeman – Devenish – Church);
- Need for long term bypass for heavy vehicles to avoid CBD;

### ***Public transport***

- Need for intermodal facility at railway station;
- Congestion due to taxis at Church St, Pick n' Pay, Checkers, Council Buildings;
- Taxi congestion in PM in Rissik St;
- Congestion due to taxis parking on street (not using holding area);
- Need for de-centralization of taxi ranks to reduce congestion – taxi ranks at different points;
- No metered taxis – not formal – negotiated fares;
- Taxis charge full fare to Savannah Centre – not end point of route;
- Pick and Pay rank causes serious congestion
- No metered taxis in the area
- More ranks needed in the city centre
- Municipal buses to pick up school children
- There is a need for public transport within the inner City.
- Possible alternative to P & P taxi rank to reduce the heavy congestion.
- There is a need for public transport education.
- More drop off zones needed on Thabo Mbeki
- Existing Taxi routes:
  - **Moletji – Seshego Taxi Assoc.** – LM- Excelsior-Sche-Bodenstein-Church-Paul Kruger- Nelson Mandela;
  - **Moletji – Makhado Taxi Assoc.** – LM-Excelsior-Indian Centre;
  - **Mankweng-Tzaneen-Solomondale Taxi Assoc.** – Thabo Mbeki-Church-Pn' P-Grobler;
  - **Burgersfort Leb Taxi Assoc.** – Church-Pn'P – Church;
  - **Mashashane Taxi Assoc. & Ext 44 Taxi Assoc.** – Rissik-PK-Church-Pn'P-Devenish-Nelson Mandela.

## **Parking**

- Parking layouts need to be adjusted. People park anywhere in the city, all day. This affects business.
- Parking should be regulated on Jorisson and Hans van Rensburg near Library.
- During peak hour they park on Rissik Rd
- All parking bays are not charged for. You can leave your vehicle for the whole day.
- Parking restrictions can work.
- Shortage of parking.
- Review parking issues in Polokwane, on-street parking meters are not working, are there any parkades in town?
- No functioning parking meters in Polokwane – possible need for parking wardens with hand held parking meter – potential for job creation;
- Problem with unserviceable parking meters – all day free parking – no parking turn-over;
- If parking on major routes is banned during peaks, vehicles will park on side roads;
- Need for off-street parking – parking garage opportunity?;
- On-street parking leads to congestion;

### ***Pedestrians***

- No major pedestrian accidents
- Pedestrian sidewalks needed on Nelson Mandela Rd
- Pedestrian sidewalks extended on either side of Nelson Mandela all the way to Madiba park
- Madiba Park robot ( possible ped. Bridge) due to people crossing and accident regularly involving pedestrians.
- Pedestrian schemes can work if promoted. Change in working hours can also work.
- Consider pedestrianization of section of Kerk St;
- Need for sidewalks and street lights (perhaps cycle path) on Matlala Road – new RDP housing;

### ***Non Motorized Transport***

- No cyclist issue
- NMT measures needed in city centre
- Shova ka lula focuses on rural schools.

### ***Traffic Signals***

- Traffic lights at Market Street, 2<sup>nd</sup> from the Railway bridge could be replaced by a circle to ease the movement of traffic.

### ***Public Transport Ring Route Proposal***

- Schoeman Str. from Excelsior to Bodenstein to be exclusively for Public Transport.
- Possible ring road of public transport Excelsior, Schoeman, Bodenstein and church Street.
- Excelsior – Schoeman – Bodenstein – Church – Paul Kruger –Thabo Mbeki
- Schoeman
- Used by both Public/private transport
- Demarcated PT lanes used by private vehicles. Enforcement is needed to make sure they do not use those lanes.
- When buses and taxis arrive at the same time there is major congestion.
- Recommend Landdross Mare should form part of the ring route for the AM Peak. It should be a drop off only for either buses or taxis. Preferably taxis.
- Gen Joubert and Jorissen are high accident zones
- Excelsior needs rehabilitation because it carries a lot of traffic. One way is recommended.
- 3 taxi ranks in Indian Centre
- Traffic synchronisation is excellent on Grobler, same should be done on Excelsior, Church, Nelson Mandela and Rissik.
- TDM Problem causes



- No proper route network
- Route network does not meet demand
- No regulatory measures for trucks. They use any route in the city centre.
- Pedestrian heads needed at traffic lights

### ***Other***

- Cattle on road from Seshego to Gilead (Ellisras Rd);
- Problems with cattle on the roads, road to Ellisras, road from Polokwane to Gilead
- Possibility of introducing flexi-time to spread travel in peak periods;
- Matlala Rd to Rissik St Ext – street lights required;

## **C3 BASED ON CAPRICORN MAP**

### ***Rural Areas***

- Roads need to be upgraded. There are lot of pot holes in the major roads in the rural areas.
- Gravel areas;
  - Mashashane (Setotolwane road)
  - Matlala
  - Sebayeng
  - Molepo
  - Maga
  - Blouberg to Radichaba
- Ext 71 (near Seshego) – RDP houses – new schools – should be allowed for in planning.
- Gravel roads in poor condition:
  - Chebeng to Mashashane (very poor condition)- (Priority 1);
  - Bochum to Ratshatsha (Blouberg route via My Darling) – inaccessible in rain – (Priority 2);
  - Silicon Mine to Chuenespoort (priority 3);
  - Silicon Mine to village (22km-1km surfaced);
  - Polokwane to Mashashane – damage to ambulances;
  - Rachaja to circle – sandy gravel ( Bochum);
  - Molepo villages – Drakensberg pass;
  - Mothiba to Mothapo;
  - Mothiba to Manthorwane;
  - Mashashane to Matlala;
- . Also busy along Dendron Road
- Road is a problem from Polokwane to Mashashane,- it is not tarred
- Road north of Bochum is not tarred all the way, from Bochum to Ratshatsha via My Darling (high priority)

- On the tar road from Chuenespoort to Boyne, the access roads to the villages are not tarred, for example at the Molepo Villages (these villages are located all along this road next to the mountain)
- There is a gravel road close to the silicon mine, encompassing approximately 22/23 km to the village Mothiba Ngwanamago (high priority)
- Also gravel roads from:
  - Mothiba to Mothapo (condition not too bad)
  - Mothiba to Manthorwane (bad condition)
  - Matlala to Mashashane (bad condition – corrugation)
  - Chebeng to Mashashane (poor condition) (high priority)
- Scarcity of tarred roads – makes it difficult to find contractors
- Mafefe is most local area in Lepele-Nkumpi
- Seshego learners don't have problems
- Local government must look at providing enough schools and clinics
- Sidewalks required at:
  - Mankweng (university & shops);
  - Boyne to ZCC (& pedestrian bridge);
  - Soekmekaar;
  - Dendron ;
  - Bochum;
  - Lebowakgomo.

### ***Congestion***

- ZCC Church at Moria – congestion at Easter and in September Moria (ZCC congresses occur during Easter and September annually);
- Road widening required at:
  - Bochum (congested intersection at government offices);
  - Mokwade Road.

### ***Public Transport***

- Policy is to provide scholar transport (buses and taxis) for travelling distances > 5km
- The new taxis are expensive but yet not durable and break down easily. As such not many drivers go to these rural areas
- Blouberg area – learners mostly on foot. School transport by departmental tender (distances greater than 5km) – no charge to learners;
- The province's dept of education has records about distance between communities and schools and therefore know where scholar transport is required
- Subsidy based on 70c x no of learners x no of km /day;
- In rural areas with poor gravel roads no tenders received for scholar transport;
- Lepele-Nkumpi (Mafefe & Maphale) – most in need (Nkukulu circuit)
- Congestion at Zebediela rank;
- Eastern sections of Polokwane require scholar transport

## ***Non Motorized Transport***

- No learner transport in Polokwane – no bicycles; Molemole Senwabarwana (Bochum) (most rural) – bicycles;
- Aganang – no bicycles distributed;
- Mankweng – applied for learner transport;
- Eastern areas – some need for learner transport;
- Bicycles – importance of safe routes;
- Shova Kulula has handed out some bicycles
  - Molemole municipality is the 1st municipality with Shova Kulula bicycles, it is the most rural area, not many bidders for scholar transport routes
  - Aganang municipality have bicycles, but they have not been distributed yet
  - Pauline from Polokwane municipality can provide info on Shova Kulula in the district

## ***Traffic signals***

- Nelson Mandela Rd to Seshego – poor traffic signal timing at Squatter Camp and at Dendron Rd intersections;

## ***Other***

- On the road from Boyne to Chuenespoort, there is a dangerous T-junction (see photos from site visit) the T-junction is located downhill and oncoming traffic keep on missing the left turn coming from Boyne, signs should be improved and alternative measures like rumble strips should be considered to alert drivers
- Dangerous bend at T-junction at Sebayeng Village on new Boyne to Chuenespoort Rd (tar) – many accidents & need for warning road signage – rumble strips
- Domestic animals on road access to villages from Boyne to Chuenespoort Rd;
- Cattle are problematic on roads in Molemole, Blouberg, to Chuenespoort.
- Mafefe – cable river crossing between villages – bridge required.

**It should be noted that the comments above were prior to analysis and are listed as they were recorded at the stakeholder consultation meetings.**

**Annexure D**  
**Attendance Register**  
**Stakeholder meetings**

**Meeting at Room 545 Phamoko Towers, cnr Church and Bodenstein Streets, Polokwane**

**Tuesday 13 July, 2010**

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**Meeting at Room 545 Phamoko Towers, cnr Church and Bodenstein Streets, Polokwane**

**Wednesday 14 July, 2010**

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## **Annexure E**

### **Business Plans**