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DEPARTMENT OF
ROADS & TRANSPORT

Travel Demand Management Study

Mopani District Municipality

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PROJECT NAME:

Travel Demand Management Study in Mopani and Capricorn District Municipalities

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SYNOPSIS:

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.

QUALITY VERIFICATION

This report has been prepared under the controls established by a quality management system that meets the requirements of ISO 9001 : 2000.

UKAS QUALITY MANAGEMENT 022

Verification	**Capacity**	**Name**	**Signature**	**Date**
By Authors	Traffic Engineers	DP,MW,MA		
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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 Study

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, thereby reducing the negative impact of travel. 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.

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 Mopani 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.
- There is insufficient public transport in the rural villages.
- There is a serious shortage of Non- Motorized Transport infrastructure and facilities.
- Traffic signal management require attention. The permanent flashing signals in Tzaneen are in contravention of the law.
- There is traffic congestion mainly in Tzaneen during peak hours.
- The need for road safety awareness.
- Lack of fences on roads 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.
- An optimum traffic signal plan for traffic signals controlled intersections need to be prepared.
- A Non- Motorised Transport Study covering all towns and villages in the district need to be undertaken to cater for NMT facilities and services.
- A road safety plan should be developed and communicated through road shows.
- 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 Tzaneen on a street by street basis.
- The road between Tzaneen and Burgersdorp need to be widened and maintained. Provide HOV lane to mitigate the congestion and accidents.
- Implement traffic calming at bend south east of traffic circle at entrance to Giyani.
- Fencing of roads to prevent stray animals.
- Provide sufficient bus ranking facilities in Giyani.
- Improve quality of work on the repair of potholes throughout the district.
- Traffic signals in Giyani needs attention.
- Provide public transport facilities and amenities in Hoedspruit.
- Public transport in Hoedspruit need government support to cater for seasonal demand fluctuations. We recommend the contracting and subsidisation with bus services.
- The Deerpark junction outside Tzaneen on the road to Phalaborwa requires traffic lights to assist traffic coming to Tzaneen particularly in the mornings.
- A traffic circle or traffic lights on the Tzaneen to Aqua Park and Polokwane to Phalaborwa roads junction is recommended.
- The permanent flashing traffic lights in Tzaneen should be addressed as it is in contravention with the spirit of the law.

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 Mopani 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, Mopani District Municipality and all the stakeholders consulted including the Transport Forum of Mopani. 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 (TDM) 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 Mopani District.

Mopani district has the following objectives:

- To become the “Food Basket of South Africa”;
- To become the “Tourism Destination of Choice”.

According to the National Public Transport Strategy the Strategic Goals for Public Transport in urban areas are, among others:

- Over 85% of population should be within 1km of Public Transport Corridor;
- 20% of car work trips should shift to public transport;
- Door-to-door journey time to be less than 60 minutes in urban areas.

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. The TDM strategies are intended to reduce the demand for single occupancy vehicle trips.

Implementation of TDM can:

- Reduce highway congestion and traveler delay;
- Improve air quality; and
- Improve access to jobs, schools and other opportunities;
- Reduce accidents and fatalities.

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;
- Introducing staggered working hours to avoid peak travel periods;
- 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;

- Analysis of all information gathered.
- Identify suitable TDM measures;
- Develop TDM Plan to address the areas of concern.

The success of the project largely dependends 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 Limpopo Provincial Government 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 it's Action Plan as well as the Provincial Land Transport Framework and the Integrated Transport Plan of Mopani.

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

- Mopani Integrated Development Plan (IDP);
- Mopani Integrated Transport Plan (ITP);
- Mopani 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 relevant 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

The Mopani District Municipality has a total of 64 minibus taxi facilities. These taxi facilities are located as follows:

- Greater Tzaneen - 24 taxi facilities (2 formal);
- Ba-Phalaborwa - 11 taxi facilities (1 formal);
- Greater Letaba - 11 taxi facilities (4 formal - Modjadjiskloof, Ga-Kgapane, Sekgosese & Mokwakwaila);
- Greater Giyani – 18 taxi facilities.

More than 85% of taxi facilities are informal without necessary facilities. Major public transport facilities in Mopani are summarized in the following table:

Table 7.1: Major Public Transport Facilities in the Mopani District

Facility Name	Facility Status	Ownership
Tzaneen Pick ‘n Pay Minibus taxi rank	Formal	Private
Tzaneen Sanlam Centre Minibus taxi rank	Formal	Private
Phalaborwa Minibus taxi rank	Formal	Municipality **(BPM)**
Modjadjiskloof Minibus taxi rank	Formal	Municipality **(GLM)**
Giyani Shoprite Minibus taxi rank	Formal	Private
Giyani Spar Minibus taxi rank	Formal	Private
Giyani Score Minibus taxi rank	Formal	Municipality **(GGM)**

Rita Minibus taxi rank	Informal	Taxi Association
Hoedspruit Minibus taxi rank	Formal	Municipality **(MLM)**
The Oaks Minibus taxi rank	Formal	Municipality **(MLM)**
Metz Minibus taxi rank	Formal	Municipality **(MLM)**

7.1.1 Taxi Associations

The Taxi Associations, which control the minibus taxi operations in Mopani, are listed in the following table:

Table 7.2: Taxi Associations in Mopani

Maruleng LM	**Ba-Phalaborwa LM**	**Greater Letaba LM**	**Greater Tzaneen LM**	**Greater Giyani LM**
The Oaks Taxi Association.	Phalaborwa Taxi Association.	Rotterdam Taxi Association.	Bakgakga Taxi Association.	Giyani Town Taxi Association.
	Lulekani Taxi Association	Mooketsi Taxi Association	Nkowankowa Taxi Association.	Nsami Taxi Association
		Letaba Taxi Association	Bolobedu Taxi Association.	Homu Taxi Association
		Molototsi Taxi Association.	Pusela Taxi Association	Giyani Taxi Association
			N'wamitwa Taxi Association.	Twananani 20 & 21 Taxi Association
			Tzaneen – Acornhoek Taxi Association	Hlaneki – Maswanganyi Taxi Association.
				Simajiku Taxi Association.
				Tiyimeleni Taxi Association.

7.2 *Bus*

Table 7.3: Subsidised Bus Service Providers in Mopani District Municipality

DISTRICT MUNICIPALITY	SUBSIDISED OPERATORS
MOPANI	Risaba Bus Service
	Mathole Bus Service
	Great North Bus Service

7.3 *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 following rail services are provided in Mopani District:

- Passenger Services:
  - Hoedspruit to Gauteng (via Nelspruit);
- Freight Services:
  - Polokwane to Maputo (via Tzaneen & Hoedspruit);
  - Phalaborwa to Richards Bay (via Hoedspruit & Nelspruit).

7.4 *Air*

The following airports / landing strips are situated in the Mopani Municipal area:

- Hoedspruit (Maruleng) Airport – Gauteng, Cape Town;
- ZZ2 (GLM) Landing Strip – agricultural produce (tomatoes);
- Ba-Phalaborwa Landing Strip – mines;
- Eiland Landing Strip – tourism;
- Tzaneen Airport – agricultural produce;
- Siyandani (in Giyani) Landing Strip – shopping, mines, agriculture.

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

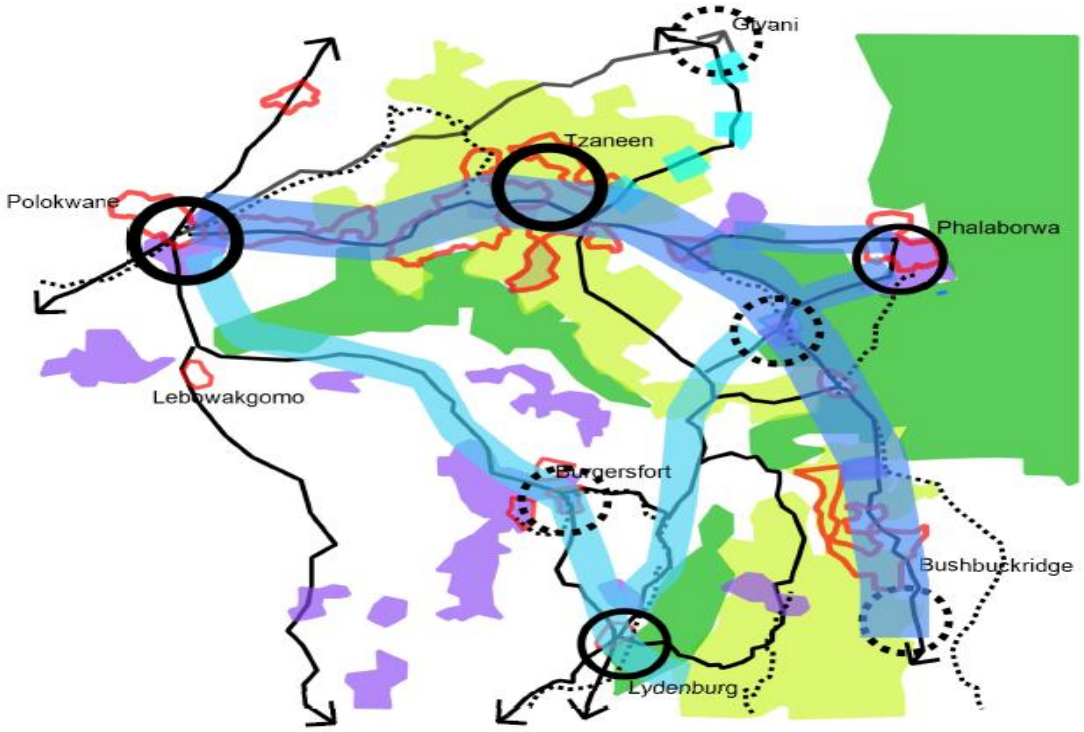
The Spatial Development Initiative (SDI) roads support corridor development initiatives and these roads would link up with other provincial roads and also ultimately lead to the border posts and the Maputo corridor. There are four sub-corridors in the Limpopo province:

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

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

The Strategic Corridors in Mopani District that were identified in the literature study are indicated in the following diagram:

Figure 8.1: Strategic Development Corridors in Mopani District



The Phalaborwa Corridor in Mopani District is the major transport corridor in Mopani district and it connects Mpumalanga (Hazyview) with Phalaborwa and Tzaneen via smaller towns to the west of the Kruger National Park.

The following two core routes form part of this corridor:

- 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.

The status of the road network in the Mopani District is summarized in the following table:

Table 8.1: Total Distances (km) of roads in the Mopani District

Municipality	Tarred roads (km)	% Tarred	Gravel roads (km)	% Gravel	Total
Ba-Phalaborwa	211,37	46,3	245,3	53,7	456,67
Greater Tzaneen	419,6	40,7	611,85	59,3	1031,45
Greater Giyani	173,75	25,4	509,01	74,6	682,76
Greater Letaba	194,13	29,8	457,26	70,2	651,39
Maruleng	314,79	55,9	248,41	44,1	563,2
Mopani/Total	**1313,64**	**38,8**	**2071,83**	**61,2**	**3385,47**

Source: Road Management Systems (RAL, 2007)

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

9.1 TDM Issues Identified in Mopani

9.1.1 Public Transport

The following problems were identified in the literature:

- Too few taxis on rural roads;
- 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 for basic accessibility needs;
- Transport system is not flexible enough to respond to customer requirements;
- Infrastructure does not meet the needs of operators and customers.

9.1.2 Roads

Problems identified in the literature include:

- Inadequate maintenance of gravel roads, particularly in rural areas;
- Inadequate road signage (route names, numbers, speed limits and distance signs);
- Inadequate fencing (wild and domestic animals on the roads);
- Road accidents;
- Vandalism of existing fences.

9.1.3 Road Safety Issues

The following roads, where high traffic accident rates occur, were identified:

- George's Valley Road;
- Tzaneen to Mooketsi Road;
- Tzaneen to Lydenburg Road;
- Giyani to Mooketsi Road;
- Giyani to Dzumeri Road.

10. TDM Interventions Required (Based On Literature Review)

10.1 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 inter-modal public transport facilities at the strategic nodal points;
- Implement low capital improvements at public transport ranks (e.g. lighting, street furniture, passenger information, etc.);

- To ensure 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;
- 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;
- Promote the use of bicycles

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;
  - A comprehensive road sign upgrade project should be implemented;
- 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 within 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;
  - Install traffic calming;
- Investigate pedestrian only streets;
- Investigate potential for bicycle taxis and pedi-cabs.

10.4 Institutional

The following Institutional related Travel Demand Management interventions were identified:

- Stagger working and school hours;
- Regional importance of CBD / inner city should be recognized;
- SMMEs in the rural transport sector, particularly new entrants from previously disadvantaged communities, to be nurtured. 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 (All notes are included in Annexure C). 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
- Sufficient road signs and maintenance (sign management system?)
- Fencing of road reserve (for cattle)

11.1.2 Public transport

- Sufficient frequency and coverage of public transport in rural areas
- Sufficient infrastructure, i.e. ranks, bays, shelters, toilets and signage
- Consider HOV lanes in larger urban areas only on main routes (e.g. Tzaneen to Rita)
- Consider intermodal public transport facilities – require adequate land provision, can have facilities for passengers at one place instead of many, makes it easier for passengers to transfer, also safer with high volumes of passengers

11.1.3 NMT

- NMT infrastructure on frequented routes
- Adequate lighting
- Cycle ways on frequented routes
- 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 Awareness and communication

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

All the notes were then grouped according to these categories. These categories best describe the concerns of the stakeholders.

11.2 Road Network

- Cattle on roads are a problem in the whole Mopani, fences are stolen. There is a pound in Giyani which has never been used. This problem is particularly serious at the following locations:
  - Section D of Kremetart;
  - Giyani to Letsitele;
  - Mooketsi to Giyani (via Maphalle);
  - Burgersdorp to The Oaks (existing fences on game farm side of road only);
  - Lwamondokop Road.
- Roads are poorly constructed and maintained with plenty of potholes, a lot of potholes on road from Dzumeri to Letsitele

- Poor standard of pothole repair e.g. potholes on Sapekoe Drive (R36) in Tzaneen, have been repaired twice in the last six months and they are still a problem. This is an important route
- Road marking maintenance should be improved, better materials should be used (currently road markings do not last)
- Not sufficient road signs, lack of warning road signage at approaches to residential areas
- Two hospitals are located in Giyani with the speed humps between the hospitals removed however trenches were left in the road
- The following roads have been pointed out (problems with condition of road):
  - Giyani to Siyandani & Khakhala (very bad condition gravel road with sharp stones- high priority);
  - Giyani to Shishosana (high priority);
  - Road from Giyani to Mapayeni is in a very bad condition, part of it is tarred, it has deep potholes and is too narrow – no shoulders, it was badly constructed and deteriorated within a year, open drain on the side(construction is under way with this road but only for 2.5 km);
  - Gravel road in a bad condition between Rubbervale and Gravelotte (±15km);
  - Dzumeri to Mzilela;
  - Dzumeri to Nwamarhanga (will make it easier to get to Phalaborwa);
  - Giyani to Muswani;
  - Giyani to Mavalani/Nwadzekudzeku;
- A stall that is located close to Mooketsi encroaches on the road, interfering with road users' movement, it is important to prohibit stalls from illegally locating inside the road reserve;
- There is dangerous bend in Giyani (see Figure 11.1 and Figure 11.2) located south east of the traffic circle, improve the safety of this bend by i.e. adding appropriate signage and possibly other road safety features that can make it safer by reducing the speed of traffic;
- In Giyani investigate the possibility of linking the access road to SPAR to the signalized intersection;

Figure 11.1: Dangerous bend in Giyani southeast of traffic circle (location)

Figure 11.2: Dangerous bend in Giyani southeast of traffic circle (enlarged)

- With regards to road improvements:

  - Reduce travel distance by tarring road to Thohoyandou via Vuwani;
  - The gravel road from Thomo Village to Hlomela is in a bad condition. It is proposed to upgrade this road. This road can assist people from Gaula, Ndindani, Mahlathi and Khakhala to travel between Giyani and Phalaborwa;
- Provision of scholar transport is difficult in areas served by gravel roads that are in poor condition;
- Rural roads are generally not tarred; hinders public transport to rural areas. Bakkies are used to go into these areas that have gravel roads.
- At the traffic circle in Giyani the signage requires improvement. The geometric layout should be assessed by a geometric engineer;
- At the road from Polokwane to the R529 (at Sikhunyane villages) rumble strips can assist at the T-junction, currently a dangerous intersection.

11.3 Traffic Signals

- Traffic signals in Giyani need attention (according to the stakeholders Aurecon has been appointed for this work). This road is owned by Roads Agency Limpopo. Congestion is experienced in Giyani on the road leading to FNB from the taxi rank. Traffic movements along this road will have to be reviewed once the traffic signal has been changed;
- Faulty traffic signals – most traffic signals in Tzaneen are in flashing mode all day (this does not comply with the requirements of SA Traffic Signs Manual Vol 3 – flashing mode is not acceptable as part of normal signal phasing);
- The Tzaneen access on the Polokwane to Phalaborwa Road is congested and the installation of traffic signals at this intersection should be considered.

11.4 Public Transport

- Generally throughout Mopani District there is a lack of public transport facilities;
- Too few taxi ranks in Giyani and Tzaneen, no toilets at ranks;
- Larger taxis can't fit under existing roofs, roof too low for 22- seater taxis at Tzaneen rank;
- Access problem to Tzaneen rank in peak periods;
- There are 4 taxi ranks in Giyani, insufficient off-loading places. These ranks are:
  - Shoprite Taxi rank;
  - Metro taxi rank;
  - Old spar taxi rank;
  - Main taxi rank;
- Recommendation to construct shelters at taxi lay byes – passengers will then wait for public transport automatically at demarcated places;

- Investigate the feasibility of an intermodal public transport facility in Giyani. Public transport facilities are congested at the Giyani bus terminal to Malamulele around the Shoprite Taxi rank;
- There is a shortage of public transport to Muyexe (piloted for rural development);
- In Giyani not enough loading bays for busses, conflict occurs with long distance minibus-taxi and bus services due to competition for passengers. Insufficient bus ranks – buses stop everywhere and hinder the flow of traffic;
- Lack of taxis in remote rural areas (on gravel roads);
- Long walking distance to access public transport pick-up points in most areas of Bolobedu (around mountains);
- Public Transport demand in Hoedspruit is seasonal and not subsidised. During harvesting demand for public transport exceeds supply. (Mango, citrus, tomatoes). Employers hire many workers, with approximately 70% coming from the Acornhoek area, during that period (May to Sept – citrus, Dec to Jan – mangos). There is a need for additional investment and/or subsidization of public transport in the area;
- There are no taxi ranks in Hoedspruit and no amenities;
- There is minimal public transport in Hoedspruit in the off peak. Taxi frequencies during off peak periods are also low.

11.5 NMT

- In Giyani a pedestrian crossing problem has been identified on the main access into town between the existing traffic signals on the R81, (from SPAR to Shoprite). A new traffic signal or a raised pedestrian crossing was proposed. After a site visit it is proposed to accommodate pedestrians at the existing traffic signal, due to the proximity of the adjacent traffic signals and the already congested nature of this specific part of town;
- In Giyani the bicycle mode of transport should be promoted despite the challenge when it is raining;
- At Nkomo the school and the community are separated by the road;
- Problems with scholars crossing the road at the Kwangulatilo Tembe School at the 4 way stop. Drivers are not disciplined and ignore the stop sign. Investigate other options to increase road safety for learners, i.e. traffic calming measures like a raised pedestrian crossing or lowering speeds of vehicles with replacing the 4 way stop with a traffic circle. A scholar patrol should also be considered;
- There is a T-junction at the road to Siyandani on the Malamulele road which needs a pedestrian crossing;
- Sidewalks are needed at the FNB Bank and at the Nursing College in Giyani;
- Pedestrian sidewalks are needed on the Mphakathi to Madumeleni Road;

- Pedestrians cross the road at Mokgolobotho village mainly during the afternoon and there are accidents. There is need for a safe pedestrian crossing.

11.6 Law Enforcement and Road Safety

- A stall that is located close to Mooketsi encroaches on the road, interfering with road users' movement, it is important to prohibit stalls from illegally locating inside the road reserve;
- Many motorists do not obey stop controlled intersections. In particular taxis do not stop at the Letaba / Nkowankowa intersection;
- There is a shortage of traffic enforcement equipment;
- Roads with high accident rates which should be investigated in detail, are:
  - Intersection of Sapekoe Drive (R36) & Pusela Street (4 way stop);
  - Intersection of Sapekoe Drive (R36) & Rietbok Street (4 way stop);
  - R36 (Tzaneen to Burgersdorp) – known as "Road of Death" – high traffic volumes – narrow – no yellow lines – poor maintenance – serious drainage problems – animals & pedestrians on road (25 to 35 km long). This road requires urgent upgrading;
  - R528 (Georges Valley) – unexpected S-bends – lack of road signage (warning signs & low gear signs needed), fatalities were reported – problems are lack of maintenance (overgrown verges, signs covered by foliage, lack of signs etc);
  - R36 Mooketsi to Munnik – approx. 20 km long – mountainous area with high accident rates – theft of loads from slow-moving vehicles;
  - Deer Park junction – This junction has stop control on the Deer Park approach. Due to heavy traffic volume on the main road, side road traffic is delayed, particularly in the morning peak period. Consideration should be given to upgrading the intersection to improve safety. Traffic signals or a traffic circle should be investigated.
  - Manouvlei – lack of maintenance;
  - Tarentaal Road – lack of maintenance – overgrown.
- Improve road safety at the Oasis Hotel area where pedestrians are vulnerable due to reckless driving.

11.7 Awareness and Communication

- Make the public aware as far as possible about all transport information in the district municipality and conduct campaigns for certain specific items i.e. road safety, public transport scheduling, new NMT infrastructure and road upgrades.

11.8 Schools

- At Nkomo the school and community are separated by a road and learners need to cross the road to access the school. In the interests of safety, good planning should avoid permitting physical barriers (a road in this case) crossing pedestrian desire lines or dividing communities;
- Problems with scholars crossing the road at the Kwangulatilo Tembe School at the 4 way stop, drivers are not disciplined at the 4 way stop. Investigate other options to increase road safety for learners, i.e. traffic calming measures like a raised pedestrian crossing or lowering speeds of vehicles by replacing the 4 way stop with a traffic circle. A scholar patrol should also be considered.

12. Recommendations

Generally, it has become clear that detailed Travel Demand Management studies need to be undertaken at district and local municipality level in respect of Tzaneen. 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.
- A traffic engineer should analyze the traffic demand in Tzaneen and prepare optimum traffic signal timing plans for traffic signal controlled intersections.
- 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 and schedules. Adequate communication to the public transport users should be taken into consideration.
- A Non Motorized Transport Planning study for Mopani District should be undertaken to cater for all NMT facilities and services. This study should include all the main towns such as Giyani, Tzaneen, Hoedspruit, Phalaborwa and Modjadjiskloof.
- Road safety awareness should be improved and a detailed study that will address the current road safety issues and concerns should be conducted. A road safety plan should be prepared and communicated through road shows.
- 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 needs to be conducted for Tzaneen on a street by street basis.
- The road between Tzaneen and Burgersdorp needs to be widened and maintained. Provide HOV lane to mitigate the congestion and accidents.
- Implement traffic calming at bend on main access road south east of traffic circle at entrance to Giyani.
- Fencing of roads to prevent stray animals.
- Provide sufficient bus ranking facilities in Giyani.
- Improve quality of work on the repair of potholes throughout the district.
- Traffic signals in Giyani need attention.
- Provide public transport facilities and amenities in Hoedspruit.
- Public transport in Hoedspruit needs government support to cater for seasonal demand fluctuations. We recommend the contracting and subsidisation with bus services.
- The Deerpark junction outside Tzaneen on the road to Phalaborwa requires traffic lights to assist traffic coming to Tzaneen from Deerpark, particularly in the mornings.
- A traffic circle or traffic lights on the Tzaneen to Aqua Park and Polokwane to Phalaborwa roads junction is recommended.
- The permanent flashing traffic lights in Tzaneen should be addressed as it is in contravention with the spirit of the law.

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.

Annexure A

Existing Taxi Facilities in Mopani (Documented)

Greater Tzaneen Municipality Taxi Facilities

Rank	Location	Type	Facilities	Destinations	Peak Periods
Burgersdorp	On-street R36 (Tzaneen to Lydenburg Rd).	Informal terminus	None	Julesburg (via Ofcolaco), Nkowankowa and Tzaneen (via Bridgeway)	Morning & Off Peak
Gabaza	On-street R36 (Tzaneen to Lydenburg Rd). Opposite Burgersdorp Rank	Informal terminus	None	Letsitele (via Mafarana)	Morning & Off Peak
Lenyenye	On-street Lenyenye entrance opposite garage.	Informal terminus	Car wash	Tzaneen, Phalaborwa and Metz	Morning & Off Peak
Leolo	Leolo Settlement	Informal taxi & bus	None	Lenyenye (via Rakoma) and Lenyenye	Morning & Off Peak
Lephepane	Lephepane near market place	Informal	None	LTR TRL & Tzaneen	-
Letsitele	Off-street Letsitele CBD	Formal 475m2.	7 loading platforms (without shelters or seats), an office, toilets (maintained by the Tzaneen Local Municipality) and an informal car wash nearby.	Mulati, Mafarana, Ntsako, Bonn, Sedan, Gabaza and Burgersdorp destinations (via D8 TRL (see base map)), Giyani and Eiland destinations (via D1267 and P43 TRL) and Nkowankowa (via Mariveni - D5011 TRL).	Off Peak & afternoon
Letaba Cross	On-street (near the intersection of roads D673 and R36).	Informal	None	Tzaneen from Bindzulani shopping centre, Dan and Lusaka settlements (use R36/P17).	Early Morning
Letaba Hospital (E)	On-street (on road D673 opposite Letaba Special School and Letaba Hospital).	Informal	None	N'wamitwa (use the D673 TRL /D 1292 TRL (see base map)).	Not busy
Letaba Hospital (W)	Off-street (public parking area at the entrance of Letaba Hospital)	Informal	Paved with 30 demarcated parking bays.	Nkowankowa, Gabaza and Burgersdorp (via Bridgeway (use D673 & R36.)	-
Mafarana	On-street rank at the entrance of Mafarana	Informal	None	Mulati, Bonn, Sedan and Letsitele (use road D8 to access Letsitele	

	(intersection of roads D8 and MLB TRL/NBS TRL (see base map)).			CBD area).	
N'wamitwa	on-street in N'wamitwa near the N'wamitwa Head Kraal.	informal	None (except the pit-latrines which belong to the rank)	Mandlakazi. Mokgwathi (via Shihoko), Thapane and Tzaneen (use roads D3247/D1292/P43 to Tzaneen).	
Madumane	On-street(in Madumane on the road splitting to Morapalala, Mohokgo Block 6 and Pakong.)	Informal	None	Tzaneen (via Mutupa/Relela) (use road D1350 to Tzaneen)	Morning & off peak
Moime	on-street at the South entrance to Moime Village	informal	None	Tzaneen (town?) via Bridgeway (use R36/P17)	morning & off peak
Mokgwathi	On-street at Mokgwathi at the T-Junction of the road from Merekome and D319.	informal	None	Tzaneen (via Merekome), N'wamitwa (via Shihoko) and Hlohlokwe (via Mawa).	-
Motupa/Relela	on-street at Mutupa Village.	informal	None	Tzaneen using road D1350.	Very busy during the morning & off-peak periods.
Nkambako	on-street at Nkambako Risaba junction	informal	None	Mamitwa, Letsitele, Tzaneen and Giyani. (use D1267 to Giyani, Letsitele and Tzaneen via Tarentaal).	-
Nkowankowa	on street at High point business area	Informal taxi & bus transfer station	None	Tzaneen, Phalaborwa, Burgersdorp, Mamitwa, Letsitele, Petanenge, Letaba Hospital and Giyani. (use R36/P17 to Tzaneen and D5011 to Letsitele) Commuter rank.	very busy during morning peak period for Tzaneen
Nwamahori	On-street in Khujwana (future rank near the Peace Makers Football Club Soccer Field.)	informal	None	Tzaneen on R36/P17 road (from Khujwana)	-
Petanenge	on the entrance of Petanenge coming	informal	None	Nkowankowa & Tzaneen (via Mhlava &	Not busy

	from Nkowankowa side under the marula tree.			Sasekani) on R36.	
Rita 1	On-street C.N. Phatudi.	Informal	None	Tzaneen (via R36)	Very busy during morning peak -rank stops operatingat 15h00 At night some taxis use garage opposite as a holding area.
Rita 2	On-street Turn off to Letsitele via Lefaro/Zangoma from the R36 road.	Informal	None	Letsitele (via Lefara & Zangoma) on road D3766.	Not busy
Muruji	On-street	Informal	None	Tzaneen (via Deerpark Rd on D978)	Morning peak & off peak.
Thapane	Off-street Next to Sanlam Centre	Formal	11 loading platforms with shelters & some seating (not sufficient in peaks) Public toilets in shopping centre 3934 m2.	Nkowankowa, Dan, Lusaka, Mokgolobotho, Khujwana, Lephephane, Lenyenye, Tickeyline (use P17/R36)	busy during the off peak & very busy during the afternoon peak
Tzaneen Sanlam Centre	Off-street Sanlam Centre next to Pick ‘n Pay shopping mall	Formal	14 loading platforms, two separate loading areas (local & long distance) 4763 m2	Long Distance: Boyne, Polokwane, Johannesburg, Giyani, Pretoria. Local: Modjadjiskloof, Kgapane, Motupa/Relela, N’wamitwa, Acornhoek, ost utilized route is D978 via Deerpark & P43/3 via D1292 to N’wamitwa.	Very busy in Off Peak & Afternoon Peak
Tzaneen Pick ‘n Pay	Pick ‘n Pay	Off-street Transfer station	Polokwane (via George’s Valley & Makgoebaskloof) use D528 & P17		Morning peak until 16h00

Ba-Phalaborwa Municipality Taxi Facilities

Rank	**Location**	**Type**	**Facilities**	**Destinations**	**Peak Periods**
Akanani	Off-street in Lukelani next to Akanani shopping centre.	Informal	None	Acornhoek, Namakgale, Johannesburg,	Morning peak & off peak

				Giyani, Makhutswe, Tzaneen and N'wamitwa (use D762 to Bushbuckridge & P112 to Namakgale)	
Lukelani	On-street on entrance of Lukelani from Phalaborwa/Namakgale	informal	One concrete shelter structure.	Phalaborwa (use P112 road)	Off peak
Majeje	On-street near the soccer field in the Majeje area. The minibus taxi rank will be moved to a new place in the future	Informal	None	Phalaborwa (use P112)	Morning peak
Makhushana	On-street	informal	None	Phalaborwa (use D390, D2105 and D86)	Operates morning peak and off peak only.
Maseke	On-street at the entrance to Maseke from road D3786 Shared Taxi & Bus	Informal	None	Phalaborwa (use D3786, D762, D2105 and D86).	Busy morning & off peak
Mashishimale	On-street at Mashishimale	informal	None	Phalaborwa (use road MMN TRL (see base map) joining P112/1)	busy morning & off peak
Mica/Acornhoek	On-street next to the T-junction of oads D3790 and D762.	informal	None	Bushbuckridge, De Oaks and Makhutswe (use D762).	busy morning & off peak
Mondzweni	On-street (temporary – stand available for future off-street rank)	Informal	None	Makhutswi, Tzaneen, Nkowankowa and Giyani.	busy off peak
Namakgale	On-street at the entrance of Namakgale on P112/1 Tzaneen/Gravelotte road.	Informal	There are some facilities in the form of toilets and shelters provided and maintained by the Municipality.	Lukelani and Phalaborwa (use P112/1)	busy morning & off peak
Tzaneen	On-street next to Namakgale entrance	Informal	None	Johannesburg, Giyani, Makhutswi, Tzaneen and Selwana. (use P112)	busy from the morning peak until early afternoon

Greater Letaba Municipality

Rank	Location	Type	Facilities	Destinations	Peak Periods
Modjadjiskloof	On-street at Modjadjiskloof shopping complex. Biggest minibus taxi rank in Greater Letaba	Formal	shelter, loading bays, office and ablution blocks. The condition of ablution blocks is not satisfactory.	Phaphadi, Maphalle, Skhimmini, Mooketsi , Louis Trichardt, (via Morebeng), Tzaneen Pick n Pay rank, Ga – Kgapane, Sekgopo, Giyani score complex, Rotterdam, Sekgosese, Polokwane Pick n Pay rank, Sapekoe Middlekop minibus taxi (use Tzaneen route).	Busy throughout the day
Ga-Kgapane	Off street at Ga-Kgapane Township	Formal	shelter, loading bays, ablution blocks (still under construction).	Mokwakwaila, Tzaneen Pick 'n Pay rank, Polokwane Pick 'n Pay rank (via Mooketsi), Ga-Kgapane, Modjadjiskloof, Johannesburg, Sehlakong, Medingen. (most utilized route is Tzaneen)	busiest during morning and afternoon peaks
Mooketsi	Off-street at Mooketsi complex. At junction of two main roads: Giyani – Mooketsi rd & Modjadjiskloof – Polokwane rd.	Informal	None	Modjadjiskloof, Phaphadi & Sekgopo. (most utilized route is Modjadjiskloof)	busy during the morning peak
Sekgopo	On-street at Ga-Sekgopo village on Modjadjiskloof – Polokwane road.	Informal	None	Ga-Kgapane via Mooketsi Modjadjiskloof & has several pick – up points. (most utilized route is Modjadjiskloof)	busy during the morning peak
Sekgosese	on street at Sekgosese village.	Formal	The rank has facilities but are not sufficient and not in good condition.	Modjadjiskloof, Makhado and Polokwane.	busy during the morning & afternoon peak
Mokwakwaila	off – street at Mokwakwaila village.	formal	shelter, loading bays and public phones	Ga – Kgapane, Skhimmini (Shayamoriri via Skhimmini) Lebaka Cross, Ramotshinyadi and Abel. (most utilized Mokwakwaila)	busy during the morning peak
Skhimini	on-street rank at Skhimini village	Informal	None	Giyani, Mokwakwaila, Ga-Kgapane and Phaphadi. (busiest route is Mokwakwaila)	busy during the morning peak
Maphalle	on-street at Maphalle village on	informal	None	Modjadjiskloof via Mooketsi. (busiest route is	busy during the morning

	the Giyani – Mooketsi rd.			Modjadjiskloof)	peak
Lebaka	on-street at the cross road of Giyani- Mooketsi and Lebaka.	informal	None	Mokwakwaila and Mooketsi, also as pick up point to Giyani, Modjadjiskloof and Ga- Kgapane. (busiest route is Giyani)	busy during the morning peak
Blinkwater	on-street at Blinkwater village at T-junction of Maphalle road joining Giyani-Rotterdam..	informal	None	Giyani, Modjadjiskloof (via Maphalle) &Tiyani/Magoro (via Rotterdam village)	busy during the morning peak
Phaphadi	On-street at Mamaila village	informal	None	Giyani Modjadjiskloof and Mooketsi.	busy during the morning peak

Greater Giyani Municipality

Rank	Location	Type	Facilities	Destinations	Peak Periods
Giyani Shoprite	Off-street at Giyani Shoprite complex shopping centre along Malamulele to Mooketsi road.	formal	shelter, loading bays, public toilets (provided and maintained by the private company).	Malamulele, Bungeni and Nkowankowa (most utilized route is Malamulele to Mooketsi).	busy during morning peak (commuters).
Giyani Spar	off-street at Spar complex shopping centre along Malamulele to Mooketsi road	formal	shelter, loading bays and office	Nkowankowa, Phalaborwa, Tzaneen, Acornhoek and Polokwane. (most utilized route is Nkowankowa).	busy during the morning peak
Giyani Score	off-street within Giyani Score shopping complex. (access via Nkhensani Hospital). It is the biggest and the busiest minibus taxi rank within Greater Giyani municipality.	formal The rank is shared by local & long distance buses.	shelter, loading bays, office and ablution blocks (provided & maintained by the municipality). The rank facilities are old & in a poor condition	Modjadjiskloof, Johannesburg, Gandlanani, Nkuri, Malamulele, Rotterdam, Ngove, Skhimini, Bungeni, Babagnu, Dzumeri, Gawula, Mapayeni, Mdavula, Shawela, Mtititi, Vuhehli and Giyani Township section A, D1, D2, A Extension, E, F.	
Giyani Metro complex	Off-Street at Metro wholesalers	formal privately owned (not yet operational)	shelter; loading bays, water taps & ablution blocks.		

Babangu rank on the Giyani – Elim road. via Ndengenza	on-street at Babangu village at the intersection of the road from Blinkwater	informal	None	Giyani and also acts as a pick- up point for taxis from Elim and Blinkwater	busy during the morning peak (commuters and shopping).
Gandlanani	on-street on the Giyani – Mooketsi rd at the junction to Gandlanani & Mashavele villages.	informal	None	Giyani & has several pick-up points such as Mashavele, Basani (via Dzingidzingi) to Giyani.	busy during the morning peak
Dzumeri village.	on-street at Giyani-Tzaneen road.	informal	None	Giyani, Xitlakati , Khaxani, Tzaneen Pick n Pay, Mokgwathi and Letsitele (busiest route is Giyani)	busy during the morning peak (commuters and shopping).
Nkomo 22A village.	on-street along the Giyani-Phalaborwa road.	informal	None	Giyani	busy during the morning peak
Shawela village.	on-street along the Giyani-Phalaborwa road	informal	None	Giyani & has several pick –up points.	busy during the morning peak
Ngove village.	on-street along the Giyani-Phalaborwa road.	informal	None	Giyani & has several pick –up points.	busy during the morning peak
Thomo village.	on-street along the Giyani-Muyexe road.	informal	None	Giyani	busy during the morning peak
Makosha village	on-street.	informal	None	Giyani	busy during the morning peak
Homu 14A village.	off-street	informal	None	Giyani Score Complex minibus taxi rank (via Giyani section A) & has several pick – up points. The rank has turn-around points at Vuhehli village (via Mapayeni) rank & proceeds to Giyani.	busy during the morning peak
Mapayeni village.	off-street	informal	None	Giyani Score Complex minibus taxi rank (via Giyani section A) & has several pick – up points. Turn-around points at Vuhehli village (via Homu 14A) rank & proceed to Giyani.	busy during the morning peak

Additional informal minibus taxi ranks emerge due to new settlements or economic developments in the areas. They include:

- Malonga Minibus taxi rank;
- Homu 14C Minibus taxi rank;
- N'wadzeku –dzeku Minibus taxi rank;
- Vuhehli Minibus taxi rank;
- Maswanganyi Minibus taxi rank;
- Zava Minibus taxi rank;
- Tomu Minibus taxi rank;
- Matsotsosela Minibus taxi rank;
- Makhuva Minibus taxi rank;
- Jim – Ngalalume Minibus taxi rank;
- Mshiyani Minibus taxi rank;
- Maruleng Municipality.

Rank	Location	Type	Facilities	Destinations	Peak Periods
Metz village.		Formal	Shelters, loading bays, ablution blocks (no water), paving, dustbins. No seats Telephones at nearby shop.	Tzaneen, Phalaborwa & Johannesburg.	-
The Oaks.		Formal	Paved surface, shelter, information boards, ablution block, telephones. No dust bins and no seats	Tzaneen, Phalaborwa, Hoedspruit and Johannesburg.	-
GaSekororo. Adjacent to this rank is another informal one under the trees.		Formal	Information boards, shelter, loading bays, lights, ablution blocks (no proper maintenance), paved and dustbins. No seats	Tzaneen, Phalaborwa, Hoedspruit and Johannesburg.	-
Hoedspruit has two informal minibus taxi ranks		Informal	None	Phalaborwa, The Oaks and Acornhoek.	

Annexure B

Supporting Information from Policy Documents (Summary)

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 with 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

- Planning should support the integration of all modes of public transport.

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

- Promotion of 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 (10-30mims);
- 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. Mopani District Municipality ITP 2006-2011

Mopani District Municipality

- It seeks to address the needs of people with disabilities and the use of LDV's on gravel roads;
- Promote co-ordinated safe, affordable public transport.

Public Transportation

- In the short and medium term the prioritised customers should be the poor and very poor rural and urban passengers, who are also considered as 'stranded customers' and the 'survival customers' who currently cannot afford transport or captive to the cheapest mode of public transport.

Metered Taxis

- There are no metered taxi operators reported in the MDM.

Bus Termini

- Bus facilities in the Mopani District are limited to Tzaneen, Hoedspruit, Modajadjiskloof, Giyani and Phalaborwa. The bus termini are not provided with facilities.

Bus Transport Operations

- The types of bus operators are namely; Subsidized and non-subsidized operators

Freight movements

The highest percentage of freight movement occurs on the major corridor routes in the MDM area, namely;

- R71 from Polokwane to Tzaneen;
- R81 from Polokwane to Giyani;
- R36 from Tzaneen to Ohrigstad;
- R71 from Gravelotte to Phalaborwa;
- R526 from Tzaneen to Hoedspruit;
- R529 from road R36 between Tzaneen and Trichardtsdal to Letsitele;
- D1267 from Letsitele via Nkambako to Giyani;
- R530 from Phalaborwa to Hoedspruit;
- R578 from Giyani via Elim to N1 Road.

The following were identified as regulatory issues that required attention:

- Inadequate parking facilities;
- Speed limits that are too low cause driver fatigue.

Public Transport

The following are measures intended to promote public transport:

- The provision of adequate public transport infrastructure, facilities and services;
- The increased utilisation of public transport services.

The improvement of the image and acceptability of public transport, including

- service quality and reliability;
- safety and security; and
- Affordability.

The integration of transport and land-use in a way that will enhance the accessibility and utilisation of public transport

A higher priority to public transport than to private transport

The marketing of public transport services in general; for example by publishing information about routes, tariffs and timetables

- Training, skills development and capacity building in the public transport industry;
- Modal integration.

THE NEEDS OF PERSONS WITH DISABILITIES

i) Public transport vehicles
Assistance is required for disabled people when they get on and off buses, taxis and trains. This includes not only people in wheelchairs but also elderly people, women with infants, people with crutches and people with sensory impediments.

Public transport system

Public transport routes do not cover the municipal area adequately leaving long distances for disabled people to get to and from the routes.
In many townships/villages there are no sidewalks to support people walking to a bus or taxi stop, much less trying to use a wheelchair or crutches.

THE NEEDS OF LEARNERS

At present there is learner transport in some of the local municipalities in the MDM area.

The principles and objectives for the transportation of learners in the MDM as input into the Mopani District PTP are as follows:

(a) To make transport for learners affordable and subsidise it to a certain extent;

(b) To make public transport accessible to learners;

(c) To enable learners to reach the educational institution on time;

(d) To implement and maintain non-motorised transport for learners;

(e) To limit to less than 5 kilometres the distance learners have to walk to and from school;

(f) To provide safe, reliable and affordable transport for learners;

(g) To provide comfortable transport (to a lesser extent).

MODAL INTEGRATION

Modal integration is defined as the integration of some or all of the different public transport modes (mainly the minibus-taxi, bus and train modes) into the public transport system.

FARE SYSTEMS FOR PUBLIC TRANSPORT

The fare system for the taxi industry is at present generally inconsistent, because the rates (fares/trips) are based on estimates instead of facts. For this reason, some of the passengers pay more and others pay less for the transport service provided to them.
The aim for the next five years in the MDM area should be to unite the taxi industry by means of a co-operative for the Mopani District, as this would ensure consistent and business-oriented rates in the future.

Non-Motorised Transport

Bicycle paths and lanes are the main infrastructure element defining non-motorized transportation as a distinct system. The Local Municipalities should prepare a plan to encourage the use of bicycles and provide the necessary infrastructure.

The Limpopo Department of Roads and Transport to prepare a campaign to promote the use of bicycles as one mode of non-motorised transport and support the District and Local Municipalities in the implementation of bicycle facilities.

Contracted buses should incorporate bicycle racks to encourage commuters to utilise bicycles for part of their journey where possible.

The Local Municipalities should prioritise the maintenance and development of sidewalks and paths on the respective towns and residential areas with support from the District Municipality.

Major corridor routes strategic points

Public transport is the main mode of transport on the major corridor routes in the MDM area. Most of the existing corridor routes are not currently designed to accommodate public transport. In view of this design issue, the following are typical elements that should be included in the public transport system at other strategic points along corridors:

a) All major public transport facilities should be located as close as possible to the main accessible roads;
b) The workers would be responsible for getting to the closest public transport facility on the main road in the vicinity of their homes, from which point the workers would be transported to and from work;
c) Public transport facilities on these routes should not belong to the individuals but to government;
d) Special care should be taken at the public transport facilities to ensure that pedestrians can cross the roads safely;
e) Public transport transfer facilities should also serve all major towns related to the corridor in the region;
f) The feeder modes to public transport facilities from the respective workers' homes could include buses, taxis, private vehicles, bicycles or walking;
g) Commercial developments that generally go hand in hand with public transport facilities should be allowed and hawkers should be accommodated on part of the facilities;
h) Lay-byes could be provided at the major job providers, with restricted hawker-related activities. The facilities should only allow the loading and off-loading of passengers and not include ranks or terminals for parking the public transport vehicles.

In the provision of future public transport facilities, it should be noted that although no detailed study on the rail mode has been conducted for the MDM area, the provision of a commuter rail line would not be recommended in the short term, for the following reasons:

a) As already indicated, the volume of passengers is extremely low;

b) Such a rail service would have an extremely negative impact on the local bus and taxi industries, in particular on local black economic empowerment.

Transport routes in the villages

These roads are predominantly utilised by private and public transport vehicles.

Special attention should be given to providing public transport facilities on the rural roads in the MDM area. Such provision refers specifically to shelter at loading and off-loading facilities. To conclude this section, it is essential that all public transport-related facilities should be provided on government property so that they can be properly managed and controlled.

MAJOR PUBLIC TRANSPORT ROADS

Public transport in the MDM is concentrated in the villages and residential areas in the morning and the early hours of the afternoon. It is important to note that it is difficult for people to travel from one village to another using public transport at certain times of the day (e.g. travelling from Magoebaskloof Hotel to Boyne, as all the taxis come from Tzaneen and they are usually full). Private vehicles usually meet the need for this type of trip. The type of trip for public transport in the MDM is mostly from home to town in the mornings, and vice versa in the afternoons.

4. MOPANI IDP 2010

Information included in tabular format in the main body of report.

5. Limpopo Provincial Land Transport Framework 2007

Locality and Composition

Structurally, the province comprises of five districts and twenty five local municipalities. The area size of the different district municipalities and the population sizes of these districts are given in **Table 5.1**.

Table 5.1: 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 (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 5.2** shows the subsidised bus service operators per district municipality in the Province.

Table 5.2: Subsidised Bus Service Providers per District Municipality

DISTRICT MUNICIPALITY	SUBSIDISED OPERATORS
MOPANI	Risaba Bus Service
	Mathole Bus Service
	Great North Bus Service
WATERBERG	Great North Transport
	Lowveld
	Putco
SEKHUKHUNE	Great North Transport
CAPRICORN	Great North Transport
	Bahwaduba Bus Service
	Madodi
	Kopano bus Service
VHEMBE	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 5.3** per District Municipality.

Table 5.3: Taxi Facilities in the Province

District Municipality	Number of Ranks
Mopani	64
Capricorn	107
Vhembe	32
Sekhukhune	82
Waterberg	47
Total	**332**

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;
- Time-tables, and route maps must be posted at all facilities.

NON-MOTORISED TRANSPORT

BACKGROUND

Figure 6.1 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).

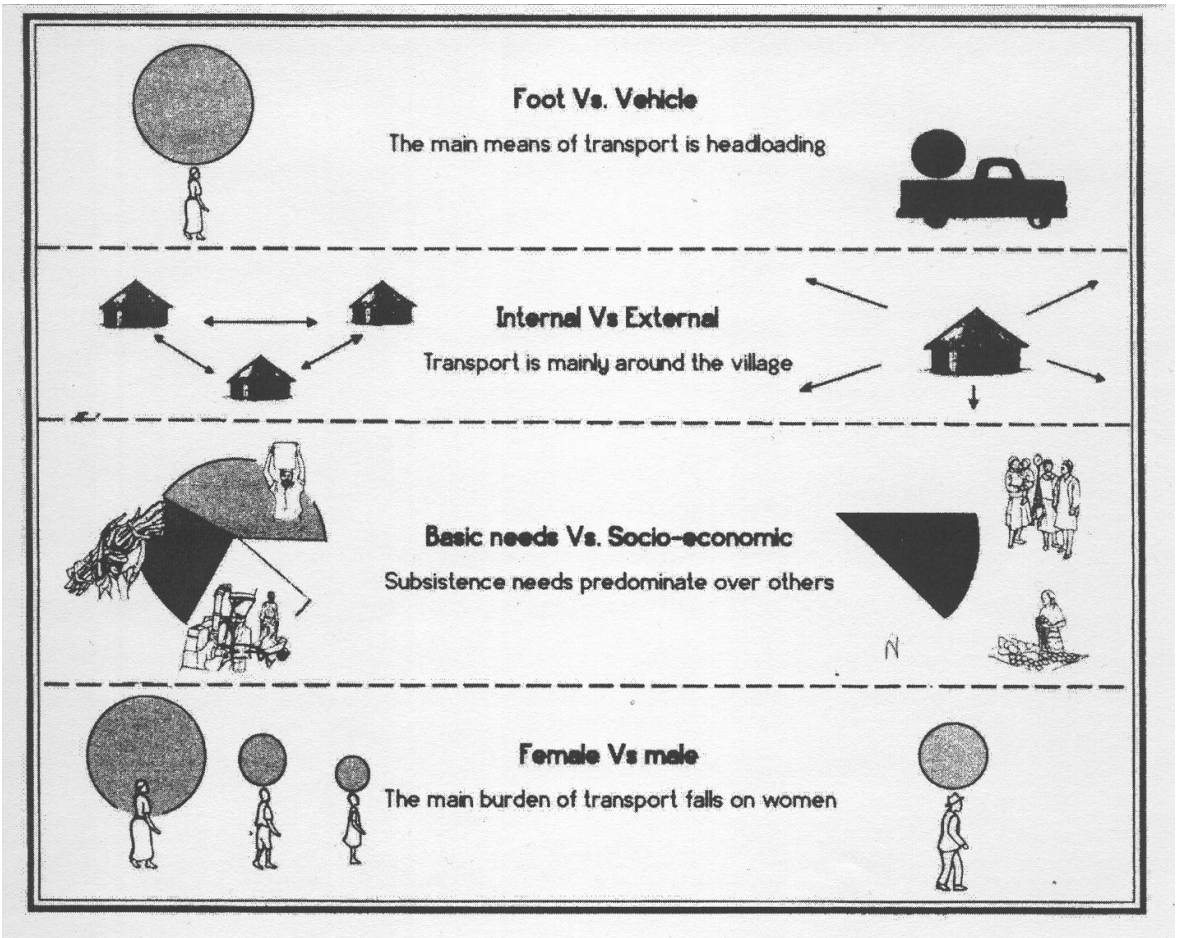


Figure 6.1: Rural Transport System

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.

Annexure C

Notes from Stakeholder Consultation

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

- On the road from Polokwane to Malamulele there is a traffic signal at the Masingita garage next to the SPAR that does not have a flashing arrow. This makes it difficult for drivers to get off the main road into the town.
- Road to Siyanda there is a cross road at the Malamulele road which needs a pedestrian crossing and formalized cross ways.
- Traffic lights at FNB and nursing college needs to be repaired. Sidewalks are also needed.
- Peak congestion hours (4.30 -6.30pm)- Giyani bus terminal to Malamulele around Shoprite Taxi rank. This congestion is due to the number of buses, taxis and private vehicles in that section of town.
- Oasis hotel area; pedestrians are usually unsafe. Drivers drive recklessly in this area
- Not many cyclists in the area.
- Buses don't have bus ranks and they have to park on the road sides preventing vehicles from moving freely. They also interfere with taxi operators.
- 4 taxi ranks in the area;
    1. Shoprite Taxi rank
    2. Metro taxi rank
    3. Old SPAR taxi rank
    4. Main taxi rank
- Road to Siyandane not tarred
- Rural roads generally not tarred; hinders PT to rural areas. Bakkies are used to go into these areas that have gravel roads. These routes are usually registered by a taxi association but due to the condition of the roads they are unable to service these areas.
- Rehabilitation of roads is important in the rural areas
- Problem with cattle on roads – no fences – cattle pound in Giyani – no facilities in Dzumeri;
- Road marking poor – does not last;
- Lack of warning road signage – approach to residential areas;
- Dzumeri to Letsitele – poor construction & potholes;
- Giyani to Mapayeni – constructing only 2.5 km – narrow & no shoulders – open drain – badly constructed;

- Taxi Ranks
  - Shortage of ranks in Giyani;
  - Roof too low for 22 seater taxis at Tzaneen rank;
  - No toilets in Tzaneen rank;
  - Access problem to Tzaneen rank in peak periods.
- Faulty traffic signal at FNB in Giyani.
- Problem with the road from the location to the Shopping Centre (see sketch).
- Traffic signals at FNB in Giyani are flashing;
- Traffic signals on main road in Giyani requires right turn phase (Aurecon are attending to traffic signals in Giyani);
- Dangerous curve on road between traffic circle and Engen Garage (near Mortuary);
- Congestion on approach to traffic signal at FNB (see sketch);
- Need for pedestrian crossing of major road between traffic signals at College (see sketch).
- Muyexe needs public transport (piloted for rural development);
- Lack of taxis in rural areas (where gravel roads);
- Signage at traffic circle requires improvement;
- Domestic animals on road due to lack of fencing;
- Dangerous T-Junction at Sekhunyane villages (perhaps need for rumble strips);
- Lack of policing of stop controlled intersections.
- Lack of road marking and road signage – difficult to enforce the law when stop lines, lane markings etc are missing – road marking paint may be poor quality as markings do not last;
- Poor standard of pothole repair – e.g. potholes on Sapekoe Drive (R36) have been repaired twice in the last six months and there are still potholes. This is an important route;
- Faulty traffic signals – most traffic signals in Tzaneen in flashing mode all day (this does not comply with the requirements of SA Traffic Signs Manual Vol 3 – normal flashing phase nor acceptable);
- Lack of cameras for speed enforcement – 3 cameras (1 not serviceable);
- Drager machine for testing of alcohol content – only 1 available;

- Areas with high accident rates:
  - Intersection of Sapekoe (R36) & Pusela (4 way stop);
  - Intersection of Sapekoe (R36) & Rietbok (4 way stop);
  - R36 (Tzaneen to Burgersdorp) – known as “Road of Death” – high traffic volumes – narrow – no yellow lines – poor maintenance – serious drainage problems – animals & pedestrians on road (25 to 35 km long);
  - R528 (Georges Valley) – unexpected S-bends – lack of road signage (warning signs & low gear signs needed);
  - R36 Mooketsi to Munnik – approx. 20 km long – mountainous area with high accident rates – theft of loads from slow-moving vehicles;
  - Manouvlei – lack of maintenance;
  - Deer Park – lack of maintenance;
  - Tarentaal Road – lack of maintenance – overgrown.
- Cattle on roads are a problem – the whole Mopani
- There is a pound in Giyani – never been used
- Roads are poorly constructed – plenty potholes
- A lot of potholes on road from Dzumeri to Letsitele
- Road marking maintenance should be improved, quality materials should be used
- Not sufficient road signs
- Road from Giyani to Mapayeni is in a very bad condition, part of it is tarred, it has deep potholes and is too narrow, it deteriorated within a year, there is a trench next to it (construction is under way with this road, not sure about extent that is covered by construction)
- Not enough taxi ranks in Giyani and Tzaneen, no toilets at ranks
- Bigger taxis can’t fit under existing roofs
- Traffic signals in Giyani need attention (according to the stakeholders Aurecon has been appointed for this work) this road is owned by RAL
- 2 Hospitals in Giyani, speed humps between hospitals have been removed, left holes
- There are 4 taxi ranks in Giyani, not enough off-loading places
- Recommendation to place taxi shelters where taxi lay byes are constructed – will cause passengers to wait at demarcated places

- Traffic law enforcement is not good in Giyani
- The following roads have been mentioned:
  - Giyani to Siyandani (very bad condition gravel road) (high priority) up to Levhubu
  - Dzumeri to Mzilela
  - Dzumeri to Nwamarhanga (will make it easier to get to Phalaborwa)
  - Giyani to Shishosana (high priority)
  - Giyani to Muswani
  - Giyani to Mavalani/Nwadzekudzeku
- Giyani needs to expand, need more land for houses. Siyangani and other villages/townships surround Giyani
- Investigate the feasibility of an intermodal public transport facility in Giyani
- Gravel road in a bad condition between Rubbervale and Gravelotte (±15km)
- A stall that is located close to Mooketsi encroaches on the road, interfering with road users' movement, it is important to prohibit stalls from illegally locating inside the road reserve
- There is dangerous bend located in Giyani (see google images) located south east of the traffic circle, improve the safety of this bend by i.e. adding appropriate signage and possible other road safety features that can make it safer
- Congestion is experienced in Giyani on the road leading to FNB from taxi rank (traffic signal is currently not working but Aurecon has been appointed according to stakeholder) Traffic movements along this road will have to be reviewed once traffic signal has been changed
- A pedestrian crossing problem has been indicated on the road into town, turning right at the traffic signal on the R81, from SPAR to Shoprite. The stakeholder proposed a traffic signal or raised pedestrian crossing. After conducting a site visit it is suggested to try and accommodate pedestrians at the existing traffic signal, due to the proximity of the traffic signals and the already congested nature of that specific part of town.
- Investigate the possibility of linking the access road to SPAR to the signalized intersection
- With regards to road improvements;
  - Shorter tarred road to Thohoyandou via Vuwani
  - The gravel road from Thomo Village to Hlomela is in a bad condition. It is proposed to upgrade this road. This road can assist people from Gaula, Ndindani, Mahlathi and Khakhala to travel between Giyani and Phalavorwa

- Scholar transport are also struggling due to problematic gravel roads
- More bicycles are required – challenges when it is raining
- At Nkomo, school and community are separated by road
- Fences are stolen, cattle on the roads
- Is signage adequate at traffic circle? Is traffic circle properly designed?
- Problems with scholars crossing the road at the Kwangulatilo Tembe School at the 4 way stop, drivers are not disciplined at the 4 way stop. Investigate other options to increase road safety for learners, i.e. traffic calming measures like a raised pedestrian crossing or lowering speeds of vehicles with replacing the 4 way stop with a traffic circle
- At the road from Polokwane to the R529 rumble strips can assist at the T-junction
- There is a shortage of public transport to Muyexe
- Giyani local municipality has 91 villages
- Learners can't cross at same school as mentioned above
- Cycling is used as mode of transport in the villages
- A lot of cattle in Section D – Kremetart
- Not enough loading bays for busses, conflict occurs with long distance minibus-taxi and bus services, competition for passengers

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 Conference Room, Cascades Building, Tzaneen

Thursday 15 July, 2010

Name	Representing	Telephone	e-mail
Nyathi B.C.	Mopani District Taxi Council	083 630 1064	
Mathe P.M.	Greater Giyani Tomato Growers Ass.	083 752 0685	
Lelahane N.P.	DORT	082 671 6088	
Raedani R.W.	DORT	073 206 7072	raedanir@drt.limpopo.gov.za
Ramashala M.T.	DORT	076 521 6660	
Mathebula E.P.	Mopani District Municipality	073 660 7274	petersenm@webmail.co.za
			petersen@mopani.gov.za
Mbedzi M.W.	DRT Mopani	073 154 7850	mbedzim@drt.limpopo.gov.za
Mboweni M.M.	Education Mopani	076 261 5360	masinghanbouron@yahoo.com
Shai R.	Ba-Phalaborwa Traffic	082 337 4030	
Baloyi N.J.	Greater Giyani Municipality Traffic	071 171 6015	baloyinj@ggm.gov.za
Mhlari T.P.	Greater Giyani Municipality Traffic	073 011 8565	

Meeting at Conference Room, Cascades Building, Tzaneen

Friday 16 July, 2010

Name	Representing	Telephone	e-mail
M.S. Natemubele	Giyani SAPS	015 811 5500	
		084 350 3392	
Shivambu K.R.P.	Giyani Municipality	015 811 7026	shirambukrp@greatergiyani.gov.za
		084 589 5604	
Shikwambana M.T.	Giyani R/T	015 294 8239	shikwambana@limpopo.gov.za
Ramashala M.T.	DORT (H/O)	015 307 8185	
Peyper J.F.	Greater Tzaneen Municipality Traffic	083 229 3252	francois.peyper@tzaneen.gov.za
Mpho Morokolo	Commuter Association	015 812 1453	

Annexure E

Business Plans