

Limpopo Province: Department of Transport Tender PUDP 7



First Operating License Strategy for The Waterberg District Municipality

Final Report

J24169A400

May 2004

FIRST OPERATING LICENSE STRATEGY FOR THE WATERBERG DISTRICT MUNICIPALITY AS PART OF THE TRANSPORT PLANS FOR THE LIMPOPO PROVINCE

CONTENTS

Chapter	Description	Page
	List of Tables	iii
	List of Figures	iii
	Appendices	iv
	EXECUTIVE SUMMARY	V
	1.1 Introduction	v
	1.2 Status Quo	v
	1.3 Method	vi
	1.4 Results	vii
	1.5 Recommendations	vii
2	INTRODUCTION	2-1
	2.1 Background	2-1
	2.2 Transparency	2-2
	2.3 Capacity Building	2-2
	2.4 Purpose and Objectives of the Study	2-3
	2.5 Scope of the Work	2-3
	2.6 Study Area	2-3
	2.7 Deliverables	2-6
	2.8 Implementation of the Operating License Strategy	2-6
3	ANALYSIS OF THE PUBLIC TRANSPORT SYSTEM	3-7
	3.1 Public Transport Surveys in the WDM	3-7

3.2	Facilities Audit	3-8
3.3	Route Identification and conditions	3-9
3.4	Route utilisation record	3-10
3.5	Record of operational vehicles	3-11
3.6	Number of trips per route per operational vehicle	3-11
3.7	Capacity utilisation of facilities	3-12
3.8	In Summary	3-12
4	POLICY FRAMEWORK	4-15
4.1	White Paper on National Transport Policy	4-15
4.2	National Land Transport Transition Act, Act 22 of 2000	4-16
4.3	Moving South Africa	4-19
4.4	National Department of Transport 2003/2004 Business Plan	4-20
4.5	Limpopo Province Land Transport Framework (Limpopo In Motion)	4-20
4.6	Strategic Framework – Accessible Transport Strategy	4-23
4.7	Waterberg IDP 2003/2004 Review	4-25
4.8	Paradigm Shift in the Planning of Public Transportation	4-25
4.9	Adoption of Policy	4-26
5	RESTRUCTURING, INTERVENTIONS, CONDITIONS AND EVALUATIONS	5-27
5.1	Restructuring	5-27
5.2	Provision for Persons with Disabilities	5-27
5.3	Evaluation and Recommendation Regarding Operating Licenses	5-28
5.4	Liaison with the Operating License Board	5-32
6	LAW ENFORCEMENT	6-36
6.1	Determining the Number of Illegal Operations	6-36
6.2	Identification of Legal Taxi Vehicles	6-36

	6.3	Public Transport Inspectorate	6-37
	6.4	Conflict Resolution	6-38
7		STAKEHOLDER CONSULTATION	7-40
	7.1	Introduction	7-40
	7.2	Functions of the Various Structures for the Preparation of District Transport Plans	7-42
	7.3	Progress to Date	7-44
8		RECOMMENDATIONS	8-46
9		BIBLIOGRAPHY	9-48

List of Tables

Table 2.1 – Demographic Data for WDM	2-5
Table 3.1 – Statistics on Taxi Ranks in the WDM	3-9
Table 3.2 – Distribution of taxi Routes per Local Municipality	3-10
Table 3.3 – Route Utilisation Frequency	3-11
Table 3.4 – Taxi Associations in WDM	3-14
Table 4.1 – Persons with Disabilities in WDM	4-24

List of Figures

Figure 4.1 – Hierarchy of Transport Plans	4-18
Figure 5.2 – Application Liaison Process	5-32
Figure 7.1 – Communication Structure	7-40

Appendices

Appendix A: Definitions

Appendix B: Status of Facilities in WDM

Appendix C: Taxi Rank Utilization and Capacity

Appendix D: Taxi Routes with no route distance information

Appendix E: Taxi Routes without Passenger Volume Information

Appendix F: Required number of vehicles per route (Ranked according to passenger demand)

**Appendix G: Required number of vehicles per route (Ranked according to passenger Local Municipality and Origin Rank)
(Primary Recommendations for OLB)**

Appendix H: Route verification versus CPTR

Appendix I: Maps of Waterberg District Municipality & Taxi Routes

EXECUTIVE SUMMARY

1.1 Introduction

The Limpopo Department of Transport appointed ARCUS GIBB (Pty) Ltd on 26 January 2004, to prepare the Operating License Strategy (OLS) for the Waterberg District Municipality (WDM), as required in terms of Section 21(1) of the National Land Transport Transition Act, No. 22 of 2000 as amended (NLTTA).

The act ensures that the planning authority Waterberg District Municipality's recommendation to the Operating Licenses Board will enable the Board to exercise an informed discretion in considering the applications.

The Operating Licenses Strategy, as part of the Integrated Transport Plan constitutes a transport sector input into the IDP process.

There was a data collection process, which preceded the OLS, and the aim of that process was to have an idea as to what was the current situation in the District in terms of the public transport usage. That data collection process was called the Current Public Transport Record (CPTR). The CPTR information was collected in 2003 and was prepared by Faranani Development Consultancy. The final CPTR report was completed in May 2003. This included extensive surveys of taxi operations at taxi ranks. This information informed the OLS and it provides information about public transport operations in the WDM. As this was the first CPTR for WDM and as experienced elsewhere, there were several constraints. The few shortcomings in the CPTR were accepted. No additional surveys were carried out to fill the data gaps.

This is the first Operating License Strategy for the WDM. Considering the lack of comprehensive data, the results and recommendations are not prescriptive. This document should be considered a guideline and applied with discretion.

1.2 Status Quo

Within Waterberg District Municipality, there are several factors determining the nature, the distance, and utilisation of routes and operational methods of the taxi industry. Among other factors is the location of towns and villages, dominant economic activities in the area and employment status within Waterberg District Municipality. As a result of these factors, operation of the taxi industry in certain areas and the type of service provided are irregular – i.e. use is sometimes made of certain routes as a result of demand and the pavement conditions of the road. In mining areas such as Northam and Thabazimbi for example, certain routes particularly the long distance routes are provided on certain Fridays, month-end and long-weekends.

On the basis of the survey conducted, 140 taxi routes were identified in the Waterberg District Municipality. There are approximately 1040 taxi vehicles in the WDM.

1.3 Method

The guideline document recommend that for the calculation of number of vehicles required (licenses per route) that the number of peak hour passengers must be divided by the vehicle capacity, resulting in the number of vehicles required to serve the demand. The following shortcomings were identified in the approach:

- No allowance for reliability and vehicle availability, for example, breakdowns;
- Allows for 100% occupancy;
- Assumes that the turn-around time is one hour

If turn-around time is less than 60 minutes, then fewer vehicles are required, but if the turn around-time is more that 60 minutes, more vehicles are required to serve the passenger demand.

The following approach was applied in the analysis:

- 90% vehicle availability and reliability;
- 90% seat utilization; and
- Estimated turn-around time (varies) based on distance and utilisation.

The CPTR data source used in this calculation did not distinguish between “forward” and “return” trips. It treated all as separate routes. From the information provided it was also not possible to link forward routes with its corresponding return route. All calculations were made per individual route journey. It implies therefore that the forward and return trips were separately calculated. As a start, this is however not a serious problem as the number of vehicles required to serve the passenger demand must correspond to the maximum number of passengers for the forward or return trip.

It must be remembered then that this calculation provides the number of vehicles required to serve the passenger demand on that specific trip. If all the vehicles required are added together it does not provide the total number of licenses, which can be allowed. Forward and return trips must first be linked to provide the total number of licenses required.

The required number of vehicles was calculated for both 15 seat and 18 seat vehicles. The following steps were taken to calculate the required number of vehicles to serve the existing passenger travel demand as determined by the CPTR process:

1. Input values from CPTR:
 - Number of peak hour passengers;

- Route distance (estimated where not available)

2. Input values for:

- Vehicle availability and reliability = 90%
- Seat utilisation per vehicle = 90%

1.4 Results

There is significant progress in the formalization and regulation of the taxi industry, including the establishment of the OLB and Registrar's office. Hence, the restructuring both from the Industry and the Government is a forgone conclusion, as major progress is noted.

After the analysis of the CPTR data it was found that 159 taxi routes have it's origin in the Waterberg District Municipality. Of these routes 3 routes have no route distances. A further 19 routes have no passenger volumes. A total of 137 routes had sufficient data for which the required number of vehicles could be calculated.

In general it can be conclude that there is a huge over-supply of taxis and in the interim no new licenses be approved. Steps must be taken to reduce the number of vehicles and licenses. The moratorium on issuing of operating licenses must be relaxed per route as the need dictates according to the updated CPTR and OLS.

1.5 Recommendations

The following recommendations are made in terms of public transport in the WDM:

- a) The Operating Licensing Strategy should be accepted and approved by all the role players and be implemented through a facilitation process
- b) The Operating Licensing Strategy should be updated on an annual basis, and the recommended number of operating licenses per route in Appendix G is valid only until April 2006.
- c) The moratorium on issuing of operating licenses must be relaxed per route as the need dictates according to the updated CPTR and OLS.**
- d) Appendix G is the primary reference table for the OLB to issue operating licenses. However, where new routes are introduces, the OLB must investigate the capacity and need for that particular route before issuing any new operating licenses, and must also consider transferring operators from oversupplied routes to the new routes.

- e) The CPTR information must be updated in an attempt to address the gaps in the information.
- f) The law enforcement strategy should be prioritised to ensure peace and stability in the area.
- g) Taxi co-operatives should be developed to benefit the local community and ensure local black economic empowerment, and tendering for subsidised routes.
- h) Incorporate the donkey-cart mode in the non-motorised transport plan especially in the deep rural areas, and document standard specifications.
- i) Assess the routes applicable for LDVs as public transport vehicles, and the MEC must act on NLTTA section 31.
- j) Expedite the installation, training, and operation for the Registration Administration System and the Operating License Administration System.
- k) All permits must be converted to route based permits or operating licenses. The concept of permanent permits must be abolished and operating licenses must be issued for a specific duration of three to five years, consistently with the requirements of the NLLTA.
- l) The following projects in Table 1 should be implemented to enhance taxi mode operations:

TABLE 1: PROGRAM AND FINANCIAL IMPLICATIONS									Responsibility	Project Duration
PROJECT						ESTIMATED BUDGET		TOTAL		
	1	2	3	4	5	YEAR 1	YEAR 2-5			
<u>TAXI MODE (OLS)</u>										
<u>Project 1:</u> Vehicle Verification						R200 000	In-house	R200 000	DoT/Registrar	6 months
<u>Project 2:</u> Routes for LDV & apply NLTTA S31						R200 000		R200 000	DoT	3 months
<u>Project-3:</u> Annual update of OLS						R200 000	R800 000	R1 000 000	LM/DoT	2 months
<u>Project 4:</u> Implementation and maintenance of colour coding system for taxis.							R 400 000	R 400 000	DoT/Registrar	3 months
<u>Project-5:</u> Establish/Upgrade the Satellite Operating Licence Office in Lephalale and Mokopane						R 1 000 000	R 1 500 000	R2 500 000	DoT	On-going
<u>Project 6:</u> Formalise metered taxi operations						R 100 000	In-house	R 100 000	DoT/Registrar	6 months
<u>Project 7:</u> Development of Rank Management Skills						R 100 000	R 200 000	R 300 000	DoT	On-going
<u>Project 8:</u> Establishment of Taxi Co-operative for Waterberg District							R 200 000	R 200 000	DoT	12 months
Total						R 1 800 000	R 2 700 000	R 4 500 000		

2 INTRODUCTION

There has been a significant change in transport policy since the White Paper on National Transport Policy, 1996. There is recognition of the transportation imbalance, and the need to undo the practice of the Apartheid planning principles, that is, decentralized residential nodes with limited access and mobility to economic activity nodes mostly for the Previously Disadvantaged. The restructuring of the public transportation system is a process and one of the initial steps is the preparation of the **Operating License Strategy (OLS)**.

This strategy document is prepared for **Waterberg District Municipality (WDM)** and will cover a period of at least one year from the date that it will be first published in the Provincial Government gazette.

2.1 Background

The Limpopo Department of Transport appointed ARCUS GIBB (Pty) Ltd on 26 January 2004, to prepare the Operating License Strategy (OLS) for the Waterberg District Municipality (WDM), as required in terms of Section 21(1) of the National Land Transport Transition Act, No. 22 of 2000 as amended (NLTTA).

The act ensures that the planning authority Waterberg District Municipality's recommendation to the Operating Licenses Board will enable the Board to exercise an informed discretion in considering the applications.

The Local Government system in South Africa was introduced in the present form by the new Constitution of the country (Constitution Act No. 108 of 1996, as amended. Chapter 7 of the Constitution deals with matters related to Local Government. Therefore, Waterberg District Municipality is also established in terms of this Constitution as well as the Municipal Demarcation Act and the Municipal Structures Act.

Part B of Schedule 4, read together with section 155(6)(a) and (7) of the Constitution, lists a number of functions that are to be performed by Local Government. Among the functions is municipal planning and municipal public transport services. Emanating from the mandate of the Constitution the Municipal Structures Act (No. 117) of 2003 was developed and state in section 81(1)(a) that District Municipalities should prepare Integrated Development Plans (IDP's).

The Operating Licenses Strategy, as part of the Integrated Transport Plan constitutes a transport sector input into the IDP process.

On the other hand the National Land Transport Transition Act (NLTTA), No. 22 of 2000 provides for the preparation of the various types of transport plans; one of which is the OLS (Section 24). In operationalizing the NLTTA, the Minister of Transport published the minimum requirements for the preparation of the OLS (Regulation Gazette no. 25245 dated 1 August 2003). These requirements set the tone on the structure and contents of the OLS document and shall form the primary guide in the preparation thereof.

There was a data collection process, which preceded the OLS, and the aim of that process was to have an idea as to what was the current situation in the District in terms of the public transport usage. That data collection process was called the Current Public Transport Record (CPTR). The CPTR information was collected in 2003 and was prepared by Faranani Development Consultancy. The final CPTR report was completed in May 2003. This included extensive surveys of taxi operations at taxi ranks. This information informed the OLS and it provides information about public transport operations in the WDM. As this was the first CPTR for WDM and as experienced elsewhere, there were several constraints. The few shortcomings in the CPTR were accepted. No additional surveys were carried out to fill the data gaps.

2.2 Transparency

To the extent possible, the project operated transparently, open to scrutiny from all stakeholders. It is not necessary to obtain comment from the general public. Due to the consultative process, the bus and taxi industry in the respective District Municipalities are aware of the recommendations. Nevertheless, the recommendations are considered confidential until this report is endorsed by the Limpopo Department of Transport.

2.3 Capacity Building

One of the components of the project was to build technical capacity at the respective Municipalities and internally for the consultant, by the involvement of officials and staff on the project.

ARCUS GIBB postgraduate team members utilized the project to attain better understanding on the planning procedures of the South African Transportation Policies and re-development of the South African transportation system, specifically in the Limpopo Province.

Limpopo Provincial, District, and Local Government officials were presented with planning procedures and principles, analysis of public transportation data, and the criteria in preparation of recommendations for the restructuring of the public

transport system. This is considered empowerment to officials who are not Transportation Engineers and Planners by profession, but project managers at the respective Departments. It is accepted that most officials involved in this project now have a better understanding on the planning and preparation of an Operating License Strategy, and are able to provide stronger leadership in subsequent projects.

2.4 Purpose and Objectives of the Study

The purpose of the OLS is to present a strategy which will enable the WDM to provide structured and informed responses to applications for operating Licenses referred to it by the Limpopo Operating License Board, and to achieve a balance between the effective and efficient supply and utilisation of public transport. This would constitute the basis for the development of the Operating License Strategy, Public Transport Plan and finally the Integrated Transport Plan.

Since this is the first OLS for the WDM, it is imperative not to overcompensate and dramatically transform the public transportation system in a short period of time, say within one year. The paradigm shift in the restructuring of the public transportation system should be gradually implemented over a period of two years, at most, until the OLS is updated with the latest CPTR data.

2.5 Scope of the Work

The scope and approach towards the formulation of an OLS for WDM is based on the Department of Transport Policy frameworks, National Transport Planning Guidelines for the Implementation of the NLTTA, Operating License Strategy, Final Draft, April 2001.

The NLTTA, No 2000, Part 7, Section 24 and the National Guidelines and Requirements are also informing this process.

2.6 Study Area

The study area is the Waterberg District Municipality. The locality map is in Appendix I. The Census 2001 data provides the following statistics on the WDM:

- There are six Local Municipalities in the WDM:

- Thabazimbi
 - Modimolle
 - Lephalale
 - Mookgopong
 - Mogalakwena
 - Bela-Bela
- The population of WDM is approximately 614 041, and the approximate population per Local Municipality is in Table 2.1.
 - The unemployment rate is approximately 31%

Table 2.1 – Demographic Data for WDM

Local Municipality	Population		No. Of Households	Employed	Unemployed	Living below MLL	Physical Disabled
	Urban	Rural				%	
Bela-Bela	36901	22237	12279	14371	6965	51	578
Lephalale	14810	82531	23401	28673	5274	71	1163
Modimolle	32501	28468	17536	22799	6992	55	832
Mogalakwena	123417	192476	68010	37089	33698	55	3843
Mookgophong	20862	4622	6977	11196	2647	54	308
Thabazimbi	29276	37417	20280	26249	7045	59	443
Total	257767	367751	148483	140377	62621		7167

The WDM shares a Provincial border with North-West Province and Gauteng Province, and an international border with Botswana.

The WDM is mostly rural. Most communities are sparsely populated in low-density villages. The relatively densely populated, semi-urban areas are Mokopane, Lephalale, Modimolle, and Bela-Bela. There are no Transport Authorities and Metropolitans Municipalities in the WDM.

There is gradual economic development specifically in agriculture, mining, and tourism. Mining is significant in the Lephalale and Thabazimbi Local Municipalities. The projected growth for the semi-urban areas in the WDM is 1.1% annually till 2006 and thereafter 1% annually till 2008.

Car ownership is low and commuters depend on public transportation. Further, mobility of communities is a serious concern.

This document contains the following chapters. The contents of each chapter is discussed briefly:

Chapter 1 – Introduction

The Introduction describes the terms of reference for the consultant, and outlines the purpose, objectives and goals of the OLS. The Introduction also describes the study area, the nature of consulting services rendered, the client responsible

for the project, the validity period for the implementation of the OLS, and the various chapters of the report itself.

Chapter 2 – Analysis of the public Transport system

The status quo of the public transport system is described from data obtained from the CPTR.

Chapter 3 – Policy framework

The legislative policy framework was derived from the White Paper on National Transport Policy, the NLTTA, MSA, PLTF, IDP, and the guidelines and minimum requirements for the preparation of the OLS. The technical framework that complemented the legislative framework was derived from various technical papers and project reports. The technical data is used as a guideline in the assessment and evaluation of the transportation system.

Chapter 4 – Restructuring, Interventions, Conditions, and Evaluation

Proposals on interventions and restructuring of the transportation system are developed. This section also describes the approach and methodology in determining the number of vehicles to be allowed on routes to serve the passenger demand.

Chapter 5 – Law Enforcement

The application of law enforcement when operating licenses are issued and the need for empowerment of the current traffic officers on public transportation regulations are described, with the ultimate objective of conflict resolutions, and eliminating illegal operations.

Chapter 6 – Stakeholder Consultation

The Operating License Strategy is not necessarily presented to the general public. There are representatives on the WDM Transport Forum to address the needs of the commuters. The stakeholders are identified and the consultation process is described. The respective roles and responsibilities of each stakeholder are described. The input of the stakeholders on the results and recommendations are also noted.

Chapter 7 – Recommendations

An abbreviated list of recommendations is listed as the way forward.

2.7 Deliverables

The specific deliverable for the project is a report on the OLS for the Waterberg District Municipality, with the recommended number of operating licenses per route (**Appendix G**). The list of definitions, detailed analysis and recommendation for each route are attached as Appendices.

2.8 Implementation of the Operating License Strategy

This is the first Operating License Strategy for the WDM. Considering the lack of comprehensive data, the results and recommendations are not prescriptive. This document should be considered a guideline and applied with discretion.

3 ANALYSIS OF THE PUBLIC TRANSPORT SYSTEM

This section of the OLS contains a brief description of the public transport system in the WDM area of jurisdiction. The information contained below is based on the CPTR data collected in 2003 and will be updated in terms of the Current Public Transport Record (CPTR) information, as and when it becomes available.

This section doesn't attempt to duplicate the CPTR but provide a summary of the findings. If more detail is required the CPTR report dated May 2003 must be studied with its accompanied database.

3.1 Public Transport Surveys in the WDM

The public transport operations and facilities in Waterberg District Municipality were surveyed and the final CPTR report was completed in May 2003.

The surveys were executed in accordance with the Limpopo Department of Transport Terms of Reference for the preparation of a Current Public Transport Record.

The following surveys were conducted:

- Facilities Audit
- Routes Determination
- Taxi Rank utilisation
- Taxi Route utilisation

No waiting time surveys or route journey times were surveyed.

A database was developed to assist with the interpretation of data. The CPTR report contains a summary of the information determined from the WDM-CPTR Database. The purpose of the database is therefore to assist in complementing the report, and to provide a tool that can easily be updated from time to time.

3.2 Facilities Audit

3.2.1 The Scope

The facilities audit was conducted to determine the physical location and attributes of the facilities. The following information was collected with regard to different facilities within the Waterberg District Municipality:

- The name of the facility and its physical location, including physical address;
- GPS co-ordinates information for the facilities, such as the latitude and longitude values of the facilities;
- Photographs of the facilities;
- The conditions of the facilities by means of assessing the infrastructure items that are required or need to be upgraded;
- Type and status of facilities – in respect to whether the facility is formal or informal as well as to distinguish the type of mode making used in the facility;
- Facility dimensions that could serve as a good input to the Taxi Recapitalisation Process;
- Availability and condition of the amenities at the facilities.

3.2.2 Results

(a) Taxi Ranks

A formal survey was conducted in all formal and informal taxi ranks in Waterberg District Municipality. Table 3.1 indicates the total number of taxi ranks for each Local Municipality, total number of formal ranks and a total number of taxi ranks per municipal area and the total for each of the above-stated categories for the Waterberg District Municipality.

Table 3.1 - Statistics on Taxi Ranks in the WDM

LOCAL MUNICIPALITY	TOTAL NUMBER OF RANKS	TOTAL NUMBER OF FORMAL TAXI RANKS	TOTAL NUMBER OF INFORMAL TAXI RANKS
Bela-Bela	2	1	1
Modimolle	3	1	2
Mookgopong	1	0	1
Mogalakwena	28	1	27
Lephalale	5	0	5
Thabazimbi	8	5	3
TOTAL FOR WDM	47	8	39

The following figures illustrates the state of the ranks in WDM:

- 80% of taxi facilities are informal facilities;
- 14% of taxi facilities have lighting;
- 45% of taxi facilities have public telephones;
- 14% of taxi facilities have offices;
- 8% of taxi facilities have shelters;
- 18% of the taxi facilities have running water;
- 33% of the taxi facilities have hawker facilities; and
- 20% of taxi facilities have ablution facilities.

More detail per individual facility is provided in **Appendix B**.

3.3 Route Identification and conditions

A thorough and efficient public transport planning process by any transport planning authority has to take due cognisance of the nature and number of the existing routes of the area in question. The survey conducted for Waterberg District Municipality had to establish the total number of routes available and its conditions – whether surfaced or gravel, properly maintained or not, etc.

3.3.1 Taxi Routes

Within Waterberg District Municipality, there are several factors determining the nature, the distance, and utilisation of routes and operational methods of the taxi industry. Among other factors is the location of towns and villages, dominant economic activities in the area and employment status within Waterberg District Municipality. As a result of these factors, operation of the taxi industry in certain areas and the type of service provided are irregular – i.e. use is sometimes made of certain routes as a result of demand and the pavement conditions of the road. In mining areas such as Northam and Thabazimbi for example, certain routes particularly the long distance routes are provided on certain Fridays, month-end and long-weekends.

On the basis of the survey conducted, 140 taxi routes were identified in the Waterberg District Municipality. Table 3.2 provides the number of routes per Local Municipality and its surface conditions.

Table 3.2 - Distributions of Taxi Routes per Local Municipality

LOCAL MUNICIPALITY	TOTAL NUMBER OF ROUTES	CONDITIONS OF THE ROUTE – SURFACED / GRAVEL
Bela-Bela	13	50% Surfaced
Modimolle	8	50% Surfaced
Mookgopong	2	40% Surfaced
Mogalakwena	64	30% Surfaced
Lephalale	12	50% Surfaced
Thabazimbi	41	50% Surfaced
TOTAL FOR WDM	140	

Detailed information supplementing this table is contained in **Appendix C**.

3.4 Route utilisation record

Routes utilisation is determined in terms of:

- Frequency;
- Service capacity; and
- Utilisation.

3.4.1 Frequency

Table 3.3 indicates the average number of trips of different modes of transport in the Waterberg District Municipality:

Table 3.3 - Route Utilisation Frequency

Time of Day	Number of trips for taxis	Number of trips for buses
Morning peak	251	22
Midday peak	111	0
Afternoon peak	183	28
Total	545	50

3.4.2 Service Capacity

This was determined by establishing the total number of seats available in all taxis and buses available in Waterberg District Municipality.

For the taxi industry, the total number of seats available in all taxis in WDM is 34 703

For the buses industry, the total number of seats available in all buses in WDM is 18 664 seated and standing; and 14 232 seated.

3.4.3 Utilisation

This was determined in terms of the average number of seats occupied in the taxis and buses available in WDM.

Taxis: The average number of seats occupied in the taxis is 31 851 (92%)

Buses: The average number of seats occupied in the buses is 13 937 (75%)

3.5 Record of operational vehicles

Information on operational vehicles is based on the data gathered on the day of survey and thus might be excluding taxi operators not operating on that day. The information is also crucial as it determines the route utilisation. There are approximately 1040 taxi vehicles in the WDM.

3.6 Number of trips per route per operational vehicle

A total number of trips per route per operational vehicle are necessary as it helps to establish different route utilisation and compilation of the Operating Licenses Strategy.

3.7 Capacity utilisation of facilities

The survey conducted in Waterberg District Municipality established the extent to which facilities are being utilised. This was necessary, as it will reflect the need to rehabilitate or upgrade certain facilities. The facility utilisation is described in terms of:

- The Frequency of utilisation;
- Facility Capacity; and
- Utilisation.

3.7.1 Frequency of Utilisation

The frequency of utilisation is derived from the results of the average number of vehicles on each facility of WDM at different peak hours of the day. **Appendix C** contains detail information with regard to the frequency utilisation, particularly the average number of taxis in a rank.

3.7.2 Facility Capacity

This was determined in terms of the average number of bays in each taxi rank. The average number of bays per taxi rank is indicated in **Appendix C**.

3.7.3 Utilisation

This was determined by establishing the average number of bays occupied in each facility within Waterberg District Municipality. This information is illustrated in **Appendix C** also.

3.8 In Summary

1. The Waterberg District Municipality's population is unevenly distributed within its six local municipalities. It is evident from the findings of the CPTR survey that the Mogalakwena Local Municipality has over 50% of the District population and as a result contains most of the public transport facilities, which are located within the Waterberg District Municipality.
2. It was also discovered during CPTR process that the Waterberg Taxi Associations have been sub-divided into two major Regional Councils, namely; the Bushveld Region Taxi Council and the Western Region Taxi Council. Table 3.4 provides a list of all Taxi Associations according to their affiliation.

Table 3.4 - Taxi Associations in Waterberg District Municipality

BUSHVELD TAXI COUNCIL	WESTERN REGION TAXI COUNCIL
1. Ellisras Local Taxi Association	1. Bakenburg Taxi Association
2. Kudu Taxi Association	2. Great North Taxi Association
3. Lephalale Taxi Association	3. Lebowa West Taxi Association
4. Northam Taxi Association	4. Mahwelereng Taxi Association
5. Regorogile Taxi Association	5. Mapela Taxi Association
6. Swartklip Taxi Association	6. Matlala Taxi Association
7. Warmbath Taxi Association	7. Mokopane Taxi Association
8. Waterberg Taxi Association	8. Steilloop Taxi Association
	9. Zebediela Taxi Association

3. According to the National trend, the peak hours are normally recorded as 06h00 – 08h00 AM for the morning peak and 16h00 – 18h00 PM for the afternoon peak. The survey conducted at the Smeshblock Taxi Rank reflected a different scenario. For instance, the morning peak hour for the Smesh Block area, which is mainly a mining community, starts at 02h00AM and the afternoon peak is mainly at night around 10h00PM. The area does not have electricity or any alternative power supply.
4. Capacity utilisation of the ranks differs significantly. Although most of the ranks in the Waterberg District Municipality are informal without any facilities such as shelters, paving, toilets, etc., the measurements were based on the actual area currently under utilisation by taxis or buses. It is crucial to also note that there are a few taxi ranks in the Waterberg District Municipality which are mainly active during off peak hours, such as Smesh Block, Platina and Molantje Taxi Ranks. These taxi ranks are mainly servicing the mining population, which utilises public transport during unusual hours.

Nine taxi ranks which were only surveyed during the facility audit survey, namely; Matlala Taxi rank, Matshitshileng Taxi Rank, Nkgoru, Tiberius etc. These taxi ranks are generally inactive throughout the day.

5. LDVs are generally used as public transport in some areas of the Waterberg District Municipality, especially in deep rural areas and farming areas, such as Ga-Seleka and Steilloop. There are also LDVs with Operating Licenses, especially in the mining areas. This scenario of granting the LDVs with Operating Licenses has been a major source of conflict in the Waterberg District Municipality.
6. In some areas Animal Drawn Vehicles (ADVs) are used as an alternative mode of public transport, especially in areas such as Mokopane, Mogalakwena, Steilloop, etc. It is crucial to note that, in some areas in the Waterberg District Municipality, the ADVs have been registered or formalised as a recognised mode of transport.

7. Road network in some areas is generally very poor, especially in the rural areas. Most villages under the Mogalakwena Local Municipalities are highly inaccessible, especially during rainy seasons.
8. With regard to public transport facilities, there is general lack of proper facilities in Waterberg District Municipality, as more than 80% are informal (41 - informal and 10 - formal).
9. With respect to Operational Vehicles, the route utilisation survey noted approximately 1040 taxis that provided services to the WDM of which 50% is in the Mogalakwena Local Municipality.

4 POLICY FRAMEWORK

4.1 White Paper on National Transport Policy

The Vision for SA transport is of a system, which will:

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

The SA transportation system is inadequate to meet the basic accessibility needs (to work, health care, schools, shops), and many developing rural and urban areas. In order to meet basic accessibility needs the transport services offered must be affordable to the user. The transport system will aim to minimize the constraints to the mobility of passengers and goods, maximizing speed and service, while allowing customers choice of transport mode or combination of transport modes where it is economically and financially viable to offer a choice of modes. This demands a flexible transport system and transport planning process that can respond to customer requirements, while providing on-line information to the user to allow choices to be made. It also requires infrastructure to be tailored to the needs of the transport operators and end customers.

Government will seek a reduction in the cost to the state of the subsidization of transport operations, predicted on a more effective and efficient public transport system being developed.

4.1.1 Strategic Objectives

To encourage more efficient urban land use structure correcting spatial imbalances and reducing travel distances and times for commuting to a limit of about 40km or one hour in each direction.

4.1.2 Customer-based

- To ensure that passenger transport services address user needs, including those of commuters, pensioners, the aged, scholars, the disabled, tourists, and long distance passengers.
- Walking distance to be less than 1km in urban areas. Commuters should be spending less than 10% of disposal income on transport.
- To replace operator permits with permissions issued in terms of approved transport plans.

4.2 National Land Transport Transition Act, Act 22 of 2000

Section 4 (1) (a) (iv) - The following principles apply with regard to the determination, formulation, development, and application of land transport policy – are so designed as to have appropriate modes selected and planned for on the basis of where they have the highest impact on reducing the total systems cost of travel, and this decision should be informed by an appropriate assessment of the impact on the customer and anticipated customer reaction to such change.

Section 4(1) (k) - The needs of special categories of passengers must be considered in planning and providing public transport infrastructure, facilities, and services, and these needs should be met as may be possible by the system provided for mainstream public transport.

Section 18 - Transport planning must be viewed as being a co-coordinated and continuous process. Land transport planning must be integrated with land development processes. Land transport planning must focus on the most effective and economic way of moving people. High priority should be given to public transport through, inter alia, developing high utilization public transport corridors, which are connected by development nodes within the corridors. Accessibility and utilization of public transport services, facilities, and infrastructure must be enhanced. The adverse impact of transport on the environment must be minimized. Co-ordination and integration within, and between, land transport modes must be ensured.

The chronological sequence of the policies described in this chapter indicates the inter-relationship between the subsequent plans derived from the policies, and is described in Figure 4.1.

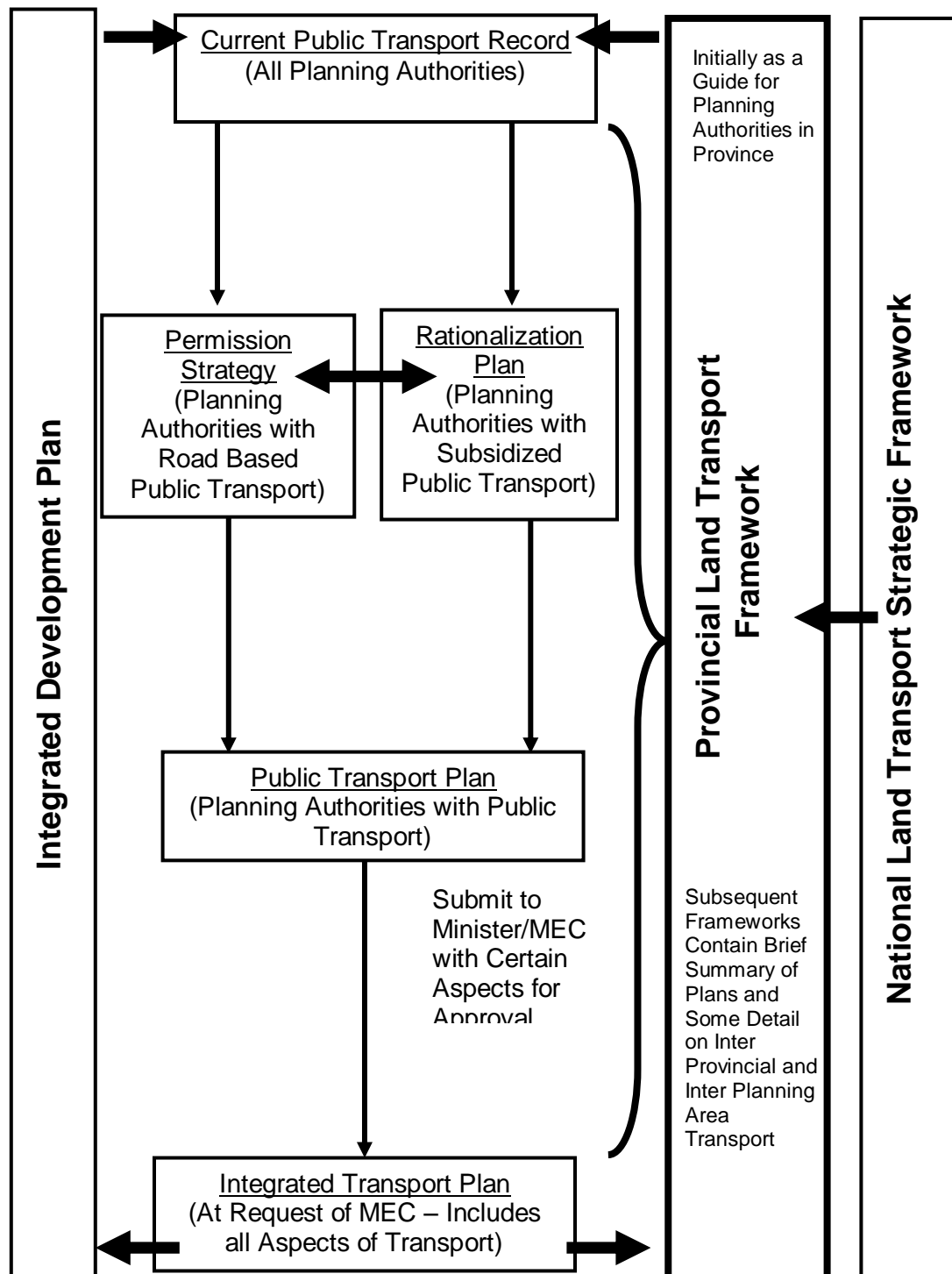


FIGURE 4.1: Hierarchy of Transport Plans

Section 24 – Operating License Strategy

- (2) An operating license strategy must contain and set out the planning authority's policy and strategies in relation to at least:
- (a) The role of each public transport mode and identification of the preferred road-based mode or modes with regard to its area, including transport into or from the areas of other planning authorities, and inter-provincial transport;
 - (b) The circumstances in which operating licenses or permits authorizing the operation of public transport within any part of its area, should be allowed;
 - (c) The use of public transport facilities within its area
 - (d) The avoidance of wasteful competition between transport operators;
 - (e) The conclusion of commercial service contracts for unsubsidised public transport services; and
 - (f) The conditions, which should be imposed by the board in respect of operating licenses.
- (5) In the absence of a public transport plan, a planning authority must ensure that its operating licenses strategy is updated on a continuous basis and consolidated at least once a year within two months of completing its current public transport record, or by a date determined by the MEC and make known to the Provincial Gazette.

The Operating Licenses Strategy must at least address the following:

- (a) The proposed changes to the existing routes or networks or both;
- (b) The proposed changes to the passenger-carrying capacity of the services operated on the routes or networks, or both;
- (c) The policy proposed for the structuring of contracts or concessions for competitive tendering;
- (d) A statement setting out the potential impact of the rationalization on the various transport modes;
- (e) An indication of the improvements to be effected for the benefit of passengers;
- (f) An indication of the obstacles foreseen with regard to the implementation of the plan, and the strategies proposed to overcome them.

Section 31 (3) - A midibus may be used for the operation of an unscheduled service only where:

- (a) There are no existing scheduled services on the same route or on another route in the same corridor; and
- (b) Relevant transport plans allow for its use.

Section 51 – Withdrawal of operating licenses or permits

The planning authority must use its best endeavours to offer the holder of the operating license or permit in question any viable alternative service or services in the place of the existing service.

Therefore, it is imperative that the permissions granted are strictly according to the Operating License Strategy, otherwise there could be huge cost implications to the planning authority if the holder of the license decides to buy out the permit or operating license.

Section 122 – Law Enforcement

Section 122 onwards describes the inception of the Public Transport Law Enforcement Unit, appointment of inspectors, impounding of vehicles, powers of the officers, and the offences and penalties applied. The success of the restructuring and formalization of the taxi industry is highly dependant on the effectiveness of law enforcement.

One of the significant projects dependent on the issuing of operating licenses is the Taxi Recapitalisation Program. Government undertook to introduce a scrapping allowance to taxi operators to enable them to purchase the new taxi vehicles at a discounted rate. This process requires the taxi operator/owner to surrender the existing vehicle in return for the NTV. An operator does not qualify for a NTV if the operator is not in possession of an operating license.

4.3 Moving South Africa

The study identified six market segments and concluded that in the short to medium term the prioritized 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.

4.4 National Department of Transport 2003/2004 Business Plan

The Policy Objectives and goals emanate from the White Paper on National Transport Policy.

4.4.1 Division of Public Transport Core Objective

To manage public transport operations to best suit the needs of the public.

(a) Manager – Taxi Operations Objective

- To ensure participation of the taxi operators in the Taxi Recapitalisation Project
 - The development of the framework and requirement for the implementation of the route coding system for inter-provincial taxi operations to assist in the law enforcement strategies and initiatives
 - To ensure the existence of a better capacitated taxi industry
-

4.5 Limpopo Province Land Transport Framework (Limpopo In Motion)

4.5.1 Transportation Vision Statement for the Limpopo Province

The transportation vision is a safe, affordable, accessible, effective, efficient, and sustainable integrated transport system that meets the needs of stakeholders and customers.

4.5.2 Transportation Mission Statement for the Limpopo Province

The transportation mission is to develop, co-ordinate, implement, and manage an integrated, multi-modal transport system by:

- Effectively and optimally utilizing and developing available resources
- Encouraging and providing a safe transport environment for all users
- Planning and facilitating transport infrastructure provisioning and operations
- Being transparent, accountable, and responsible

4.5.3 Transportation Goals for the Limpopo Province

The transportation goals for the Province are:

- To develop, co-ordinate, implement, and manage an integrated, multi-modal transport system
- To support the process of democratisation, and reconstruction and development.
- To act as a catalyst for social upliftment and economic growth
- To ensure that the system is balanced, equitable, and non-discriminatory
- To ensure that the system is reliable, effective, efficient, safe, accessible, affordable, and environmentally friendly

4.5.4 Objectives for Transportation in the Limpopo Province

The relevant transportation objectives are:

- To monitor the need in the Province, identify issues and set priorities for transport within the framework of social and economic reconstruction and development objectives in the Province.
- To regulate and control the transport system to ensure that its full potential can be achieved

4.5.5 Policy Principals for Transportation in the Limpopo Province

- Social needs and Priorities – emphasis should be placed on the social needs of the disadvantaged communities, especially those in rural and other under-developed areas.
- Role of Government and the private sector – The limited ownership profile of the transport providers requires restructuring in order to broaden and democratise the current dispensation. There is need to ensure wider participation by the disadvantaged communities in the provision and maintenance of the transport system.
- Economic – the transport sector should be aimed at increased employment of the workforce.
- Financial Framework – the extent of subsidization for public transportation and funding for infrastructure, and the priority and funding balance between them.
- Financial Framework – the affordability problem for both the passengers in terms of fare levels and for the Government in terms of the budget requirements
- Land Transport service provision – Subsidized services or any transport service for which public transport permits are required, should only be within the framework of an approved transport plan.

4.5.6 Limpopo Province Integrated Rural Development Framework

One of the mechanisms to achieve sustainable model integration is to ensure that the provision of public transport is business driven and based on sound business principles. Rural areas are defined as the sparsely populated areas in

which people farm or depend on natural resources, including the villages and small towns that are dispersed through these areas. They include the large settlements in the former homelands created by Apartheid removals, which depend for their survival on migratory labor system and remittances. They are characterized by high level of poverty and economic underdevelopment. These areas should serve as the immediate focus of rural development.

The Poverty Report (1998) reveals that in the Limpopo Province, almost 18-percent of the people live in rural areas and live below the poverty line.

Access to quality employment is a paramount aspect towards sustainable livelihoods and thereby reducing poverty and inequality. The lack of access to physical infrastructure such as electricity, clean water, proper roads and housing are closely linked to poverty.

(a) Strategies Based on Policy

- Provide effective financial and economic support to public transport
- Promote the most cost-effective mode of transport
- Implement measure to promote shorter travelling distances
- Focus on prioritised economic activity nodes and transport nodes in the Transport plans.
- Identify minimum service levels of the public transport services serving economic activity nodes.
- Develop a holistic and integrated funding strategy focusing on maximizing the transport budget from the Provincial allocation, and by achieving efficiency gains through better utilization of available funds.
- Explore the possibility of additional funding sources

(b) Projects Based on the Strategy

- Develop OLS, RATPLAN, PTP, and ITP
- Feasibility Study for Seshego – Polokwane Rail Commuter System
- Feasibility Study for rail system along the Dilokong Corridor
- Determine the routes where taxis play a more prominent role
- Implement the recommendations of the Operating License Strategy and Rationalization Plan
- Determine transport needs of learners, elderly, and disabled
- Investigate incentives for improved levels of efficiency and effectiveness of public transport services
- Investigate alternative funding options – the role of Public Private Partnerships (PPP).

4.6 Strategic Framework – Accessible Transport Strategy

4.6.1 Strategic Objectives

There are two primary strategic objectives to be met, which are:

- To integrate accessible transport into the public transport system
- To promote the provision of accessible transport across all modes of public and pedestrian transport.

The strategic objectives of the National Land Transport Strategic Framework (NLTSF) are:

- Ongoing consultation will take place with the disability sector.
- Implementing authorities will be empowered to improve accessibility across all modes through the integrated planning process.
- “Reasonable accommodation” of persons with disabilities will be initiated by prioritising high-impact, lower-cost action and
- Pilot projects will be launched in rural areas to test solutions and develop a rural accessibility strategy.

Transport plays a significant role in the lives of ordinary citizen as a mechanism by which socio- economic opportunities can be accessed. Accessible transport is a basic need and it is constitutionally required to meet the rights of people with disabilities.

The implementation of the short-term strategy shall be practical and shall demonstrate accessible, affordable and connectivity to multi-modalism.

The objective of the strategy is to improve access to transport for people with disabilities, in a manner that promotes integration into the mainstream of public transport.

In addition, it promotes barrier free access in all modes of public transport and targets key access roads to ensure mobility on all elements of the travel chain.

A practical approach towards planning accessibility improvements shall be adopted to maximize the impact of accessible transport services. The short-term strategic actions intend to entrench this practice.

Integrated Transport Plans shall be conscious of integrating accessible transport actions that will promote seamless and hassle-free travel chain for disabled travelers. Through a phased approach accessible transport shall be gradually integrated into a fully-fledged accessible public transport system.

Table 4.1 compares the number of persons with disabilities in the Province and the District Municipality.

Table 4.1 – Persons With Disabilities in WDM

Disability	Waterberg DM	Limpopo Province	RSA Total
Sight	11971	113088	1 091 022
Hearing	5438	51416	383 408
Physical	5577	60052	557 774
Mental	2316	22578	192 553
Multiple	1798	16019	154 236

Source: WDM IDP 2003/2004 Review

4.6.2 Accessible Transport Strategy's Action Areas

- Implement low-cost accessible features for ambulatory passengers. This will affect the exterior, entrance and interior designs of the taxi vehicle.
- Metropolitan municipalities shall facilitate the identification of accessible transport networks as well as corridors and link them to on-line infrastructure, in accordance with the guiding principles/recommendations of the NLTSP - towards achieving "reasonable accommodation", as part of their transport planning processes. The same is applicable to non-metropolitan municipalities falling under category B (i.e. Local) as well as those falling under category C (i.e. Districts).
- Where accessible corridors cannot be created solely by introducing new vehicles with Class 1 improvements already built into them, existing vehicles already in operation will be retrofitted with Class 1 improvements to provide the required level of accessibility in the corridor.
- Safety features to be introduced when existing vehicles are redesigned and refurbished. These safety features refer to the additional ones for usage by passengers with disabilities. All land transport operators shall make provision of suitable storage facilities for both long and short distance travel passengers to store their supportive devices (such as crutches, walking sticks, wheel chairs, etc) on rail coaches, buses and taxis, in support of inter-connectivity in the travel chain.

4.7 Waterberg IDP 2003/2004 Review

4.7.1 Vision of the WDM

The vision of the WDM is to be a caring and responsive Municipality with excellent service delivery, sustainable environment and prospering people.

4.7.2 Mission of the WDM

The mission of the WDM is: The WDM will through an inclusive and participatory process establish the needs of the its community and by the rendering of effective, efficient, and sustainable services, while maintaining present level of services address the backlogs in the infrastructure provision, socio-economic development and institutional capacity in order to ensure a better life for all.

Under the strategic plan for transport and related projects only road infrastructure is addressed. There are no plans and projects for the public transportation system, except for the upgrading of roads. The 2004/2005 IDP Review Process is aligned with the recommendation of the respective transport plans.

4.8 Paradigm Shift in the Planning of Public Transportation

There is a continuing decline in both the performance of the transportation system and the relevance of public transportation in meeting emerging needs. Reinvention in local public transportation is essential. Travel needs should not be viewed in engineering terms only. Transport is understood to be a 'derived demand'. Most people travel to satisfy fundamental needs – to reach activities and opportunities to increase economic well-being, health, welfare, and personal security, and the quality of the environment.

The distinction between rural transportation needs and rural transportation demand must be defined. Demands are registered in a market and are therefore related to the user's income level. Those with low incomes, or no automobile, are less likely to demand travel.

Travel needs are a fixed amount of travel that is deemed necessary to provide an adequate standard of living, a quantity not affected by the price of travel. One may have a need to travel independent of the ability or willingness to pay.

4.9 Adoption of Policy

In addition to the Provincial Land Transport Framework in the form “Limpopo in Motion”, the policy framework compiled in this chapter provides particular guidance for the provision of an Operating License Strategy for taxi services in the short and medium term of operations.

The WDM Transport Forum and the Limpopo Department of Transport are required to consider the policy framework for the Operating License Strategy for endorsement.

5 RESTRUCTURING, INTERVENTIONS, CONDITIONS AND EVALUATIONS

5.1 Restructuring

The likely impacts of the Taxi Recapitalisation Program on internal logistics and public transport facilities are significant. The taxi industry is formalized and is recognized by the South African National Taxi Council (SANTACO). The taxi industry is in the process of being regulated through the Be Legal Campaign and the Special Legalization Process. Taxi operators are in the process of registering with the South African Revenue Services, and recognized as a legitimate business enterprise. Further, the taxi industry is forming empowerment business enterprises through taxi co-operatives.

The Registrar is appointed for the Province, and the MEC appointed the panel of assessors. The MEC also prescribed the standard minimum constitution and code of conduct.

There are several criteria when issuing of an operating license, which includes correspondence from other Departments such as law enforcement, Transport Planning, etc. The Provincial Department of Transport and the National Department of Transport needs to expedite the application of the National Taxi Register, RAS and OLAS in the Registrar's office and the Operating Licensing Board office. The OLB is required to monitor the operations, depending on the regular submission of reports from the operator, and the Registrar is required to constantly liaise with the taxi industry.

Thus, there is need for the OLB and Registrar's office to be adequately equipped to perform the duties as required in the NLTTA.

There is significant progress in the formalization and regulation of the taxi industry, including the establishment of the OLB and Registrar's office. Hence, the restructuring both from the Industry and the Government is a forgone conclusion, as major progress is noted.

5.2 Provision for Persons with Disabilities

At least Class 1 improvements, which are provisions for the blind and deaf, are mandatory for all taxi vehicles. Class 1 improvements are features that increase the accessibility of a transport system to all life cycle and impairment passengers, but not those who use wheelchairs. Such improvements include small design changes in vehicles (such as installing sufficient grab-rails, or using high-contrast colours on steps and hand-holds to improve visibility), improved infrastructure

(such as sheltered and safe stops), and improved operational practices (such as keeping the vehicle stationary until elderly and disabled passengers are secure in the vehicle).

Class 1 improvements could also include the training of drivers to be sensitive to the needs of the blind and the hearing impaired. For example, when the blind passenger boards, the driver should note the alighting point of the passenger, and with assistance from other passengers.

Class 2 improvements are features that allow wheelchair users to board and ride vehicles in their chairs. This is usually achieved through a combination of vehicle and infrastructure improvements, such as customised 35-seat New Taxi Vehicles (to be introduced through the Taxi Recapitalisation Program), with sufficient kerbs and wayside platforms.

5.3 Evaluation and Recommendation Regarding Operating Licenses

5.3.1 Information sources

The data used in the calculations to determine the number of operating Licenses to be allowed on a route was sourced from the CPTR. The CPTR was completed in May 2003. The main purpose of the survey was to determine the transport supply and passenger demand on the various routes.

It must be emphasized that this First OLS for the Waterberg District Municipality was based on the information sourced through the CPTR process and that no additional surveys were done. Where information was not available it was either calculated or assumptions were made by applying knowledge of the area and professional judgement. In some instances, no information was available and it could not be determined except through additional surveys. In these cases the data gaps was acknowledged and it was assumed that this would be surveyed during the second CPTR process.

5.3.2 Methodology - Number of Vehicles per Route

The guideline document recommend that for the calculation of number of vehicles required (licenses per route) that the number of peak hour passengers must be divided by the vehicle capacity, resulting in the number of vehicles required to serve the demand. The following shortcomings were identified in the approach:

- No allowance for reliability and vehicle availability, for example, breakdowns;
- Allows for 100% occupancy;

- Assumes that the turn-around time is one hour

If turn-around time is less than 60 minutes, then fewer vehicles are required, but if the turn around-time is more that 60 minutes, more vehicles are required to serve the passenger demand.

The following approach was applied in the analysis:

- 90% vehicle availability and reliability;
- 90% seat utilization; and
- Estimated turn-around time (varies) based on distance and utilisation.

The CPTR data source used in this calculation did not distinguish between “forward” and “return” trips. It treated all as separate routes. From the information provided it was also not possible to link forward routes with its corresponding return route. All calculations were made per individual route journey. It implies therefore that the forward and return trips were separately calculated. As a start, this is however not a serious problem as the number of vehicles required to serve the passenger demand must correspond to the maximum number of passengers for the forward or return trip.

It must be remembered then that this calculation provides the number of vehicles required to serve the passenger demand on that specific trip. If all the vehicles required is added together it does not provide the total number of licenses, which can be allowed. Forward and return trips must first be linked to provide the total number of licenses required.

The required number of vehicles was calculated for both 15 seater and 18 seater vehicles. The following steps were taken to calculate the required number of vehicles to serve the existing passenger travel demand as determined by the CPTR process:

3. Input values from CPTR:

- Number of peak hour passengers;
- Route distance (estimated where not available)

4. Input values for:

- Vehicle availability and reliability = 90%
- Seat utilisation per vehicle = 90%

5. Calculation of the number of peak hour vehicle trips required to serve the peak hour passenger demand

$$\text{No of peak hour vehicles required} = \frac{\text{No. of Peak hour Passengers.}}{\text{Veh. Size/Seat Util./Availability}}$$

6. Calculation of Vehicle headways

$$\text{Vehicle Headways} = \frac{60 \text{ minutes}}{\text{Required No of Vehicles}}$$

7. Estimation of the peak period. This is used to calculate the maximum number of vehicles required per route within that peak period for the short to medium distance routes the maximum number of vehicles is dictated by the turn-around time, while for the long distance routes the dictating factor will be the peak period duration.

8. Calculation of the maximum No. Of vehicles

$$\text{Maximum No. of Vehicles} = \frac{\text{Peak Period [min]}}{\text{Vehicles Headways}}$$

9. Calculation of the Turn-around Time

$$\text{Turn-Around Time} = \frac{\text{Route Distance}}{\text{Average Speed}} \times 60 \times 2$$

10. Calculation of the number of vehicles required. This is the least of the maximum number of vehicles as calculated in 6 above and the number of vehicles as calculated in the following equation:

$$\text{No of Vehicles} = \frac{\text{Turn-around Time}}{\text{Headways}}$$

5.3.3 Results

After the analysis of the CPTR data it was found that 159 taxi routes have its origin in the Waterberg District Municipality. Of these routes 3 routes have no route distances. These routes are indicated in **Appendix D**. A further 19 routes have no passenger volumes. These routes are indicated in **Appendix E**. A total of 137 routes had sufficient data for which the required number of vehicles could be calculated.

In general it can be concluded that there is a huge over-supply of taxis and in the interim no new licenses be approved. Steps must be taken to reduce the number of vehicles and licenses.

Appendix F contains the full data list ranked in order from the routes with the highest travel demand to the least while in **Appendix G** it is listed per Local Municipality and origin rank. The recommendations to be applied by the OLB are in Appendix G.

The route verification process was also investigated to obtain the final routes for taxi services in the WDM. The routes are not yet gazetted, since the process is ongoing for WDM. However, the most recent list of routes was obtained and compared with the CPTR information. There are several new routes identified, but there are no passenger volumes and utilisation to determine the number of licenses to be issued. Nevertheless, the routes are acknowledged and identified in **Appendix H**.

Also several routes in the CPTR do not correspond with the routes description in the verification process. All routes are documented, and these omissions and irregularities should be resolved in the next CPTR.

5.3.4 Capacity Utilization at Ranks

The information on ranks and their utilisation, as contained in the CPTR, was considered as part of the further evaluation of operations for the purpose of assessing operating license applications.

The purpose of rank utilisation surveys was to determine whether the rank had sufficient capacity to accommodate the taxis operating there. During these surveys, the following information was collected:

- The total number of facility bays, i.e. loading, holding or combined
- The count of the operational vehicles at the rank for specific time intervals (15 minutes).

The surveys were conducted for the morning (AM Peak), midday peak and afternoon (PM Peak) respectively. A summary of the results is included as **Appendix C**.

It is extremely important to realise that a large number of facilities in the WDM area are informal facilities. In practice, this implies that it is virtually impossible to determine the rank utilisation.

It is generally accepted that when a rank is at capacity, an operating License should not be issued. At this stage, as already indicated, there are few formal facilities in the WDM area. In practice this implies that it would be difficult to apply the principle of not issuing an operating license when a rank has reached a high percentage of capacity utilisation. Travel demand must not be suppressed in the rural areas because no or inadequate facilities are available.

5.4 Liaison with the Operating License Board

This section sets out the liaison procedure with the Limpopo Operating License Board, gives a description of the communication between the WDM and the Board to ensure the efficient processing of operating license applications, as well as provides for standard documentation to be used in correspondence with the Board.

5.4.1 Communication Structure

Figure 5.1 describes all the role-players in transport in Limpopo and also their inter-relationship from the point where an operator applies for an operating license to the granting of the license and how the operator gets to operate within a certain route:

5.4.2 Transport Operating License Board

The Head of the Limpopo Department of Public Transport must designate one or more departmental officials to be stationed at the offices of each Local Municipality to fulfil the functions of the OLB, in the manner prescribed.

The OLB must receive completed application forms for operating licenses in respect of services commencing in its Local Municipalities together with the application fees, and all the necessary accompanying documentation from the Taxi Association. The local offices must check the validity and legitimacy of the information, and enter details of the applications into the OLAS.

The OLB must then submit the applications to the relevant Local Municipality, for recommendations in the prescribed manner.

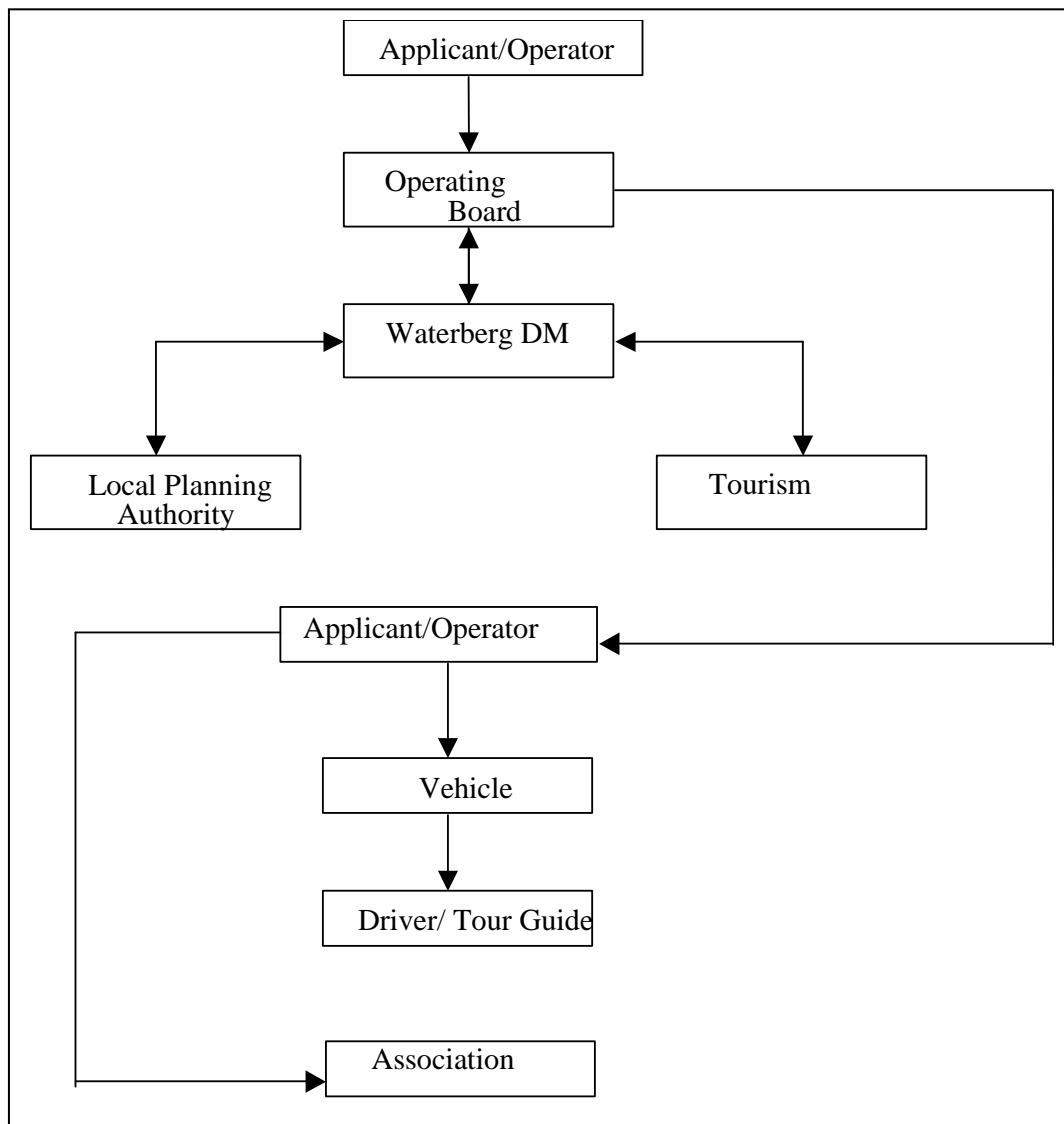
In making recommendations, Local Municipalities planning departments must ensure that the application is in accordance with relevant transport plans, i.e. its Operating License Strategy and other relevant transport and land use plans and consider factors such as demand or needs on a route basis, availability of ranking space, etc.

Where the destination of the routes is in another Province, the OLB of the destination Province must also comment on the application.

If no forum or liaison committee exists in respect of a route or area at the relevant time, the OLB may make a unilateral decision based on the recommendations in this OLS.

Similarly, where a Board of another Province has referred an application to the Limpopo OLB for comment, the Limpopo Province OLB must refer to the recommendations in this OLS for guidance and direction.

Figure 5.1 – Application Liaison Process



5.4.3 Procedures Within the WDM for Disposing with License Applications

Upon receiving an application, it is recommended that the WDM follow the following process, as part of making a recommendation on applications for operating Licenses:

- The route applicable to the application and its status with respect to capacity utilization should be identified.
- If the indication in terms of records is that further investigations are required, such further investigation should be carried out. (The further investigations are discussed below).
- Records should be checked to determine whether applications for additional licenses are supported and awarded on the same route by the Operating License Board, since the approval of the OLS. If so, the impact of the additional capacity on such a route should be assessed.
- If the above steps indicate that additional capacity on the route can be accommodated, the capacity utilization of the relevant rank(s) should be assessed. Rank capacity should not be the critical factor.
- Similarly, an assessment of the route should be done in terms of the preferred mode and the restructuring of the public transport system in the WDM.
- The WDM should consider whether any conditions should be linked to a license if awarded.
- If all the above considerations indicate that additional capacity can be supplied on the route relevant to the application, the WDM should support the application.

5.4.4 Exit Process

The oversupply of taxi vehicles in the WDM is evident in this study. According to the NLTAA section 51, as a result of an existing non-contracted public transport service that is no longer required, the planning authority must use its best endeavours to offer the holder of the operating license or permit in question any viable alternative service or services in the place of the existing service.

There are various other issues to be addressed in the exit/withdrawal of licenses strategy. Currently, the National Department of Transport is preparing an exit/withdrawal strategy for the implementation of the Taxi Recapitalisation Program and should be applicable to the Limpopo Province as well.

The Limpopo Province must adopt and customize the withdrawal strategy currently being prepared by the NDoT. Further, the OLB must adhere to the OLS recommendations regarding the issuing of operating licenses. If excessive licenses are approved, and if it is not practical for operators to accept the alternative routes during the rationalisation process, and prefer to exit/withdraw licenses, then the process will be very costly to Government.

Also, 'suitcase' permits should be converted to route based permits, and then upgraded to an operating license. The concept of permanent permits must be abolished and operating licenses must be issued for a specific duration of three to five years, consistently with the requirements of the NLLTA.

5.4.5 Persons with Disabilities

Taxi vehicles must comply with Class 1 improvements in the short to medium term. Further, there is need for data on the number of person with disabilities, and the particular need on specific routes. The District Municipality must also identify the NGOs currently providing the service to persons with disabilities. The Limpopo Department of Transport must provide subsidies for such services where necessary and procure the services of operators including NGOs already supplying such services, to provide a specific service to persons with disabilities instead of major changes to the current taxi vehicles or the New Taxi Vehicles.

Where there are no current services for persons with disabilities at all, there is opportunity for contracted paratransit service with the Limpopo Department of Transport. The Limpopo Department of Transport must consider this in the new subsidised bus contracts.

The WDM must ensure that all public transport facilities are designed and constructed with provisions for persons with disabilities. The standard design guideline is available from the National Department of Transport.

6 LAW ENFORCEMENT

The PLTF (Limpopo in Motion) identifies the current challenges in Law Enforcement specifically to address public transport needs.

- Limited human resources and equipment
- Illegal passenger transport operators
- Conflict resolution procedures are not instituted
- Corruption

There is need for consistent law enforcement to monitor compliance to specifications and regulations. The ultimate objective is to ensure the safe transit of passengers, and a safer road environment.

6.1 Determining the Number of Illegal Operations

A taxi vehicle and operator not registered with the Registrar and in possession of a legitimate route based permit or operating license, constitutes an illegal operator/vehicle.

It is not practically possible to determine the number of illegal taxi vehicles, since the vehicle registration numbers in the CPTR is not comprehensive and subsequently the information in the Land Transport Permit System is relatively outdated. The Registrar indicated that some vehicles might have relocated to another jurisdiction. Further, there are operators currently awaiting the decision of the Board through the BLC process.

It is therefore recommended that the methodology on determining the number of illegal taxi vehicles focus on the current demand and supply, by issuing operating licenses to current route based permit holders, while illegal operators are identified through effective law enforcement on the ground.

6.2 Identification of Legal Taxi Vehicles

The OLS will determine the number of OL to be issued per route. The operator/driver of the taxi vehicle should be in possession of a valid copy of the operating license with a legitimate identification on the vehicle. The Taxi Directorate of the Department of Transport and the OLB must address the development of intra-provincial operation identity tags/markers in the form of a sticker. The tag should have at least the following information:

- Name and address of the operator.
- Colour coded routes and route numbers.
- The original symbols on current motor vehicle registration plates should be adopted for consistency in identifying the base Province of the operator.
- The origin, destination, and possibly intermediate destinations.
- Vehicle Registration number
- Operator's (association or non-member) provisional or full registration number
- Date of expiry of operating license or permit
- Operating license or permit number
- Provision for persons with disabilities totem
- Maximum number of seated passengers, which also determines the maximum legal loaded weight of the vehicle.

The development of inter-provincial markers is currently being addressed by the National Department of Transport.

The NLTTA Section 85 specifies the detailed description of the route or routes on which, or, where applicable, the particular area in which the vehicle is to be used for the operation of the service to which the operating license relates, through specification of the relevant street names, road numbers, beacons, or land marks for each city, suburb, town, village or settlement, the authorized ranks or terminals, and other points for picking up and setting down passengers where applicable, on the operating license.

The NLTTA Section 93 requires the holder of an operating license for the operation of any public transport service in the Province, to submit data such as number of passengers conveyed during the month, the distance, and the number of passengers per trip. The effective date is not yet determined by the MEC.

Taxi vehicles should be tested and inspected every six months for roadworthiness and renew its operating license every three to five years. Also, taxi drivers should be in possession of the code C1 driver's license and a professional driver's permit. The number of passengers and goods in the vehicle should indicate the legal maximum load on the vehicle.

6.3 Public Transport Inspectorate

Considering the above requirements, law enforcement officers must monitor taxis and drivers for the applicable licenses and permits. It is unfortunate that vehicle inspections occur during operations, and cause delays to the passengers.

Most traffic officers lack the necessary skills in public transport law enforcement as required in the NLTTA. There is no uniformity and coordination on the delegation of powers at Provincial and District Level.

The MEC approved the formation of the Public Transport Inspectorate, which comprises of one department manager, two Provincial Inspectors, and 50 Principal Inspectors. There are no appointments yet. The cost to appoint 50 officers at least in one financial year is extremely costly, possibly in the region of R7.5m per annum in salaries only.

It is therefore recommended that, instead of forming a new inspectorate, the current law enforcement officers under the Department of Transport – Traffic and Road Safety Directorate, must be trained in the application of the requirements for the Taxi Recapitalisation Program and the application of operating Licenses. The program should include the Taxi Recapitalisation, advanced driving (consistent with the Occupational Health and Safety Act), validation of vehicle inspection, and management.

As a result, the need for fixed and operational equipment (office space, furniture and equipment, vehicles, etc.) for the “inspectorate” is marginal, while the implementation is optimised. There is also a need for law enforcement officers to be trained in the application of general public transport policies and regulations (including the bus mode, Animal drawn vehicles, LDVs, etc), and cross border requirements.

The Province and the NDoT must expedite the installation of the NTR and NaTIS information management system off site (office) and on site (in-vehicle).

The Limpopo Taxi Provincial Council and Traffic Department must maintain constant liaison to ensure that the taxi industry complies with the minimum requirements of the law, until the rollout of the proposed NTV.

6.4 Conflict Resolution

The current practice to address conflicts evolves around the Registrar. There is no formal structure in the Province to address conflicts in the taxi industry. Nevertheless, the Limpopo Provincial Taxi Council and the District Taxi Council structures have conflict resolution committees and correspond with the panel of assessors of the Registrar.

There was concern that the Registrar does not impose penalties. The standard Constitution provides direction on penalties. Therefore, the recognised taxi authority, Limpopo Provincial Taxi Council and the District Taxi Council, are the appropriate bodies to impose penalties.

There is no Provincial Memorandum of Agreement between the Provincial Taxi Council and the Provincial Department of Transport that specifically deals with conflict resolution, and there is no formal guideline in the Province to address conflicts.

To reduce the possibility of conflict occurring, Memorandums of Agreement should be in place between the Government and the taxi industry at both National and Provincial level.

In order to hear appeals concerning inter-Provincial transport, and intra-Provincial transport if no Provincial Transport Appeal Body is established, the Transport Appeal Tribunal Act 1998 (Act No 39) should be made functional. The Provincial Transport Appeal Body (TAB) exists in the Limpopo Province.

Thus, the following is recommended to address conflict resolution in the WDM:

- The Limpopo Department of Transport and Provincial and District Taxi Councils must develop a Memorandum of Agreement with guidance from the draft National memorandum;
- The Limpopo Department of Transport and Provincial and District Taxi Councils need to formalise procedures to respond to conflicts thereby promoting a continuous process of resolution of issues and eventual eradication of conflict.
- The standard Constitution provides direction on penalties. Therefore the recognised taxi association must impose penalties where necessary.
- Penalties must be reported to the NTR. Therefore, the relevant taxi association must correspond with the Registrar when penalties are imposed on operators.

7 STAKEHOLDER CONSULTATION

7.1 Introduction

The success of the consolidation of the transport plans is significantly dependent on the interaction with the relevant stakeholders. It is extremely important to involve all role players to ensure that the process is acceptable and reliable. Interested and affected parties were identified with the assistance of the District Municipality. An introduction meeting and subsequent presentations were planned with the stakeholders.

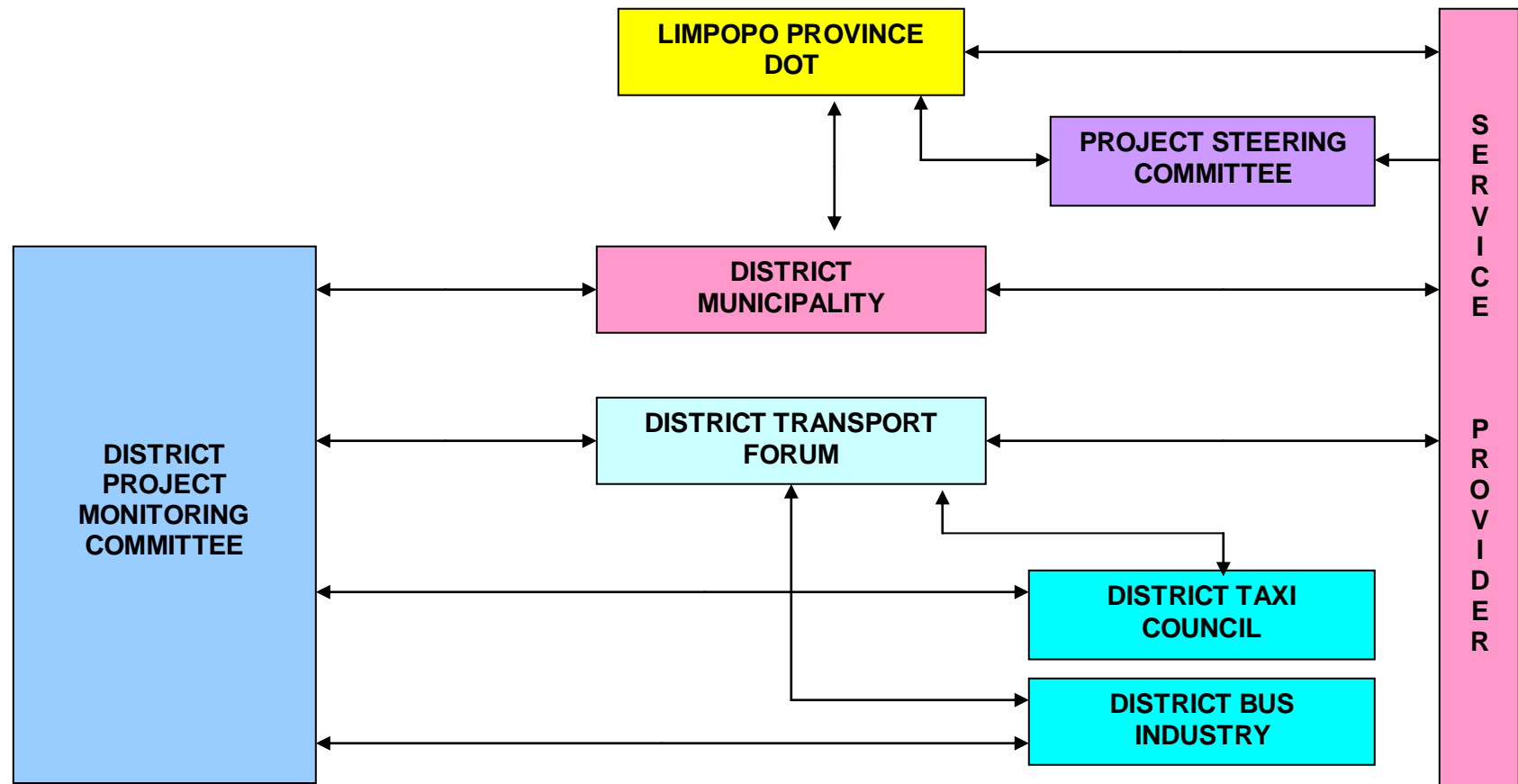
Representatives from the District Municipality, Local Municipalities, Transport Forums, and NGOs, formed the District Transport Forum, and are effectively the technical committee for the project.

The communication and liaison structure, and the respective functions were guided by the Limpopo Department of Transport, and are described in Figure 7.1.

Consultation and liaison are an integral part of the process to confirm and validate data, and to determine the transportation needs as deduced from the data. The users of the system should have confidence in the process as well as in the results. The following role players were identified to be part of the District Transport Forum:

- Limpopo Province Department of Transport – Public Transport Division
- Limpopo Province Department of Transport – Registrar of Taxis.
- Limpopo Province Department of Transport – Operating License Board.
- Waterberg District Municipality – Economic Development and Planning Division
- Transport Manager of each Local Municipality
- Bus Operators
- Regional Taxi Council
- Law Enforcement
- Commuter Forum

FIGURE 7.1 - COMMUNICATION STRUCTURE FOR THE PREPARATION OF TRANSPORT PLANS



7.2 Functions of the Various Structures for the Preparation of District Transport Plans

7.2.1 Limpopo Department of Transport

(a) Politicians

- Project financiers and responsible for payment of the Service Provider.
- Provincial Project Coordinator
- Liase with the Provincial Steering Committee
- Liase with the District Municipality

7.2.2 Provincial Steering Committee

- (a) Representative of National Department of Transport.
(b) Representatives from the Provincial Department of Transport.
(c) Representatives from the District Municipalities.

- Recommend payments of Service Provider
- Evaluate and recommend approval of the reports
- Liase with the Provincial Department of Transport
- The Provincial Steering Committee liase with Service Provider

7.2.3 District Municipality

- (a) Officials
(b) Politicians

- Liase with Provincial Department of Transport.
- Liase with District Transport Forum
- Liase with the District Project Monitoring Committee
- Liase with the Service Provider

7.2.4 District Transport Forum

- (a) All public transport role players.
- To ensure involvement on grass root levels.

- Report to their respective structures.
- Advising the service provider.
- Provide their support for the plans.

7.2.5 District Project Monitoring Committee

- (a) Representative of the District Municipality.
 - (b) Representative of the Local Municipalities.
 - (c) Representative of the Provincial Transport Department on District level.
- Liase with the District Municipality
 - Liase with the Transport Forum
 - Monitor the progress of the project
 - Liase with Bus and Taxi Liaison Structures

7.2.6 District Taxi Council

- (a) Representatives of the District Taxi Council.
- Work together with the Service Provider and the Project Monitoring Committee to ensure that product would be accepted for Taxi Industry.
 - Liase with the Taxi Industry such as Taxi Associations as well as the Provincial Taxi Council.

7.2.7 Bus Industry

- (a) Representatives of District Bus Operators.
- Work together with the Service Provider and the District Project Monitoring Committee to ensure that the product would be acceptable for the Bus Industry.
 - Liase with the bus operators at the lower level.

7.2.8 Service Provider

- (a) ARCUS GIBB
- Carrying out of the work.
 - Liase with all the structures.
 - Consult with the Provincial Department of Transport, Provincial Steering Committee, District Municipality, District Project Monitoring

7.3 Progress to Date

7.3.1 Steering committee Meeting

The Limpopo Province Department of Transport is effectively the primary client for the project. There was consistent liaison with the project manager Mr. Walter Raedani and project director, Ms. Mhloti Hetisani, at the Department of Transport.

There were two meetings with the steering committee that comprised of the officials from the Provincial Department of Transport, District Municipalities, National Department of Transport, Provincial Taxi Council, and Operating Licensing Board. The progress was presented to the steering committee on 15 March 2004 and 22 April 2004.

7.3.2 Technical Committee Meeting

There was consistent liaison with the Waterberg District Municipality Transport Manager, Mr. Moses Sithole, who in turn arranged the technical committee meeting with the District Transport Forum. There was one meeting with District Transport Forum on 2 April 2004. All stakeholders were present, except for the commuter association/forum.

The analysis was presented to the Waterberg Taxi Council and the Western Region Taxi Council. There was concern that several routes as extracted from the CPTR were not authentic. The routes were subsequently excluded from the analysis.

There was also concern on the perceived bias on law enforcement. Law enforcement revealed that Taxi Council representative are invited to road inspections, but response is seldom. Law enforcement officers also indicated the possibility of corruption, as vehicle licenses are removed from un-roadworthy vehicles, and the vehicles are back on the road in short time with a new license while the vehicle is still in an un-roadworthy condition.

Law enforcement officers acknowledged that they do not understand the requirements of public transport enforcement applications, specifically on items such as the route based permits and operating licenses, and require training.

The Taxi Councils were advised that there is an oversupply of taxi vehicles and that there is a need to reduce the supply by up to 50% on some routes.

7.3.3 Liaison with Registrar

There was consistent liaison with the office of the Registrar and specifically with Mr D Makgahlela, Mr. Jalani, and Ms. Mary Sathege. There were several requests for taxi route data, and vehicle registration details. The data was not available in electronic format, and was obtained in hard copy. One of the aims was to use the information obtained from the existing RAS information system to verify the CPTR data. The hard copy data is still being captured on an electronic database. Thus, there is no

validation of the taxi data yet. Mr. Frans Mahunda from the DoT office in Modimolle also assisted with route information for the WDM.

7.3.4 IDP Review Process

There was also a presentation to the IDP planning team on the progress of the project, on 25 March 2004. Emphasis was placed on the need for public transport improvements in the WDM, and potential projects were identified to be included in the IDP 2004/2005 Review.

7.3.5 Conclusion

The District Municipality before adoption by the Provincial Department of Transport must endorse the final document for each Transport Plan. The process is ongoing.

8 RECOMMENDATIONS

The following recommendations are made in terms of public transport in the WDM:

- a) The Operating Licensing Strategy should be accepted and approved by all the role players and be implemented through a facilitation process
- b) The Operating Licensing Strategy should be updated on an annual basis, and the recommended number of operating licenses per route in Appendix G is valid only until April 2006.
- c) **The moratorium on issuing of operating licenses must be relaxed per route as the need dictates according to the updated CPTR and OLS.**
- d) Appendix G is the primary reference table for the OLB to issue operating licenses. However, where new routes are introduced, the OLB must investigate the capacity and need for that particular route before issuing any new operating licenses, and must also consider transferring operators from oversupplied routes to the new routes.
- e) The CPTR information must be updated in an attempt to address the gaps in the information.
- f) The law enforcement strategy should be prioritised to ensure peace and stability in the area.
- g) Taxi co-operatives should be developed to benefit the local community and ensure local black economic empowerment, and tendering for subsidised routes.
- h) Incorporate the donkey-cart mode in the non-motorised transport plan especially in the deep rural areas, and document standard specifications.
- i) Assess the routes applicable for LDVs as public transport vehicles, and the MEC must act on NLTAA section 31.
- j) Expedite the installation, training, and operation for the Registration Administration System and the Operating License Administration System.
- k) 'Suitcase' permits should be converted to route based permits, and then upgraded to an operating license. The concept of permanent permits must be abolished and operating licenses must be issued for a specific duration of three to five years, consistently with the requirements of the NLTAA.
- l) The following projects in Table 8.1 should be implemented to enhance taxi mode operations:

TABLE 8.1: PROGRAM AND FINANCIAL IMPLICATIONS									Responsibility	Project Duration
PROJECT						ESTIMATED BUDGET				
	1	2	3	4	5	YEAR 1	YEAR 2-5	TOTAL		
<u>TAXI MODE (OLS)</u>										
Project 1: Vehicle Verification						R200 000	In-house	R200 000	DoT/Registrar	6 months
Project 2: Routes for LDV & apply NLTTA S31						R200 000		R200 000	DoT	3 months
Project-3: Annual update of OLS						R200 000	R800 000	R1 000 000	LM/DoT	2 months
Project 4: Implementation and maintenance of colour coding system for taxis.							R 400 000	R 400 000	DoT/Registrar	3 months
Project-5: Establish/Upgrade the Satellite Operating Licence Office in Lephalale and Mokopane						R 1 000 000	R 1 500 000	R2 500 000	DoT	On-going
Project 6: Formalise metered taxi operations						R 100 000	In-house	R 100 000	DoT/Registrar	6 months
Project 7: Development of Rank Management Skills						R 100 000	R 200 000	R 300 000	DoT	On-going
Project 8: Establishment of Taxi Co-operative for Waterberg District							R 200 000	R 200 000	DoT	12 months
Total						R 1 800 000	R 2 700 000	R 4 500 000		

9 BIBLIOGRAPHY

1. George Gray and Lester Hoel. Public Transportation, 2nd edition, Prentice Hall. New Jersey, 1992, chapter 14.
2. Greater Tubatse Local Municipality input for the Sekhukhune District Municipality – Operating License Strategy as part of the Public Transport Plan for the Sekhukhune District Municipality, Draft Version1.0
3. Limpopo Department of Local Government and Housing, The Northern Province Integrated Rural Development Framework
4. Limpopo Department of Transport, Limpopo In Motion – Provincial Transport Strategy Executive Summary, 2003.
5. Limpopo Provincial Land Transport Framework (Limpopo In Motion), Final Report, July 2003
6. Minimum Requirements for Preparation of Operating License Strategy, Government Gazette 25245, August 2003
7. National Department of Transport, Moving South Africa Strategy, Draft for Discussion, September 1998.
8. National Department of Transport, Short Term Strategic Framework on Accessible Transport 2nd Draft, July 2003
9. National Department of Transport, White Paper on National Transport Policy, September 1996
10. National Department of Transport Business Plan 2003/2004
11. National Department of Transport, National Land Transport Transition Act No. 22 of 2000, August 2000.
12. National Department of Transport, National Transportation Planning Guidelines and Requirements and Requirements –for the Implementation of the NLTTA, TPR5 (Operating License Strategy) Final Draft, April 2001.
13. National Department of Transport, National Transportation Planning Guidelines and Requirements and Requirements –for the Implementation of the NLTTA, TPR6 (Rationalisation Plan) Final Draft, April 2001.
14. Pieterse Du Toit & Associates Town and Regional Planners, Limpopo Province Spatial Rationale, Final Document – Section 2A and 2B, November 2002
15. Waterberg IDP Review 2003/2004 & 2004/2005
16. Strategic Framework – Accessible Transport Strategy (NDOT)
17. Vuchic, V, Transportation for Liveable Cities, CUPR Books, The State University of New Jersey, 1999, pp.299

APPENDIX A: Definitions

APPENDIX B: Status of Facilities

APPENDIX C: Taxi Rank Utilization and Capacity

APPENDIX D: Taxi Routes with no route distance information

APPENDIX E: Taxi Routes without Passenger Volume Information

APPENDIX F: Required number of vehicles per route (Ranked according to passenger demand)

APPENDIX G: Required number of vehicles per route **(Ranked according to passenger, Local Municipality, and Origin Rank)**

(Primary Recommendations for the OLB)

APPENDIX H: Route Verification List compared with CPTR

APPENDIX I: Maps of Waterberg District Municipality & Taxi Routes