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GREATER SEKHUKHUNE DISTRICT MUNICIPALITY INTEGRATED TRANSPORT PLAN (GSDM-ITP)

MARCH 2007

TITLE: SEKHUKHUNE TRANSPORT PLANS (2006/07)

VOLUME 5: INTEGRATED TRANSPORT PLAN (ITP)

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The Transport Plans for the Greater Sekhukhune District Municipality comprise five volumes:

a) Volume 1: Current Public Transport Records (CPTR) (prepared by Siyazi-Khosa Joint Venture, December 2006)
b) Volume 2: Operating Licensing Strategy (OLS) (prepared by Siyazi-Khosa Joint Venture, January 2007)
c) Volume 3: Rationalisation Plan (RATPLAN) (prepared by Siyazi-Khosa Joint Venture, December 2006)
d) Volume 4: Public Transport Plan (PTP) (prepared by Siyazi-Khosa Joint Venture, March 2007)
e) Volume 5: Integrated Transport Plan (ITP) (prepared by Siyazi-Khosa Joint Venture, March 2007)

Terms of reference

The Siyazi Joint Venture was appointed by the Limpopo Province Department of Transport on 22 June 2006 to conduct a Public Transport Plan (PTP). The Siyazi Joint Venture consists of the following companies:

a) Siyazi Limpopo (Pty) Ltd
b) Khosa Development Specialists Members of the community.

Although the Limpopo Province Department of Transport appointed the Siyazi Joint Venture, it was stipulated that a strategy should be followed which would include all role players, with specific reference to the Sekhukhune District Municipality. It was also necessary to ensure that this Integrated Transport Plan would comply with all Local, Provincial and National Government requirements.

TABLED TO THE GREATER SEKHUKHUNE DISTRICT MUNICIPALITY AND APPROVED ON……..

EXECUTIVE SUMMARY

1) INTRODUCTION

The Limpopo Department of Transport appointed the Siyazi Joint Venture on 22 June 2006, to update the Integrated Transport Plan (ITP) for the Sekhukhune District Municipality (SDM), as required in terms of section 27 of the National Land Transport Transition Act, No. 22 of 2000 (NLTTA), as amended. The ITP attends to the public and private modes of transport, infrastructure, facilities and services.

The local government system in South Africa was introduced in its present form by the new Constitution of the country (Constitution of the Republic of South Africa, Act No. 108 of 1996, as amended). Chapter 7 of the Constitution deals with matters related to local government. Therefore the Sekhukhune District Municipality was also established in terms of this Constitution and also in terms of 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 local government must perform. These functions include municipal planning and municipal public transport services. Emanating from the mandate of the Constitution, the Municipal Structures Act (No. 117) of 2003 was passed and states in section 81(1)(a) that District Municipalities should prepare Integrated Development Plans (IDPs).

The Integrated Transport Plan constitutes a transport sector input into the IDP process.

For implementing the NLTTA, the Minister of Transport published the minimum requirements for the preparation of the ITP (*Government Gazette* No. R25245 dated 1 August 2003). This publication provides for the minimum requirements for the structure and contents of the ITP document.

A data collection process preceded the ITP. The aim of that process was to gain an idea of the current situation in the Greater Sekhukhune District Municipality (GSDM) in terms of transportation utility. One of the data collection process is called the Current Public Transport Record (CPTR). The updated CPTR information was collected in 2006 and was prepared by the Siyazi Joint Venture. The final updated CPTR report was completed in November 2006. This included surveys of taxi operations at taxi ranks.

Subsequently, the Operating Licensing Strategy, Rationalisation Plan and Public Transport Plan for the GSDM were updated, and are components of the Integrated Transport Plan.

Further research was done into road infrastructure development plans and operational plans, such as Road Safety, Travel Demand Management, freight and commodity flow data collection and demographic data. The ITP and Land Development Objectives should be complementary.

2) STATUS QUO

The GSDM was previously a cross-border district municipality with certain areas inside the borders of the Limpopo and Mpumalanga Provinces. The GSDM is mainly rural: 95% of the total population resides in the rural areas and only 5% in the urban areas. Most communities are sparsely populated in low-density villages. The relatively densely populated semi-urban areas are Groblersdal, Marble Hall, Burgersfort, Jane Furse, Ohrigstad, Steelpoort and Driekop. There are no Transport Authorities or metropolitan municipalities in the GSDM.

There has been gradual economic development in the GSDM area, specifically in agriculture, mining and tourism. Mining is significant in the Greater Tubatse LM along the

Dilokong Corridor (Road R37) as well as Road R555. The Greater Tubatse Municipality is probably one of the fastest-growing towns in South Africa owing to the mining activities in the area.

Few residents own a car and commuters depend on public transportation. Furthermore, the limited mobility of communities is a serious concern. The major public transport services relevant to the investigation are bus and taxi operations, and are addressed in detail in the RATPLAN and OLS respectively. There are no commuter rail services in the GSDM. The ITP is relevant for the period from June 2007 to June 2008, and the five-year implementation plan and budget will be reviewed annually.

3) METHOD

The updated 2006 Operating Licensing Strategy, Rationalisation Plan and Public Transport Plan for the GSDM were prepared by the Siyazi joint Venture, and guide the preparation of the Integrated Transport Plan.

The NLTTA section 27(2) indicates that the ITP must formulate the planning authority's official vision, policy and objectives, consistent with the national and provincial policies, giving due regard to any relevant integrated development planning or land development objectives, and must at least –

a) specify the changes to the planning authority's land transport policies and strategies since the previous year's five-year plan;
b) include a list that must –

    i) show, in order of precedence, the projects and project segments to be carried out in that five-year period, and the cost of each project; and
    ii) be prepared with due regard to the relevant integrated development plans and land development objectives set in terms of section 27 of the Development Facilitation Act, 1995 (Act 67 of 1995) or, where applicable, in terms of a law of the province;

c) include all modes and infrastructure, including new or amended roads and commercial developments having an impact on the land transport system, and the land transport aspects of airports and harbours;
d) include the planning authority's public transport plan;
e) set out a general strategy for travel demand management;
f) set out a strategy for road and transport infrastructure provision, improvement and maintenance; and
g) set out a general strategy or plan for the movement of hazardous substances contemplated in section 2 (1) of the Hazardous Substances Act.

In addition, the requirements describe the principles for preparing an ITP as follows:

a) The integrated transport plans must pay due attention to the development of rural areas.
b) Transport for special categories of passengers must receive special attention.
c) The development of the ITP must take cognisance of the fact that rail is currently a national competency until it becomes devolved in terms of section 28 of the NLTTA, and that subsidised bus services are a provincial competency until devolved to transport authorities in terms of section 10(13)(f) of the NLTTA.
d) The ITP must be synchronised with other planning initiatives and it must indicate how it is integrated into the municipal integrated development plans, the development objective process and the municipal budgeting process.
e) The preparation of the ITP must include the consultation and participation of interested and affected parties as required for the preparation of the IDP in terms of Chapter 4 and section 29(1)(b) of the Local Government Municipal Systems Act, 2000 (Act No 32 of 2000).

The results and recommendations are not prescriptive, and this document should be considered a guideline and applied with discretion.

4) THE ROAD NETWORK, TRAFFIC & TRANSPORTATION

Traditionally, road projects were prioritised according to traffic volumes and pavement conditions. It is, however, important that the criteria for the prioritisation of road projects should include traffic volumes, pavement conditions, public transport, passenger volumes, tourism and freight, with due consideration for Spatial Development Initiatives, Tourism Clusters, Socio-economic developments, RAL priorities, SANRAL projects and District Municipality priorities.

The GSDM Road Master Plan is a report prepared by Africon Consulting Engineers Inc. on behalf of the GSDM. The prioritisation of the GSDM roads is based on the GSDM Road Master Plan.

The following issues are addressed as part of the GSDM Road Master Plan:

a) The road network:

   i) Distribution among the local municipalities

b) Traffic information

   i) Traffic per local municipality

c) Road network condition

   i) Visual assessments of paved roads
   ii) Visual assessments of unpaved roads
   iii) Asset value of paved roads
   iv) Asset value of unpaved roads

d) The needs analysis – background and input

   i) Current network condition
   ii) Treatments
   iii) Funding scenarios

e) Results of the needs analysis

   i) Treatment cost and length distribution
   ii) The paved network
   iii) The unpaved network

f) Predicted future consequences of the different funding scenarios

   i) Predicted network condition on paved roads
   ii) Gravel thickness on the network of unpaved roads
   iii) Asset value of paved road network
   iv) Asset value of unpaved road network

g) Investigation into upgrading of gravel roads only (no maintenance being done)

   i) Background
   ii) Results of needs analysis
   iii) What would happen if no gravel was replaced?

h) Conclusions and recommendations

The document also includes the following:

a) Appendix A: Road performance models
b) Appendix B: Rehabilitation and maintenance programmes

As part of the Road Master Plan for the GSDM it was recommended that the GSDM should familiarise itself with the findings of this Project Report on the GSDM Road Master Plan, which includes the following:

"The Project Report describes the status quo and therefore provides background on the current conditions with regard to roads, stormwater and public transport in GSDM. The findings of this report were used in the compilation of the other two documents, namely the Road Needs Analysis Report and the Section 78(1) Assessment Report.

It is further recommended that the GSDM should familiarise itself with the recommen dations in the Road Needs Analysis Report. This report provides a multi-year road works programme for gravel roads (for different budgets, based on funding availability) and a multi-year road works programme for paved roads (for different budgets, based on funding availability). The GSDM should therefore determine the budget it has available and then select an appropriate programme for implementation.

A database was compiled of the whole road network under the ownership of GSDM, as well as all bridges, major culverts, minor culverts and road signs on roads owned by the GSDM. A software program was developed, which allows the user to view this database of roads and facilities. The software program also allows the user to perform a technical evaluation of roads, based on condition assessment and traffic inputs. This program will be installed at the GSDM and training will be provided to staff members. It is recommended that the GSDM should assign responsibility for maintaining this database (with the use of the software) and for performing the technical evaluation to a specific person(s) in its Roads and Transport unit.

It is further recommended that the GSDM should familiarise itself with the recommen dations in the Section 78(1) Assessment Report. This report contains a proposal for reorganisation with the GSDM to best address the functions related to roads, stormwater and public transport, especially in view of the increased road network under the responsibility of GSDM."

More detailed information is available as part of the GSDM Road Master Plan Report.

Apart from the GSDM Road Master Plan, it is also important to pay attention to the following issues regarding the road infrastructure:

a) Congestion management

    i) Travel Demand Management
    ii) Mechanisms for managing the transport system, such as bus lanes and reversible lanes, and signal optimisation and synchronisation.

b) Environmental management

c) Non-motorised Transport Plan

    i) Infrastructure for pedestrians, bicycles and people with special needs

d) Road safety

    i) Education

ii) Emergency services (Disaster Management Centre)
iii) Hazardous locations and the application of engineering

5) **RESULTS**

a) Roads (infrastructure and maintenance)

i) The GSDM Road Master Plan was recently prepared by Africon Consulting Engineers Inc and contains detailed information about the road infrastructure and maintenance in the GSDM area.

b) Currently, the road safety programmes are the competency of the Limpopo Province Department of Roads and Transport (LPDoT). There is a serious need for the GSDM to be more active in implementing Road Safety programmes through engineering, education and law enforcement interventions.

c) The establishment of a Disaster Management Centre that would function as a Central Communications Centre, and the application of the Incident Management System are critical components of the Road Safety and Public Safety Initiative. The GSDM must prepare an incident management protocol; law enforcement must be aligned with the incident management system of the Province and the National Roads Agency Limited. There is a need for the upgrading of road signs and an urgent need for the posting of emergency numbers along roads.

d) The towns of Burgersfort, Marble Hall and Groblersdal are in need of an integrated land-use and transportation-planning model to determine traffic patterns and guide further developments. There is a need for the consistent monitoring of traffic operations, as traffic models are data driven. Siyazi Limpopo (Pty) Ltd completed an Integrated Transport Plan for the Greater Tubatse Local Municipality during 2003, but it is extremely important that this ITP should be updated.

e) Apart from Burgersfort and Groblersdal, it can be noted from observation that although congestion is not significant in the urban areas, there are opportunities to improve traffic operations through the implementation of TDM and TSM, such as bus lanes and contra-flow lanes, and signal optimisation and synchronisation.

f) Roads R555 and R37 are under serious pressure in terms of road capacity as well as road safety, and require urgent attention, while road N11 needs to be upgraded

g) Walking is a major mode of transport in the GSDM. This is why it would be appropriate to develop a non-motorised transport plan with emphasis on sidewalks, bicycles and the optimisation of donkey-cart transport.

h) The District Municipality together with the Department of Transport should submit a motivation to the Department of Environmental Affairs and Tourism to fund the strategic plan for tourism in the GSDM or the Limpopo Province as a whole, and to address the branding of routes and the implementation of tourism signs

i) Information management

A transportation management system is needed for the GSDM. The tool for achieving such management is a Geographic Information System (GIS). The GIS could be fairly expensive to establish and maintain but its benefits would be exponential when operated and managed efficiently. The following data collection should be maintained, preferably on a GIS:

i) Road network
ii) Spatial plans

iii) Road classification
iv) Pavement management
v) Traffic counts (heavy, light, overloaded, peak volumes, speed, etc.)
vi) Bridge management
vii) CPTR (bus, taxi, pedestrian, bicycle and donkey-cart routes and facilities)
viii) Road furniture
ix) Hazardous zones
x) Census data
xi) The location of housing, schools, medical care, water and sanitation.

The above data would not only assist in the review of the ITP but also in incident management, road safety, law enforcement operations, project planning and prioritisation, etc.

h) Capacity building and skills transfer

It is clear that the GSDM requires skilled workers, specifically in the civil engineering profession in both the public and private sectors. Tertiary education institutions in the Limpopo Province should start offering degrees and diplomas in Civil Engineering so that local people could study the relevant courses.

Another serious concern is that traffic engineering projects and integrated land-use and transportation planning projects are carried out at random, and there is no explicit emphasis on the application of engineering principles, and the involvement of professional engineers in transportation planning and engineering. In effect, this means that the District Municipality would be liable in the case of injuries and fatalities, because of the use of undefined standards.

i) Key performance indicators

The District Municipality must establish a performance management system as required by the Municipal Systems Act 32, 2000, Chapter 6. The District Municipality should also promote a culture of performance management among political structures, political office bearers, councillors and administrators.

The process of integrated transport planning should be dynamic and characterised by the continuous review and testing of goals and objectives against key performance indicators. The District Municipality must apply key performance indicators (KPIs) to monitor progress with the implementation of policies and projects, and to monitor its performance as an implementing agent.

In terms of the Municipal Systems Act 32, 2000, the results of performance measures must be audited as part of the District Municipality's internal auditing process and be audited annually by the Auditor-General, and be made known to the public through the Annual Report.

j) Institutional transformation

As part of the GSDM Road Master Plan, detailed information is provided about alternative mechanisms for service delivery, with specific reference to the *Status quo assessment of service delivery*.

The District Transport Forum must be formalised by the Municipal Manager so that it functions in a way similar to the Urban Transport Board, as described in the Urban Transport Act 78, 1977. The formalisation of the Transport Forum to function as a committee established by the Municipality could be justified by section 79 of the Municipal Structures Act 117, 1998. The Transport Forum would be responsible for the following:

i) Identify transportation needs
ii) Approve transport plans prepared by planning authorities
iii) Consultation with stakeholders
iv) Influence policies
v) Investigate opportunities for Public-Private Partnerships to optimise funding mechanisms and maximise service delivery
vi) Implement the projects identified in the Integrated Transport Plan
vii) Measure performance by means of Key Performance Indicators.

The Transport Forum should meet at least once every quarter, and the District Municipality must budget for the functioning of the Transport Forum.

7) CONCLUSION – STRATEGIC THRUSTS

The GSDM should focus its efforts and resources on the following strategic components of transportation:

a) Capacity and skills development

i) Training of officials in integrated transportation planning and land-use planning

ii) Recruitment of transport planners and engineers

iii) Procurement of consulting engineering services for consistent and continuous advice and for undertaking ad hoc projects

b) Addressing the service backlog

i) Motivate subsidised public transport coverage in the GSDM with the objective of reducing the cost of travel

ii) Install public transport infrastructure such as shelters, lay-bys and inter-modal facilities

iii) Upgrade the road infrastructure and the streets between residential and business nodes, giving special attention to the Greater Tubatse Area.

c) Travel Demand Management (TDM)

i) Manage congestion through TDM measures such as signalisation, bus lanes, reversible lanes in urban areas and the upgrading of intersections
ii) Develop a non-motorised transport plan and implement projects.

d) Road safety

i) Develop a Central Communications Centre for incident management
ii) Perform road safety audits
iii) Address hazardous locations
iv) Motivate law enforcement at strategic locations
v) Conduct education and communication campaigns.

The way forward is to submit motivations for the prioritised projects in the Integrated Transport Plan (ITP) and the Integrated Development Plan (IDP). The construction and maintenance of public transport facilities and roads are in most cases labour-intensive, and are appropriate mechanisms to promote job creation.

8) FINANCIAL IMPLICATIONS

Table Ex-1 provides a summary of the total costs related to the OLS, RATPLAN, PTP and ITP, and Tables Ex-2, Ex-3, Ex-4 and Ex5 contain the following information respectively:

a) **TABLE Ex-2**: Projects related to the GSDM Operating Licensing Strategy and the financial implications
b) **TABLE Ex-3:** Projects related to the GSDM RATPLAN and the financial implications
c) **TABLE Ex-4:** Projects related to the Public Transport Plan and the financial implications
d) **TABLE Ex-5:** Projects related to the Integrated Transport Plan and the financial implications

TABLE Ex-1: SUMMARY OF TOTAL COSTS RELATED TO OLS, RATPLAN , PTPAND ITP

PLAN	ESTIMATED COSTS		
	YEAR 1	YEARS 2-5	TOTAL
OPERATING LICENSING STRATEGY (OLS)	R5 380 000	R23 370 000	R28 750 000
RATIONALISATION PLAN (RATPLAN)	R14 025 942	R83 505 660	R97 531 602
PUBLIC TRANSPORT PLAN	R23 150 000	R42 850 000	R 66,000,000
INTEGRATED TRANSPORT PLAN	R40 800 000	R879 400 000	R920 200 000
TOTAL	**R 83,355,942**	**R1,029,125,660**	**R 1,112,481,602**

Although the report provides information on the budgets for the SDM, RAL and SANRAL road related projects, the budget as indicated as part of this section excludes the SDM, SANRAL and RAL budgets for upgrading as well as maintenance of roads.

TABLE Ex-2: PROJECTS RELATED TO THE GSDM OPERATING LICENSING STRATEGY AND THE FINANCIAL IMPLICATIONS									Responsibility	Project duration
PROJECT	1	2	3	4	5	YEAR 1	YEARS 2-5	TOTAL		
OPERATING LICENSING STRATEGY PROJECTS (OLS)										
Project 1: Annual update of OLS						R0	R700 000	R700 000	**LPDORT/DM**	**4 months**
Project 2: Vehicle verification process to clear vehicles for taxi scrapping						R150 000	R0	R150 000	**LPDORT**	**3 months**
Project 3: Establishment of provincial Operating Licence Offices at District Municipality level General application process Assist with eliminating illegal operators on existing routes Grant operating licences for the recommended additional routes Grant special operating licences for transportation at funerals, functions, etc. Replacement of vehicle Colour coding of routes						R1 000 000	R 4 800 00	R5 800 000	**LPDORT**	**Ongoing**
Project 4a: Appointment of law enforcement officers dedicated to inspecting operating licences as well as rationalisation issues						R2 500 000	R12 000 000	R14 500 000	**LPDORT**	**Ongoing**
Project 4b: Special law enforcement campaigns on problem routes for the respective local municipalities (once a month)						R150 000	R750 000	R900 000	**LM & LPDORT**	**Ongoing**
Project 5: Establishment of Sekhukhune Taxi Co-operative						R150 000	R0	R150 000	**Limpopo Province Taxi Council & LPDORT**	**3 months**
Project 6: Maintenance of Sekhukhune Taxi Co-operative						R500 000	R1 500 000	R2 000 000	**Limpopo Province Taxi Council & LPDORT**	**Ongoing**
Project 7: Implementation and maintenance of route colour-coding system for taxis						R0	R700 000	R700 000	**LPDORT /DM**	**Ongoing**
Project 8: Establishment and maintenance of local transport forums.						R500 000	R1 600 000	R 2 100 000	**LPDORT /DM/LM**	**60 months**
Project 9: Maintenance of the District Transport Forum						80 000	320 000	R400 000	**DM**	**2 months**
Project 10: Development of Rank Management Agreements						R350 000	R500 000	R 850 000	**LPDORT /DM**	**3 months**
Project 11: Formalisation of the metered-taxi industry and scholar transport						R0	R500 000	R500 000	**LPDORT**	**3 months**
Total financial implications						**R5 380 000**	**R23 370 000**	**R28 750 000**		

TABLE Ex-3: PROJECTS RELATED TO THE GSDM RATPLAN AND THE FINANCIAL IMPLICATIONS										
PROJECT									**Responsibility**	**Project duration**
RATPLAN PROJECTS	**1**	**2**	**3**	**4**	**5-7**	**YEAR 1**	**YEARS 2-7**	**TOTAL**		
Implementation of Subsidised negotiated contracts						R4 033 124	R24 198 748	R28 231 872	**LPDoRT**	**Seven years**
Project-2: Implementation of mine contracts						R8 815 390	R52 892 340	R61 707 730	**LPDoRT and Mines**	**Seven years**
Project-3: Implementation of monitoring firms						R1 027 428	R6 164 572	R7 192 000	**LPDoRT**	**Three years**
Project 4: Establishment of Transport Forums						Part of OLS projects	Part of OLS projects	Part of OLS projects	**LPDoRT, GSDM and Local Municipalities**	**Per annum**
Project-5: Updating of Rationalisation Strategy						R150 000	R250 000	R400 000	**LPDoRT & SDM**	**Per annum**
Project-6: Implementation of law enforcement						See PTP Budget	Cost included in OLB programme	Cost included in OLB programme	**Greater Sekhukhune District Municipality**	**Per annum**
Total financial implications						**R14 025 942**	**R83 505 660**	**R97 531 602**		

TABLE Ex-4: PROJECTS RELATED TO THE PUBLIC TRANSPORT PLAN AND THE FINANCIAL IMPLICATIONS										
PROJECT									**Responsibility**	**Project duration**
	1	**2**	**3**	**4**	**5**	**YEAR1**	**YEARS 2-5**	**TOTAL**		
PUBLIC TRANSPORT PROJECTS (PTP)										
Project 1: Review CPTR						R300 000	R1 200 000	R 1,500,000	**LPDORT /DM**	**4 months**
Project 2: Review Public Transport Plan						R0	R400 000	R 400,000	**LPDORT /DM**	**3 months**
Project 3: Implementation of Non-motorised Transport Plan (Infrastructure)						R1 500 000	R6 000 000	R 7,500,000	**DM**	**Ongoing**
Project 4: Public Transport Facilities (Appendix B to the PTP)						R20 000 000	R30 000 000	R 50,000,000	**DM & Local Mun**	**Ongoing**
Project 5: Policy on subsidy for learners, students and the elderly						In-house	-	R 0		**6 months**
Project 6: Law enforcement campaigns						R1 000 000	R4 000 000	R 5,000,000	**LPDORT /DM**	**Ongoing**
Project 7: Address NLTTA section 31 – use of bakkies as vehicles for public passenger transport						R0	R150 000	R 150,000	**LPDORT /DM**	**18 months**
Project 8: GSDM policy on public-private partnership						R150 000	R0	R 150,000	**DM**	**2 months**
Project 9: Policy on uniform fare structures for the GSDM						R0	R200 000	R 200,000	**LPDORT**	**3 months**
Project 10: Engage with SANTACO and Provincial Taxi Councils to develop a unit rate for taxi fares						R0	R200 000	R 200,000	**LPDORT**	**3 months**
Project 11: Study innovative funding mechanisms for transportation (PLTF)						R0	R100 000	R 100,000	**LPDORT**	**3 months**
Project 12: Investigate feeder and distribution service along corridors						R100 000	R0	R 100,000	**LPDORT**	**3 months**
Project 13: Align Passenger Charter & Memorandum of Understanding with NDoT						R0	R100 000	R 100,000	**LPDORT**	**2 months**
Project 14: Marketing campaign to promote public transport (operators and DoT)						R0	R500 000	R 500,000	**LPDORT /DM/LM**	**Ongoing**
Project 15: Prepare Architectural theme for the GSDM area						R100 000	R0	R 100,000	**LPDORT /DM**	**3 months**
Total financial implications						**R23 150 000**	**R42 850 000**	**R 66,000,000**		

TABLE Ex-5: PROJECTS RELATED TO THE PUBLIC TRANSPORT PLAN AND THE FINANCIAL IMPLICATIONS									Responsibility	Project duration
PROJECT	1	2	3	4	5	YEAR 1	YEAR 2-5	TOTAL		
INTEGRATED TRANSPORT PLAN PROJECTS (ITP)										
Project-1: Review ITP						R0	R500 000	R500 000	**LPDoRT/DM**	**3 months**
Project-2: Implementation of HR audit for Roads Section of GSDM a) Recruitment Plan b) Appoint Professional Engineer as adviser c) Develop KPI for Transportation Service Delivery d) Training of Project Managers						In-house	In-house	In-house	**DM**	**Continuous**
Project 3: Update Road Master Plan and include additional issues: a) Road classification b) Traffic counts c) Visual pavement assessment d) Visual assessment of structures/Bridge assessment e) Detour routes for hazardous materials f) Road maps g) Prioritised list of road sections for upgrading and maintenance h) Customise Road Management System from RAL to SDM						R500 000	R2 000 000	R2 500 000	**DM/RAL/ LPDoRT**	**Ongoing**
Project-4: Upgrade street layout in main economic centres a) CDB route layouts for Burgersfort b) Other Local Municipalities c) Internal service road for Burgersfort						R10 000 000 R300 000 R9 000 000	R90 000 000 R40 000 000 R81 000000	R100 000 000 R40 300 000 R90 000 000	**GTLM/DM/GRANT S/ NDoT/LM**	**48 months**
Project-5: Road Signs Contract						Cost to be determined through road management system			**DM**	**6 months**
Project-6: Road Markings Contract						Cost to be determined through road management system			**DM**	**6 months**
Project-7: Standard Road Guidelines and Policies for GSDM a) Traffic Calming Policy b) Traffic Impact Study Guidelines and Policy c) PPP for Infrastructure Management Guidelines and Policy d) Advertisement on Roads Policy e) Travel Demand Management Policy f) Parking Policy g) Road Access Management Policy h) Environmental Policy for Roads and Transport						R300 000 R150 000	R200 000 R75 000 R75 000 R75 000 R75 000 R100 000	R200 000 R300 000 R150 000 R75 000 R75 000 R75 000 R75 000 R75 000 R100 000	**DM/LM/LPDORT/ SANRAL/RAL**	**48 months**
Project-8: Road safety audits to determine Hazardous Location Programme						R0	R500 000	R500 000	**LPDORT/DM/LM & private sector**	**3 months and ongoing**
Project-9: Prepare an Events Management Plan a) Burgersfort b) Marble Hall c) Groblersdal						R0	R300 000	R300 000	**DM/LM**	**6 month**
Project-10: Feasibility study on the establishment of a Disaster Management Centre a) Feasibility study b) Establish an Incident Management System c) Establish a Central Communications Centre d) Install emergency signs on R555 & R37						Needs to be co-ordinated with other Departments in the GSDM			**DM**	**24 months**
Project-11: Branding of tourism routes a) Marketing b) Signage						R0	R2 000 000	R2 000 000	**DEAT/ LPDoRT /DM**	**24 months**

TABLE Ex-5: PROJECTS RELATED TO THE PUBLIC TRANSPORT PLAN AND THE FINANCIAL IMPLICATIONS									Responsibility	Project duration
PROJECT	1	2	3	4	5	YEAR 1	YEAR 2-5	TOTAL		
INTEGRATED TRANSPORT PLAN PROJECTS (ITP)										
Project-12: Traffic Signal Management and Signal Maintenance						R0	R1 000 000	R1 000 000	**DM**	**Ongoing**
Project-13: Procure GIS software and set up database						R0	R500 000	R500 000	**DoT/DM**	**12 months and ongoing**
Project-14: Preparation of Strategies a) Overload Control Strategy b) Airport Strategy						R0 R0	R300 000 R200 000	R300 000 R200 000	**DoT/NRA/RAL DM must participate**	**4 months**
Project-15: Rail infrastructure for mining developments						Existing initiatives will determine cost			**Dept Finance & Economic Development/DoT**	**Not available**
Project-16: Upgrading of Road R37 (Dilokong Corridor, 48 km @ R7m per km)						R 10 000 000	R326 000 000	R336 000 000	**NRA & co-funding**	**36 months**
Project-17: Upgrading of Road R555 (49 km @ R7m per km)						R10 000 000	R333 000 000	R343 000 000	**RAL & co-funding**	**36 months**
Project-18: Project to identify strategic mine routes that also serve the local community and could be co-funded by MIG						R50 000	R0	R50 000	**Mining industry**	**3 months**
Project-19: Co-ordinations of Transport related projects as part of the 2010 soccer World cup						R500 000	R1 500 000	R2 000 000	**DM/LM/LPDORT/ SANRAL/RAL**	**3 months**
Total						**R40 800 000**	**R879 400 000**	**R920 200 000**		

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- LOCAL ROADS IN THE BURGERFORT CENTRAL BUSINESS AREA

Chapter

1. INTRODUCTION AND BACKGROUND

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 practices of the Apartheid planning principles, namely decentralised residential nodes with limited access and mobility to the economic activity nodes, mostly for Previously Disadvantaged Individuals (PDIs). This is the second Integrated Transport Plan for the Greater Sekhukhune District Municipality, and is part of the initial steps toward an improved transportation system.

1.1 BACKGROUND

The Greater Sekhukhune District Municipality (GSDM) appointed the Siyazi Joint Venture on 22 June 2006 to update the Integrated Transport Plan (ITP) for the Sekhukhune District Municipality (SDM), as required in terms of section 27 of the National Land Transport Transition Act, No. 22 of 2000 (NLTTA), as amended. The ITP attends to the public and private modes of transport, infrastructure, facilities and services.

The local government system in South Africa was introduced in its present form by the new Constitution of the country (Constitution of the Republic of South Africa, Act No. 108 of 1996, as amended). Chapter 7 of the Constitution deals with matters related to local government. Therefore the Sekhukhune District Municipality was also established in terms of the Constitution and also in terms of 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 local government must perform. These functions include municipal planning and municipal public transport services. Emanating from the mandate of the Constitution, the Municipal Structures Act (No. 117) of 2003 was passed and states in section 81(1)(a) that District Municipalities should prepare Integrated Development Plans (IDPs).

The Integrated Transport Plan constitutes a transport sector input into the IDP process.

For implementing the NLTTA, the Minister of Transport published the minimum requirements for the preparation of the ITP (*Government Gazette* No. R25245 dated 1 August 2003). This publication provides for the minimum requirements for the structure and contents of the ITP document.

A data collection process preceded the ITP, and the aim of that process was to gain an idea of the current situation in the GDSM in terms of transportation utility. One of the data collection processes is called the Current Public Transport Record (CPTR). The updated CPTR information was collected in 2006 and prepared by the Siyazi Joint Venture. The final updated CPTR report was completed in November 2006. This included surveys of taxi operations at the respective taxi ranks.

Subsequently, the Operating Licensing Strategy, Rationalisation Plan and Public Transport Plan for the GSDM were updated, and are components of the Integrated Transport Plan.

Further research was done into road infrastructure development plans and operational plans, such as Road Safety, Travel Demand Management, freight and commodity flow data collection and demographic data. The ITP and Land Development Objectives should be complementary.

1.2 TRANSPARENCY

To the greatest extent possible, the project was conducted transparently, open to scrutiny from all stakeholders. It was not necessary to obtain comments from the general public. Due to the consultative process, the bus and taxi industry in the respective local Municipalities are aware of the recommendations. Nevertheless, the recommendations are considered confidential until the Limpopo Department of Roads and Transport has endorsed this report.

1.3 CAPACITY BUILDING

One of the components of the project was to build technical capacity in the respective municipalities and internally for the consultant, by involving officials and staff in the project.

Limpopo Provincial, District and Local Government officials were presented with planning procedures and principles, the analysis of public transportation data and the criteria, in preparation for making recommendations on the restructuring of the public transport system. This is regarded as empowerment for officials who are not transportation engineers and planners by profession, but project managers at the respective departments. It is accepted that most of the officials involved in this project now have a better understanding of the planning and preparation of an Integrated Transport Plan (ITP), and will be able to provide stronger leadership in subsequent projects.

Detailed training as part of the compilation as well as data-capturing process of the Current Public Transport Records was also given to members of the Sekhukhune District taxi industry.

1.4 PURPOSE OF THE INTEGRATED TRANSPORT PLAN (ITP)

Section 27(2) of the NLTTA provides that the ITP must formulate the planning authority's official vision, policy and objectives, consistent with the national and provincial policies, giving due regard to any relevant integrated development planning or land development objectives, and must at least –

a) specify the changes to the planning authority's land transport policies and strategies since the previous year's five-year plan;
b) include a list that must –
    i) show, in order of precedence, the projects and project segments to be carried out in that five-year period, and the cost of each project; and
    ii) be prepared with due regard to relevant integrated development plans, and land development objectives set in terms of section 27 of the Development Facilitation Act, 1995 (Act 67 of 1995) or, where applicable, in terms of a law of the province;
c) include all modes and infrastructure, including new or amended roads and commercial developments having an impact on the land transport system, and land transport aspects of airports and harbours;
d) include the planning authority's public transport plan;
e) set out a general strategy for travel demand management;
f) set out a strategy for road and transport infrastructure provision, improvement and maintenance; and
g) set out a general strategy or plan for the movement of hazardous substances contemplated in section 2 (1) of the Hazardous Substances Act.

In addition, the requirements describe the principles for preparing an ITP as follows:

a) The integrated transport plans must pay due attention to the development of rural areas.

b) Transport for special categories of passengers must receive special attention.
c) The development of the ITP must take cognisance of the fact that rail is currently a national competency until it becomes devolved in terms of section 28 of the NLTTA, and that subsidised bus services are a provincial competency until devolved to transport authorities in terms of section 10(13)(f) of the NLTTA.
d) The ITP must be synchronised with other planning initiatives and it must indicate how it is integrated into the municipal integrated development plans, the development objectives and the municipal budgeting process.
e) The preparation of the ITP must include the consultation and participation of the interested and affected parties as required for the preparation of the IDP in terms of Chapter 4 and section 29(1)(b) of the Local Government Municipal Systems Act, 2000 (Act No 32 of 2000).

Since this is only the second ITP for the GSDM, it is not practical to transform the transportation system in a short period of time. The paradigm shift in the restructuring of the land transportation system should be an ongoing process.

1.5 SCOPE OF THE WORK

The scope of and approach to the formulation of an ITP for the GSDM are based on the requirements set out in the NLTTA, Act 22 of 2002, Part 7, section 27.

Based on the *Integrated Transport Plan: minimum requirements in terms of the NLTTA*, the ITP for the GSDM should contain at least the following chapters:

a) Chapter 1: Introduction
b) Chapter 2: Land transport vision, goals and objectives
c) Chapter 3: Land transport status quo
d) Chapter 4: Spatial framework
e) Chapter 5: Needs assessment
f) Chapter 6: Public transport proposals
g) Chapter 7: Private and freight transport proposals
h) Chapter 8: Institutional arrangements
i) Chapter 9: Plan of action and projects
j) Chapter 10: Funding
k) Chapter 11 Stakeholder consultation
l) Chapter 12: Bibliography.

1.6 STUDY AREA

The scope of the work covers the whole area of jurisdiction of the Greater Sekhukhune District Municipality. The five local municipality areas covered include the –

a) Greater Marble Hall Municipality;
b) Elias Motsoaledi Municipality;
c) Greater Tubatse Municipality;
d) Fetakgomo Municipality; and
e) Makhuduthamaga Municipality.

None of the above-mentioned local municipalities has recently prepared or will prepare a CPTR for its municipal area. Figure 1.6.1 indicates the location of the respective municipalities in the Greater Sekhukhune District Municipality.

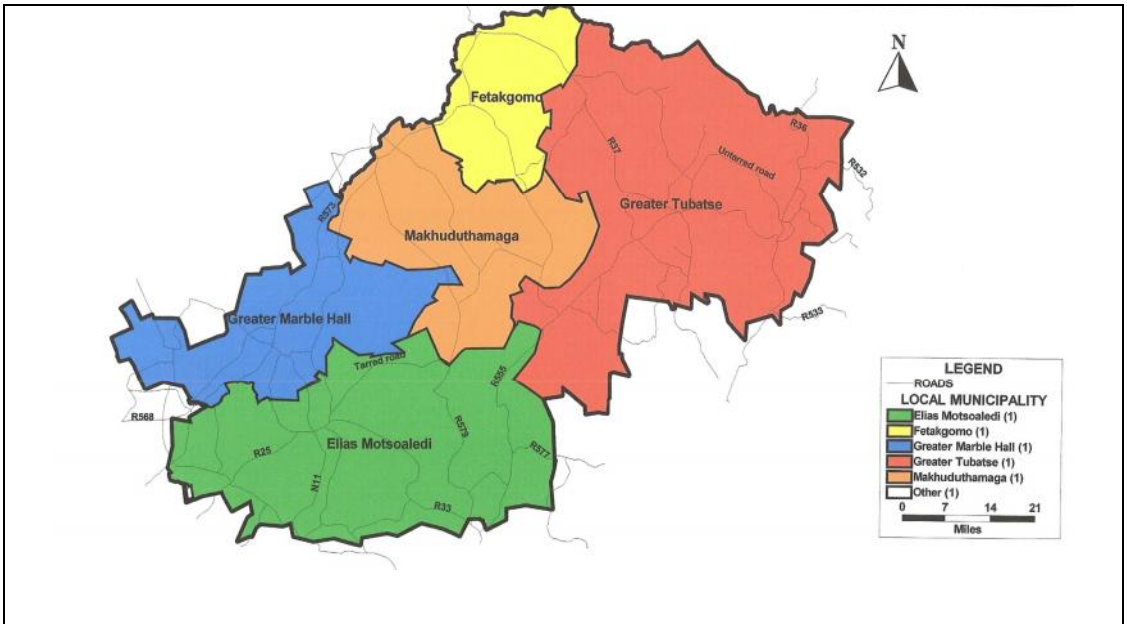

FIGURE 1.6.1: LOCATION OF THE RESPECTIVE LOCAL MUNICIPALITIES IN THE GREATER SEKHUKHUNE DISTRICT MUNICIPAL AREA

The GSDM was previously a cross-border district municipality with certain areas inside the borders of the Limpopo and Mpumalanga Provinces.

The GSDM is mainly rural: 95% of the total population resides in the rural areas and only 5% in the urban areas. Most communities are sparsely populated in low-density villages. The relatively densely populated semi-urban areas are Groblersdal and Marble Hall, Burgersfort, Jane Furse, Ohrigstad, Steelpoort and Driekop. There are no Transport Authorities or metropolitan municipalities in the GSDM.

There has been gradual economic development in the GSDM area, specifically in agriculture, mining and tourism. Mining is significant in the Greater Tubatse LM along the Dilokong Corridor (Road R37) as well as Road R555. The Greater Tubatse Municipality is probably one of the fastest-growing towns in South Africa owing to the mining activities in the area.

This strategy document is prepared for the **Greater Sekhukhune District Municipality (GSDM)** and needs to be published in the *Provincial Gazette*. The ITP is relevant for the period from June 2007 to June 2008, and the five-year implementation plan and budget will be reviewed annually.

1.7 DELIVERABLES

The specific deliverable for the project is a report on the ITP for the Sekhukhune District Municipality, with recommendations on the following land transport strategies:

a) Improvements to public transport
b) Improvements to road infrastructure and operations
c) Freight
d) Modal integration
e) Travel Demand Management
f) Transportation of hazardous materials.

The list of definitions and maps are attached as appendices.

1.8 IMPLEMENTATION OF THE INTEGRATED TRANSPORT PLAN (ITP)

This is the second Integrated Transport Plan (ITP) for the GSDM. It is accepted that the ITP still has to be refined and expanded in the course of time, so that it will eventually satisfy both legislative and practical requirements. An incremental and flexible approach is adopted during the development of the ITP.

The results and recommendations are not prescriptive, and this document should be considered as a guideline and applied with discretion.

Chapter

2. LAND TRANSPORT VISION, GOALS AND OBJECTIVES

Chapter 2 elaborates on the following:

a) White Paper on National Transport Policy
b) National Land Transport Transition Act, Act 22 of 2000
c) Moving South Africa – status quo of the public transport system
d) National Land Transport Strategic Framework 2006-2011
e) Limpopo Province Land Transport Framework
f) Limpopo Integrated Rural Development Framework
g) Strategic Framework – Accessibility to Transport Strategy
h) Sekhukhune IDP 2005/2006 Review
i) GSDM Road Master Plan 2006
j) Limpopo in Motion
k) Municipal Structures Act (117/1998) – powers and functions of municipalities
l) Adoption of policy.

2.1 WHITE PAPER ON NATIONAL TRANSPORT POLICY

The vision for RSA transport is of a system, which will –

a) 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 while being environmentally and economically sustainable.

b) The SA transportation system is inadequate to meet the basic needs for accessibility to work, health care, schools, shops, etc. and too many developing rural and urban areas. In order to meet these basic needs for accessibility, the transport services offered must be affordable for the user. The transport system will aim to minimise the constraints on the mobility of passengers and goods, maximising speed and service, while allowing customers a 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 online information to the user so that informed choices can be made. It also requires infrastructure tailored to the needs of the transport operators and their customers.

c) Government will seek a reduction in the cost to the State of the subsidisation of transport operations, based on developing a more effective and efficient public transport system.

2.1.1 Strategic objectives

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

2.1.2 Customer-based objectives

a) To ensure that passenger transport services meet the needs of users, including commuters, pensioners, the elderly, scholars, the disabled, tourists and long-distance passengers.
b) Walking distance to be less than 1 km in urban areas. Commuters should be spending less than 10% of their disposable income on transport.
c) To replace operator permits with permissions issued in terms of approved transport plans.

2.2 NATIONAL LAND TRANSPORT TRANSITION ACT, ACT 22 OF 2000

Section 4 (1) (a) (iv). The following principles apply to the determination, formulation, development and application of land transport policy – they 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 system's cost of travel, and this decision should be informed by an appropriate assessment of the impact on the customer and anticipated customers' 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-ordinated and continuous process. Land transport planning must be integrated with land development processes. Land transport planning must focus on the most effective and economical way of moving people. High priority should be given to public transport through, *inter alia*, developing high-utilisation public transport corridors, which are connected by development nodes within the corridors. Accessibility and utilisation of public transport services, facilities and infrastructure must be enhanced. The adverse impact of transport on the environment must be minimised. 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 portrayed in Figure 2.2.1.

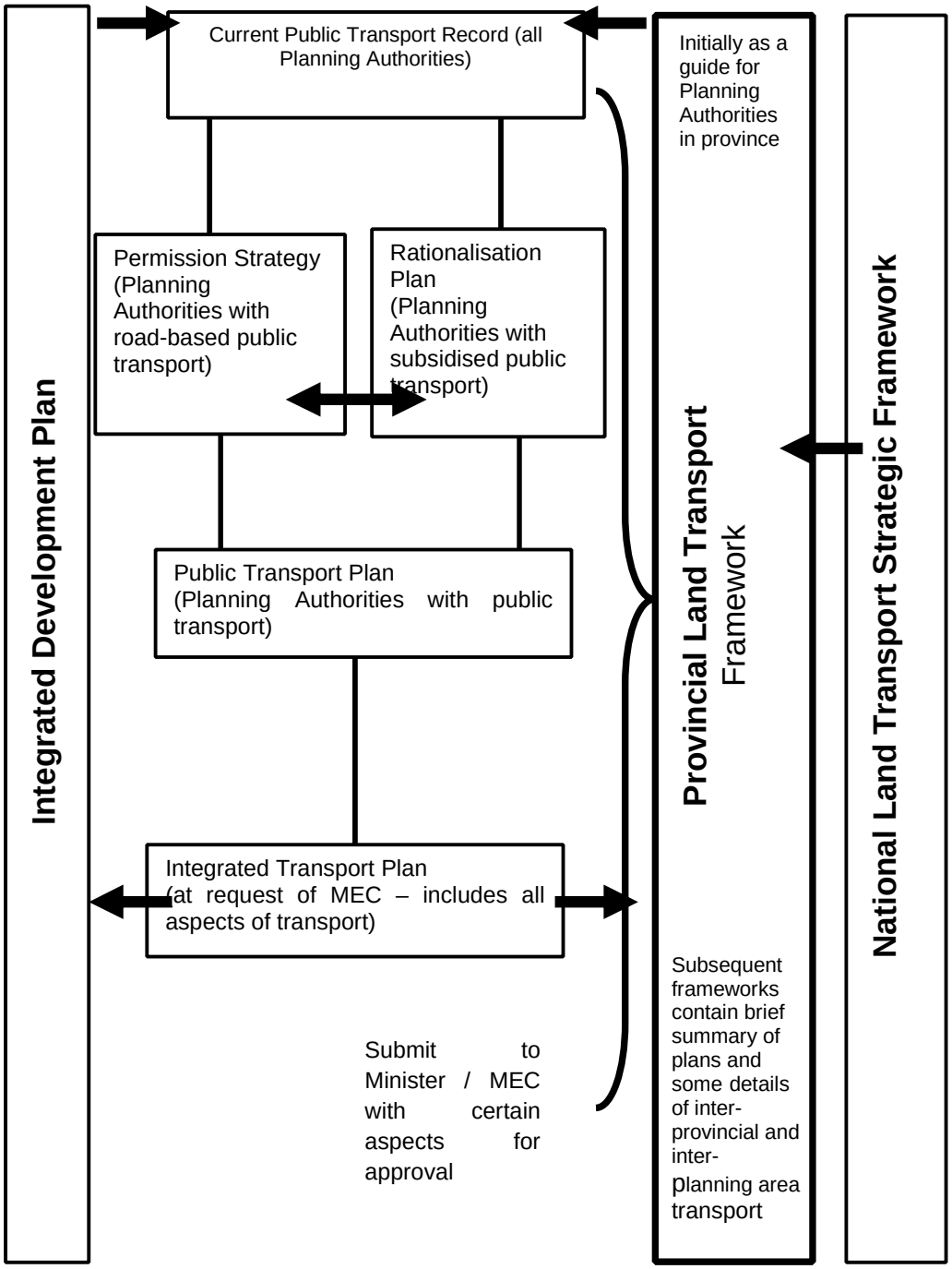

FIGURE 2.1.1: HIERARCHY OF TRANSPORT PLANS

2.2.1 Section 27 - Integrated Transport Plans

The Integrated Transport Plan must formulate the planning authority's official vision, policy and objectives, consistent with national and provincial policies, due regard being had to any relevant integrated development planning or land development objectives, and must at least –

a) specify the changes to the planning authority's land transport policies and strategies since the previous year's five-year plan;
b) include a list that must –

   - show, in order of precedence, the projects and project segments to be carried out in that five-year period, and the cost of each project; and
   - be prepared with due regard to relevant integrated development plans, and land development objectives set in terms of section 27 of the Development Facilitation Act, 1995 (Act No. 67 of 1995) or, where applicable, in terms of a law of the province;

c) include all modes and infrastructure, including new or amended roads and commercial developments having an impact on the land transport system, and land transport aspects of airports and harbours;
d) include the planning authority's detailed budget, including funding sources, with regard to land transport for the relevant financial year in the format prescribed by the MEC;
e) include the planning authority's public transport plan;
f) set out a general strategy for travel demand management;
g) set out a road and transport infrastructure provision, improvement and maintenance strategy; and
h) set out a general strategy or plan for the movement of hazardous substances contemplated in section 2(1) of the Hazardous Substances Act, 1973 (Act No. 15 of 1973), by road along designated routes, in accordance with the strategy or plan in the provincial transport framework contemplated in section 22(3)(1).

An Integrated Transport Plan must be in accordance with requirements and in the manner and form as the Minister may prescribe in consultation with the MECs, but the MEC may prescribe the content of integrated transport plans in addition to such requirements.

The plan must by the date so determined be submitted to the MEC for approval, which approval must relate only to the matters mentioned in section 24(4)(b).

A person may not transport hazardous substances contemplated in section 2(1) of the Hazardous Substances Act, 1973 (Act No. 15 of 1973), in the area of a planning authority, except on a route determined under paragraph (h) of subsection (2), where such a route has been determined and published under section 29(1), and any person who does so is guilty of an offence.

In addition, the requirements describe the principles for preparing an ITP as follows:

a) The plans must pay due attention to the development of rural areas
b) Transport for special categories of passengers must receive special attention
c) The development of the ITP must take cognisance of the fact that rail is currently a national competency until it becomes devolved in terms of section 28 of the NLTTA, and subsidised bus services are a provincial competency until devolved to transport authorities in terms of section 10(13)(f) of the NLTTA
d) The ITP must be synchronised with other planning initiatives and it must indicate how it is integrated into the municipal integrated development plans, the development objective process and the municipal budgeting process

e) The preparation of the ITP must include the consultation and participation of interested and affected parties required for the preparation of the IDP in terms of Chapter 4 and section 29(1)(b) of the Local Government: Municipal Systems Act, 2000 (Act No 32 of 2000).

2.3 MOVING SOUTH AFRICA – *STATUS QUO OF THE PUBLIC TRANSPORT SYSTEM*

The study identified six market segments and concluded that in the short to medium term, the prioritised customers should be the poor and very poor rural and urban passengers, who are also considered as "stranded customers", and the "survival customers" who currently cannot afford transport or are captive to the cheapest mode of public transport.

The current public transport system does not meet customer needs in terms of travel time, level of choice and cost. Almost 50% of public transport users are dissatisfied with travel times, and only 10% of commuters have a choice of three modes. The system is of limited use to scholars, given its orientation to the needs of commuters and the limited level of off-peak services.

Given the low level of road adequacy in most rural communities, *Moving South Africa* expected to find a high degree of customer dissatisfaction, especially with travel times. However, in the customer research process, rural passengers uniformly declared they had a high level of satisfaction with travel times, regardless of the purpose of the trip. They gave these opinions despite travelling 40-45 minutes each way for work.

Overall, then, a picture of relatively undemanding rural transport customers emerges, where people feel reasonably satisfied, even though they have service levels far below the level available to urban public transport passengers. This may relate to the fact that many rural customers have not been exposed to better levels of service in urban areas, and to the fact that their sense of the opportunity cost of their time is generally lower than that of their urban counterparts.

South African public transport has a relatively high cost compared to international benchmarks: services cost users 32% more than world averages, primarily because of the distances they travel. The results are higher system costs, deteriorating infrastructure, higher user costs and poorer service for users who are captive to the system. More generally, ineffective public transport severely restricts labour mobility, impinges on worker productivity and impedes social integration.

2.4 NATIONAL LAND TRANSPORT STRATEGIC FRAMEWORK 2006-2011

2.4.1 Taxi mode

Taxi operators must be encouraged (and assisted) to qualify as contractors so as to participate in the subsidised service contracts that will be open to all road-based public transport operators, subject to the requirements of local transport plans.

2.4.2 Bus mode

Provincial and municipal bus operators must be co-operative and all subsidised services must be provided in terms of tendered contracts that will be open to all road-based public transport operators, subject to the specifications of local transport plans. Some parastatal and municipal bus services will achieve tendered-contract status via the bridging mechanism of negotiated service contracts.

All new buses in subsidised contracts must comply with Class 1 improvements (for example, step height, grab rails, signage and driver training). Where wheelchair-accessible buses are included in bus contracts, they will preferably be deployed first in "strategic accessible corridors" to allow for the co-ordination of infrastructure upgrades.

2.4.3 Institutional structures

The co-ordination of institutional responsibilities relating to land transport must be promoted. The effective implementation of the Provincial Appeal Body (where appropriate) must be ensured, and the efficient operation of the Provincial Operating Licence Board and the Provincial Transport Registrar must be supported.

2.5 LIMPOPO PROVINCE LAND TRANSPORT FRAMEWORK (2006)

2.5.1 Transportation Vision Statement for the Limpopo Province

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

2.5.2 Transportation Mission Statement for the Limpopo Province

The transportation mission is to develop, co-ordinate, implement and manage an integrated, multimodal transport system by –

a) effectively and optimally utilising and developing the available resources;
b) encouraging and providing a safe transport environment for all users;
c) planning and facilitating transport infrastructure provisioning and operations;
d) being transparent, accountable and responsible.

2.5.3 Transportation goals for the Limpopo Province

The transportation goals for the Province are as follows:

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

2.5.4 Objectives for transportation in the Limpopo Province

The relevant transportation objectives are as follows:

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

2.5.5 Policy principles for transportation in the Limpopo Province

a) Social needs and priorities – the social needs of disadvantaged communities, especially those in rural and other under-developed areas, should be emphasised.
b) 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 a need to ensure wider participation by disadvantaged communities in the provision and maintenance of the transport system.
c) Economic – the transport sector should be aimed at increased employment of the workforce.
d) Financial framework – the extent of subsidisation for public transportation and funding for infrastructure, and the priority and funding balance between them.
e) Financial framework – the affordability problem for the passengers in terms of fare levels and for the Government in terms of budget requirements.
f) Land transport service provision – subsidised services or any transport service for which public transport permits are required, should only be provided within the framework of an approved transport plan.

2.6 LIMPOPO PROVINCE INTEGRATED RURAL DEVELOPMENT FRAMEWORK

One of the mechanisms for achieving sustainable modal 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 dispersed throughout these areas. They include the large settlements in the former homelands created by apartheid removals, which depend for their survival on a migratory labour system and remittances. They are characterised by high levels of poverty and economic underdevelopment. These areas should be the immediate focus of rural development.

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

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

2.6.1 Strategies based on policy

a) Provide effective financial and economic support to public transport
b) Promote the most cost-effective mode of transport
c) Take measures to promote shorter travelling distances
d) Focus on prioritised economic activity nodes and transport nodes in the transport plans
e) Identify minimum service levels for public transport services which serve economic activity nodes.
f) Develop a holistic and integrated funding strategy focusing on maximising the transport budget from the Provincial allocation, and by achieving efficiency gains through better utilisation of the available funds
g) Explore the possibility of additional sources of funding.

2.6.2 Projects based on the strategy

a) Development of PTP, RATPLAN, PTP and ITP
b) Feasibility Study for a rail system along the Dilokong Corridor
c) Determine the routes where taxis play a more prominent role

d) Implement the recommendations of the Public Transport Plan (PTP), Operating Licensing Strategy and Rationalisation Plan
e) Determine the transport needs of learners, the elderly and persons with disabilities
f) Investigate incentives for improved levels of efficiency and effectiveness of public transport services
g) Investigate alternative funding options – the role of Public-Private Partnerships (PPP).
h) Develop Key Performance Indicators to measure the performance of service providers

2.7 STRATEGIC FRAMEWORK – ACCESSIBLE TRANSPORT STRATEGY

2.7.1 The strategic objectives of the NLTSF are as follows:

a) To hold ongoing consultation with the disability sector.
b) To empower the implementing authorities to improve accessibility across all modes through the integrated planning process.
c) To initiate the "reasonable accommodation" of persons with disabilities by prioritising high-impact, lower-cost action.
d) To launch pilot projects in rural areas to test solutions and develop a rural accessibility strategy.

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

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

Transport plays a significant role in the lives of ordinary citizens as a mechanism for accessing socio-economic opportunities. Accessible transport is a basic need and it is constitutionally required to promote the rights of persons with disabilities. The implementation of the short-term strategy shall be practical and shall demonstrate accessible, affordable transport and connectivity to multimodalism.

The objective of the strategy is to improve access to transport for persons with disabilities, in a manner that promotes integration into the mainstream of public transport. In addition, it is to promote barrier-free access to all modes of public transport and targets key access roads to ensure the mobility of all elements of the travel chain.

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

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

2.7.2 Accessible Transport Strategy: action areas

Implement low-cost accessible features for ambulatory passengers. This will affect the exterior, entrance and interior designs of the three modes of public transport. Such accessible features are to be effected by reviewing the subsidy contract/tendering system and using it as leverage. This will be the case particularly with the bus and rail transport.

Metropolitan municipalities shall facilitate the identification of accessible transport networks as well as corridors and link them to online infrastructure, in accordance with the guiding

principles/recommendations of the NLTSF – towards achieving "reasonable accommodation", as part of their transport planning processes. The same applies 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, the existing vehicles already in operation will be retrofitted with Class 1 improvements to provide the required level of accessibility in the corridor.

Safety features have to be introduced when existing vehicles are redesigned and refurbished. These safety features refer to the additional ones for use by passengers with disabilities. All land transport operators shall make provision for suitable storage facilities for both long- and short-distance travel passengers to store their supportive devices (such as crutches, walking sticks, wheelchairs) on rail coaches, buses and taxis, in support of inter-connectivity in the travel chain.

2.8 GREATER SEKHUKHUNE DISTRICT MUNICIPALITY IDP 2005/2006 REVIEW

2.8.1 Vision of the GSDM

To be a custodian of integrated sustainable service delivery in partnership with local municipalities and communities.

2.8.2 Mission of the GSDM

The mission of the GSDM is to provide creative development solutions through the following:

a) A co-ordinated framework for District development planning
b) Fostering active community involvement
c) Creating a learning organisation conducive to the development of human capital
d) Enhancing sound inter-governmental relations through good governance
e) Equitable distribution of resources.

2.8.3 Existing District policy

More details are provided in Chapter 4.

2.9 GSDM ROAD MASTER PLAN

The GSDM appointed Africon Consulting Engineers Inc. in February 2006 to develop a Road Master Plan for the GSDM and to investigate alternative service-delivery mechanisms.

The project entailed conducting various surveys, such as pavement condition surveys, stormwater structures and road-sign assessment as well as traffic counts. The road network needs were determined and projects were prioritised by taking a life-cycle approach. The procedures of section 78(1) in the Municipal Systems Act (Act 22 of 2000) were followed to assess internal service provision.

The document contains the following:

a) Status quo assessment of service delivery

   i) Introduction
   ii) Legal and Policy Framework
   iii) Services to be rendered by the GSDM
   iv) Organisational structure and staffing
   v) Condition and quality of service assessment
   vi) Financial performance assessment
   vii) Assessment of physical assets
   viii) Contractual arrangement assessments
   ix) Human resource capability
   x) Cost of service assessment

b) Status quo in terms of road infrastructure

   i) Introduction
   ii) Road classification
   iii) Road ownership
   iv) Road maps / GIS
   v) Detour roads for hazardous materials
   vi) Pavement assessment
   vii) Stormwater structure assessment
   viii) Road signs assessment

2.10 LIMPOPO IN MOTION

2.10.1 Vision statement

The vision statement for transport in the Limpopo Province as stated in the *Limpopo in Motion* document, is to provide:

"AN INTEGRATED, SAFE, RELIABLE, EFFICIENT AND AFFORDABLE MULTIMODAL TRANSPORT SYSTEM THAT WOULD ENABLE THE OPTIMUM CREATION OF TIME AND PLACE UTILITY THROUGH MOBILITY"

The vision statement of transport as stated in the National White Paper for transport, is to –

"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"

2.10.2 Policy goals

Transport in the Limpopo Province, as stated in the *Limpopo in Motion* document, has the following goals:

a) To develop, co-ordinate, implement and manage an integrated, multimodal transport system
b) To support the process of democratisation, reconstruction and development in the province
c) To act as a catalyst for social upliftment and economic growth

d) To ensure that the system is balanced, equitable and non-discriminatory
e) To ensure that the system is also reliable, effective, efficient, safe, accessible, affordable and environmentally friendly.

2.10.3 Objectives

The objectives of transport in the Limpopo Province as stated in the *Limpopo in Motion* document are as follows:

a) To address issues and priorities for transport within the framework of social and economic reconstruction
b) To provide an institutional framework within which transport can be directed optimally
c) To provide a dependable, accountable, informative and transparent financial and administration system
d) To manage transport efficiently and effectively
e) To ensure regulation and control
f) To ensure that sufficient, timely and effective traffic control and safety are maintained.

Some of the national strategic objectives for land transport in terms of public transport as stated in the *National Land Transport Strategic Framework 2006 to 2011* are as follows:

a) To promote public transport over private transport
b) To develop transport plans in all three spheres of government
c) To promote transport authorities in selected municipalities
d) To provide efficient and effective regulatory services through the provincial licensing board
e) To have safer public transport services for passengers
f) To upgrade the selected public transport infrastructure
g) To introduce appropriate information systems
h) To formalise and regulate the taxi industry, and recapitalise the minibus-taxi fleet
i) To provide all subsidised road-based passenger transport services in terms of tendered or negotiated contracts
j) To introduce effective performance regulation for rail, and to clarify ownership and competition issues as they affect the three spheres of government.

2.11 MUNICIPAL STRUCTURES ACT (117/1998) – POWERS AND FUNCTIONS OF MUNICIPALITIES

2.11.1 Chapter 5 Section 83 – general

A District Municipality must seek to achieve the integrated, sustainable and equitable social and economic development of its area as a whole by –

a) ensuring integrated development planning for the District as a whole:
b) promoting bulk infrastructure development and services for the District as a whole;
c) building the capacity of the local municipalities in its area to perform their functions and exercise their powers where such capacity is lacking; and
d) promoting the equitable distribution of resources between the local municipalities in its area to ensure appropriate levels of municipal services within the area.

2.11.2 Chapter 5 section 84 – Division of functions and powers between District and Local Municipalities

1. A District Municipality has the following functions and powers:

    a) Integrated development planning for the District Municipality as a whole, including a framework for Integrated Development Plans for the Local Municipalities within the area of the District Municipality, taking into account the Integrated Development Plans of those Local Municipalities.
    b) Bulk supply of water that affects a significant proportion of municipalities in the District.
    c) Bulk supply of electricity that affects a significant proportion of municipalities in the District.
    d) Bulk sewage purification works and main sewage disposal that affect a significant proportion of Municipalities in the District.
    e) Solid waste disposal sites serving the area of the District Municipality as a whole.
    f) Municipal roads, which form an integral part of a road transport system for the area of the District Municipality as a whole.
    g) Regulation of passenger transport services.
    h) Municipal airports serving the area of the District Municipality as a whole.
    i) Municipal health services serving the area of the District Municipality as a whole.
    j) Fire-fighting services serving the area of the District Municipality as a whole.
    k) The establishment, conduct and control of fresh produce markets and abattoirs serving the area of the District Municipality as a whole.
    l) The establishment, conduct and control of cemeteries and crematoria serving the District as a whole.
    m) Promotion of local tourism for the area of the District Municipality.
    n) Municipal public works relating to any of the above functions or any other functions assigned to the District Municipality.
    o) The receipt, allocation and, if applicable, the distribution of grants made to the District Municipality.
    p) The imposition and collection of tax levies and duties in relation to the above functions or as may be assigned to the District Municipality in terms of national legislation.

2.12 ADOPTION OF POLICY

In addition to the Provincial Land Transport Framework in the *Limpopo in Motion* document, the policy framework compiled in this chapter provides particular guidance for the provision of an Integrated Transport Plan (ITP).

The GSDM Transport Forum and the Limpopo Department of Roads and Transport are the key stakeholders for the endorsement of the policy framework for the Integrated Transport Plan (ITP).

Chapter

3. LAND TRANSPORT STATUS QUO

This chapter contains the following information:

a) Description and results of the GSDM CPTR
b) Description and the use of major public transport corridors and facilities in the GSDM
c) Whether there are public transport services operating in parallel to one another and competing for the same market
d) Any significant regulatory issues and impediments.
e) Public transport services operating on parallel routes
f) Summary of the RATPLAN
g) Summary of the Operating Licensing Strategy
h) Summary of the RATPLAN
i) Public Transport Plan
j) Road network
k) Major freight and private mode corridors
l) Tourism routes
m) Heavy vehicle overload control
n) Major public transport corridors in the GSDM
o) Tourism routes
p) Waste management and transportation
q) Through traffic and congestion
r) Traffic counts
s) Pavement condition of roads
t) Road safety.

The sections below elaborate on this itemised information.

3.1 DESCRIPTION AND ANALYSIS OF THE RESULTS OF THE CPTR

This section provides a summary of the information collected as part of the GSDM-CPTR. The summarised information will allow all stakeholders to gain an overview of what is involved in public transport in the Greater Sekhukhune District Municipality. This section contains specific information about the following:

a) Facilities
b) Capacity utilisation of ranks
c) Routes
d) Route utilisation for taxis
e) Waiting times for taxis
f) Operational vehicles
g) Comparison of information from the Operating Licence Board with information from the Registrar of Taxis
h) Comparison of information from the Operating Licence Board with the CPTR information
i) Comparison of information from the Board and Registrar of Taxis with the CPTR information.

The subsections below elaborate on the above-mentioned information.

3.1.1 Facilities

The facility surveys were conducted for the following types of facilities:

a) Taxi ranks
b) Bus termini.

The findings of the surveys of the above-mentioned facilities are given in summarised form in the subsections below. Appendix B of the 2006-GSDM CPTR contains more detailed information about the public transport facilities.

3.1.1.1 Taxi ranks

The findings from the facility surveys conducted for the Greater Sekhukhune District Municipality are presented in Table 3.1.1.1.1 and show that the GSDM has a total of 82 taxi facilities. Table 3.1.1.1 furthermore shows the number of taxi facilities situated in the different local municipality areas, the percentage of formal taxi facilities and the percentage of taxi facilities per municipal area in relation to the total number of taxi facilities in the Greater Sekhukhune District Municipality. Table 3.1.1.1.1 indicates that nearly half of the ranks in the GSDM are in the Greater Tubatse LM, followed by Makhuduthamaga with 20%.

TABLE 3.1.1.1.1: TAXI FACILITY STATISTICS FOR THE GSDM AREA

Local municipality	Number of taxi facilities	% Formal	% in relation to GSDM
Elias Motsoaledi	10	50%	12%
Fetakgomo	8	25%	10%
Greater Marble Hall	11	9%	13%
Greater Tubatse	37	19%	45%
Makhuduthamaga	16	38%	20%
Total for GSDM	**82**	**100%**	**100%**

In terms of taxi facilities in the Sekhukhune District Municipal area, the following information is also relevant:

a) 75% of taxi facilities are on-street facilities
b) 74% of taxi facilities are informal facilities
c) 12% of taxi facilities have lighting
d) 19% of taxi facilities are paved
e) 2% of taxi facilities have public telephones
f) 11% of taxi facilities have offices
g) 17% of taxi facilities have shelters
h) 15% of taxi facilities have ablution blocks.

Table B-1 of Appendix B of the 2006 GSDM-CPTR report contains more information about taxi facilities.

3.1.1.2 Bus termini

Bus facilities in the Sekhukhune District Municipality are limited to three main bus termini and then the many loading and off-loading bus stops through the district. The bus termini are in general not well provided with facilities. See Table B-2 of the 2006 GSDM-CPTR for more details about the facilities provided at bus termini.

3.1.1.3 Train stations

There is currently no rail commuter service in the GSDM area.

3.1.1.4 Metered taxis

There are a limited number of metered taxis operating in the GSDM area. Metered taxis were observed in the following areas:

a) Greater Tubatse
b) A large number of 4+1 taxis in Jane Furse.

3.1.2 Capacity utilisation of ranks

It is extremely important to note that a large number of facilities in the Sekhukhune District Municipality are informal facilities. In practice, this implies that it is virtually impossible to determine the extent of rank utilisation. The capacity of informal facilities was indicated as 1 in order to indicate the burden that an informal facility places on the public transport system. Table C-1 of the GSDM-CPTR indicates the average capacity utilisation of taxi ranks respectively for the –

a) AM peak between 06:00 and 10:00;
b) MID peak between 10:00 and 14:00;
c) PM peak between 14:00 and 18:00.

More detailed information per 15-minute interval is available on the GSDM-CPTR database.

3.1.3 Routes

As part of the process of capturing the route information, it was possible to determine that the verified routes provided by the Limpopo Province Department of Transport have not been 100% accurately described.

Route surveys were conducted for the following types of modes:

a) Taxi
b) Bus
c) Train
d) Light delivery vehicles.

These modes are discussed in more detail in the subsequent subsections of this report.

3.1.3.1 Taxi routes

Based on the surveys conducted for the 2006 GSDM-CPTR, it is crucial to note that socio-economic factors in the province make it completely uneconomical to restrict a taxi operator to one particular road in order to fulfil his commitments as a service provider.

The typical socio-economic factors influencing the operational methods of the taxi industry are as follows:

a) The widely spread distribution of villages
b) The low level of income in villages

c) The low level of employment in the Limpopo Province, with specific reference to villages.

The taxi industry implemented a rotation system to ensure that all operators could earn a living. However, it is important that taxi operators should only be permitted to operate between an A and a B point, although it should be possible for them to operate on different roads to maintain services on the route.

The findings of the route surveys that were conducted, were that 190 taxi routes were used in the Greater Sekhukhune District Municipal area, but the outward-bound and inward-bound routes were separately described. Table 3.1.3.1.1 indicates that 43% of the routes were in the Greater Tubatse Local Municipality, followed by 22% of the routes in the Makhuduthamaga LM. Table 3.1.3.1.1 gives a more detailed breakdown of the routes per local municipality.

TABLE 3.1.3.1.1: DISTRIBUTION OF TAXI ROUTES PER LOCAL MUNICIPALITY IN THE GREATER SEKHUKHUNE DISTRICT MUNICIPALITY (GSDM)

Local municipality	Number of routes	% in relation to GSDM
Elias Motsoaledi	28	15%
Fetakgomo	6	3%
Greater Marble Hall	32	17%
Greater Tubatse	82	43%
Makhuduthamaga	42	22%
Total SDM	**190**	**100**

Table D1-1 of Appendix D-1 of the 2006 GSDM-CPTR report contains a summary of the taxi routes in the GSDM, indicating the following:

a) Route number
b) Association
c) Point A
d) Point B
e) Local municipality.

More detailed information is available as part of the SDM-CPTR database.

3.1.3.2 Bus routes

Information about routes was more easily available as the bus industry is formalised. The information about routes for subsidised services was quite accurate.

Based on the information obtained about bus routes, there are 28 subsidised bus routes in the Sekhukhune District Municipality. Table 3.1.3.2.1 gives a more detailed breakdown of the bus routes per local municipality in the GSDM.

TABLE 3.1.3.2.1: DISTRIBUTION OF SUBSIDISED BUS ROUTES PER LOCAL MUNICIPALITY IN THE GREATER SEKHUKHUNE DISTRICT MUNICIPALITY		
Local municipality	**Number of routes**	**% in relation with GSDM**
Motsoaledi	16	57%
Greater Marble Hall	12	23%
Total GSDM	**28**	**100**

Table D2-1 of Appendix D of the 2006 GSDM-CPTR report contains a list of bus routes in the GSDM, indicating the following:

a) Route number
b) Operator
c) Point A
d) Point B
e) Local municipality
f) Fares.

More detailed information is available as part of the 2006 GSDM-CPTR database with specific reference to the bus timetables and fare structures.

3.1.3.3 Train routes

At present there is no rail commuter service in the GSDM area. The information about trains was obtained from the draft report*: Feasibility study on rail development in the Limpopo Province, August 2006*.

3.1.3.4 Light delivery vehicles

Table 3.1.3.4.1 indicates a list of routes that are served by light delivery vehicles in the GSDM area.

TABLE 3.1.3.4.1: LIST OF ROUTES THAT ARE SERVED BY LIGHT DELIVERY VEHICLES IN THE GSDM AREA	
Origin	**Destination**
Marishane	Mapurunyane
Masemola	Sezolea
Mphanana Cross	Mphanana
Ga Masha	Maseven
Leporogong	Kutullo
Monsterlus Koöperasie	Kgaphamadi
Sephaku	Sterkfontein
Luckan	Legolaneng
Luckan	Sterkfontein
Keerom	Mablogoom

3.1.4 Route utilisation for taxis

In order to conduct the route utilisation survey, the following figures from the route utilisation data were calculated for a specific route and for a specific time interval:

a) Number of passengers
b) Number of seats
c) Percentage utilisation of seats

d) Number of trips
e) Average occupation per vehicle
f) Unique number of taxi trips
g) Average number of trips per taxi.

Tables E-1 and E-2 of Appendix E of the 2006 GSDM-CPTR report respectively provide information about the above-mentioned route utilisation for the following peaks for all the main routes captured:

a) AM peak from 06:00 to 09:00
b) PM peak from 15:00 to 18:00.

Table 3.1.4.1 shows the average number of trips per taxi for each municipality in the GSDM for the AM and PM peaks respectively.

TABLE 3.1.4.1: AVERAGE NUMBER OF TAXI TRIPS PER TAXI IN THE GREATER SEKHUKHUNE DISTRICT MUNICIPALITY BY LOCAL MUNICIPALITY

Local municipality	AM PEAK (06:00 to 09:00)	PM PEAK (15:00 to 18:00)
Elias Motsoaledi	1,41	1,26
Fetakgomo	1,12	1,0
Greater Marble Hall	1,36	1,19
Greater Tubatse	1,40	1,23
Makhuduthamaga	1,32	1,25
Average for district	**1,36**	**1,23**

The summarised information in Tables E-1 and E-2 of the 2006 GSDM-CPTR report show the following:

a) During the AM peak between 06:00 and 09:00, a total of 18 575 passengers are transported in the GSDM area per day.
b) During the PM peak between 15:00 and 18:00, a total of 11 156 passengers are transported in the GSDM area.
c) Tables 3.1.4.2 and 3.1.4.3 respectively indicate information related to the 10 routes, with the most trips per vehicle during the morning peak as well as in the afternoon peak.
d) The economic viability for a high percentage of taxis was very low. This was the case for the number of trips per taxi for most of the routes.

To conclude, it is possible to determine the route utilisation for any time period by means of the database, and therefore far more detailed information is available as part of the database.

A copy of the route census conducted for buses is shown in Appendix E of the GSDM-CPTR report.

TABLE 3.1.4.2: SUMMARY OF TEN TAXI ROUTES WITH THE MOST TRIPS PER TAXI (AM peak between 06:00 and 09:00)										
Main route	**Description of main route**	**Survey period (days)**	**No. of passengers during period**	**No. of passengers per peak period**	**No. of seats**	**% of seats used**	**No. of trips**	**Average occupation per vehicle**	**Unique taxi trips**	**Average No. of trips per taxi**
L-R0042F-S	DRESDEN to BURGERSFORT	1	77	77	150	51	11	7,00	3	03,67
TEMP-43F-S	SEVEN STAD to MARBLE HALL	1	242	242	281	86	19	12,70	6	03,17
L-R0001F-S	PENGE to BURGERSFORT	1	243	243	304	80	21	11,60	7	03,00
L-R0007F-S	ALVERTON to BURGERSFORT	1	992	992	994	100	68	14,60	23	02,96
L-R0030F-S	MANOKE to BURGERSFORT	1	511	511	1 082	47	99	5,20	35	02,83
TEMP-34R-S	GROBLERSDAL to JOHANNESBURG	6	120	20	120	100	8	15,00	3	02,67
L-R0045F-S	TAUNG to BURGERSFORT	1	224	224	384	58	29	7,70	11	02,64
TEMP-55-S	MAMPANE to PRETORIA	1	457	457	758	60	52	8,80	20	02,60
L-R0046R-S	BURGERSFORT to GA-MAKOFANE	6	105	18	105	100	7	15,00	3	02,33
TEMP-42R-S	GROBLERSDAL to MIDDELBURG	6	102	17	105	97	7	14,60	3	02,33

TABLE 3.1.4.3: SUMMARY OF TEN TAXI ROUTES WITH THE MOST TRIPS PER TAXI (PM peak between 15:00 and 18:00)										
Main route	**Description of main route**	**Survey period (days)**	**No. of passengers**	**No. of passengers per peak period**	**No. of seats**	**% of seats used**	**No. of trips**	**Average occupation per vehicle**	**Unique taxi trips**	**Average No. of trips per taxi**
TEMP-35R-S	GROBLERSDAL to MOTETEMA	6	1 777	296	1 777	100	122	14,6	45	02,71
L-R0045F-S	TAUNG to BURGERSFORT	1	206	206	301	68	22	09,4	9	02,44
TEMP-4R-S	PHOKWANE to MASIHLALENI	1	102	102	102	100	7	14,6	3	02,33
L-R0029R-S	BURGERSFORT to NTSWANENG	6	942	157	942	100	65	14,5	28	02,32
L-R0030F-S	MANOKE to BURGERSFORT	1	288	288	948	30	83	03,5	37	02,24
L-R0061R-S	JANE FURSE to GROBLERSDAL	6	3 523	587	3 569	99	240	14,7	113	02,12
TEMP-84F-S	LETLAPIRWANA to MATIBIDI	1	93	93	147	63	14	06,6	7	02,00
L-R0127R-S	MARBLE HALL to MAMPANA	6	361	60	382	95	28	12,9	14	02,00
L-R0033R-S	ORIGSTAD to LEBOENG/MANOUTSA	6	33	5.5	56	59	4	08,3	2	02,00
TEMP-6R-S	PHOKWANE to MABINDANE	6	280	46.7	280	100	20	14,0	10	02,00

3.1.5 Waiting times for taxis

Detailed calculations were done on waiting times, using the surveyed information. The following is typical of the information available per main route for a specific time interval:

a) Survey size
b) Maximum waiting time for passenger in queue
c) Average waiting time for passenger in queue
d) Maximum waiting time for passenger in vehicle
e) Average waiting time for passenger in vehicle
f) Maximum total waiting time for passenger
g) Average total waiting time for passenger
h) Maximum number of passengers left in queue
i) Average number of passengers left in queue
j) Maximum number of vehicles remaining in queue
k) Average number of vehicles remaining in queue.

The above-mentioned detailed waiting-time calculations were conducted for each local municipality. Tables F-1 to F-5 of Appendix F of the GSDM-CPTR report contains the respective results for the following:

a) Table F-1: Greater Marble Hall Municipality
b) Table F-2: Elias Motsoaledi Municipality
c) Table F-3: Greater Tubatse Municipality
d) Table F-4: Fetakgomo Municipality
e) Table F-5: Makhuduthamaga Municipality.

Table F-6 of Appendix F of the GSDM-CPTR indicates the results for the Greater Sekhukhune District Municipality. In conclusion, the GSDM-CPTR database contains all the detailed information about waiting times by specific routes.

Table 3.1.5.1 presents a summary of the data for the average waiting times in the queues and in the vehicles for the time intervals between 15:00 and 18:00 for the different local municipalities. Table 3.1.5.1 clearly indicates that there is generally an over-supply of minibus-taxi services in the Greater Sekhukhune District Municipality.

TABLE 3.1.5.1: AVERAGE QUEUES AND WAITING TIMES IN QUEUES AND IN VEHICLES FOR DIFFERENT TIME INTERVALS BY LOCAL MUNICIPALITY BETWEEN 14:00 AND 17:00

Time interval	Elias Motsoaledi			Fetakgomo			Greater Marble Hall			Greater Tubatse			Makhuduthamaga		
	Average queues		Average total waiting time pas-sengers	Average queues		Average total waiting time pas-sengers	Average queues		Average Total waiting time pas-sengers	Average queues		Average total waiting time pas-sengers	Average queues		Average total waiting time pas-sengers
	Pas-sengers	Vehicles		Pas-sengers	Vehicles		Pas-sengers	Vehicles		Pas-sengers	Vehicles		Pas-sengers	Vehicles	
14:00-15:00	3,6	11,1	00:35	5,7	2,7	01:01	1,8	5,1	01:07	2,6	2,5	00:20	2,2	3,5	00:32
15:00-16:00	3,4	10,4	00:20	2,3	1,0	00:22	0,5	5,1	00:43	3,8	3,3	00:18	1,4	3,0	00:21
16:00-17:00	3,3	9,1	00:17	2,3	1,0	00:05	0,5	2,2	00:25	5,6	2,9	00:10	2,4	2,1	00:23

3.1.6 Operational vehicles

One of the most frequently asked questions concerns the number of operating vehicles for a specific area. It is important to note that the numbers determined as part of this report reflect only the information obtained in the field for a specific peak period, as part of the 2006 SDM-CPTR, with specific reference to the minibus-taxi industry. It is therefore possible that for various reasons a taxi operator might not have operated on the day when the survey was conducted and therefore such an operator would not have been included in the calculations. It is furthermore important to take note that taxis operating from other provinces were also counted as part of the surveys. The implication is that the number of vehicles may not necessarily be a true reflection of the number of operators in the area.

Information about the number of operational vehicles is therefore available for –

a) minibus-taxis, and
b) buses.

A total of 4 261 unique taxis were observed in the GSDM area. Table 3.1.6.1 below shows the total number of different taxis operating in the Greater Sekhukhune District Municipality for each of the local municipalities. It is important to note that some of the vehicles were observed in more than one local municipality, because the A and B points of the routes are in different local municipal areas. The result is that the sum of the operational vehicles for all the respective municipalities is higher than the number of operational vehicles in the GSDM.

TABLE 3.1.6.1: OPERATIONAL TAXIS IN THE GREATER SEKHUKHUNE DISTRICT MUNICIPAL AREA AND LOCAL MUNICIPALITIES

Local municipality	Number of taxis
Elias Motsoaledi	1 372
Fetakgomo	287
Greater Marble Hall	530
Greater Tubatse	1 463
Makhuduthamaga	1 083
Total	**4 735**

There are subsidised buses in operation in the GSDM: 16 in the Elias Motsoaledi and 12 in the Greater Marble Hall LM.

The following information about operators appears in Appendix G of the 2006 GSDM-CPTR report:

a) Table G-1: Taxi associations operating in the Sekhukhune District Municipality, based on the surveys conducted.
b) Table G-2: Subsided and non-subsidised bus operators in the Sekhukhune District Municipality.

3.1.7 Comparison of information of Operating Licence Board with information of the Registrar of Taxis

No operating licence (LPTS) and Registrar of Taxis (RAS) information was electronically available from the Limpopo Province Department of Transport. It was therefore not possible to make a comparison at this stage.

3.1.8 Comparison of information of Operating Licence Board with CPTR information

No operating licence (LPTS) and Registrar of Taxis (RAS) information was electronically available from the Limpopo Province Department of Transport. It was therefore not possible to make a comparison at this stage.

3.1.9 Comparison of information of Board and Registrar of Taxis with CPTR information

No operating licence (LPTS) and Registrar of Taxis (RAS) information was electronically available from the Limpopo Province Department of Transport. It was therefore not possible to make a comparison at this stage.

3.1.10 CPTR Recommendations

It is recommended that –

a) the CPTR information as available on the 2006 GSDM-CPTR database should be used for developing an Operating Licensing Strategy (OLS) as guideline for the Operating Licence Board with regard to the issuing of new operating licences;
b) the CPTR information should furthermore be used for developing a Public Transport Plan for the GSDM, which would guide the implementation of public transport projects and strategies, and could serve as input into the Integrated Transport Plan (ITP);
c) the taxi-related CPTR information should be made available to the taxi industry in order to assist them to plan their daily operations and to become more effective in their operations; and
d) the SDM-CPTR should be updated every two years.

3.1.11 Description and the use of major transport corridors and major public transport facilities

3.1.11.1 Major transport corridors

The major roads that traverse the Greater Tubatse Local Municipality (GTLM) area include the R555, R37 and R36. Located along these major roads are the urban areas of the GTLM, namely Steelpoort, Burgersfort and Ohrigstad, as well as some smaller areas including Mooihoek and Bothashoek. All these areas, except for Ohrigstad, are grouped together near the intersection of the R555 and R37, which is roughly centrally located in the region. Ohrigstad is small urban area, predominantly a service centre, which is located on the eastern edge of the local municipal area. It is mostly affected by the R36 and traffic moving through the area from Lydenburg in the south to places such as Hoedspruit, Blyde River or Phalaborwa in the north.

Road R37 forms part of the Dilokong Corridor that is defined as an area stretching from Polokwane in the north to Burgersfort in the south with Road R37 forming the spine of the corridor. There are numerous rural villages and a number of platinum and chrome mines along Road R37. This situation implies a high number of public transport vehicles travelling in the area. A greater number of vehicle trips are expected as a result of increased mining activities. Road R37 is of national, provincial and local importance.

The significant public transport corridors in Elias Motsoaledi LM are those from Monsterlus to Groblersdal, and from Tsimanyane to Groblersdal . The significant public transport corridor in the Greater Marble Hall LM is from Leeufontein to Marble Hall. Road N11 also forms an important link between the Limpopo and Mpumalanga provinces

3.1.11.2 Major public transport facilities

Table 3.1.11.2.1 indicates the major public transport facilities in the GSDM.

TABLE 3.2.2.1: MAJOR PUBLIC TRANSPORT FACILITIES IN THE GSDM	
FACILITY NAME	**STATUS-FORMAL/INFORMAL**
a) Jane Furse Taxi Rank	Formal
b) Groblersdal Taxi Rank	Formal
c) Marble Hall Taxi Rank	Formal
d) Burgersfort (Eastern Leolo) Taxi Rank	Informal
e) Wayside Taxi Rank	Informal
f) Jane Furse Plaza Taxi Rank	Formal
g) Maroni Taxi Rank	Formal
h) Tsimanyani Taxi Rank	Informal
i) Vleeschboom Taxi Rank	Formal
j) Leeukop Taxi Rank	Formal
k) Leborogong Taxi Rank	Informal
l) Praktiseer Taxi Rank	Informal
m) Steelpoort Total Garage Taxi Rank	Informal
n) Ngwaabe Taxi Rank	Informal
o) Burgersfort Bus Rank	Formal

3.1.12 Significant regulatory issues and impediments

In terms of significant regulatory issues and impediments, the following are relevant:

a) The incorporation of taxis in the GSDM area that previously formed part of the Mpumalanga Taxi Industry should be addressed in an effective and sufficient manner.
b) Poor law enforcement in terms of operating licences and also the lack of transport-related by-laws, including the rank management mechanisms that should be provided by government.
c) Route colour-coding for taxis together with the relevant law enforcement with scanners should be implemented as soon as possible to ensure peace and stability in the minibus-taxi industry in the GSDM area.
d) The metered-taxi industry has not yet been formalised at local municipality level.
e) The operating licences that have not yet been issued to date, should be awarded.
f) There is indication of an oversupply of taxi vehicles, and of illegal operations too. These are major contributors to conflict among taxi operators.
g) Some of the taxi operators have too many routes as part of the applied operating licence and the number of these routes should be reduced.

3.2 SUMMARY OF THE OPERATING LICENSING STRATEGY

The Greater Sekhukhune District Municipality (GSDM) commenced the formulation of its second Operating Licensing Strategy (OLS) during December 2006, as required in terms of the National Land Transport Transition Act, 2000, Part 7, section 24.

One of the most important issues to be addressed as part of the updated OLS would be to ensure that the document should be utilised effectively by the Limpopo Province Operating Licence Board.

The purpose of the OLS is to present a strategy which would enable the GSDM to provide structured and informed responses to the operating licence applications referred to it by the

Limpopo Operating Licence 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 Rationalisation Plan, Public Transport Plan and finally the Integrated Transport Plan.

The scope of the work covered the whole area of jurisdiction of the GSDM. Over and above the aspects set out in the guidelines on the preparation of the OLS, it was regarded as important that the following aspects should also receive specific attention as part of the formulation of an OLS for the GSDM:

a) The focus of the OLS should be on the taxi operations
b) Attention would be given to an overarching framework for the provision of public transport services in the GSDM
c) The policy framework would endeavour to take into account the effect of changes in land use, resulting in additional public transport routes or facilities
d) Capacity and capacity utilisation per route should be analysed
e) Commercial and tendered contracts for the provision of bus services would be taken into account
f) The dispute resolution mechanisms developed in the GSDM should be utilised. The Sekhukhune District Transport Forum (SDTF) would be important for liaison purposes
g) The general participation, buy-in and co-operation of the taxi operators and the SDTF should be obtained
h) The availability of resources for the effective implementation of the OLS, as well as law enforcement, would be addressed
i) Effective liaison with the Operating Licence Board of the Limpopo Province would be addressed as one of the key strategies
j) Criteria for the disposal of operating licence applications should be identified jointly with the GSDM to ensure that the strategy would be based on tangible and realistic considerations
k) The conditions for the issuance of Operating Licences would be given specific attention, e.g. the age of a vehicle and the Taxi Recapitalisation Project.

Based on the *NLTTA: TPR 5: Operating Licensing Strategy, April 2001*, the input for the GSDM-OLS contains the following topics:

a) Chapter 1: Introduction
b) Chapter 2: Analysis of the public transport system
c) Chapter 3: Policy framework
d) Chapter 4: Restructuring, interventions, conditions and evaluations
e) Chapter 5: Law enforcement
f) Chapter 6: Stakeholder consultation, liaison with the Operating Licence Board and liaison with neighbouring Planning Authorities
g) Chapter 7: Prioritised proposals and implementation programme
h) Chapter 8: Financial Implications.

The above-mentioned topics are contained in detail in Volume 2 of 5 of the GSDM Integrated Transport Plans.

The Sekhukhune District Transport Forum (SDTF) was the backbone of the consultation process. The consultation process included the Limpopo Province Operating Licence Board as well as the Registrar of Taxis.

The results of the OLS indicate that all the existing routes are oversupplied and it is recommended that the GSDM should not contemplate awarding any additional licences in the near future; unless there is clear evidence that operating conditions on such routes have changed significantly.

3.3 SUMMARY OF THE RATIONALISATION PLAN

The Rationalisation Plan provides for passenger satisfaction, minimised competition among subsidised operators, recommended routes and timetables, guidelines on negotiated contracts, an implementation programme and a costing exercise for the implementation of the plan.

The end result should lead to a regulated, safe, affordable and reliable bus service for the GDSM.

In the short term, the Rationalisation Plan addresses possible route duplications, competition among subsidised operators and proposed changes to existing routes. This was addressed in the first Rationalisation Plan prepared by Argus Gibb (Pty) Ltd in May 2004.

In the medium term, the Rationalisation Plan will focus on the development of a framework for the design of future service contracts, taking cognisance of the total system, its modes and operators. The framework will consist of negotiated contracts with existing subsidised and non-subsidised operations, and be based on the existing specifications laid down by the national Department of Transport.

With regard to carrying capacity, it is recommended that all vehicles to be used in the negotiated contracts should be standard 65-seater buses (GNT services).

In the layout of the policy on services provision, the existing policies (National NLTTA 22 of 2000 and *Limpopo in Motion*) were adopted as a short to medium-term policy. The incorporation of the Taxi Recapitalisation Project with existing bus operations has to be addressed in the long term.

The impact of the Rationalisation Plan on the various modes of transport will be minimal, as a there is a good understanding among the subsidised bus operators, non-subsidised bus operators and taxi operators transporting scholars, mainline and taxi passengers. Each transport mode has a duty to fulfil in the greater transport network.

Passenger satisfaction is and should be the central aim around which transport plans should be designed. The Rationalisation Plan has borne this in mind. Once the negotiated contracts have come into effect, passengers will have the following advantages: new and safer vehicles, a reliable service, better facilities, adherence to scheduled times and passenger forums for addressing complaints and future fare increases. Negotiated contracts will also benefit the operators, since income and cost variables will be fairly stable. This will result in better planning and services rendered.

No major obstacles are foreseen with the implementation of the Rationalisation Plan, except for the financial implications following its implementation. It is essential for funding to be obtained from all role players, namely National, Provincial and Districts.

The Rationalisation Plan also addresses the non-subsidised routes that ought to be subsidised once the negotiated contracts come into effect. The routes that will be affected include the existing Great North Transport services in the Burgersfort area, as well as the existing services operated to the various mines in the Sekhukhune District Municipality:

The existing subsidised public transport corridors, routes and services for the Greater Sekhukhune District Municipality are shown in Figures 3.3.1, 3.3.2 and 3.3.3.

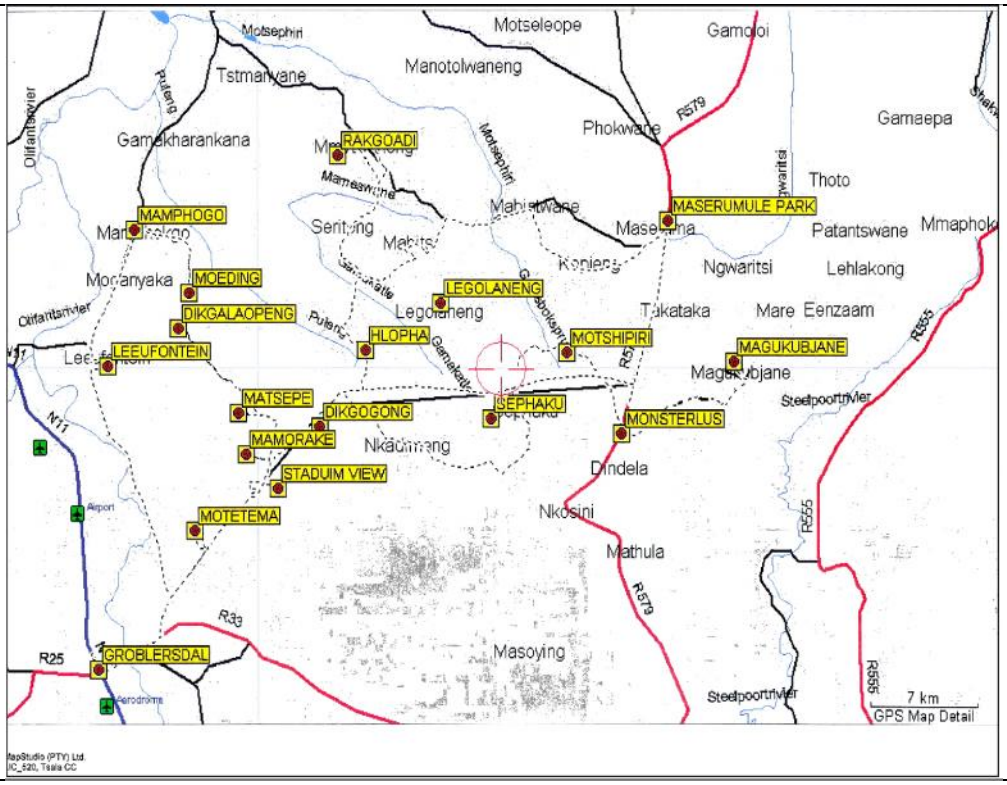

FIGURE 3.3.1: PROPOSED SUBSIDISED ROUTES OPERATED BY GREAT NORTH TRANSPORT – ELIAS MOTSOALEDI AREA

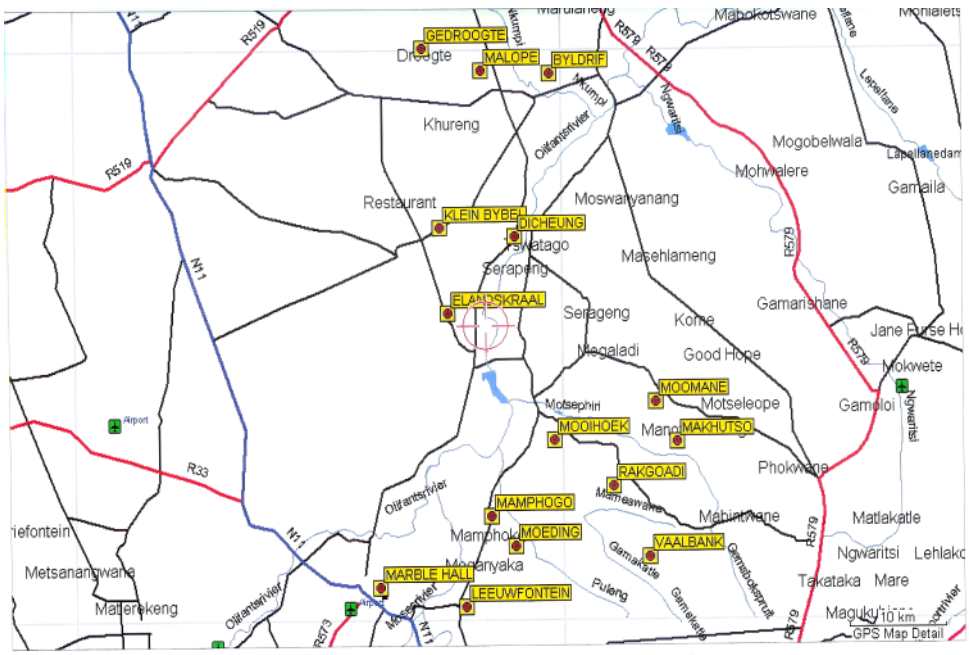

FIGURE 3.3.2: PROPOSED SUBSIDISED ROUTES OPERATED BY GREAT NORTH TRANSPORT – MARBLE HALL AREA

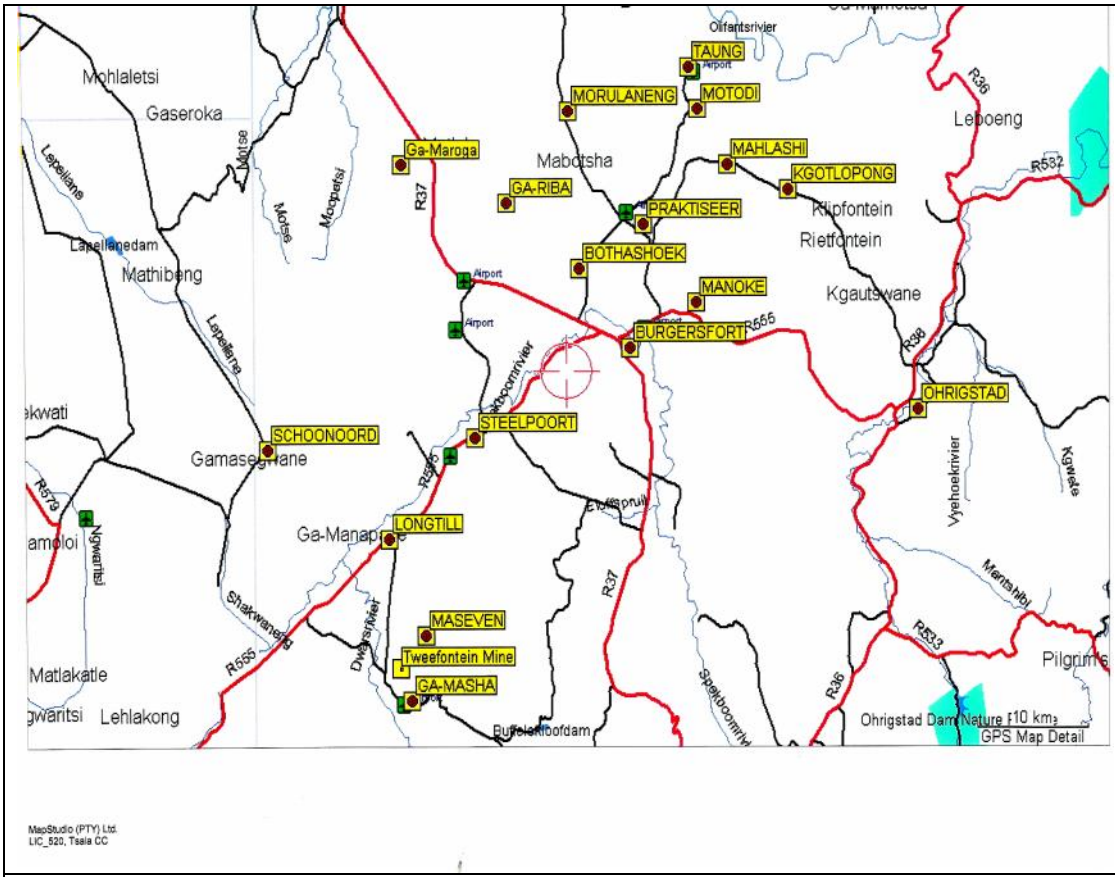

FIGURE 3.3.3: PROPOSED SUBSIDISED ROUTES OPERATED BY GREAT NORTH TRANSPORT – BURGERSFORT AREA

Table 3.3.1 provides a summary of the existing subsidy received per operator (existing costs) in the GSDM area.

TABLE 3.3.1: EXISTING SUBSIDY RECEIVED PER OPERATOR IN THE GSDM AREA (EXISTING COSTS)

OPERATOR	SUBSIDY PER ANNUM
GNT – ELIAS MOTSOALEDI	R2 817 718
GNT – MARBLE HALL	R766 099
GNT – BURGERSFORT	R0
TOTAL	R3 583 817

Table 3.3.2 provides a summary of the proposed subsidy per annum for the GSDM area.

TABLE 3.3.2: PROPOSED SUBSIDY FOR THE GSDM AREA				
OPERATOR	**PROPOSED CONTRACT AMOUNT (R)**	**EXISTING SUBSIDY RECEIVED (R)**	**VARIANCE (R)**	**RATE PER KILOMETRE (R/KM)**
GNT Elias Motsoaledi	12 823 190	2 817 718	-10 005 472	17,53
GNT Marble Hall	8 179 881	766 099	- 7 413 782	8,80
GNT Burgersfort	7 228 801	-	- 7 228 801	6,86
Thembalethu Transport	22 772 635	-	- 22 772 635	26,12
Sekhukhune Express	26 343 805	-	-26 343 805	26,12
Mahlangu Transport	12 591 290	-	-12 591 290	26,12
TOTAL	**89 939 602**	**3 583 817**	**-86 355 785**	

The GSDM RATPLAN is contained in detail in Volume 3 of 5 of the GSDM Integrated Transport Plans.

3.4 PUBLIC TRANSPORT

The Greater Sekhukhune District Municipality appointed Siyazi Limpopo (Pty) Ltd on 22 June 2006, to prepare the Public Transport Plan (PTP) for the Greater Sekhukhune District Municipality (GSDM), as required in terms of section 26 of the National Land Transport Transition Act, No. 22 of 2000 (NLTTA), as amended. The term “public transport” referred to in this document, includes all road-based and rail-based public transport infrastructure, facilities and services.

A data collection process preceded the PTP. The aim of this process was to gain some idea of the current situation of public transport usage in the District. The result of the data collection process is called the Current Public Transport Record (CPTR). The CPTR information was collected and prepared in 2006 by Siyazi Limpopo (Pty) Ltd, and the client was also the Greater Sekhukhune District Municipality (GDSM). The final CPTR report was completed in December 2006. The Operating Licensing Strategy and the Rationalisation Plan for the GSDM have been prepared too, and these in turn guide the preparation of the Public Transport Plan.

3.4.1 METHOD FOR PREPARING THE PTP

The 2006 Operating Licensing Strategy and the Rationalisation Plan for the GSDM were prepared by the Siyazi-Khosa Joint Venture, and these guide the preparation of the Public Transport Plan. The planning document TPR7 describes the purpose of a PTP as follows:

i) “Generally, a PTP is considered as the mechanism by which an authority can plan for, develop, manage, integrate and promote public transport.
ii) More specifically, section 26(1) of the NLTTA states that a PTP must be prepared with a view to determining and specifying the public transport services, provided in terms of the matters listed in sections 23(3)(a) and (b) of the Act. The latter refer to –
iii) All the scheduled and unscheduled services that are operated in the area concerned, as well as the public transport services operating across the boundaries of neighbouring authorities; and all the facilities and infrastructure currently being developed, or already utilised."

The specific deliverable for the project is a report on the PTP for the Greater Sekhukhune District Municipality, with recommendations on the following public transport strategies:

i) Measures to promote public transport
ii) Needs of persons with disabilities
iii) Needs of learners
iv) Modal integration
v) Fare systems for public transport.

This is the second Public Transport Plan (PTP) for the GSDM. It is accepted that the PTP will have to be refined and expanded in the course of time, so that it will eventually satisfy both legislative and practical requirements. An incremental and flexible approach was adopted during the development of the PTP. Consequently, all the components of the PTP need not necessarily be developed comprehensively during the Year-One PTP, but can be developed in more detail in the Year-Two PTP. The results and recommendations are not prescriptive, and this document should be considered a guideline and applied with discretion.

3.4.2 RESULTS OF PUBLIC TRANSPORT PLAN

The subsequent section elaborates on the following:

a) Measures to promote public transport – Plan of Action
b) The needs of persons with disabilities – Plan of Action
c) Needs of learners, students and the elderly – Plan of Action
d) Modal integration, infrastructure and facilities – Plan of Action
e) Fare system for public transport – Plan of Action.

3.4.2.1 Measures to promote public transport – Plan of Action

The following are some of the specific projects that could be implemented to promote public transport in the GSDM:

a) Resolve outstanding institutional arrangements between the Mpumalanga and Limpopo Departments of Roads and Transport
b) Implement the recommendations of the OLS and RATPLAN
c) Update the CPTR, OLS and RATPLAN annually
d) Identify an aesthetic theme for public transport
e) Prepare and implement a Passenger Charter
f) Prepare a Memorandum of Understanding with service providers (bus, taxi, etc.) and the Limpopo Province
g) Develop a route colour-coding system for taxi operations
h) Provide subsidised bus service in the Greater Tubatse Local Municipality
i) Convert all existing subsidy contracts to negotiated or tendered contracts
j) Promote the formation of taxi co-operatives
k) Encourage taxi co-operatives to tender for subsidised routes and as a result, eliminate direct competition between taxis and buses
l) Appoint an independent monitor for the subsidised-service contracts
m) Mandate all design and construction projects to accommodate the disabled, pedestrians, bicycles and the new taxi vehicles
n) Develop Key Performance Indicators in the public transport contracts (customer surveys, efficiency, reliability, etc.)
o) The Provincial Taxi Council must address the need to provide long-distance services on a fixed schedule (the peak periods for taxi operations per route are in the OLS)
p) Prepare and implement a communication strategy or marketing campaign:

i) Guide to using the electronic fare equipment
ii) Publicise security measures (security on board, at bus stops, etc.)
iii) Transformation of the taxi industry, specifically the implementation of the new taxi vehicles and completion of the scrapping process
iv) Fare price increases
v) Sensitise the public to the transportation of disabled persons.

3.4.2.2 The needs of persons with disabilities – Plan of Action

The following are relevant for the short-term plan of action:

a) **Class 1 improvements to current fleet**

Currently, most buses have handrails. Buses should have high-contrast colours on steps and handrails to improve visibility. Therefore, the estimated cost of on-board improvements would be minimal and are actually the standard vehicle specifications that the operator should comply with. Taxi vehicles must also comply with Class 1 improvements.

b) **Data capturing**

There is need for data on the number of persons with disabilities, and the particular numbers on specific routes. The District Municipality should identify the NGOs currently providing a transport service to persons with disabilities. The Limpopo Department of Roads and Transport should provide subsidies for such services where necessary and procure the services of operators, including the NGOs currently supplying such services, to provide a specific service to persons with disabilities instead of making major changes to the current bus fleet.

Capturing the data on the transportation needs of persons with disabilities should be prioritised in the preparation of the next CPTR. Hence, there should be no additional cost for this exercise.

c) **Feasibility study for paratransit service**

The feasibility of a paratransit service should be an independent study. The Limpopo Department of Roads and Transport and the Greater Sekhukhune District Municipality should motivate a pilot project in the GSDM with the assistance of the Department of Transport.

Where there are no current services for persons with disabilities, there is an opportunity for a contract for a paratransit service between the service provider and the Limpopo Department of Roads and Transport.

d) **Design and construction**

The local municipalities are responsible for upgrading infrastructure such as sheltered and safe bus stops and ramps, and for providing relevant information.

The GSDM should mandate all Local Municipalities to design and construct all public transport facilities to provide for persons with disabilities. The standard design guideline is available from the national Department of Transport.

3.4.2.3 Needs of learners, students and the elderly – Plan of Action

Due to financial constraints and the magnitude of the issue, it is extremely difficult to find specific solutions that would have an immediate effect on the transport of learners in the short term.

a) **Non-motorised transport**

Bicycles offer greater benefits than motorised transport, as they have lower costs, are environmentally friendly and contribute to the liveability of an area or city. In context, bicycles are the appropriate mode of transport for commuting distances of less than five kilometres, such as mine housing schemes and learners' access to schools in the community. Nevertheless, to achieve optimal use of bicycles, the public must be educated about the relationships between modes; the rights and responsibilities of cyclists must be defined by regulation; and these regulations must be enforced. Furthermore, the public should be informed of the social and personal benefits of bicycles relative to other modes for the relevant categories of trips.

In addition, the local municipalities should encourage the provision of safe bicycle parking at schools, shopping centres and even at the work place. Bicycle paths and lanes are the main infrastructure elements defining bicycle transportation as a distinct system. The local municipalities must prepare a plan that would encourage the use of bicycles and provide the necessary infrastructure.

The Provincial Department of Transport should launch a campaign to promote the use of bicycles as one mode of non-motorised transport, and support the District and Local Municipalities with the construction of bicycle facilities. Contracted buses should incorporate bicycle racks to encourage commuters to utilise bicycles for part of their journey, where possible.

The Departments of Transport and Education and the District Municipalities should develop a non-motorised transport plan and meet the specific needs of learners in cases where pedestrian facilities, bicycles and donkey-cart transport are appropriate.

b) **Pedestrian travel**

Walking is the most ubiquitous though often-overlooked mode of travel and activity in all human settlements. The quality of the pedestrian system and its facilities are important for commuters using public transport. There are significantly high pedestrian volumes in most towns in the GSDM. Therefore, there is a need for the provision and maintenance of sidewalks. Paths and sidewalks are required for basic safety and protection from motorised vehicles. Pedestrian planning must consider the enhancement of existing pedestrian systems or the provision of new ones. These should consist of safe and attractive sidewalks, independent walkways and, in recreational areas, campuses and major developments, networks of paths that are functional and aesthetically appealing.

Local municipalities must prioritise the maintenance and development of sidewalks and paths in the respective towns and residential areas, with support from the District Municipality.

c) **Institutional arrangement**

There is a need for the Departments of Transport and Education to co-ordinate efforts and funding for learner and student transportation.

d) **Subsidies for learners, students and the elderly**

Subsidies should be provided for school trips longer than 5 km, provided that there is no school in the vicinity. All students and the elderly should also qualify for bus subsidies. These must be addressed when drafting the new bus contracts.

3.4.2.4 Modal integration, infrastructure and facilities – Plan of Action

The plan of action is as follows:

a) Develop new routes in line with the Operating Licensing Strategy
b) Develop public transport facilities along the following corridors:

   i) Dilokong Corridor (Road R37) from Twickenham to Burgersfort
   ii) Road R555 from Ohrigstad to Burgersfort
   iii) Road R555 from Steelpoort to Burgersfort
   iv) Road R555 from Jane Furse to Steelpoort
   v) R36 from Leboeng to Ohrigstad
   vi) Monsterlus to Groblersdal
   vii) Tsimanyane to Groblersdal
   viii) Leeufontein to Marble Hall.

c) Develop intermodal public transport facilities at the strategic nodal points, specifically at Burgersfort, Marble Hall, Groblersdal, Ohrigstad, Driekop, Riba Cross, Atok and Steelpoort
d) Make low-capital improvements (lighting, street furniture, passenger information, etc.) to some of the existing facilities, shown as priorities in Appendix B of the PTP
e) The local municipalities, together with the Greater Sekhukhune District Municipality, must develop by-laws that will ensure a stable and safe environment, and the integration of the bus and taxi modes
f) Develop an intra-provincial as well as local route colour-coding system for taxi vehicles.

3.4.2.5 Fare system for public transport – Plan of Action

The plan of action is as follows:

a) The Limpopo Department of Roads and Transport must develop a uniform unit fare for subsidised bus operations, including the consistent demarcation of zones for using zone-based fares.
b) The Limpopo Department of Roads and Transport must apply a subsidy/fare ratio of 1:5 in the subsidy contracts.
c) For long-distance operations and inter-provincial operations, the relevant Provincial Taxi Councils should determine a unit rate for taxi fares.
d) All taxi operations should provide a ticket system for commuters.
e) The Limpopo Department of Roads and Transport must engage employers in contributing to the cost of public transport tickets for their employees. There should be corporate financial incentives for employers that subsidise public transport fares. The DoT should motivate such incentives to National Treasury.
f) The operator and the Department of Transport should maintain an organised database. The SUMS database, as a component of the National Transport Register, must be implemented and applied before the new subsidy contracts come into effect
g) The Limpopo Department of Roads and Transport must ensure that automated fare-payment mechanisms are implemented as mandated in the subsidy contracts, and operators should be penalised accordingly for non-compliance
h) The suggestions in the Proposed Strategy should be included in the subsidy contracts

i) The Limpopo Department of Roads and Transport should allow for concessions for learners, students and the elderly in the subsidy contracts.

3.4.2.6 Conclusion

The approach of the second PTP is to concentrate again on infrastructure related to public transport for the next five years of operation and on constituting the proposed by-laws. The review of the PTP will focus on the more detailed operational and institutional matters.

The way forward is to motivate the prioritised projects in the Integrated Development Plan. As the construction and maintenance of public transport facilities are in most cases labour-intensive, such work is an appropriate mechanism to promote job creation.

3.5 ROAD OWNERSHIP AND ROAD NETWORK

This section describes the road hierarchy in the SDM, in terms of National Roads, Provincial Roads and District Roads, and their significance with respect to access and mobility for public transport, freight, and tourism.

Traditionally, road projects were prioritised according to traffic volumes and pavement conditions. The new criteria for the prioritisation of road projects include traffic volumes, pavement conditions, public transport, passenger volumes, tourism and freight.

A detailed GSDM Road Master Plan as well as an alternative service delivery mechanism strategy had been prepared during October 2006 by the GSDM by Africon Consulting Engineers. The document contains detailed information about the following:

a) Status quo assessment of service delivery

   i) Introduction
   ii) Legal and policy framework
   iii) Services to be rendered by GSDM
   iv) Organisational structure and staffing
   v) Condition and quality of service assessment
   vi) Financial performance assessment
   vii) Assessment of physical assets
   viii) Contractual arrangement assessments
   ix) Human resources capability
   x) Cost-of-service assessment

b) Status quo of road infrastructure:

   i) Introduction
   ii) Road classification
   iii) Road ownership
   iv) Road maps / GIS
   v) Detour roads for hazardous materials
   vi) Pavement assessment
   vii) Stormwater structure assessment
   viii) Road signs assessment.

In terms of the administrative classification of roads in the GSDM, the following classifications are relevant:

a) National roads
b) Provincial roads
c) District Municipality roads

d) Local Municipality roads.

Figure 3.5.1 provides a graphical representation of road ownership in the GSDM area. The subsequent sections elaborate on the above-mentioned road classifications. The GSDM Road Master Plan, however, contains much more detailed information.

3.5.1 National roads

The South African National Roads Agency Limited (SANRAL) is the custodian of the National Road Network. Currently a number of roads in the jurisdiction of the GSDM area have been declared National Roads.

The section of Road R37 through Burgersfort falls under the jurisdiction of the Mpumalanga Department of Works, whereas Road R555 belongs to RAL, but also has national importance.

Table 3.5.1.1 provides a summary of the roads under the jurisdiction of SANRAL that are located in the GSDM.

TABLE 3.5.1.1 – ROADS IN GSDM UNDER SANRAL JURISDICTION

Prov. Road No.	Approx. length (Km)	Route description	Transfer date of property
R37	160	R37 from Burgersfort at Mpumalanga border up to Polokwane	Sept. 2004
N11	276	From Mpumalanga border near Marble Hall up to Martin's Drift at RSA / Botswana border	April 2006
R33	88	R33 from Nylstroom up to the N11	Oct. 2006
R36	120	R36 from Ohrigstad up to Tzaneen	Oct. 2006
R518	75	R518 from Mokopane (Potgietersrus) up to the R37 at Lebowakgomo	To be confirmed

The projects planned by the National Roads Agency over the next five years (2007 to 2012) in the GSDM area are shown in Table 3.5.1.2. (These projects have not necessarily been approved for implementation yet.)

TABLE 3.5.1.2: PROPOSED SANRAL PROJECTS FOR THE PERIOD 2006 TO 2011

DM	Project Number	Route description	Project description	Estimated budget (2007 – 2012)
Obtain latest info from SANRAL				

There are no new toll roads planned for the GSDM area, according to the information provided by SANRAL.

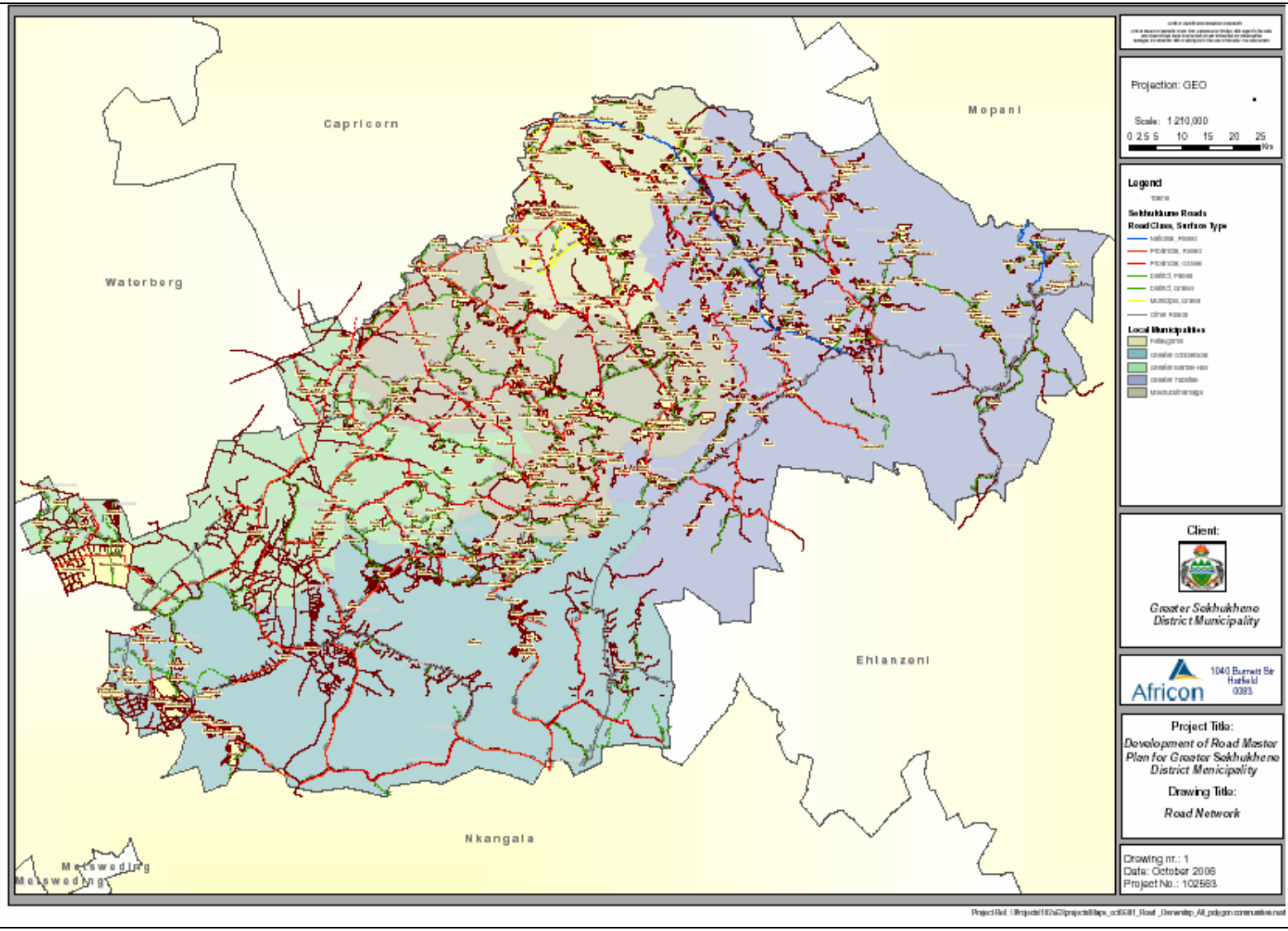

FIGURE 3.5.1: GRAPHICAL REPRESENTATION OF ROAD OWNERSHIP IN THE GSDM

Source: GSDM Road Master Plan

3.5.2 Provincial roads

Limpopo Province has a provincial roads agency, namely the Roads Agency Limpopo (RAL). The purpose of RAL is stipulated in the Northern Province Roads Agency Proprietary Limited and Provincial Roads Act, 1998 (Act 7 of 1998), section 2, as "taking charge of the financing, management, control, planning, development, maintenance and rehabilitation of the provincial roads system".

The functions of RAL are stipulated in section 25 as "responsible for, and hereby given power to perform, all strategic planning with regard to the provincial roads system, as well as the planning, design, construction, operation, management, control, maintenance and rehabilitation of provincial roads for the province, and is responsible for the financing of all those functions, in accordance with its business and financial plan, so as to ensure that government's goals and policy objectives concerning provincial roads are achieved".

RAL took over from the Department the responsibility for all contractual projects and works which, before the data of implementation of the Act, had been commenced in terms of the previous Ordinance by the Department in connection with the planning, design, construction, operation, management, control, maintenance and rehabilitation of a provincial road, or the planning of a proposed provincial road.

RAL, through the MEC of Public Works in the Limpopo Province, transferred various district roads in the province to the district municipalities. Notice of this transfer was given in *Provincial Gazette* No. 1041, dated 28 September 2004. A list of all district roads transferred to the district municipalities (including the GSDM) as well as maps of these roads, were included in the *Gazette*.

Municipal roads fall under the ownership of the municipalities, i.e. local municipalities and district municipalities (e.g. GSDM). In terms of the IDP, however, the GSDM is responsible for the municipal roads in the Fetakgomo Local Municipality. All other local municipalities are responsible for municipal roads in their respective local municipal areas.

RAL utilises the Road Management System (RMS) as a tool for assisting with road network management.

There are several Provincial Roads in the GSDM. According to the PLTF, the current RAL strategies have been identified in accordance with the Provincial Growth and Development Strategy (PGDS). The PGDS of the Limpopo Province focuses primarily on development needs and in particular the development corridors and economic development centres that have been identified and that are of economic importance to the province.

The assessment of roads, traffic counts and the inspections of bridges are conducted and fed into the system. The RMS then reflects the road network conditions and predicts deterioration patterns. The system assists in prioritising road maintenance and rehabilitation projects.

Figure 3.5.1 provides a graphical representation of the provincial roads in the GSDM that belong to RAL, as obtained from the GSDM Road Master Plan.

Table 3.5.2.1 provides a summary of the RAL Tarring programme for the GSDM from 2005 to 2010 as was prepared during 2005 and obtained from the RAL Website

TABLE 3.5.2.1: RAL TARRING PROGRAMME FOR GSDM 2005 TO 2010 (ROADS UPGRADING: GRAVEL TO PAVED/TAR)											
ROAD No.	**ROAD PARTICULARS**	**LENGTH km**	**DISTRICT**	**COST ESTIMATE**	**DEVELOPMENT STRATEGY SUPPORTED**	**05/06**	**06/07**	**07/08**	**08/09**	**09/10**	**Remaining R' M**
D3628, D3600	Moletlane - Mogoto - Elandskraal, with ADT of 619 and Magatle-Elandskraal with ADT varying from 358 to 624. Serves communities and the Zebediela farms.	21	Capricorn/ Sekhukhune	42,000,000	SDR, Dilokong sub-corridor			20	22		-
D4100, D4250, D4191 and D4190	Flag Boshiolo Dam - Veeplaats - Apel - Mmabulela (P33/2). ADT along this route varies from 24 to 902. The average for one section is 165 and the average for the other is 844. Serves a large number of communities. 60% tarred, remaining portion needs to be tarred. Access to Sekhukhune College and irrigation projects.	52	Sekhukhune	104,000,000	SDR, GHS, Dilokong sub-corridor	42	42	20			0
D4285/D4280/ D4284/D4239	Maserumo/Nebo - Mabitwane -Ragaphela - GaMatlala -GaMmela - Tsimanyane -Kromdraai. This is one of the main links from Nebo to the west and from Nebo to the east. From Nebo/Maserumo- Matlakatle - Thoto - GaMalaka - Maphopha/GaMasha	35	Sekhukhune	70,000,000		20	25	25			-
D4170	Driekop (P33/2) - Maandagshoek	13	Sekhukhune	26,000,000				9	17		-

TABLE 3.5.2.1: RAL TARRING PROGRAMME FOR GSDM 2005 TO 2010 (ROADS UPGRADING: GRAVEL TO PAVED/TAR)											
ROAD No.	**ROAD PARTICULARS**	**LENGTH km**	**DISTRICT**	**COST ESTIMATE**	**DEVELOPMENT STRATEGY SUPPORTED**	**05/06**	**06/07**	**07/08**	**08/09**	**09/10**	**Remaining R' M**
D4134, D4131, D4185, D4220, D4212, D4200, D4252	Penge to Malokela to GaKwoete to Ntswaneng to Manoge to Phageng to GaRadingwana to Mphanama to Maololo	69	Sekhukhune	138,000,000						30	108
D4265, D4264, D4344, D4370	GaMarishane to Mathapisa to Moomane to Mogaladi to D4100 (Kromdraai)	37	Sekhukhune	74,000,000						30	44
D4265, D4264, D4344, D4370	GaMarishane to Mathapisa to Moomane to Mogaladi to D4100 (Kromdraai)	37	Sekhukhune	74,000,000						30	44
Access	Matlala Hospital	4	Sekhukhune	7,000,000	Health		7				
Access	Hlogotlou Primary Health Centre	2	Sekhukhune	4,000,000	Health		4				
Access	Nchabeleng Primary Health Centre	4	Sekhukhune	8,000,000	Health		8				

Source: RAL WEB Site, A total of R547,000,000 is required at a rate of R2,000,000 per kilometre at the year 2005 value of money.

3.5.3 District and local roads

Figure 3.5.1 provides a graphical representation of the district and local roads in the GSDM that belong to RAL, as obtained from the GSDM Road Master Plan. The GSDM is, however, also responsible for the roads in the Fetakgomo Local Municipality area.

The Local Municipality is responsible for the maintenance of all the internal roads in the residential areas and villages. These internal roads do not have specific road numbers, and must be addressed in the Road Master Plan for the District Municipality.

3.6 MAJOR CORRIDOR ROUTES THROUGH THE GSDM

There are four subcorridors in the province:

a) Dilokong Subcorridor
b) Phalaborwa Subcorridor
c) Trans-Limpopo Subcorridor
d) East-West Subcorridor.

The Dilokong Corridor and the Phalaborwa Corridor traverse the GSDM.

3.6.1 Dikolong Subcorridor

There are three important roads along this corridor in a number of directions, mainly within the GSDM area:

a) Polokwane to Burgersfort (P33/1 and P33/2), via Mafefe
b) Flag Boshielo Dam through Lebowakgomo and Mafefe, linking the GSDM with the Phalaborwa and Kruger National Park areas
c) Chueniespoort via Boyne to Mankweng.

3.6.2 Phalaborwa Subcorridor

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

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

3.7 MAJOR FREIGHT AND PRIVATE TRANSPORT MOVEMENTS

Three major roads in terms of traffic volumes are located in the Greater Tubatse Local Municipality Area, namely the R555, R37 and R36. Major towns such as Steelpoort, Burgersfort and Ohrigstad, and smaller towns such as Mooihoek and Bothashoek, are located along these routes.

The highest concentration of private transport is currently in Burgersfort and also on Roads R37 and R555. Burgersfort is the main economic centre in the GTLM area, and the R37 and R555 are feeder routes to and from villages to and from mines. Road R36 to Ohrigstad and Road R37 to Lydenburg mostly cater for tourists as well as daily private vehicle trips. Traffic congestion in Burgersfort is currently significant and requires urgent attention.

The highest percentage of freight movement is restricted to the major corridor routes that serve the respective mines as well as the main economic nodes in the GTLM area, namely R37, R555 and R36. It should, however, be kept in mind that the expansion of specifically the residential areas of Burgersfort and Steelpoort, as well as the development of new mines would also generate a large number of construction vehicles which would enter the GTLM in future.

Though there are no specific figures on freight volumes at present, it is essential to protect the road infrastructure against overloading. Consequently the necessary law enforcement should be conducted.

Road N11 also generates a significant number of freight vehicle movements.

3.8 HEAVY VEHICLE OVERLOAD CONTROL

The Limpopo Department of Transport is jointly engaged with the National Roads Agency and the CSIR in formulating a National Strategy for Traffic Control Centres, with special emphasis on heavy vehicle overload control.

Several new overload control centres are planned for the Limpopo Province: at Polokwane, Mokopane, along the R37, N11, and the Beit Bridge-Zimbabwe Border Post. The progress of these plans will be confirmed in the National Strategy.

Current strategies that are actively being pursued focus mainly on overloading control and traffic regulation. Overloading control is mainly done through weighbridges that are located at strategic positions along the main transport corridors.

The following weighbridges are available in the Limpopo Province:

a) Mantsole Traffic Control Centre
b) Roedtan Traffic Control Centre
c) Tzaneen/ Mooketsi Traffic Control Centre
d) Musina Traffic Control Centre
e) Groblersbrug Traffic Control Centre
f) Vivo Traffic Control Centre
g) Polokwane Traffic Control Centre
h) Makhadu Traffic Control Centre
i) Northern Traffic Control Centre
j) Baltimore Traffic Control Centre

Only the Roedtan Traffic Control Centre is located in the GSDM area on Road N11, between Roedtan and Marble Hall. A multipurpose traffic control centre was recently constructed at Riba Cross on Road R37, and the intention is that a traffic control centre will also be established at this point in the course of time.

Overloading issues in the Limpopo Province are mainly focused on the general tendency of road freight operators, particularly those that travel on the international export routes towards neighbouring countries, to exceed the allowed maximum load mass on the vehicles, causing major damage to the roads and contributing to serious road safety problems.

Furthermore, when law enforcement is active on the main corridors, operators deviate onto District and local roads, which causes exponential damage to the local roads that were not designed for such loads.

3.9 TOURISM ROUTES

The preparation of strategic plans in terms of tourism that links with public transport as well as road transport and the road network is extremely important.

It is important to note that recently it was indicated at a meeting of the Greater Tubatse Transport Forum that the tourism industry had advised tourism operators not to make use of Road R555 any more, due to the poor quality of the road.

3.10 WASTE MANAGEMENT AND TRANSPORTATION

Waste removal is still provided only in economic centres such Marble Hall, Groblersdal and Burgersfort. Fetakgomo and Makhuduthamaga do not have any form of refuse removal. The transportation of waste is in question, and is dealt with as part of the GSDM Waste Management Plan.

3.11 THROUGH TRAFFIC AND CONGESTION

The private transport mode and heavy vehicles travel through towns and contribute to the congestion on local streets. Furthermore, heavy-vehicle traffic has a severe impact on the pavement conditions of the local street network. Marble Hall and Groblersdal are the most seriously affected by the heavy-vehicle trips.

As part of the project implementation, serious attention would be given to the following:

a) Traffic Impact Study – allow for loading zones in the local street network
b) Travel Demand Management – no heavy vehicles through town during peak periods
c) Travel Demand Management – plan a by-pass street or corridor for heavy vehicles and for the transportation of hazardous materials.

The GSDM Road Master Plan addresses the issue of hazardous substances in detail and is consequently not repeated as part of the ITP.

3.12 TRAFFIC COUNTS

RAL currently populates traffic data on all provincial and districts roads in the Limpopo Province, using its Traffic Information System and based on the performance of frequent counts on the road network.

RAL makes use of two types of traffic counts, namely electronic counts and manual counts.

Electronic counts are done for a period of seven consecutive days, 24 hours per day. These counts are then used to calculate traffic characteristics (e.g. the average daily traffic and traffic variation during a week) for the road links on which the counts were performed. RAL indicated that it currently has about 97 electronic counting stations, and that electronic counts are performed every year at each of these stations. There are about five electronic counting stations in the GSDM (according to the GSDM Road Master Plan).

Manual counts are done for a period of 12 hours, and for one day only. These counts are then used to calculate traffic characteristics for the road links on which the counts were performed, using expansion factors calculated from the electronic count stations.
RAL has about 760 manual count stations in the GSDM (based on the GSDM Road Master Plan). Counts at manual stations are done once every three years.

Manual counts record vehicles in various road categories, as follows:

a) Normal vehicles (passenger vehicles, pickups, etc.)
b) Minibus taxis
c) Buses
d) Heavy vehicles (up to 3-axle trucks)
e) Very heavy vehicles (4 axles and more).

Other information is also recorded during manual counts, e.g. whether the trucks are full or empty, vehicle occupancy of minibus taxis, etc.

Traffic counts are usually done outside of school holidays. RAL makes use of subcontractors to perform the traffic counts.

Traffic counts for roads that were transferred from the Mpumalanga DoRT to RAL, were obtained from the road database of the Mpumalanga DoRT. These roads will be included in the future traffic counting programmes of RAL.

RAL indicated that it would continue to perform traffic counts in future on all district roads (i.e. roads under the ownership of the GSDM) and provincial roads.

The daily vehicle kilometres travelled per local municipality are shown in Figure 3.12.1.

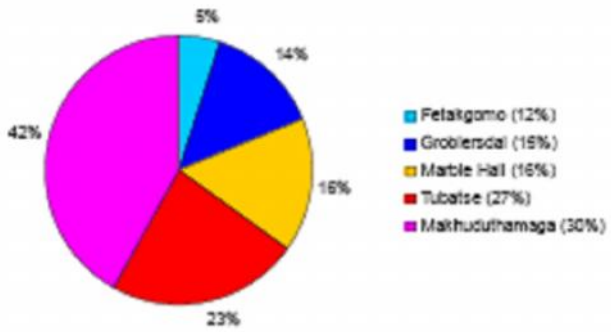

FIGURE 3.12.1: DAILY VEHICLE KILOMETRES TRAVELLED PER LOCAL MUNICIPALITY IN THE GSDM

3.13 PAVEMENT CONDITION OF ROADS

The condition of the road network is also described in the report *Road Master Plan and investigation into alternative service delivery mechanisms, road needs analysis*. This section refers to the findings of this report.

3.13.1 Extent of road network

The total length of the road network under the ownership of the GSDM is 1 491,41 km. The breakdown of roads per local municipality and road surface is indicated in Table 3.13.1.1.

TABLE 3.13.1.1: GSDM ROAD NETWORK PER LOCAL MUNICIPALITY					
Local Municipality	**District roads**		**Municipal roads**		**Total**
	Paved	**Unpaved**	**Paved**	**Unpaved**	
Fetakgomo	8,54	104,50	0	71,89	184,93
Greater Groblersdal	6,71	218,82	0	0	225,53
Greater Marble Hall	17,15	215,35	0	0	232,50
Greater Tubatse	10,54	385,24	0	0	395,78
Makhudutamaga	24,08	428,59	0	0	452,67
Total	67,02	1 352,50	0	71,89	1 491,41

3.13.1.1 Paved roads

An average network Visual Condition Index (VCI) was calculated, representing the average condition of the entire paved road network under the ownership of the GSDM (this average network VCI was weighted by length).

The VCI is grouped into five condition categories that are used for describing the condition distribution of the visual segments in the road network as very good, good, fair, poor or very poor, as follows:

Very Good	:	VCI= 85% to 100%;
Good	:	VCI = 70% to 84%;
Fair	:	VCI = 50% to 69%;
Poor	:	VCI = 35% to 49%;
Very Poor	:	VCI = 0% to 34%.

The current average network VCI, based on the 2006 assessments, was calculated as 69, which means that the total paved network is in a “fair” condition.

According to the 2006 visual assessments, none of the paved roads are in a very poor condition, 7% of the total paved network is in a poor condition, and 50% of the network is in a fair condition, while 43% of the paved network is in a good or very good condition.

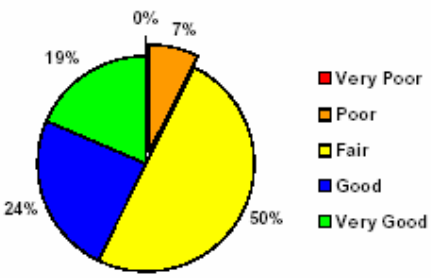

FIGURE 3.13.1.1.1: CONDITION DISTRIBUTION OF THE PAVED NETWORK FOR THE GSDM FOR 2006

The distribution of road condition per local municipality is indicated graphically in Figure 3.13.1.1.2.

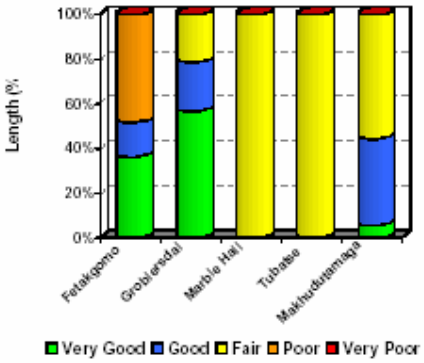

FIGURE 3.13.1.1.2: ROAD CONDITION PER LOCAL MUNICIAPLITY

3.13.1.2 Gravel roads

An average network Visual Gravel Index (VGI) was calculated, representing the average condition of the entire unpaved road network under the ownership of the GSDM (this average network VGI was weighted by length).

The VGI was divided into three condition categories that are used for describing the condition distribution of the gravel road network, as follows:

Good : VGI = 70% to 100%;
Fair : VGI = 50% to 69%;
Poor : VGI = 0% to 49%.

The current average network VGI was calculated as 42, which means that the total unpaved network is in a “poor” condition.

According to the 2006 visual assessments, 62% of the total unpaved network is in a poor condition, 31% of the network is in a fair condition and only 7% is in a good condition (see Figure 28).

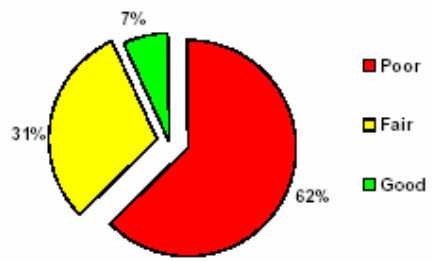

TABLE 3.13.1.2.1: CONDITION OF THE UNPAVED ROAD NETWORK FOR THE GSDM FOR 2006

The high percentage of roads in a poor condition points to a pressing need for regravelling projects, and a considerable backlog. Furthermore, the very high percentage of roads in fair condition is disconcerting, pointing to extensive problems on the unpaved road network.

The distribution of road condition per local municipality is shown graphically in Figure 3.13.1.2.2. The overall condition of the unpaved roads is worse in the Fetakgomo Local Municipality than in the other local municipal areas.

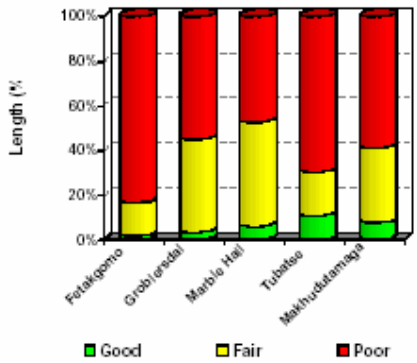

FIGURE 3.13.1.2.2: CONDITION DISTRIBUTION OF UNPAVED ROADS PER LOCAL MUNICIPALITY

More detailed information is available as part of the GSDM Road Master Plan.

3.14 ROAD SAFETY

International research indicates that road traffic accidents will be a leading cause of mortality and disability in the future. The projection of the Global Road Safety Partnership is that by the year 2020, road accidents will the third leading burden on health worldwide, exceeded only by cardiovascular diseases and major depression *(1)*.

The key focus areas for addressing road safety are as follows:

a) Education
b) Law enforcement
c) Engineering and data capturing
d) Emergency services.

There is currently no provincial or local strategy for the transport of hazardous substances, although the matter is briefly addressed as part of the GSDM Road Master Plan. Currently, the GSDM does not implement road safety programmes and projects. Road safety is a competency of the Provincial Department of Roads and Transport. The DoT is active with the Arrive Alive Campaign that is emphasised during the festive seasons and school holidays. There is a need for a continuous focus on road safety.

There is need for the District Municipality to address road safety at local municipal level especially through education, emergency services and the application of engineering. It is envisaged that the Disaster Management Centre will in future collate such data and enhance Transport Planning at the District Municipality to address hazardous locations.

A Pedestrian Safety Management Plan was prepared for Road R37, for the section of road between the Modikwa Mine and Burgersfort. SANRAL and the Limpopo Province Department of Roads and Transport are actively involved in the plan. It should furthermore be mentioned that the Global Road Safety Partners formed part of project where training for the relevant road section was provided for learners as well as the respective mines.

Chapter

4. INTEGRATED LAND-USE AND TRANSPORT PLANNING

This section of the report contains the strategies and procedures to ensure integrated land-use and transport planning. The main aim is to fulfil the requirements of the NLTTA. The focus should therefore be on the following:

a) Densification
b) Infilling
c) Mixed land-use
d) Rationalisation of transport and housing strategies.

The four above-mentioned underlying factors should support the transport system in the GSDM. In order to promote the integration of land-use and transport, the strategies of this PTP were formulated in a fashion that would support the development of existing corridors and nodes.

The PTP was therefore prepared in context with the –

a) Spatial Development Framework;
b) Integrated Development Plan (IDP);
c) Provincial Land Transport Framework (PLTF); and
d) Limpopo Growth and Development Strategy.

The OLS and RATPLAN were formulated according to the development nodes identified in the Spatial Development Framework.

The subsequent sections of this chapter of the ITP will elaborate on the following:

a) Demographics
b) Growth points
c) Status quo development scenario and projection
d) Economic development drivers and projection
e) Tourist attractions along routes
f) Land-use development
g) Integrated Development Plan
h) Status quo scenario and projections
i) Tourist attractions along the proposed routes
j) Development of guidelines for traffic impact studies for new commercial developments as residential developments
k) By-laws based on the transport impact studies for new developments.

4.1 DEMOGRAPHICS

The GSDM is located in the southern part of Limpopo Province (see Figure 4.1.1). The area measures approximately 1 326 437 ha in extent (GSDM, 2005), and stretches roughly from Ohrigstad in the east to Marble Hall in the west, and from Apel in the north to Groblersdal in the south.

The southern portion of GSD previously fell in the Mpumalanga Province. However, in accordance with the Cross-Boundary Municipalities Laws Repeal and Related Matters Act, 2005 (Act No. 23 of 2005), the provincial boundaries were adjusted with effect from 1 March 2006, so that the whole of the GSDM now falls within the Limpopo Province.

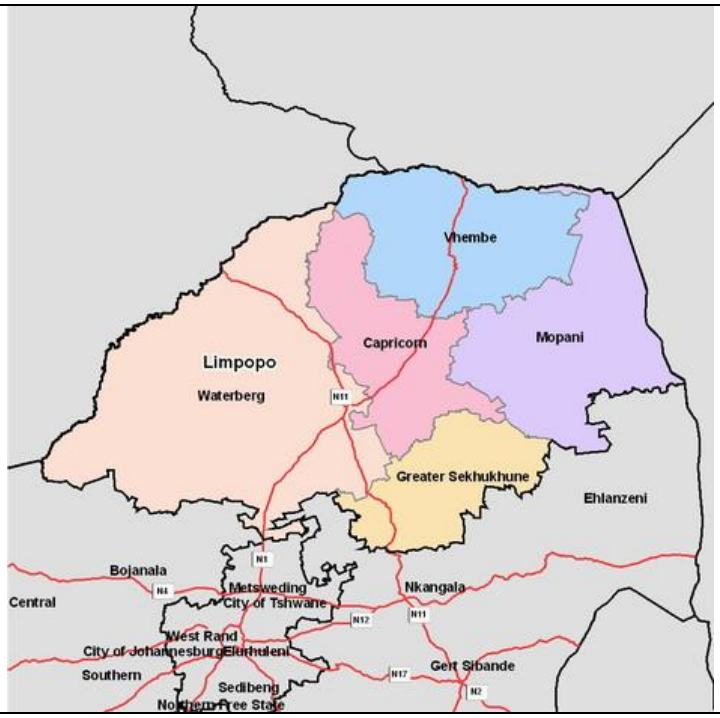

FIGURE 4.1.1: LOCATION OF GSDM

Source: Municipal Demarcation Board, 2006

4.1.1 Other demographics

The GSDM consists of five local municipalities (see Figure 4.1.1.1), namely:

a) Elias Motsoaledi Local Municipality
b) Greater Marble Hall Local Municipality
c) Greater Tubatse Local Municipality
d) Fetakgomo Local Municipality
e) Makhuduthamaga Local Municipality.

The population of GSDM for 2001 was estimated at 967 197 people (based on 2001 census data) (GSDM, 2005). The population growth rate between 1996 and 2001 was 1,2% per annum.

TABLE 4.1.1.1: POPULATION DATA FOR GREATER GSDM (2001)

Municipality	Male	Female	Total
Fetakgomo	40 694	51 398	92 092
Groblersdal	98 689	122 050	220 739
Makhuduthamaga	114 038	148 883	262 921
Marble Hall	55 765	65 558	121 323
Tubatse	121 254	148 868	270 122
Total	430 440	536 757	967 197

Source: GSDM, 2005
Municipal Demarcation Board, 2006.

For the whole of the Greater Sekhukhune District Municipality, the age group below 18 years comprises approximately 50% of the population.

FIGURE 4.1.1.1: GRAPHICAL REPRESENTATION OF LOCAL MUNICIAPLITIES IN THE GSDM

Source: Municipal Demarcation Board, 2006

The male-female ratio is almost equal in the age group below 18 years, but females are almost 60% of the population in the working age group and more than 68% in the senior age group for the whole of the GSDM. Over all age groups, females constitute 55% of the population.

4.1.2 Employment and economic activities

Only about 16% of the population have an education qualification of Grade 12 or higher (Municipal Demarcation Board, 2006).

The status of employment in the GSDM per local municipality during 2001 is indicated in Table 4.1.2.1 (GSDM, 2005).

TABLE 4.1.2.1: STATUS OF EMPLOYMENT IN GSD (2001)						
Status	**Fetak-gomo**	**Elias Motsoaledi**	**M'Tha-maga**	**Marble Hall**	**Tubatse**	**Total**
Employed	4 880	20 203	10 777	15 678	19 227	70 764
Unemployed	10 453	23 933	32 349	12 741	30 678	110 155
Scholar	14 058	35 553	39 547	16 802	37 868	143 828
Housewife	5 451	9 365	13 502	5 076	15 301	48 695
Retired	3 112	6 132	7 872	2 831	7 096	27 043
Ill or disabled	938	3 255	2 819	1 390	2 643	11 047
Seasonal	392	1 159	979	672	861	4 063
Prefer not to work	3 630	6 063	9 950	3 140	9 162	31 945
Cannot find work	5 782	13 681	18 483	8 559	21 530	68 034
Total	48 696	119 345	136 279	66 890	144 365	515 574

Source: GSDM, 2005

The labour force is quantified as the sum of employed, unemployed and seasonal workers, and people who cannot find work. This amounts to 253 016 persons in the GSDM. The rate of unemployment in the Greater Sekhukhune DM was 43,5% in 2001 (defined as unemployed persons as a proportion of the labour force).

Government is the largest employer in the Greater Sekhukhune District Municipality (GSDM, 2005), with about 25% of all employed people working for the State (2001 figures). Agriculture and hunting are the second-largest employment sector, accounting for about 16% of all employed people. Other important sectors include wholesale and retail trading activities (13%), private households (domestic work) (11%) and mining (8%).

As a result of the high unemployment rate, about 39% of households have no formal income, as indicated in Table 4.1.2.2. This has important implications for the ability of households to pay for municipal services.

TABLE 4.1.2.2: INCOME DISTRIBUTION FOR INDIVIDUALS IN GSDM	
Personal income level	**% of population**
No income	39%
R1 – R4 800	9%
R4 801 – R 9 600	25%
R9 601 – R 19 200	13%
R19 201 – R 38 400	7%
R38 401 – R 76 800	5%
R76 801 – R153 600	2%
R153601 – R307200	1%

Source: Municipal Demarcation Board, 2006

*4.2 **G**ROWTH **P**OINTS*

Growth points are individual settlements or settlements located close to one another and where there are strong economic, social and institutional activities. The GSDM has three provincial growth points (GSDM, 2005), namely:

a) Burgersfort,
b) Groblersdal and
c) Marble Hall.

In addition, the GSD has two district growth points (Steelpoort and Jane Furse) and a total of nine municipal growth points, namely Apel, Monsterlus, Motetema, Phokwane, Van der Merweskraal, Elandskraal, Mecklenburg, Driekop and Ohrigstad. A summary of growth points per local municipality is shown in Table 4.2.1.

TABLE 4.2.1: GROWTH POINTS IN THE GSDM

Local Municipality	% of population in growth point	Growth point		
		Provincial	District	Municipal
Greater Tubatse	38%	Burgersfort	Steelpoort	Mecklenburg Driekop Ohrigstad
Greater Marble Hall	66%	Marble Hall	-	Van der Merweskraal Elandskraal
Greater Groblersdal	61%	Groblersdal	-	Monsterlus Motetema
Fetakgomo	39%	-	-	Apel
Makhuduthamaga	51%	-	Jane Furse	Phokwane

Source: GSDM, 2005

4.3 STATUS QUO DEVELOPMENT SCENARIO AND PROJECTION

The discussion in this section is derived from the other studies, namely:

a) GSDM Draft Integrated Spatial Development Framework
b) Limpopo 2020 – Integrated Infrastructure Development Plan
c) GSDM Local Economic Development Plan.

One of the spatial-economic characteristics of the Greater Sekhukhune District Municipality is the scattered pattern of human settlement. The Spatial Rationale for Limpopo concluded that the Limpopo part of Sekhukhune comprised 529 settlements in 2002 with an average population of 1 843 persons per settlement. This is below the provincial average of 2 307 and well below the numbers required for urban viability. Therefore, in terms of the hierarchy of settlements, there are several fourth-order settlements (village service areas) in the GSDM.

The following Spatial Development Initiatives (SDIs) were proclaimed in Limpopo to create economic clusters and linkages inside a specific geographical area:

a) Phalaborwa SDI, containing developments related to mining, agro-industry and tourism
b) Trans-Limpopo SDI focusing on eco-tourism and agriculture
c) Dilokong SDI, with primarily mining developments.

Figure 4.3.1 describes the corridors (courtesy of Limpopo 2020 – Integrated Infrastructure Development Plan, July 2003).

The Dilokong Corridor comprises developments related to mining, agro-industry and tourism. The new platinum mine to be established in due course would contribute to alleviating the existing unemployment situation in the Fetakgomo as well as the Greater Tubatse Local Municipality areas.

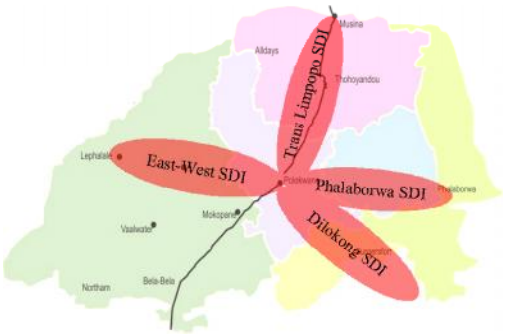

FIGURE 4.3.1: SPATIAL DEVELOPMENT INITIATIVES IN THE LIMPOPO PROVINCE

The construction of the De Hoop Dam will also be significant and will generate a considerable number of temporary job opportunities in the Makhuduthamaga Local Municipality area. However, the institutional capacity and cross-border management problems at Provincial level, improved infrastructure and better skills levels of unemployed persons would have to be addressed in order to ensure progress with development. The Integrated Sustainable Rural Development Strategy will also remain a frustration.

4.4 ECONOMIC DEVELOPMENT DRIVERS AND PROJECTION

Specific targets have been set for capital investment, economic growth and job creation in Limpopo Province for each year from 2004 to 2014, in order to accelerate economic development. Seven competitive cluster value chains have been selected for priority attention as a basis for achieving the targets for capital investment, sustainable economic growth, job creation and economic and spatial diversification, as well as for the integration of public development interventions. The GSDM has the following four clusters:

a) Mining (platinum) cluster on the Dilokong Corridor
b) Horticulture, mainly in Groblersdal and Marble Hall and specifically along the Lepelle River
c) Red-meat and white-meat clusters across the entire GSDM
d) Tourism, with specific reference to main routes, family entertainment, the game industry and business travel as subclusters.

Since mining plays a very prominent role, the next section will elaborate in more detail on mining activities in the GSDM.

4.4.1 Mining in the Greater Sekhukhune District Municipality

The platinum mining locations are indicated in Figure 4.4.1.2. The four areas where the new platinum mines will be concentrated include the following:

a) The Lebowakgomo District (South)
b) Groblersdal – Cluff mining
c) Dilokong Corridor that forms part of Road R37
d) Road R555 from Steelpoort to Stofberg.

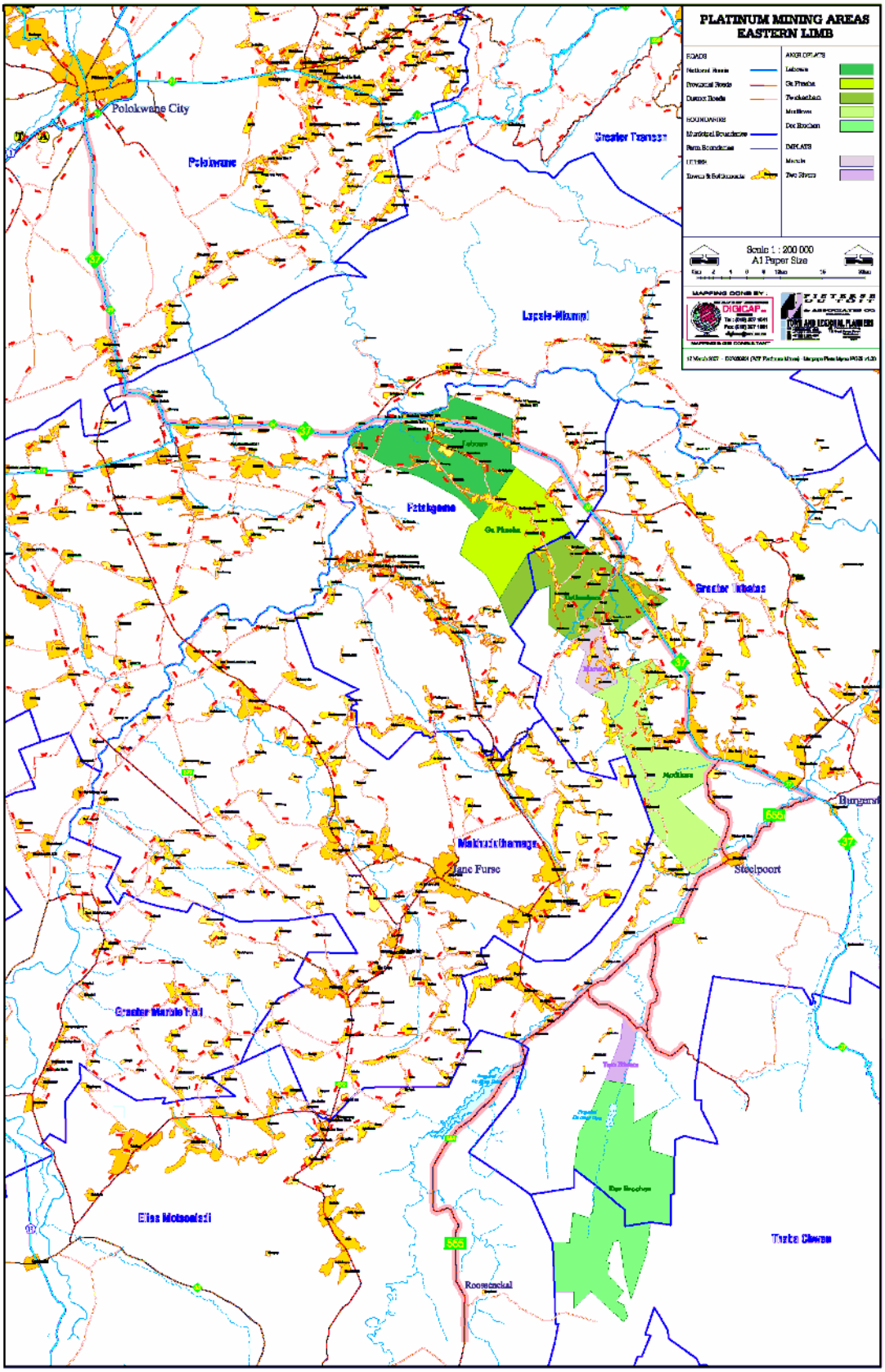

FIGURE 4.4.1.2: MAJOR PLATINUM MINING ACTIVITIES ALONG ROAD R37 AND R555

Sufficient resources are available to equal the size and scale of the platinum industry in the Rustenburg area in the North West Province over time, to make the Limpopo Province the largest national contributor of platinum. A high percentage of the platinum concentrate from the areas described above, will be transported in the form of platinum concentrate to the Polokwane Smelter. The Greater Tubatse Local Municipality (GTLM) stated that with the exception of the creativity of the people, mining might be the only chance the GTLM could have to establish a self-sustainable basis for generating its own income and job opportunities that would not depend on funds from the Government.

From the above summary of the mining sector and particularly the expansion potential, it is clear that the role of public transport for mining employees, as well as the development of road and rail infrastructure to support mining activities, should be a very important priority for the future.

4.5 TOURIST ATTRACTIONS ALONG THE PROPOSED ROUTES

Figure 4.5.1 is a graphical representation of the primary tourism zone in the GSDM:

Drakensberg Escarpment – the Tourism Development Plan has been completed with the focus on developing the Tzaneen, Doorndraai, Ebenezer and Flag Boshielo dams.

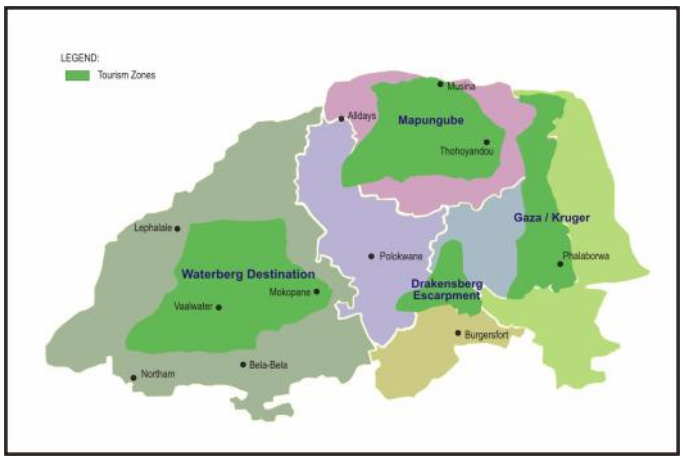

FIGURE 4.5.1 – TOURISM ZONES IN THE LIMPOPO PROVINCE

High-level project feasibility studies have been completed on several projects, for presentation to investors in order to attract investment in the tourism sector. According to a survey (16 municipalities participated), the condition of roads is considered to be the biggest threat to the tourism industry *(11)*. Other public infrastructure requiring maintenance includes parking, signage and public transport.

The Golden Horseshoe route (R572) has been identified for servicing the four key tourism zones, integrating the tourism industry within Limpopo. This route functions like a golden thread, consolidating an eco-tourism wilderness of some 4 million hectares on the province's western, northern and eastern perimeters. A significant portion of this area already consists of publicly and privately owned game and nature reserves. The Golden horseshoe includes two Trans-Frontier Conservation areas, the first being the Kruger National Park and neighbouring game reserves in Zimbabwe and Mozambique. The second involves the development of a 500 000 hectare Peace Park, bisected by the

Limpopo River and incorporating public and private game reserves west of Musina in Limpopo, and in neighbouring Zimbabwe and Botswana. The Limpopo Economic Development Enterprise stated: “The Golden Horseshoe has the real potential to attract at least R7 billion of investment and even to double the size of the Limpopo economy” *(11)*.

4.6 LAND-USE DEVELOPMENT

In general, residential densification in the urban areas should be the ultimate objective of integrated planning. Improving the quality of life by travelling shorter distances on a daily basis (<40 km or one hour), and maintaining the monthly travel cost below 10% of disposal income, both depend on the value of the passenger’s time. Nevertheless, it is assumed that the value of time for the economically active passenger is relatively higher than for the often-unemployed rural passenger.

Ideally, the rural population should relocate to urban areas so that densification can be achieved. However, this may not be practical and job opportunities in the urban areas dictate the desire to relocate from remote rural areas to the urban areas. The relocation of economically active people from the rural to the urban areas is gradual. Currently, many people commute long distances daily between home and work. For this reason, town planners in economic centres such as Groblersdal, Marble Hall and Burgersfort should plan suburban housing developments, and not perpetuate the planning practices of the apartheid regime.

However, the cost of living in the urban areas is relatively higher and a disincentive for rural residents to relocate to the suburbs. Nevertheless, town planning must consider low-cost housing that would promote densification, and as a result reduce travel time, the cost of travel and subsidies.

The progressive development of the subsidy policy should ensure that subsidies do not perpetuate the unsustainable settlement patterns of the apartheid regime.

4.7 INTEGRATED DEVELOPMENT PLAN

The transport-related output for the Greater Sekhukhune District Municipality IDP is shown in Table 4.7.1. This output comprises the overarching strategies for the district and is therefore fairly broad. Table 4.7.2 indicates priorities from a local municipality perspective as summarised as part of the GSDM-IDP. To conclude the IDP input from a district perspective, it should be mentioned that not enough emphasis is placed on public transport.

Table 4.7.1 lists some of the public transport infrastructure projects that form part of the GSDM IDP.

TABLE 4.7.1: TRANSPORT-RELATED DISTRICT STRATEGIES INDICATED AS PART OF THE GSDM IDP											
Key Performance Area	**Objectives**	**Project**	**Key Performance Indicators/ targets**	**Funding source**	**Total cost**	**2006/07**				**2007/08**	**2008/09**
						Q1	**Q2**	**Q3**	**Q4**		
Co-ordination of forums	To identify roads and transport needs and monitor implementation	Forum meetings to assess progress with projects	Improved management of taxi ranks. Transport in rural areas. Provision for maintenance of roads.	GSDM	R12 000	R3000	R2 000	R 4000	R3 000	R15 000	R300 000
	To identify and address energy-related issues in the district	To bring all energy stakeholders together To disseminate information from the Provincial Energy Forum and co-ordinate FBE (costing)	Improved management of energy issues and commitment by locals Increment in tokens collected	GSDM	R12 000	R3 000	R2 000	R4 000	R3 000	R15 000	
Review of transport plan	To assess the performance of transport facilities and public	Review the Current Public Transport Records	Report on the status of public transport in the district	GSDM	R500 000	R200 000	R200 000	R100 000		R200 000	R200 000

TABLE 4.7.1: TRANSPORT-RELATED DISTRICT STRATEGIES INDICATED AS PART OF THE GSDM IDP												
Key Performance Area	**Objectives**	**Project**	**Key Performance Indicators/ targets**	**Funding source**	**Total cost**	**2006/07**				**2007/08**	**2008/09**
						Q1	**Q2**	**Q3**	**Q4**		
	transport operations	(CPTR)									
Roads Master Plan	To assess the road network and investigate costs	Development of the plan Road management system	Roads Master Plan Road management system	GSDM	R500 000	R300 000	R200 000			R250 000	R250 000
Non-motorised transport plan (feasibility)	To assess the feasibility of using non-motorised transport	Investigate the feasibility of using non-motorised transport	Feasibility report	GSDM	R300 000	R150 000	R150 000			R200 000	R200 000
Letsema	To impart project implementation skills in the maintenance of small projects To fast-track the implementation of small projects	Maintain the public infrastructure	Communities trained in maintaining public infrastructure.	GSDM	R300 000	R150 000			R150 000	R300 000	R300 000
Operation and maintenance	To maintain roads in Fetakgomo and District Roads		Roads maintained	GSDM	R2m	R500 000	R500 000	R500 000	R500 000	R2m	R2m

TABLE 4.7.2: PUBLIC TRANSPORT INFRASTRUCTURE PROJECTS IDENTIFIED BY THE GSDM-IDP		
Local Municipality	**IDP Project Number**	**Name of facility**
Greater Groblersdal Local Municipality	Monsterlus Taxi Rank	GSDM/GGM/06/R001
Greater Tubatse Local Municipality	Moroke Taxi Rank	GSDM/GTM/06/R002
Greater Marble Hall Local Municipality	Tsimanyane Taxi Rank	GSDM/GMH/06/R003
Makhuduthamaga Local Municipality	Apel Cross Taxi Rank	GSDM/MK/06/004
Fetakgomo Local Municipality	Atok Taxi Rank	GSDM/FT/06/005

4.8 DEVELOP A GUIDELINE FOR TRANSPORT IMPACT STUDIES

It was found that, in the *Manual for traffic impact studies (RR93/635), National Department of Transport*, there are no explicit guidelines on taking proactive measures to supply public transportation in a new trip generator (township establishment, industrial area, etc.).

According to RR93/635, Town Planning engages in "forward planning" and "development control". Forward planning means the formulation of development strategies, policies and plans to guide the physical development of regions, towns or cities. Development control means public control over the development and use of land in order to achieve the aims of planning and to ensure order.

In view of the dynamic changes to public transportation and the emphasis on it in the NLTTA, it is equally necessary for the District and Local Municipalities to adopt the following concept:

Every new township establishment should have a public transportation operator, appointed through a tender, or the new route/s should be added to an existing contract in the proximity of the new development. This would avoid destructive competition, the conflict it induces among operators, the over-supply of public transport services and a fragmented public transport system in the area.

For this reason, there is a need for continuous liaison and co-ordination among Town Planning, the Provincial Department of Housing and Transport Planning – including the OLB and Registrar – to ensure control over the supply of public transport in new developments.

There are several new mining and residential developments in the GSDM, with specific reference to the Greater Tubatse Local Municipality area.

4.9 TRANSPORT IMPACT STUDIES FOR NEW COMMERCIAL DEVELOPMENTS

In view of the dynamic changes to public transportation and the emphasis placed on this in the NLTTA, it is equally necessary for the District and Local Municipalities to adopt the following concept:

Every new development must provide a traffic impact study, if the development has the potential to generate more than 150 peak-hour trips. Traditionally, a traffic impact study focuses on mitigating the impact of private vehicles, and on identifying bus stops along the road network. The guideline mandates the developer to provide access for private vehicles and commercial vehicles, and also requires the developer to finance the cost of accommodating the development's traffic impact on the local road network. Although the current guideline prioritises the integration of public transportation and development, the developer is not obliged to provide public transport facilities; neither are public-private partnerships encouraged for the development of public transport facilities. Instead, public transport facilities are regarded as bulk services provided by the local authority. (Public transport facilities include direct vehicle and passenger access, including lay-bys, stairs, ramps, pedestrian crossings, protected walkways from the lay-by to the commercial centre and traffic calming in the periphery of the development).

Although the local authority is responsible for upgrading and improving the basic infrastructure, the developer may, as a result of the impact study, be instructed to take specific mitigation measures. In a case where a development is large enough to warrant public transport facilities, the developer is required to design and construct the facilities. The developer should acknowledge that a public transport facility is in the interests of the

development's commercial function, when accommodating social externalities such as safety and the comfort of its captive commuters/employees.

In effect, a public-private partnership is conceived where the developer provides the necessary facilities and the local authority provides the shelter, sidewalks, route maps and schedules, and also the necessary street furniture to enhance the liveability of communities.

4.10 TRANSPORT IMPACT STUDIES FOR NEW RESIDENTIAL DEVELOPMENTS

Every new township that is established should have a public transport operator, appointed through a tender, or the new route/s should be added to an existing subsidy contract in proximity to the new development or the route should be registered as part of the operations of the taxi industry. This would avoid destructive competition, the conflict it induces among operators, the over-supply of public transport services and a fragmented public transport system in the area.

For this reason, there is a need for continuous liaison and co-ordination among Town Planning, the Provincial Department of Housing and Transport Planning – including the OLB and Registrar – to ensure control over the supply of public transport in new residential developments.

(There are several new mining and residential developments in the GSDM. The current bus operators supply new services or additional services on the existing subsidised routes. The new services have not yet been subsidised.)

4.11 BY-LAWS BASED ON THE TRANSPORT IMPACT STUDIES FOR NEW DEVELOPMENTS

The development of residential, retail and office space is an opportunity to improve the standard of public transport facilities with the support of the futuristic ideas of the developer. The public transport facilities should be strategically located so that access, mobility and road capacity can be optimised for both public and private transportation. The integrated public transport facility should ensure safe and convenient pedestrian access to the development.

Concurrently, the planning and design of an integrated facility must consider the aims and objectives of the taxi and bus operators affected by the facility, the desires of pedestrians and the proposed developer's responsibility to public transportation.

Although the local authority is responsible for upgrading and improving the basic infrastructure, the developer may, as a result of the impact study, be instructed to take specific mitigation measures. The guideline must oblige the developer to pay for the mitigation measures for private vehicles and also for public transport vehicles, where appropriate.

The developer must mitigate the impact of the development, and therefore, where a development is large enough to warrant a public transport facility for one or more public transport vehicles; the developer is required to design and construct the facility as part of that development. The Jane Furse Plaza Rank is an example of transit-oriented development.

The developer is also required to design and construct immediate accesses from the facility to the development, including stairs, ramps, pedestrian crossings, protected walkways, shelters and traffic calming, where physically possible.

The guideline must also specify the parking requirements for private vehicles. Instead of requiring a minimum number of parking spaces for each new development, a maximum

number of parking spaces must be provided. This would place a ceiling on the supply of parking, to achieve two major objectives:

a) To increase the use of transit and other modes
b) To prevent an excessive concentration of vehicles in an area that should be oriented to people.

Chapter

5. NEEDS ASSESSMENT

The following are discussed as part of this chapter:

a) Strategic thrust
b) Measures to promote public transport
c) The needs of persons with disabilities
d) The needs of students, learners and elderly
e) Modal integration, infrastructure and facilities
f) Fare system for public transport
g) Funding
h) Institutional arrangements

5.1 STRATEGIC THRUSTS

The minimum requirements for the preparation of a PTP states that the needs assessment as part of the PTP has to be reviewed together with the existing and future land-use frameworks and must consider all modes and facilities.

The needs assessment done as part of the PTP can be defined in terms of the following:

a) Measures to promote public transport
b) The needs of persons with disabilities
c) The needs of learners
d) Modal integration, infrastructure and facilities
e) Fare systems for public transport.

In addition to the minimum requirements as well as the recommendations made as part of the GSDM Road Master Plan, it is recommended that the GSDM should focus its efforts and resources on the following strategic components of transportation:

a) Capacity and skills development
b) Addressing the service backlog
c) Travel Demand Management
d) Road safety.

The subsequent subsections elaborate on the above-mentioned strategic components.

5.1.1 Capacity and skills development

a) Training of officials in Integrated Transportation Planning and Land-use Planning
b) Recruitment of transport planners and engineers
c) Procurement of consulting engineering services for consistent and continuous advice and ad hoc projects.

5.1.2 Addressing the service backlog

a) Motivate subsidised public transport coverage in the GSDM with the objective of reducing the cost of travel
b) Install public transport infrastructure such as shelters, lay-bys and inter-modal facilities
c) Upgrade the road infrastructure and streets between residential and business nodes.

5.1.3 Travel Demand Management (TDM)

a) Manage congestion through TDM measures such as signalisation, bus lanes, reversible lanes in urban areas and the upgrading of intersections
b) Develop a non-motorised transport plan and implement projects.

5.1.4 Road safety

a) Develop a Central Communications Centre for Incident Management
b) Do road safety audits
c) Address hazardous locations
d) Motivate law enforcement at strategic locations
e) Conduct education and communication campaigns.

5.2 NEEDS ASSESSMENTS FOR PUBLIC TRANSPORT

The specific public transport strategies to be addressed are as follows:

a) Measures to promote public transport
b) The needs of persons with disabilities
c) The needs of learners
d) Modal integration
e) Fare systems for public transport
f) Public transport infrastructure and facilities.

The subsections below elaborate on the above-mentioned strategies and also contain the following:

a) Brief assessment of the status quo
b) Specific principles and objectives to be achieved.

5.2.1 Measures to promote public transport

5.2.1.1 Brief summary of relevant national and provincial strategies

The National Strategy is briefly summarised as follows:

a) For the purpose of land transport planning and the provision of land transport infrastructure and facilities, public transport must be given a higher priority than private transport. This will entail taking effective Travel Demand Management (TDM) measures to promote the more efficient use of private cars and to free resources for the upgrading and promotion of public transport.

   All spheres of government have to promote public transport and the efficient flow of inter-provincial transport and cross-border road transport.

   Land transport planning and provision should give greater attention to promoting the safe and efficient use of non-motorised transport modes, such as walking and cycling.

b) The basis of the policy is a change from a supply-driven to a demand-driven land transport system. For this reason, transport planning, integrating all three spheres of government, as provided for in the National Land Transport Transition Act (NLTTA), should be the lever for change from a supply-driven to a demand-driven or needs-driven transport system.

The Limpopo Province Transport Strategy is briefly summarised as follows:

a) Reduce the cost of transport to people
b) Support and develop the bus industry
c) Support and develop the taxi industry
d) Assist municipalities with the provision of facilities
e) Provide an improved quality of service (safe, efficient, reliable and integrated, etc.)
f) Enhance non-motorised transport (pedestrian facilities, donkey-carts, bicycles, etc.)

5.2.2 Specific principles and objectives

The following are some of the measures intended to promote public transport:

a) The provision of adequate public transport infrastructure, facilities and services
b) The increased utilisation of public transport services
c) The improvement of the image and acceptability of public transport, including:

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

d) The integration of transport and land use in a way that will enhance the accessibility and utilisation of public transport
e) A higher priority for public transport than for private transport
f) The marketing of public transport services in general; for example by publishing information about routes, tariffs and timetables
g) Training, skills development and capacity building in the public transport industry
h) Modal integration
i) Discouragement of direct competition between the bus and taxi modes.

5.2.3 The needs of persons with disabilities

5.2.3.1 Brief summary of relevant National and Provincial Strategies

Section 4(1)(k) of the NLTTA requires the following to meet the needs of persons with disabilities and of learners:

a) That their needs must be considered in the planning and provision of public transport; and
b) That their needs should as far as possible be met by the system provided for mainstream public transport.

Persons with disabilities are defined in the NLTTA as all persons whose mobility is restricted by temporary or permanent physical or mental disability, and includes the very young, the blind or partially sighted, and the deaf or hard of hearing.

Section 18(3)(e) of the NLTTA further states that transport plans (including the PTP) have to be developed so as to enhance accessibility to public transport services and facilities, and transport functionality in the case of persons with disabilities.

The Accessible Transport Strategy (DoT) contains the following minimum requirements:

a) Implement low-cost accessible features for ambulatory passengers. This will affect the exterior, entrance and interior designs of the three modes of public transport. Such accessible features must be effected by reviewing the subsidy contract/tendering

system and using it as leverage. This will be the case particularly with bus and rail transport.

b) Metropolitan municipalities shall facilitate the identification of accessible transport networks as well as corridors and link them to online infrastructure, in accordance with the guiding principles/recommendations of the NLTSF – towards achieving "reasonable accommodation", as part of their transport-planning processes. The same applies to non-metropolitan municipalities falling under category B (i.e. Local) as well as those falling under category C (i.e. Districts).
c) 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.
d) Safety features should be introduced when existing vehicles are redesigned and refurbished. These safety features refer to the additional ones for use by passengers with disabilities. All land transport operators shall make provision for suitable storage facilities for both long- and short-distance travel passengers to store their supportive devices (such as crutches, walking sticks and wheelchairs) on rail coaches, buses and taxis, in support of inter-connectivity in the travel chain.

5.2.4 Specific principles and objectives

The following are the specific principles and objectives that have to be achieved as part of the development of a strategy addressing the needs of persons with disabilities:

a) Proper information systems and communication structures (before and during the journey)
b) Specialist transport services (e.g. dial-a-ride type services)
c) The design of vehicles/rolling stock so as to allow for persons with disabilities (special and normal vehicles)
d) Customised design of public transport facilities, including ablution facilities
e) Ensuring access to public transport facilities and vehicles for the mobility impaired.

At least Class 1 improvements, which are provisions for the blind and deaf, are mandatory for new buses and in new bus contracts. Class 1 improvements are features that increase the accessibility of a transport system to all lifecycle and impairment passengers, but not to 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 handholds to improve visibility), improved infrastructure (such as sheltered and safe bus stops), and improved operational practices (such as keeping the vehicle stationary until elderly and disabled passengers are seated).

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 a blind passenger boards, the driver should note the point where the passenger alights.

Class 2 improvements are features that allow wheelchair users to board and ride on vehicles in their chairs. This is usually achieved through a combination of vehicle and infrastructure improvements, such as low-floor buses with sufficient kerbs, high-floor buses with wayside platforms.

5.2.5 The needs of learners, students and the elderly

5.2.5.1 Brief summary of relevant national and provincial strategies

One of the objectives of passenger transport strategies for the development of social services and mobility in the Limpopo Province is to improve passenger transport for learners, the elderly and persons with disabilities.

There is no specific and clear policy on the subsidisation of learners, students and the elderly at national and provincial government level.

5.2.6 Specific principles and objectives

The principles and objectives for the transportation of learners, students and the elderly in the GSDM are as follows:

a) To make commuting affordable, which would probably require subsidisation
b) To make public transport accessible
c) To enable learners and students to be punctual
d) To implement and maintain non-motorised transport for learners
e) To limit to less than 5 kilometres the distance learners have to walk to and from school
f) To provide comfortable transport.

5.2.7 Modal integration, infrastructure and facilities

5.2.7.1 Brief summary of relevant national and provincial strategies

Modal integration is defined as the integration of some or all of the different public transport modes (mainly the minibus-taxi, bus and train modes) into the public transport system. These modes should be integrated in a way that would allow them to operate as a seamless public transport system, while providing an effective, efficient and affordable service to the user. The integration of public transport modes with other modes, such as the private motorcar, bicycle, metered taxi, tourist services or walking should also receive attention.

The more important provincial transport strategies are as follows:

a) To promote modal integration and all modes of transport in a holistic manner
b) To provide public transport facilities and infrastructure
c) To assist District Municipalities to develop public transport transfer facilities of regional significance in urban areas.

5.2.8 Specific principles and objectives

The primary elements considered for the modal integration process include the following:

a) Integrated network of routes
b) Integrated schedules (timetables)
c) Integrated transfer facilities
d) Integrated ticketing
e) Integrated tariff structures
f) Integrated information systems.

Ideally, the focus areas of modal integration should include the following:

a) Legislation (including provincial legislation and/or regulations or by-laws)
b) Funding (including preference for providing financial assistance to modal integrated services and facilities, the involvement of the private sector and financial incentives)
c) Co-ordinated planning processes at provincial as well as local government level (including the PTP and planning guidelines)
d) Institutional structures that are co-ordinated (including modal integration committees)
e) The necessary implementation and monitoring (including pilot projects and a phased approach giving preference to high-impact and low-cost projects)
f) Regulation and control (including the formalisation of the taxi industry and the regulation of all modes of public transport, with appropriate law enforcement)
g) Consultation, marketing and training (including a marketing strategy and ensuring that all role players are suitably informed and supportive)
h) Guidelines, norms and standards (including conforming to certain standards and Provincial guidelines).

5.2.9 Fare system for public transport

5.2.9.1 Brief summary of relevant national and provincial strategies

Section 26(2)(b)(ii) of the NLTTA provides for the development of a strategy for fare systems for public transport, comprising fare structures, levels and technology. Section 5(6)(b) and (c) indicates that the Minister may, after consultation with the MECs, set norms and standards of a general nature in respect of fares for subsidised public transport services by road or rail, with a view to providing integrated ticketing and fare systems in public transport networks. The Act may further prescribe requirements for integrated fare systems, comprising fare structures, levels and technology, to ensure compatibility between such systems.

Section 25, dealing with the Rationalisation Plan, also discusses different aspects of subsidies for public transport. According to the Moving South Africa Strategy, the proposed maximum spending on travel should be less than 10% of disposable income per household.

5.2.9.2 Specific principles and objectives

The Department of Transport and the operators should prioritise the following fare policy goals:

a) Customer-related goals

   i) Minimise revenue loss
   ii) Maximise social equity
   iii) Increase fare options
   iv) Reduce complexity.

b) Financial goals

   i) Increase revenue
   ii) Reduce fare evasion
   iii) Improve revenue control
   iv) Reduce the cost of fare collection
   v) Reduce the use of cash.

c) Management-related goals

   i) Improve data collection
   ii) Improve modal integration

iii) Increase pricing flexibility
iv) Maximise ease of implementation
v) Improve operations
vi) Earn interest on prepaid revenues.

Effectively, the fare structure in the GSDM is a flat fare system, because all the passengers reside in one spatial location or node. However, the trip length for each node varies, and fares vary accordingly.

Flat fares are simple and make collection easy, but are not equitable and forfeit potential revenue for longer routes. Zone-based fares are cumbersome and confusing to the driver and customers, and slow down operations. Zone-based fares may be simplified with technological intervention, and are currently mandated in the contracts awarded by tender.

5.3 BROAD PUBLIC TRANSPORT STRATEGY

The broad public transport strategies for the GSDM are as follows:

a) Enhance accessibility to and the use of public transport through planning to ensure that the different modes of transport are integrated and co-ordinated
b) Enhance the effective functioning of the GSDM area, including the rural areas, by planning the transport services and infrastructure in the context of the Integrated Development Plan as well as the land development objectives
c) Direct economic activity, mixed land-use and high-density residential development along high-utilisation public transport corridors that would connect development nodes, and discourage the urban sprawl that tends to make public services inadequate
d) Give priority to infilling and densification along public transport corridors
e) Give higher priority to public transport than to private transport and discourage the use of private vehicles by means of Travel Demand Management
f) Enhance accessibility to public transport for persons with disabilities
g) Develop, co-ordinate, implement and manage an integrated, multimodal transport system
h) Ensure that the system is reliable, effective, efficient, safe, accessible, affordable and environmentally friendly
i) Promote the most cost-effective mode of transport
j) Focus on prioritised economic activity nodes and transport nodes in the transport plans
k) Identify minimum service levels for the public transport services that serve economic activity nodes
l) Develop a holistic and integrated funding strategy, focusing on maximising the transport budget from the Provincial allocation, and by achieving efficiency gains through better utilisation of the available funds
m) Explore the possibility of additional sources of funding.

5.4 FUNDING

Currently, there is no adequate funding to address the backlog of service provision. Hence, all new proposals impose additional costs on the backlog. For this reason, there is need to identify various sources and mechanisms to generate funds for transport planning and implementation.

5.5 INSTITUTIONAL ARRANGEMENTS

The Roads Master Plan deals in detail with the institutional arrangements that should be made to ensure the effective functioning of the road and transport systems in the GSDM.

Chapter

6. PUBLIC TRANSPORT PROPOSALS

The specific public transport strategies to be addressed are as follows:

a) Measures to promote public transport
b) The needs of persons with disabilities
c) The needs of learners
d) Modal integration
e) Fare systems for public transport
f) Public transport infrastructure and facilities.

The subsections below elaborate on the above-mentioned strategies and also contain the following:

a) The proposed strategy (including the approach and focus areas)
b) Plan of action (short-term and long-term), including specific projects.

6.1 MEASURES TO PROMOTE PUBLIC TRANSPORT

6.1.1 The proposed strategy

The proposed strategy for promoting public transport in the GSDM is to address the following components of public transportation:

a) Improvements to public transport services

    i) Improve the punctuality of performance
    ii) Provide schedules and enhance the availability of timetables
    iii) Decrease travel time
    iv) Improve the cleanliness of the vehicles
    v) Improve the availability of information at ranks and stops
    vi) Maintain a comfortable temperature in the vehicle

b) Resolve institutional arrangements between planning authorities
c) Conduct market research and customer satisfaction surveys
d) Maintain the GSDM Transport Forum
e) Expedite the formalisation of the taxi industry
f) Research feeder and distribution types of service (bus and taxi modes) and design transfers, with a small surcharge, on routes where a single bus does not serve both the trip origin and destination
g) Develop non-motorised transport
h) Develop facilities
i) Implement automated fare control
j) Long-distance taxi trips should be on a fixed timetable to ensure reliability and convenience for the passenger
k) Policy on Design and Art for Community Projects – the inclusion of quality design, photography and art is intended to motivate and inspire the community. Furthermore, quality design not only adds social value to a project but also improves the aesthetic value of the facility. An attractive environment gives a sense of comfort and security, which are elements of a liveable community. Specifically, impressive design and art can improve the appearance and safety of a facility, give vibrancy to its public spaces and induce people to patronise them
l) To create facilities that are integral components of communities, information should be obtained about the character, makeup and history of the neighbourhood. Local

residents and businesspeople could be involved in generating ideas for the project. Artists should be encouraged to interact with the community and may even choose to work directly with residents and businesspeople on a project. Buses and taxis become more attractive through distinctive interior and exterior designs. Architects or artists should be included in the design of bus shelters and the landscaping of integrated public transport systems, such as public transport facilities at shopping centres

m) Launch a marketing campaign. There is need for an extensive information campaign by the Department of Transport and the District Municipality to educate and sensitise passengers, by distributing flyers through employers, putting notices in buses, issuing press releases, etc. The marketing plan, goals and objectives must be measurable. Part of the strategy should include selling available seats during weekends and holidays, such as a "buy one, get one free ride", children under 16 years of age could ride free of charge when accompanied by a fare-paying customer, etc. Similarly, slogans such as "routes to knowledge" for trips to academic institutions, "wheels of economic development" and "wheels to freedom" could be used in advertising campaigns.

6.1.2 Plan of action

The following are some specific projects that could be undertaken to promote public transport in the GSDM:

a) Resolve the outstanding institutional arrangements between the Mpumalanga and Limpopo Departments of Transport
b) Implement the recommendations of the OLS and RATPLAN
c) Update the CPTR, OLS and RATPLAN annually
d) Identify an aesthetic theme for public transport
e) Prepare and implement a Passenger Charter
f) Prepare a Memorandum of Understanding with service providers (bus, taxi, etc), and the Limpopo Province
g) Develop a route colour-coding system for taxi operations
h) Provide a subsidised service in the GTLM
i) Convert all existing subsidy contracts into negotiated or tendered contracts
j) Promote the formation of taxi co-operatives
k) Encourage taxi co-operatives to tender for subsidised routes and as a result, eliminate direct competition between taxis and buses
l) Appoint an independent monitor for the subsidised service contracts
m) Mandate all design and construction projects to accommodate the disabled, pedestrians, bicycles and the new taxi vehicles
n) Develop Key Performance Indicators for the public transport contracts (customer surveys, efficiency, reliability, etc.)
o) The Provincial Taxi Council must address the need to provide long-distance services according to a fixed schedule (the peak periods for taxi operations per route are contained in the OLS)
p) Prepare and implement a communication strategy or marketing campaign for the following purposes:

    i) Guide to using the electronic fare equipment
    ii) Publicise security measures (security on board, at bus stops, etc.)
    iii) Transform the taxi industry, specifically by the introduction of the new taxi vehicles
    iv) Inform passengers of fare price increases
    v) Sensitise the public to the transportation of persons with disabilities.

6.2 THE NEEDS OF PERSONS WITH DISABILITIES

6.2.1 The proposed strategy

The following strategy is relevant for persons with disabilities:

a) Sensitise the public to the needs of disabled persons, with specific focus on the transportation of disabled persons
b) A member of the disabled community should be represented on the Transport Forum
c) Research the specific needs per route and design the provision of services accordingly, including the type of service, for example, dial-a-ride
d) Determine the need to convert all bus and taxi vehicles to accommodate a Class 2-type service
e) As there are currently little or no public transport facilities for persons with disabilities, a strategy should be followed to ensure that the planning and development of all new public transport facilities would take into account the needs of disabled persons.

Subsidised transport for persons with disabilities should be addressed by making Class 1 improvements in the short to medium term. Furthermore, 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 a transport service to persons with disabilities. The Limpopo Department of Roads and Transport must provide subsidies for such services where necessary, and procure the services of the operators, including NGOs, already supplying such services, to provide a specific service to persons with disabilities instead of making major changes to the current bus fleet. In addition, all buses in the current contracts must have Class 1 improvements.

Where there are no such services for persons with disabilities, the bus operators in the tendered and negotiated contracts could introduce a paratransit service with customised vehicles at a marginal cost.

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

In the medium to long term, the Department of Transport must implement Class 2 improvements where necessary, through the tendered and negotiated contracts. Again, it would be more feasible for the operator to supply a paratransit service instead of converting the whole fleet.

6.2.2 Plan of action

The following are relevant to the short-term plan of action:

a) Class 1 improvements to current fleet

Most buses currently have handrails. Buses should have high-contrast colours on steps and handrails to improve visibility. This would make the estimated cost for on-board improvements minimal; these are actually the standard vehicle specifications, which the operator should comply with. Taxi vehicles must also comply with Class 1 improvements.

b) Data capturing

There is need for data on the number of persons with disabilities, and for the particular number on specific routes. The District Municipality should identify the NGOs currently providing a transport service to persons with disabilities. The Limpopo Department of Roads and Transport should provide subsidies for such services where necessary, and procure the services of operators, including the NGOs already supplying such services, to provide a specific service to persons with disabilities instead of making major changes to the current bus fleet.

Capturing the data on the transportation needs of persons with disabilities should be prioritised in the preparation of the next CPTR. Hence, there should be no additional cost for this exercise.

c) Feasibility study for a paratransit service

The feasibility of a paratransit service should be an independent study. The Limpopo Department of Roads and Transport and the Greater Sekhukhune District Municipality should motivate undertaking a pilot project in the GSDM with assistance from the national Department of Transport.

Where there are currently no services for persons with disabilities, there is an opportunity for the Limpopo and Mpumalanga Departments of Transport to enter into contracts for a paratransit service. The two Provincial Governments should consider this in the new contracts for subsidised bus services.

d) Design and construction

Local Municipalities are responsible for upgrading infrastructure such as sheltered and safe bus stops and ramps, and for providing relevant information.

The GSDM should mandate all Local Municipalities to design and construct all public transport facilities with provision for persons with disabilities. The standard design guideline is available from the National Department of Transport.

6.3 THE NEEDS OF LEARNERS, STUDENTS AND THE ELDERLY

6.3.1 The proposed strategy

The transportation of learners is a primarily a public transport matter, not an education matter, and must therefore be addressed by the Department of Roads and Transport. The planning of schools by the Department of Education should involve a transport planner and a representative from the Department of Transport, to ensure that schools are built close to the homes of learners, and that appropriate walkways, traffic safety, etc. are addressed proactively in the planning and design of the school:

a) Where schools are within a 5-km radius, there is a potential for transporting learners by means of non-motorised transport such as bicycles and donkey-carts, including safer walkways
b) Subsidies should be provided for school trips longer than 5 km, provided that there is no school in the vicinity
c) Schools should be planned to be within walking or cycling distance of the majority of learners.

d) Transport assistance should be aimed at learners from low-income homes (most learners in the GSDM are from low-income homes)
e) Assistance to learners could include the provision of bicycles, where appropriate
f) Although the strategy for the transport needs of learners should focus more on the learner than on the mode of transport, it is necessary for reasons of safety and suitability to give attention to the type of vehicles to be used. Addressing the needs of learners should also promote modal integration. The MEC for Transport in the Limpopo Province should state the specific conditions for the use of open vans (bakkies) and trucks for the transportation of learners, in accordance with section 31 of the NLTTA.
g) The Departments of Transport and Education should co-ordinate the efforts and funding for learner and student transportation.

6.3.2 Plan of action

Due to financial constraints and the magnitude of the issue, it is extremely difficult to find specific solutions that would have an immediate effect on the transport of learners in the short term.

6.3.2.1 Non-motorised transport

Bicycles offer greater benefits than motorised transport, as they have lower costs, are environmentally friendly and contribute to the liveability of an area or city. In context, bicycles are the appropriate mode of transport for commuting distances of less than five kilometres, such as mine housing schemes and learners' access to schools in the community. Nevertheless, to achieve optimal use of bicycles, the public must be educated about the relationships between modes; the rights and responsibilities of cyclists must be defined by regulation; and those regulations must be enforced. Furthermore, the public should be informed of the social and personal benefits of bicycles relative to other modes for the relevant categories of trips.

In addition, the Local Municipalities must encourage the provision of safe bicycle parking at schools, shopping centres and even at the workplace. Bicycle paths and lanes are the main infrastructure element defining bicycle transportation as a distinct system. The Local Municipalities must prepare a plan to encourage the use of bicycles and provide the necessary infrastructure.

The Provincial Department of Transport must launch a campaign to promote the use of bicycles as one mode of non-motorised transport and support the District and Local Municipalities with the construction of bicycle facilities. Contracted buses should incorporate bicycle racks to encourage commuters to use bicycles for part of their journey, where possible.

The Departments of Transport and Education, and the District Municipalities must develop a non-motorised transport plan and meet the specific needs of learners where pedestrian facilities, bicycles and donkey-cart transport are appropriate.

6.3.2.2 Pedestrian travel

Walking is the most ubiquitous though often overlooked mode of travel and activity in all human settlements. The quality of the pedestrian system and its facilities is important for commuters using public transport. There are significantly high pedestrian volumes in most towns in the GSDM. Therefore, there is a need for the provision and maintenance of sidewalks. Paths and sidewalks are required for basic safety and protection from motorised vehicles. Pedestrian planning must consider the enhancement of existing pedestrian systems or the provision of new ones. These should consist of safe and attractive

sidewalks, independent walkways and, in recreational areas, campuses and major developments, networks of paths that are functional and aesthetically appealing.

Local municipalities must prioritise the maintenance and development of sidewalks and paths in the respective towns and residential areas, with support from the District Municipality.

6.3.2.3 Institutional arrangement

There is need for the Departments of Transport and Education to co-ordinate efforts and funding for learner and student transportation.

6.3.2.4 Subsidies for learners, students and the elderly

Subsidies should be provided for school trips longer than 5 km, provided that there is no school in the vicinity. All students and the elderly should also qualify for bus subsidies. These must be addressed when drafting the new contracts for bus services.

6.4 MODAL INTEGRATION, INFRASTRUCTURE AND FACILITIES

6.4.1 The proposed strategy (including the approach and focus areas)

The users of the proposed public transport system in the GSDM area need a reliable, safe and adequate public transport system. The public transport system should create an atmosphere for workers that would be conducive to higher productivity. However, it is important that the proposed transport system should cater for the transport of workers as well as shoppers, learners and persons with disabilities.

The proposed strategy would therefore concentrate on the following elements:

a) Integrated network of routes and transfer facilities
b) Integrated schedules (timetables), integrated ticketing, tariff structures and information systems.

The subsections below elaborate on these elements.

6.4.1.1 Integrated network of routes and transfer facilities

The first category of roads includes the roads provided as part of the Central Business Districts (CBDs) of the five respective local municipalities in the GSDM. The CBDs are the main commercial areas, and are also the main nodes where passengers are concentrated in the GSDM area. The respective CBDs of the GSDM are –

a) Marble Hall (Greater Marble Hall Municipality);
b) Groblersdal (Elias Motsoaledi Municipality);
c) Burgersfort, Steelpoort (Greater Tubatse Municipality);
d) Apel (Fetakgomo Municipality);
e) Jane Furse (Makhuduthamaga Municipality).

The second category of roads in terms of the provision of public transport consists of the corridor routes that link the respective main commercial nodes with one another as well as with the residential nodes, including villages. Table 6.4.1.1.1 indicates the major corridor routes that serve the above-mentioned CBDs.

TABLE 6.4.1.1.1: MAJOR CORRIDOR ROUTES	
CORRIDOR	**DESCRIPTION**
Dilokong Corridor (Road R37)	Between Polokwane and Burgersfort
Road N11	Between Mogalakwena and Witbank (passes through Roedtan, Marble Hall and Groblersdal)
Road R555	Between Ohrigstad, Burgersfort, Stofberg and Witbank
Road R579	Between Lebowakgomo and Jane Furse
Road R36	Between Leboeng and Ohrigstad
To be Confirmed	Between Monsterlus and Groblersdal
To be Confirmed	Between Tsimanyane and Groblersdal
To be Confirmed	Between Leeufontein and Marble Hall

The following corridors in the GSDM are of national or provincial importance:

a) Dilokong Corridor (Road R37)
b) Road R555
c) Road N11.

Lastly, it is important to note the public transport routes and related activities in the residential areas, including the villages. A major issue in this category of roads is the maintenance of roads.

Currently there are only minimal public transport facilities to cater for all the above-mentioned public transport requirements. Based on these considerations, it is clear that three areas should be developed as part of a future multimodal integrated public transport system:

a) Main nodes of commercial activities
b) Major corridor routes
c) Public transport routes in residential areas, including the villages.

The next subsection elaborates on the three areas mentioned above.

6.4.1.1.1 Main nodes of commercial activities

The respective Central Business Districts of the GSDM are in –

a) Marble Hall (Greater Marble Hall Municipality);
b) Groblersdal (Elias Motsoaledi Municipality);
c) Burgersfort, Steelpoort (Greater Tubatse Municipality);
d) Apel (Fetakgomo Municipality);
e) Jane Furse (Makhuduthamaga Municipality).

A holistic approach should be adopted that would include all the role players in public transport, such as operators, hawkers and private-vehicle users, as well as businesses in the GSDM area, in order to develop the public transport facilities at the main nodes.

It is extremely important to develop the road network in the respective CBDs of the main commercial nodes in the following fashion:

a) Public transport routes should be developed as part of the integrated transport network of the CBD for the specific node, together with the associated facilities
b) The necessary traffic impact studies should be conducted before developing the relevant public transport systems, where required
c) Pedestrian movements on these public transport routes should be managed properly
d) The principles of travel demand should be incorporated into the planning.

In view of the above-mentioned factors, it is extremely important for public transport to provide integrated multimodal public transport facilities at the main commercial nodes in the GSDM, as mentioned above. This does not imply that all the public transport facilities should be located on one specific site, but it is essential to link the facilities in a practical, sensible and feasible way.

In conclusion, the multimodal facility should make provision for the following:

a) Local taxis
b) Long-distance taxis
c) Local buses
d) Long-distance buses
e) Metered taxis
f) Hawkers.

6.4.1.1.2 Strategic points on major corridor routes

The following are typical elements that should be included in the public transport system at other strategic points along corridors:

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

To conclude this section on the future provision of public transport facilities, it should be noted that although no detailed study has been conducted on the rail mode for the GSDM area, the provision of a commuter rail line would be inadvisable in the short term, for the following reasons:

a) As already indicated, the volume of passengers is extremely low
b) Such a rail service would have an extremely negative impact on the local bus and taxi industries, in particular on local black economic empowerment.

6.4.1.1.3 Public transport routes in the villages

Special attention should be given to providing public transport facilities on the rural roads in the GSDM area. Such provision refers specifically to shelter at loading and off-loading facilities.

To conclude this section, it is essential that all public transport-related facilities should be provided on government property so that they can be properly managed and controlled.

6.4.1.2 Integrated schedules (timetables), integrated ticketing, tariff structures and information systems

As transport is not well co-ordinated among the various modes of public transport in the GSDM at this stage, and also as the real need at this stage is for public transport facilities, it would be advisable to concentrate for the next five years on the provision of facilities as well as on the actual provision of public transport. Although integrated schedules, integrated ticketing and tariff structures are not the main focus points in the short term, it would be possible to achieve these goals in a few isolated cases. No specific effort should, however, be made in the near future to provide integrated schedules and ticketing or tariff structures.

The implementation of the route colour-coding system for taxis would, however, be an excellent opportunity to ensure an integrated information system.

The GSDTF could be used as a platform to discuss or initiate integrated timetables, ticketing and tariff structures. Furthermore the GSDTF should be utilised to spread information as well as to communicate with transport role players in the GSDM area.

To conclude this section on modal integration, it should be noted that the following would ensure that modal integration could take place:

a) The basis of all planning should be in line with the National Land Transport Transition Act 22 of 2000, *Limpopo in Motion* as well as the Integrated Development Plans of the GSDM area. A proper law enforcement strategy should be put in place to cope with the expected growth in public transport. Public transport activities should be monitored closely by the relevant law enforcement agency.
b) Obtaining the funding to implement the PTP would require the involvement of all government structures and the private sector, and should also include financial incentives
c) Proper planning processes at provincial as well as at local level, with specific reference to detailed planning
d) Institutionally, the GSDMTF would play a major role in ensuring proper consultation
e) Implementation (including pilot projects and a phased approach giving preference to high-impact and low-cost projects)
f) Regulation and control (including the formalisation of the taxi industry and the regulation of all modes of public transport, with appropriate law enforcement)
g) Marketing and training
h) Guidelines, norms and standards (including conformity with certain standards and provincial guidelines)
i) Monitoring and evaluation
j) The provision of transport facilities in the GSDM area would be an ongoing process that should be updated on a continuous basis to ensure sustainable integrated public transport in the area, with specific reference to the CPTR, OLS and RATPLANs in future, as well as the Public Transport Plans
k) In conclusion, public transport is an essential tool for promoting black empowerment among local role players in the GSDM and should be developed to its full capacity.

The following issues are also relevant:

a) Low-capital improvements include providing lighting, standard street furniture and passenger information signs. The prioritised list of facilities appears in Appendix B of the PTP. The prioritisation of facilities is based on the frequency of their utilisation by passengers and vehicles.
b) All facilities should be designed according to the CSIR design guideline (Report No. CR-2001/57) to accommodate the proposed new taxi vehicles, until the new guideline is available from the DoT.
c) All intermodal facilities (especially in the CBD) must include basic amenities and utilities, such as a kiosk, and must accommodate taxi, bus and metered-taxi vehicles
d) A route colour-coding system must define public transport routes, and public transport vehicles must display a corresponding distinguishing marker.
e) Facilities must be located at a centralised area that is within walking distance (500 m – 1 000 m) of the economic activities
f) All facilities must be designed to include supporting pedestrian and bicycle infrastructure such as walkways and bicycle tracks.

6.4.2 Plan of action

The plan of action is as follows:

a) Develop new routes in line with the Operating Licensing Strategy
b) Develop public transport facilities along the following corridors:

    i) Dilokong Corridor (Road R37) from Twickenham to Burgersfort
    ii) Road R555 from Ohrigstad to Burgersfort
    iii) Road R555 from Steelpoort to Burgersfort
    iv) Road R555 from Jane Furse to Steelpoort
    v) R36 from Leboeng to Ohrigstad
    vi) Monsterlus to Groblersdal
    vii) Tsimanyane to Groblersdal
    viii) Leeufontein to Marble Hall.

c) Develop intermodal public transport facilities at the strategic nodal points, specifically at Burgersfort, Marble Hall, Groblersdal, Ohrigstad, Driekop, Riba Cross, Atok and Steelpoort
d) Make low-capital improvements (lighting, street furniture, passenger information, etc.) for some of the existing facilities, as prioritised in Appendix B of the PTP
e) Local municipalities must develop by-laws together with the Greater Sekhukhune District Municipality, in order to ensure a stable and safe environment and the integration of the bus and taxi modes
f) Develop an intra-provincial route colour-coding system for taxi vehicles (repeated).

6.4.3 Management of facilities

Over 80% of the facilities are informal, and facilities are scattered across the towns and cause a high level of inconvenience to the passenger and operators. There is a need for intermodal facilities at strategic nodal points.

Facilities must be maintained to sustain efficient public transport services. However, maintenance and upgrading are costly. Each facility should have a steering committee with representation from the operators and other stakeholders.

A rank management agreement is essential for the long-term sustainability of the facilities.

6.5 FARE SYSTEM FOR PUBLIC TRANSPORT

6.5.1 The proposed strategy

The taxi industry in the GSDM will have to function as co-operatives instead of as taxi associations to achieve market-related fares. The Provincial Taxi Co-operative could assist with determining a unit rate for taxi fares, and a ticket system for commuters.

Transfers should be designed to improve the quality of service. The operators ought to consider taking the following measures for fares, to enhance public transportation:

a) Simplify cash fares
b) Passengers should be encouraged to purchase prepaid tickets. Students and learners should obtain a percentage discount, and the aim should be to provide travel services to pensioners free of charge
c) The mines, Government offices and shopping centres are the predominant employers in the GSDM area. Weekly and monthly tickets could be available at the offices of the employers for convenience and to reduce the transaction time when tickets are sold on a bus or at other locations
d) Ticket machines at transfer facilities, shopping centres, Government offices and places of employment must be maintained and protected
e) Concurrently, employers should contribute to the cost of public transport tickets for their employees. There should be some form of financial incentives for employers who contribute to public transport fares. The DoT should give a motivation to National Treasury for such incentives
f) Discounts or free-ride incentives should be introduced to passengers to induce them to buy a two-week pass, instead of a weekly pass. Incentives should be realistic, for example, a saving of R5 on a R200 ticket would not be significant.
g) The fare system must be consistent for all subsidised contracts in the Limpopo Province to ensure equity among the transport operators and the passengers. Similarly, the analysis shows that on average the subsidy-to-fare ratio is 1:1. The preferred subsidy-to-fate ratio should be 1:1.5.

6.5.2 Plan of action

The following are relevant:

a) The Limpopo Department of Roads and Transport must develop a unit fare for subsidised bus operations, including the consistent demarcation of zones for applying zone-based fares
b) The Limpopo Department of Roads and Transport must apply a subsidy-to-fare ratio of 1:1.5 in the subsidy contracts
c) For long-distance operations and inter-provincial operations, the relevant Provincial Taxi Councils must determine a unit rate for taxi fares
d) All taxi operations should provide a ticket system for commuters
e) The Limpopo Department of Roads and Transport must engage employers to contribute to the cost of public transport tickets for their employees. There should be corporate finance incentives for employers that subsidise public transport fares. The DoT must give a motivation to National Treasury for such incentives
f) The operator and the Department of Transport must maintain an organised database. The SUMS database, as a component of the National Transport Register, must be implemented and updated before the implementation of the new subsidy contracts
g) The Limpopo Department of Roads and Transport must ensure that automated fare-payment mechanisms are implemented as mandated in the subsidy contracts, and operators should be penalised accordingly for non-compliance.

h) The suggestions in the Proposed Strategy must be included in the subsidy contracts.
i) The Limpopo and Mpumalanga Departments of Transport must allow for concessions for learners, students and the elderly in the subsidy contracts.

Chapter

7. ROAD NETWORK, TRAFFIC AND TRANSPORTATION

This chapter discusses the various principles of transportation with respect to road infrastructure and traffic management, with reference to the Status quo in Chapter 3 and the Needs assessment in Chapter 5. Furthermore, proposals are made, specifically to address road and traffic management.

This chapter elaborates on the following:

a) GSDM Road Master Plan
b) Road Signs and Road Marking Management
c) Environmental Management System for Roads Projects
d) Incident management
e) Freight transportation
f) Traffic management
g) Transport Planning Model
h) Travel Demand Management (TDM)
i) Transportation System Management
j) Road safety
k) Road safety audits
l) Summary and recommendations.

7.1 GSDM ROAD MASTER PLAN

Traditionally, road projects were prioritised according to traffic volumes and pavement conditions. It is important, however, that the criteria for the prioritisation of road projects should include traffic volumes, pavement conditions, public transport, passenger volumes, tourism and freight, giving due consideration to spatial development initiatives, tourism clusters, socio-economic developments, RAL priorities, SANRAL projects and District Municipality priorities.

The GSDM Road Master Plan is a report prepared by Africon Consulting Engineers Inc. on behalf of the GSDM. The prioritisation of the GSDM roads is based on the GSDM Road Master Plan.

The following issues are addressed as part of the GSDM Road Master Plan:

c) The road network:

   i) Distribution among the local municipalities

d) Traffic information

   i) Traffic per local municipality

d) Road network condition

   i) Visual assessments of paved roads
   ii) Visual assessments of unpaved roads
   iii) Asset value of paved roads
   iv) Asset value of unpaved roads

e) The needs analysis – background and input

   i) Current network condition
   ii) Treatments
   iii) Funding scenarios

i) Results of the needs analysis

   i) Treatment cost and length distribution
   ii) Paved network
   iii) Unpaved network

j) Predicted future consequences of the different funding scenarios

   i) Predicted network condition on paved roads
   ii) Gravel thickness on unpaved road network
   iii) Asset value of paved network
   iv) Asset value of unpaved road network

k) Investigation into the upgrading of gravel roads only (no maintenance being done)

   i) Background
   ii) Results of needs analysis
   iii) What would happen if no gravel was replaced?

l) Conclusions and recommendations

The document also includes the following

a) Appendix A: Road performance models
b) Appendix B: Rehabilitation and maintenance programmes

As part of the Road Master Plan for the GSDM, it was recommended that the GSDM should familiarise itself with the findings of this Project Report of the GSDM Road Master Plan, which includes the following:

"The Project Report describes the status quo and therefore provides background on the current conditions with regard to roads, stormwater and public transport in GSDM. The findings of this report were used in the compilation of the other two documents, namely the Road Needs Analysis Report and the Section 78(1) Assessment Report.

It is further recommended that the GSDM should familiarise itself with the recommen dations in the Road Needs Analysis Report. This report provides a multi-year road works programme for gravel roads (for different budgets, based on funding availability) and a multi-year road works programme for paved roads (for different budgets, based on funding availability). The GSDM should therefore determine the budget it has available and then select an appropriate programme for implementation.

A database was compiled of the whole road network under the ownership of GSDM, as well as all bridges, major culverts, minor culverts and road signs on roads owned by the GSDM. A software program was developed, which allows the user to view this database of roads and facilities. The software program also allows the user to perform a technical evaluation of roads, based on condition assessment and traffic inputs. This program will be installed at the GSDM and training will be provided to staff members. It is recommended that the GSDM should assign responsibility for maintaining this database (with the use of the software) and for performing the technical evaluation to a specific person(s) in its Roads and Transport unit.

It is further recommended that the GSDM should familiarise itself with the recommen dations in the Section 78(1) Assessment Report. This report provides a proposal for reorganisation with the GSDM to best address the functions related to roads, stormwater and public transport, especially in view of the increased road network under the responsibility of GSDM."

More detailed information is available as part of the GSDM Road Master Plan Report.

The subsequent sections elaborate on the following:

a) Road Management System
b) Road Classification
c) Pavement Management System
d) Other important issues.

7.1.1 Road Management System

A Road Management System (RMS) is a formalised database tool to assist with assessing, prioritising and budgeting for the maintenance, rehabilitation and upgrading of the road system.

The preparation of the Road Master Plan set the basis for the RMS. It is, however, necessary that the process followed to date should be maintained and supported by an up-to-date database as well as a GIS system.

The system is necessary to avoid shortcomings in the planning, design, implementation and maintenance phases, and will as a result contribute to road safety and decrease public liability claims against the road authority. The components of the RMS are Pavement Management, Road Signs Management, Traffic Management, Bridge Management, Hazardous Location Management, etc.

Currently, the Road Agency Limpopo is the custodian of the RMS. It is imperative that the RAL should copy the data to the District Municipality as well.

7.1.2 Road Classification System

The GSDM Road Master Plan elaborates in detail on the following in terms of the road classification system:

a) South African Geometric Design Guidelines
b) Legislation
c) South African Road Traffic Signs Manual
d) Department of Community Development Blue Book
e) National Guidelines for Access Management in South Africa
f) Conclusions.

7.1.3 Pavement Management System

The GSDM Road Master Plan that was prepared during 2006 contains detailed information about the proposed GSDM roads that need to be upgraded. The conclusion and summary of the Road Master Plan are as follows:

"No information is available on the historical performance of the roads under the authority of the Greater Sekhukhune District Municipality. This report can therefore not address the historical performance of the network's condition or the historical maintenance/funding policies.

Paved road network:

a) The paved road network of GSDM is only 6,02 km.
b) The overall condition of the network is fair, with more than 60 km in a fair to good condition and only 5 km of roads in a poor condition.
c) It is recommended that the GSDM adopt "periodic resealing" as a maintenance policy, especially during periods of funding constraints. Periodic resealing preserves the pavement surfacing of paved roads, thereby prolonging the life of the pavement structure and minimising the need for expensive rehabilitation and repair.
d) A funding scenario of R5 million per annum will result in an overall decline in the condition of the paved network.
e) A funding scenario of R9 million per annum will maintain the network in its current "fair" condition. This policy assumes approximately 21 km of resealing and 25 km of light rehabilitation over the next 5 years.
f) In order to improve and maintain the network in a "good" condition, a total amount of R64,4 million is required over the next 5 years. This is an average amount of R12,9 million per annum. This policy assumes two-thirds of the network is treated with a rehabilitation-type treatment over the next 5 years.

Unpaved road network:

a) The unpaved road network of GSDM is 1 424,39 kilometres.
b) According to the 2006 visual assessment ratings, the unpaved road network is in a "poor" condition. This rating is due to large proportions of the network with poor gravel quantity, poor gravel quality and a poor gravel profile. Over 800 km of unpaved roads are currently rated as poor, and only 100 km are rated as good.
c) R83 million is required to remove the current backlog of gravel replacement; this involves approximately 655 km of the network.
d) A further 179 km of unpaved roads have the economic merit to be upgraded to paved standards, requiring a sum of R536 million. The traffic volumes on these roads are typically in excess of 330 vehicles per day.
e) A funding scenario of at least R15 million per annum is necessary to prevent a further decline in the condition of the unpaved network. The current condition of the network is already poor and ideally a budget that will improve the condition of the network should be implemented. This budget assumes approximately 120 km of roads receive gravel replacement every year.
f) A funding scenario of R30 million per annum is necessary to improve gradually the overall gravel thickness and condition of the network. This budget assumes approximately 240 km of roads receive gravel replacement every year and the overall gravel thickness of the network is maintained at approximately 100 mm.
g) It is not recommended that an upgrade policy (i.e. only upgrading of gravel roads to paved standard and no periodic maintenance on gravel roads) be adopted in preference to a regravel policy. An upgrade policy will only attend to about 3% of the unpaved network during the next five years, whereas a regravel policy will attend to about 65% of the network. An upgrade policy will also result in a sharp decline in the overall quality and asset value of the unpaved road network.

7.1.4 Other important issues

Apart from the GSDM Road Master Plan it is also important to pay attention to the following issues in terms of road infrastructure:

a) Congestion management

   i) Travel Demand Management

ii) Mechanisms for transportation system management, such as bus lanes and reversible lanes, and signal optimisation and synchronisation.

b) Environmental management

c) Non-motorised Transport Plan

iii) Infrastructure for pedestrians, bicycles and people with special needs

d) Road safety

i) Education
ii) Emergency services (Disaster Management Centre)
iii) Hazardous locations and application of engineering.

7.2 ROAD SIGNS & ROAD MARKING MANAGEMENT SYSTEM

A Road Signs & Road Marking Management System is also a subsystem of the Road Management System, which provides information on the status quo of road signs and road markings, and again, assists in prioritising maintenance and upgrading projects.

Bright retro-reflective markings guide drivers more effectively than other markings through darkness and rain. There are several new products and methods of road marking in the market, and the District Municipality should guard itself against inferior products and poor workmanship. It is imperative that the specification in the contract document for road construction projects and road marking contracts should be performance based, that is, the reflectivity must comply with a specified minimum number of candela (SI base unit of luminosity) after a year or two, etc.

7.2.1 Tourism and road signs

The Local Economic Development Plan reveals the potential for tourism to promote economic development and investment in the GSDM. Tourism is an opportune mechanism to revitalise stagnating economies.

At least one segment of the journey for most tourists. irrespective of origin, is by road. Therefore, tourism planning must consider the activities of the visitor. A tourist prefers to have breaks during the trip for the sake of interest and to rest.

A significant link with tourist route planning is road signage coupled with tourism route branding. Also, emergency numbers such as 10111, 112 and 10177 must be posted on all tourism routes at 50-km intervals.

All road signs in Southern Africa must comply with the *SADC Road Signs Manual*, in terms of engineering design and location along the road. Tourism signs have a brown background with white text and white symbols.

The District Municipality together with the Department of Transport must submit a motivation to the Department of Environmental Affairs and Tourism to fund the strategic plan for tourism in the GSDM or the Limpopo Province as a whole, and to address the branding of routes and the implementation of tourism signs.

The following should be addressed:

a) Motivate the branding of routes
b) Develop liaison structures with regional tourism organisations
c) Develop an application procedure for tourism signs:

i) The applicant should pay for the manufacture and installation of the sign
ii) The applicant is responsible for the replacement of the sign
iii) The applicant indemnifies the District Municipality against liability as a result of the sign

7.3 ENVIRONMENTAL MANAGEMENT SYSTEM FOR ROAD PROJECTS

Historically, environmental management was lenient regarding construction sites. Open borrow pits and quarries are dangerous to traffic and human settlements. Spillages of sewage, fuels and bitumen contaminate ground water. This component of the ITP is critical to rural settlements, as people and livestock are dependent on the natural environment for sustenance. For this reason, all construction activities must comply with legislative requirements for environmental protection.

7.3.1 Environmental Management Plan

Urban planning must accommodate open spaces for recreation and social activities. Urban business centres must be more pedestrian friendly with pedestrian malls, and decrease conflict between pedestrians and vehicles.

In the case of construction works, the contractor is normally instructed in the contract document to provide mitigation measures and management of environmental impacts.

In most cases, the cost of environmental management and mitigation measures is included in the contract. Damage due to negligence is the responsibility of the contractor.

An Environmental Management Plan (EMP) is mandatory for all road construction work, and must be endorsed prior to the commencement of works on site. The project manager at the GSDM must be conversant with the Environmental Management Plan and monitor the mitigation measures on site. Practices in the past ignored the rehabilitation of borrow pits and quarries, and the dumping of construction waste material. As a result, the landscape is scarred with borrow pits along roads, and these are a risk to traffic. The EMP must address the following aspects:

a) Vegetation
b) Water
c) Fuel
d) Sewage treatment
e) Waste management
    i) Solid waste
    ii) Litter
    iii) Hazardous waste
f) Soil management
g) Drainage
h) Earthworks
i) Quarries and borrow pits
j) Excavation, spoil sites, batching sites and stockpiles
k) Impact and mitigation measures
l) Noise and dust control
m) Records
n) Restoration and rehabilitation.

7.4 INCIDENT MANAGEMENT SYSTEM

The main objectives of incident management are to optimise the "golden hour" and to prevent secondary incidents. Incident management on roads is a component of General Disaster Management in the region. However, the District Municipality does not have a formalised Disaster Management Centre. For the purposes of road incidents, there is a need for a Central Communications Centre (CCC) where incidents can be reported and responded to. The CCC is in most cases a police station or fire station, and operates 24 hours a day as a call centre for emergencies, information, queries and complaints. The CCC is also required to maintain records of crash data and other incidents, identify hazardous locations (with the data), and develop mitigation measures with the assistance of engineers. Incident records include crashes and other incidents involving animals, pedestrians and vehicles.

The Incident Management System involves the monitoring of crashes, identification of hazardous locations, management of traffic at hazardous locations and the implementation of law enforcement programmes.

The CCC must be equipped with adequate resources to respond to incidents, such as incidents involving dangerous materials, and to assess the proposed routes submitted by operators in cases where operators are transporting abnormal loads and hazardous materials.

The GSDM must consult the cellphone service providers to obtain comprehensive cellphone coverage in the District Municipality, and also to post emergency numbers such as 10111, 112 and 10177 on road signs at 50-km intervals.

Apart from the incident management system for the N1, there are no incident management systems for the provincial road network. (The only functional system planned was on the N1 as a joint venture between the Gauteng and Limpopo Provinces. Tolcon and Intertoll are currently developing a new incident management plan for the N1 between the Carousel and Kranskop, and between Kranskop and Beit Bridge.)

The current initiatives for the development of incident management systems should be extended to other transport corridors such as Phalaborwa, Dilokong and the East/West corridors (SDIs).

7.5 FREIGHT TRANSPORTATION

The following are discussed below:

a) Freight transport and overload
b) Rail infrastructure
c) Movement of hazardous materials.

7.5.1 Freight transport and overload control

The economic significance of freight movement and the role it plays in the economic development of a region are well documented. The adverse effects of freight movement are also well known, namely increased risk of accidents, exhaust emissions, noise pollution, environmental intrusion and the deterioration of road infrastructure due to overloading, etc.

The RAL database contains data on the movement of heavy vehicles in the Limpopo Province, which obviously includes the GSDM. However, information about the type of goods transported and the loads transported is not available.

Although the majority of the roads used by freight vehicles are national and provincial roads, these roads form the backbone of the road transport network system in the GSDM and the GSDM must ensure that SANRAL and RAL maintain these roads, that over-loading control is exercised, that climbing lanes are provided on routes where there is a high percentage of heavy vehicles and that facilities are provided for heavy vehicles.

Heavy vehicle movements cause congestion on the through routes in towns but in most of the towns in the GSDM there are no alternate routes or deviation routes to alleviate this problem.

The effective control of vehicle overloading should be maintained in order to minimise the damage caused to road pavements by high axle loads. The National Roads Agency Limited and the Limpopo Department of Roads and Transport should formulate an overload control strategy for the Limpopo Province. However, heavy vehicles attempt to avoid routes where overload control is implemented, and avoid weighbridges by deviating through minor roads, namely district roads and local municipality roads. As a result, the lower-order roads are under pressure. Therefore, the GSDM must assist law enforcement (at provincial level) with traffic monitoring to curb the number of heavy vehicles on local routes.

Furthermore, alternative routes through towns must be identified for heavy vehicles, which routes must have appropriate signs, be maintained and enforced. Truck stops and climbing lanes must also be considered on heavy vehicle routes. In addition, rest stops, convenience shops and accommodation (truck inns) should be considered at the border posts and towns.

Roads R37, R555 and N11 are good examples of the roads that currently cater for freight movement.

7.5.2 Rail infrastructure

There is constant debate on road versus rail for freight transportation. In the Limpopo Province there is a flow of domestic freight and cross-border (international) freight. There is a need to protect the road infrastructure and, to this end, the Limpopo 2020 Study proposed a rail link through the Limpopo Province to the east coast of South Africa to transport raw materials from the mines, from Lephalale in the Waterberg DM to Polokwane in the CDM to Burgersfort in the GSDM, and from Middelburg in the Mpumalanga Province to the coast.

More detailed information about the rail network is available in the *Feasibility Study for Rail in the Limpopo Province*, conducted by the Limpopo Province Department of Roads and Transport.

The mining industry has a great interest in the successful development of the rail network in the GSDM area.

7.5.3 Movement of hazardous materials

The transportation of dangerous goods on roads in the province is discussed in Chapter VIII of the National Road Traffic Act, Act 93 of 1996. The legislation is prescriptive regarding the duties of the consignors, consignees and operators of dangerous goods, products and vehicles. The legislation contains references to the South African National Standards (SANS) specifications.

Vehicles transporting hazardous materials must have a distinguishing marker and a code identifying the material, displayed on the vehicle. In terms of the SANS 10228, the classes

of dangerous goods are as follows:

a) Class 1 – explosives
b) Class 2 – gases
c) Class 3 – flammable liquids
d) Class 4 – flammable solids, substances with the potential for spontaneous combustion and substances that are flammable when in contact with water
e) Class 5 – oxidising substances and organic peroxides
f) Class 6 – toxic and infectious substances
g) Class 7 – radioactive material
h) Class 8 – corrosives
i) Class 9 – miscellaneous substances and goods.

The GSDM must accommodate the transportation of hazardous goods through its jurisdiction by means of the following:

a) Constructing by-passes or detours for heavy vehicles and hazardous materials
b) Preventing the transportation of hazardous goods through towns and sensitive areas
c) Evaluating the route plans submitted by operators
d) Being equipped with an Incident Management System and protocols for responding to incidents involving hazardous goods
e) Ensuring that law enforcement officers are knowledgeable about the legislation and protocols on dangerous goods so that they can manage offenders and incidents involving hazardous materials.

There is a need for signage to indicate rest stops and detour routes for heavy vehicles and hazardous materials through the following towns:

a) Burgersfort
b) Groblersdal
c) Marble Hall.

The Road Master Plan prepared during 2006 by the GSDM contains detailed information about the proposed changes to the road network that are required to cater effectively for the transport of hazardous substances.

7.6 TRAFFIC MANAGEMENT

The *Moving South Africa Study* projected that car ownership in 2010 would be 390 cars/1 000 population in South Africa, at a growth rate of just under 1%. The spatial rationale for the Limpopo Province indicates a population growth rate of 1%. Although car ownership in the GSDM is relatively low by reason of socio-economic conditions, it is accepted that there is a potential for at most a 1% increase in car ownership in the GSDM due to the increasing economic developments and opportunities in the GSDM over the next five years. For this reason, congestion in the urban areas must be considered proactively, and addressed in the Transport Plan. For example, there is already significant traffic congestion in Burgersfort.

Appendix B contains detailed information about a strategy which could be followed in the short term for Road R37 as well as Burgersfort to manage the traffic effectively.

7.7 TRANSPORT PLANNING MODEL

Transport models are tools that expedite decision-making through the assessment and evaluation of the status quo and new scenarios. A traffic model incorporates the

development and application of travel forecasting to determine longer-term loading on the network and to plan for upgrading or extensions to the network.

Transport models provide a graphical representation of potential congestion on the road network for vehicles and passengers. Furthermore, they equip the decision maker to justify projects that will mitigate traffic impact and to budget appropriately.

The towns of Burgersfort, Marble Hall and Groblersdal need an integrated land-use and transportation-planning model that incorporates the road network, public transport, land-use developments and other GIS data so as to optimise traffic management and guide further developments.

The input data should include the origins and destinations of people and vehicles, traffic volumes, population, the available road and public transport capacity and land use. Various scenarios can be modelled and tested to determine an optimal transportation system.

There is a need to understand the trip-making behaviour of households in the region trip so as to maintain the model. Therefore, updated traffic counts; origin-destination cordon surveys and/or household surveys are required.

The popular transport-planning models in the market that model both public transport and the private mode are EMME/2, TRANSCAD, SATURN, VISSUM, etc.

In general there is a need for traffic count data on a regular basis, especially on trunk roads, to determine trends and to assist with planning, design and law enforcement. The traffic counts are required specifically inside the urban areas, since RAL is already collecting information on the rural roads.

7.8 TRAVEL DEMAND MANAGEMENT (TDM)

TDM focuses on actions to reduce the overall demand for travel or the net effect of travel, and is not solely concerned with the transport system per se *(28).* The successful implementation of TDM measures depends not only on the technical innovation, but also on the awareness of the public and efficient law enforcement. In South Africa the most common approach to TDM is the improvement of public transportation.

The glorified, expansive TDM measures in the GSDM, such as congestion pricing, High Occupancy Vehicle (HOV) lanes, High Occupancy Toll (HOT) lanes, etc. are not appropriate or applicable. The more appropriate TDM measures for the GSDM would be integrated land-use and transportation planning, improved public transport infrastructure and operations, non-motorised transport, parking management and events management plans for urban areas.

Improvements to the public transport infrastructure and operations are addressed in greater detail in the Public Transport Plan. TDM related to public transport with specific reference to non-motorised transport, parking policies and feeder and distribution services are discussed in Chapters 3, 4, and 6.

The following are discussed below in more detail:

a) Events management plan
b) Non-motorised transport plan.

7.8.1 Events management plan

Major events occur at random and certainly not on a daily basis. Therefore, in general, there is a need for an events management plan for the towns of Burgersfort, Marble Hall and Groblersdal. Special events create a short-term high demand for parking and pedestrian accommodation. Such events include sport events, marches, parades, long weekends and the holiday exodus.

Demand for public transport is common at the start of a long weekend and holidays. This demand creates a need for additional vehicles, law enforcement and patrols, and traffic management.

An events management plan is required, which should consider the following concepts:

a) Park-and-ride service
b) Regulated metered-taxi operations
c) Road signage
d) Communications
e) Law enforcement and volunteers for traffic management
f) Additional short-term parking zones.

Park-and-ride facilities should be secured to encourage people to utilise the facility.

7.8.2 Non-motorised transport plan

The District Municipality must prepare a non-motorised transport plan as proposed in the Public Transport Plan and should include a Master Plan for bicycle routes and pedestrian sidewalks. Effectively, the non-motorised transport plan must study the travel behaviour of learners, personal safety, road safety and traffic congestion. The proposed routes should be captured on the GIS database.

Non-motorised transport projects should be prepared with the guideline document developed by the Department of Transport to plan and design safe pedestrian and bicycle facilities. (The manual was presented to provincial and local road safety officials, traffic officers and engineers in Polokwane from 31 October to 1 November 2002.)

a) Bicycles

Bicycles have greater benefits than cars in terms of lower costs and less negative impacts and also contribute to the liveability of an area or city. In context, bicycles are an appropriate mode of transport for commuting distances of less than five kilometres, such as mine housing schemes and learners' access to schools in the community. Nevertheless, to achieve the optimal use of bicycles, the public must be educated about the relationships between modes; the rights and the responsibilities of bicyclists must be defined by regulation; and such regulations must be enforced. Furthermore, the public should be informed of the social and personal benefits of bicycles relative to other modes for the relevant categories of trips. Local municipalities must also encourage the provision of safe bicycle parking at schools, shopping centres and even at the work place.

Bicycle paths and lanes are the main infrastructure element defining bicycle transportation as a distinct system. Local municipalities should prepare a plan to encourage the use of bicycles and to provide the necessary infrastructure.

The Provincial Department of Transport should conduct a campaign to promote the use of bicycles as one mode of non-motorised transport and support the District and Local Municipalities with the implementation of bicycle facilities.

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

The respective Provincial Departments of Transport, Education, and the District Municipality must develop a non-motorised transport plan to meet the specific needs of learners where pedestrian facilities, bicycles and donkey-cart transport are appropriate.

b) Donkey carts

A greater emphasis should be placed on the use of donkey carts in the rural areas for school transport and solid waste disposal. The donkey-cart mode should be formalised and a basic standard of service should be developed in terms of mechanical safety and animal rights.

c) Pedestrians

Walking is the most ubiquitous though often-overlooked mode of travel and activity in all human settlements. The quality of the pedestrian system and its facilities is important for public transport commuters. There are significantly pedestrian volumes in most towns in the GSDM. Therefore, there is a need for the provision and maintenance of sidewalks. Pedestrians require paths and sidewalks for their basic safety and protection from motorised vehicles. Pedestrian planning must consider the enhancement of existing pedestrian systems or the provision of new ones. These should consist of safe and attractive sidewalks, independent walkways and, in recreational areas, campuses, and major developments, networks of paths that are functional and aesthetically appealing.

Informal traders currently occupy the sidewalk, jeopardising the safety of pedestrians and compromising the function of the sidewalk.

Local municipalities must prioritise the maintenance and development of sidewalks, paths and designated areas for informal trade in the respective towns and residential areas with support from the District Municipality.

7.9 TRANSPORTATION SYSTEM MANAGEMENT (TSM)

The objective of TSM is to optimise the existing transportation infrastructure by taking certain construction, operational and institutional actions to improve the functioning of the system *(28).* Some examples of TSM are minor upgrades to intersections, signalisation, climbing lanes, road signs, pavement management, paint markings and road-stud maintenance. TSM are low-cost, short-term to medium-term improvements to the existing transportation system to accommodate travel demand.

The subsequent sections elaborate on the following:

a) Road signs
b) Urban streets.

7.9.1 Road signs

There have recently been name changes to towns, roads and streets. Furthermore, many road signs are old and outdated and do not conform to the standards of the *SADC Road*

Traffic Signs Manual. Therefore there is a need to upgrade the road signs, including name boards, tourism signs, destination signs and regulatory signs.

Signs could be upgraded through holistic road projects, but road projects are carried out in sections and their implementation spans several years. It is therefore proposed that a comprehensive road sign upgrade project should be implemented for the District Municipality. The project would need to be co-ordinated with RAL.

7.9.2 Urban streets

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

a) Bus lanes and reversible lanes
b) Signal optimisation and synchronised
c) The maintenance and management of traffic signals
d) Access management
e) Parking management.

7.9.2.1 Bus lanes and reversible lanes

Public transport shares the roads with cars and freight vehicles during peak periods. As discussed previously in this chapter, freight vehicles should ideally not be routed through the town and especially not during peak periods. However, where necessary, adequate parking and designated loading-zones must be provided. Furthermore, bus lanes should be designated where practically possible during peak periods, as there are greater passenger volumes at such times than in cars with mainly single occupants. Reversible lanes are also effective during peak periods.

7.9.2.2 Traffic signals

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

7.9.2.3 Road access management

Access management is critical and must be addressed proactively in the Traffic Impact Study. The *National Guidelines for Road Access Management in South Africa* should be utilised to ensure that access designs comply with the required standards.

7.9.2.4 Parking

The Traffic Impact Study in conjunction with the town and regional plans should furthermore address the requirements for new developments, based on the *South African Roads Board Parking Standards* or the relevant local municipality's by-laws. Instead of requiring a

minimum number of parking spaces for each new development, a maximum number of parking spaces must be provided. This would place a ceiling on the supply of parking.

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

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

7.10 ROAD SAFETY

International research indicates that road traffic accidents are going to be a leading cause of mortality and disability in future. The Global Road Safety Partnership has projected that by the year 2020, road crashes will the third leading burden on health worldwide, exceeded only by cardiovascular disease and major depression *(1)*.

The key focus areas to address road safety are as follows:

a) Education
b) Enforcement
c) Engineering and data capturing
d) Emergency services.

There is currently no provincial or local strategy for the transport of hazardous substances. At present, the District Municipality does not implement road safety programmes and projects. Road safety is a competency of the Provincial Department of Transport. The DoT is active with the Arrive Alive Campaign that is emphasised during the festive season and school holidays, but there is a need for a continuous focus on road safety.

The Limpopo Department of Transport developed a pedestrian management plan in 2003/2004 to promote pedestrian safety in the Province (Contract Report CR-2004/37). The information about sites hazardous to pedestrians, collected for the National Pedestrian Business Plan, was used as a point of departure in the study on the Limpopo Pedestrian Management Plan. The following road sections were selected for investigation in the Pedestrian Management Plan study in the GSDM – R37 Several role players, including the Limpopo Province Department of Roads and Transport, are currently addressing the safety problems related to Road R37 in the vicinity of Burgersfort. SANRAL is also actively involved in the process.

There is a need for the District Municipality to address road safety at the Local level especially through education, emergency services and the application of engineering. It is envisaged that the Disaster Management Centre will in future collate such data through the Incident Management System and enhance Transport Planning at the District Municipality to address hazardous locations.

7.11 ROAD SAFETY AUDITS

Road safety audits identify hazardous locations and help to improve the safety elements of the road network through low-cost engineering. It is evident that there is an absence of basic road furniture such as fences, guardrails and road signs, and this lack compromises road safety. There is a great need for such basic road furniture, particularly in the rural areas where stray animals and undulating terrain are common. The *Limpopo in Mot*ion report states that 11% of all road accidents in the Limpopo Province involve animals, compared with the national average of about 3%.

The District Municipality is referred to the *South African Road Safety Manual* – 1999 (SARSM) as a guideline on implementing road safety audits. Two approaches are proposed in the ITP to implement road safety audits – a proactive approach and a reactive approach. Realistically, both approaches are necessary.

In terms of SARSM, the purpose of road safety audits is to –

a) minimise the severity and risk of road traffic accidents that may be influenced by the road facility or adjacent environment;
b) minimise the need for remedial measures after the opening of a new road project;
c) reduce the full lifecycle cost of a road project by reducing its accident cost;
d) create and maintain an awareness of safe design practice during all the stages of a road project.

Road safety on Road R37 and Road R555 is critical and needs to be addressed as a matter of urgency. The following are typical issues to be addressed:

a) Vast differences in the speeds travelled
b) Uncontrolled pedestrian movements
c) Lack of fences, implying no control over animals and livestock straying onto roads
d) Educational material
e) Training of teachers
f) Special programmes and campaigns
g) Training of scholar patrols
h) Driver education for public transport operators.

Two types of audits could be conducted:

a) Proactive audits
b) Reactive audits.

The subsequent section elaborates on the above audits.

7.11.1 Proactive audits

The *South African Road Safety Manual* introduces the concept of proactive road safety through Road Safety Assessments and Road Safety Audits. Road Safety Assessment is used at network level, whereas Hazardous Location Programmes are used at project level. Road Safety Audits are the intermediate phase.

Most road authorities treat high-accident locations or accident "hot spots" reactively, in other words, after the accidents have happened.

Road Safety Assessments and Road Safety Audits are proactive. The *South African Road Safety Manual* (SARSM) states that Road Safety Assessments involve regular assessments of the entire road network in order to prioritise hazardous locations. The time between assessments could be up to a few years. This is a network-level assessment similar to any asset management system.

Road Safety Assessments and Road Safety Audits demand a higher level of resources than Hazardous Location Programmes. Once the network has been assessed and hazardous locations identified and prioritised, project-level assessments can be done. Hazardous locations are not necessarily high-accident areas. Road Safety Assessments require greater resources than Hazardous Locations Programmes.

Accident data do not form part of the input into the Road Safety Assessment. Each potential road safety problem is assessed by its degree and extent, then the expected benefits of correcting the identified problems are determined. A ranking of the assessment

indices will provide a prioritised list of hazardous locations, which are then further assessed by a Road Safety Audit.

Proactive audits are also carried out at the design stage for new projects, as it is less expensive to change a line on a design/construction drawing than to change the existing road to correct a road safety problem. Furthermore, safety audits are conducted during the construction phase as a construction zone can pose a significant danger to road users. The Road Safety Audit process during construction can be seen as a check to ensure that the intended traffic accommodation plan provides for the necessary levels of road safety.

7.11.2 Reactive audits

Reactive audits are done when hazardous locations are identified from accident data, patterns and causes, and a road safety plan and strategy are developed. The more accurate and detailed the information, the better focused the plan and strategy *(37)*.

Hazardous Location Programmes are a series of remedial measures to reduce the number and severity of targeted types of accidents at specific locations. Hazardous Location Programmes focus on historically accident-prone areas so that a list of remedial measures can be drawn up, whereas Road Safety Assessments and Road Safety Audits attempt to forecast where accidents could occur, in order to make a list of preventive measures.

Projects to address road safety are categorised according to the "four E's", namely:

a) Education and communication
b) Enforcement
c) Emergency services
d) Engineering and data capturing.

Although the Province is responsible for law enforcement and education programmes, it is imperative for the District Municipality to be directly involved in road safety initiatives. The District Municipality could collate the traffic data and identify the hazardous locations that require law enforcement, engineering or educational interventions.

7.11.2.1 Education and communication

Many members of the poor rural communities are also marginalised by low literacy levels, hence road safety educational and communication programmes need to be dynamic and simplified. The following programmes are recommended:

a) Road safety education at schools
b) Reflective armband programme, as proposed in the *Limpopo in Motion* document
c) Media campaigns in the local language
d) Training and monitoring of volunteers such as scholar patrols.

7.11.3 Enforcement and emergency services

Law enforcement is unfortunately constrained by small budgets and many law enforcement officers are not knowledgeable about the enforcement of public transport regulations. The frequency of traffic law enforcement on the provincial road network, especially over weekends, is inadequate because of a lack of funding, as well as the lack of patrol vehicles and law enforcement equipment. (Working over weekends is regarded as overtime work.)

Traffic law-enforcement services are fragmented and are not co-ordinated between the Provincial and local authorities.

Accident reporting and data collection and processing in the Province are inefficient. The implementation of law-enforcement programmes should be informed by empirical data.

Currently, there is no Disaster Management Centre in the District Municipality. There is a need for law enforcement staff to be actively involved in the Incident Management System and for the District Municipality to expedite the establishment of the Disaster Management Centre. In addition, the Province should upgrade its communications by implementing an Intelligent Transportation System; for example the NaTIS database should be accessible in vehicles, which would enhance enforcement on the road. Furthermore, there is a need for law enforcement to collate the data in an organised database, and for co-ordination between the District Municipality and the Provincial law enforcement programmes. The following projects are recommended:

a) Development of an Incident Management System
b) Development of a database for Officers' Accident Reports (OAR) forms
c) Collaboration with traffic engineering at District Municipalities to collect speed data and implement speed enforcement
d) Installation of cameras to record red-light violations at strategic points on the network
e) Implementation of frequent roadblocks to address driver fitness, vehicle roadworthiness, overload control, criminal investigations, etc.

7.11.4 Engineering and data collection

Addressing road safety by means of the "4 E's" allows for short-term low-cost projects and long-term high-cost projects. Education and enforcement are relatively high-cost initiatives, but engineering interventions could be either low or high cost. The recommendation on hazardous locations could range from the implementation of road signs to the realignment of the road. Road Safety Audits consider the following engineering elements:

a) Geometry

   i) Alignment
   ii) Cross-section
   iii) Access
   iv) Sight distance

b) Road furniture

   i) Guard-rails, steel ropes and other barriers
   ii) Fencing
   iii) Kilometre markers
   iv) Road signs
   v) Lighting
   vi) Road studs

c) Road markings, road signs and road studs

d) Bridges

   i) Width
   ii) Height
   iii) Guard-rails or balustrades

e) Escape ramps

f) Environment

   i) Pedestrians and animals
   ii) Terrain
   iii) Sight distance
   iv) Weather and pollution
   v) Ribbon development
   vi) Advertising

g) Pavement conditions

   i) Surface conditions – patches, potholes, edge breaks, bleeding
   ii) Riding quality, skid resistance and drainage
   iii) Structural deformation
   iv) Provision of shoulders.

There are several new products in the market to enhance road safety, specifically with regard to road markings and road studs. For example, intelligent road studs were implemented in KwaZulu-Natal and the results indicate a drastic reduction in crashes at specific hazardous locations.

When applying engineering improvement to hazardous locations, a hierarchy of proposals per hazardous location must be documented to illustrate the cost and benefits of such projects.

In addition to implementing engineering improvements to hazardous locations, traffic calming is also a significant traffic management concept. Traffic calming is used on many higher-order roads, such as the R579 from Phokwane to Jane Furse to R555 in the GSDM. It entails speed humps and the posted speed limit is 60 km/hr, though the actual speed over the bump is 5 km/hr. This practice is incorrect and could result in serious injuries to passengers and liability claims against the Government. The posted speed sign at the speed hump indicates that the vehicles can drive over the speed hump at the specific speed on the signpost. Firstly, the speed humps on the R579 are an incorrect traffic calming measure, irrespective of the speed limit. A more appropriate traffic-calming measure would be high-visibility road signs and rumble strips. Therefore, it is necessary to discuss the implementation of traffic-calming measures.

7.12 TRAFFIC CALMING

The objective of traffic-calming measures is to moderate traffic behaviour, through physical and legislative interventions, with the aim of reducing the speed of vehicles and/or changing the travel patterns, thus contributing to a safer road environment but with due regard to mobility and accessibility.

It seems that whenever the public or a community complains about high-speed traffic or road safety, the common approach is to introduce speed humps. Councillors, officials and engineers ought to understand the proper use of traffic calming and where and when to apply traffic-calming measures.

Traffic-calming investigations should be done with the participation of the Ward Councillor and the community. The process for determining the appropriate solution is described

further and is guided by the following Technical Reports issued by the Department of Transport:

a) National Guideline for traffic calming – COD Report CR 96/036
b) Design and implementation of speed humps – COD Report CR 97/038
c) Design Guidelines for mini roundabouts – COD Report CR 97/039

7.12.1 Site investigation

By means of inspecting the site, the road hierarchy of the problem area can be evaluated and the “traffic-calming” class of road established. Physical features such as the surrounding road network, the proximity of schools and road safety characteristics will also be evaluated at this stage. The course of action could be engineering, enforcement, education or a combination of these interventions.

7.12.2 Design solutions

a) Engineering

The following engineering options may be considered:

i) Major engineering in which the problem requires substantive planning, design and construction. It would be proposed for inclusion in future budget programmes.
ii) Traffic Systems Management in which the problem requires improvements to traffic management such as the elimination of accident "hot spots", intersection improvements and traffic lights. It would likewise be proposed for inclusion in future budget programmes.
iii) Traffic calming in which the problem requires calming techniques for specific safety problems, etc. It would be proposed for inclusion in a priority programme for the detailed evaluation of traffic-calming techniques.

b) Enforcement

Traffic-calming measures include enforcement through the following:

i) Technical traffic actions such as improvements to road signs and markings, and parking prohibitions.
ii) Law enforcement actions such as speed checks and moving violations by the traffic police.

7.12.3 Feasibility of traffic calming

If the macro evaluation described above indicates the need for traffic-calming measures, the feasibility of such measures should then be further tested and investigated using the following procedure:

a) Step 1: Revisit the data and investigate the following:

i) Current and future land use
ii) Accident statistics
iii) Traffic volumes and speed profile
iv) Pedestrian and cyclist volumes
v) Road geometry

vi) Public transport volumes
vii) Heavy-vehicle volumes
viii) Visual assessment
ix) Damage to road furniture
x) Skid marks
xi) Pavement surface condition
xii) Road geometric alignment – site distance
xiii) Potential physical obstacles and distractions to the driver

b) Step 2: Determine the road classification for which the traffic-calming measures are suggested.

c) Step 3: The principal philosophy in evaluating potential traffic calming is to eliminate hazards on minor roads and not to alter the traffic characteristics on main roads later on. Potential traffic calming should be evaluated and prioritised using the first and second-order principles:

First-order priorities:

i) No traffic calming measures may be imposed on roads classified as Class 1, 2 or 3.
ii) Traffic-calming measures should only be considered in the following cases:

- Where there are inherent safety problems caused by road layout, geometric constraints, sight distances, etc.
- When traffic-calming measures will contribute directly to safety at schools, community centres, homes for the aged, hospitals, etc.

Second-order priorities:

i) Traffic-calming measures must not cause the diversion of traffic to other minor order roads.

d) Step 4: When the proposal is acceptable, a detailed evaluation is required to select an appropriate traffic-calming measure.

e) Step 5: Implementation.

f) Step 6: Review.

To determine the effectiveness of the traffic-calming measure, an analysis of speed, traffic flow and volumes is necessary after implementation. "After" studies enhance future developments and justify further investment in traffic-calming measures.

7.13 DEDUCTION AND RECOMMENDATIONS

Roads in the Greater Sekhukhune District are well connected by means of provincial arterial routes, including the R37, R36, R555 and N11.

The following roads, however, require serious attention with regard to capacity, since the quality of the roads and road safety are serious threats to road users:

a) Road R37
b) Road R555
c) Road N11

The Strategic Road Master Plan contains detailed information about the quality of roads as well as the required improvements to the road network owned by the GSDM. These improvements should be addressed in accordance with the recommendations of the Road Master Plan.

Traffic engineering projects and integrated land-use and transportation-planning projects tend to be carried out at random and there is no explicit emphasis on the application of engineering principles and the involvement of professional engineers in transportation planning and engineering. The following components of the ITP require further attention:

a) The Road Master Plan as prepared by Africon Consulting Engineers Inc. should be approved by the council and subsequently implemented. The most important issue in terms of the Road Master Plan would be to determine what budget would be allocated for the maintenance and upgrading of paved as well as unpaved roads in the GSDM.

b) The Road Master Plan should be updated on an annual basis.

c) There is a need for a Road Management System.

d) There is a need for a Pavement Management System with at least a visual condition database.

e) There is a need for a Bridge Management System with at least a visual condition database.

f) There is a need for a Road Signs and Road Marking Management System.

g) Road safety programmes are currently the competency of the Limpopo Province Department of Roads and Transport. The GSDM must be more active in the implementation of road safety programmes through engineering, education and enforcement interventions. The road sections assessed in the study on the Pedestrian Management Plan should be investigated after about six months to determine the effectiveness of the road safety measures implemented.

h) During road construction projects, there is a need to give adequate information to the public via the media, indicating road closures, deviations, expected delays and alternate routes.

i) The establishment of a Disaster Management Centre to function as a Central Communications Centre and the application of the Incident Management System are critical components of the Road Safety and Public Safety initiative. The District Municipality must prepare an incident management protocol; law enforcement must align itself with the incident management system of the Province and of the National Roads Agency Limited.

j) Road signs need to be upgraded and there is also an urgent need for the posting of emergency contact numbers along roads.

k) The alternative service delivery mechanism prepared by Africon Consulting Engineers in 2006 should be approved by the GSDM Council and subsequently implemented.

l) The towns of Burgersfort, Marble Hall and Groblersdal need an integrated land-use and transportation-planning model to determine traffic patterns and guide further developments. There is a need for the consistent monitoring of traffic operations because traffic models are data driven. Serious attention should be given to providing additional road infrastructure in Burgersfort. Appendix B contains a proposal on the upgrading of the road network in Burgersfort as well as Road R37.

m) Except for Burgersfort, observations do not indicate that congestion is significant in the urban areas. It is also important to improve traffic operations through the implementation of TDM and TSM, such as bus lanes and contra-flow lanes, and signal optimisation and synchronisation.

n) The main mode of transport is walking in the GSDM. Therefore, it is appropriate to develop a non-motorised transport plan with an emphasis on sidewalks, bicycles and the optimisation of donkey carts.

o) The District Municipality together with the Department of Roads and Transport must submit a motivation to the Department of Environmental Affairs and Tourism to fund the strategic plan for tourism in the GSDM or the Limpopo Province as a whole and also to address the branding of routes and the implementation of tourism signs.

Chapter

8. INSTITUTIONAL ARRANGEMENTS

This chapter elaborates on the following:

a) Alternative service delivery mechanism for the GSDM
b) Other important issues
c) Recommendations.

8.1 ALTERNATIVE SERVICE DELIVERY MECHANISM FOR THE GSDM

As part of the GSDM Road Master Plan, an investigation was done into alternative service delivery mechanisms for road infrastructure in the GSDM. The following issues were addressed as part of this process:

a) LEGAL AND POLICY FRAMEWORK

i) Background
ii) Constitution of the Republic of South Africa
iii) Municipal Structures Act
iv) Integrated Development Plan
v) Provincial Gazette
vi) Integrated Transport Plan
vii) Public Transport Plan
viii) TPR7.

b) SERVICES TO BE RENDERED BY THE GSDM

i) Services prescribed by legislation and policies
ii) Services prescribed by ITP
iii) Services prescribed by PTP
iv) Current services performed by GSDM
v) Services rendered by other organisations
vi) Conclusions.

c) ORGANISATIONAL STRUCTURE AND STAFFING

i) Municipal structure
ii) Department of Technical Services
iii) Staffing of other organisations.

d) CONDITION AND QUALITY OF SERVICE ASSESSMENT

i) Capacity of roads
ii) Condition of roads
iii) Condition of stormwater structures
iv) Condition of road traffic signs
v) Quality of public transport services
vi) Conclusions.

e) FINANCIAL PERFORMANCE ASSESSMENT

i) GSDM
ii) Other organisations.

f) ASSESSMENT OF PHYSICAL ASSETS

i) GSDM
ii) Other organisations.

g) ASSESSMENT of CONTRACTUAL ARRANGEMENTS

i) Current contracts and services
ii) Contract documentation used.

h) HUMAN RESOURCES CAPABILITY

i) Positions held in the Roads, Transport and Electricity Unit
ii) Qualifications
iii) Current functions performed by Unit
iv) Years of experience.

i) COST OF SERVICES ASSESSMENT

8.2 OTHER IMPORTANT ISSUES

The following sections provide a broad summary of the issues regarded as important for institutional arrangements. Some of the issues have already been mentioned as part of the GSDM Road Master Plan:

a) Information systems
b) Capacity building
c) Management of facilities
d) Public-private partnerships
e) Key Performance Indicators
f) Institutional transformation
g) District Transport Forum.

8.2.1 Information systems

This is the second Integrated Transport Plan for the Greater Sekhukhune District Municipality. As mentioned above, in 2006 the GSDM prepared a Road Master Plan for the Sekhukhune District Municipality, which contains high-quality information about transport-related issues and specifically institutional issues.

There is, however, a need for a transportation management system for the District Municipality that would continue where the Road Master Plan stops. The best mechanism is a Geographic Information System (GIS). The GIS could be fairly expensive but its benefits are exponential when operated and managed efficiently. The following data collection should preferably be maintained on a GIS:

a) Road network
b) Spatial plans
c) Road classification
d) Pavement management
e) Traffic counts (heavy, light, overloaded, peak volumes, speed, etc.)
f) Bridge management
g) CPTR (bus, taxi, pedestrian, bicycle and donkey-cart routes and facilities)
h) Road furniture
i) Hazardous zones
j) Census data
k) The location of housing, schools, medical care, water and sanitation.

The data would assist not only in the review of the ITP but also in incident management, road safety, law enforcement operations, project planning and prioritisation, etc.

It is important that the database provided by Africon Consulting Engineers should be maintained.

8.2.2 Capacity building

In terms of section 68 (1) of the Municipal Systems Act 32, 2000, the District Municipality must develop the capacity of its Human Resources to a level that would enable it to perform its function and exercise its power in an economical, efficient, effective and accountable manner, and for this purpose must comply with the Skills Development Act 81, 1998, and the Skills Development Levies Act 28, 1999.

In this section, the discussion concerns the need for capacity development in line with demands for delivery, the development of a competent, appropriately skilled workforce and the role of the roads sector in employment creation and poverty alleviation. The critical shortage of human capital is highlighted, particularly civil engineers and land-use planners, and it is recommended that special initiatives should be taken to increase the number of engineers through immigration and to increase the throughput at South African tertiary education institutions. A dedicated and continuous capacity-building process is required.

There is a need for specialist skills at local authority level in transport management, infrastructure provision, traffic control and public transport.

It is clear that the Province requires skilled workers specifically in the civil engineering profession in both the public and private sectors. Ironically, the tertiary education institutions in the Limpopo Province do not offer degrees and diplomas in civil engineering.

Another serious concern is that traffic engineering projects and integrated land-use and transportation-planning projects are carried out at random. There is no explicit emphasis on the application of engineering principles and the involvement of professional engineers in transportation planning and engineering. In effect, this means that the District Municipality would be liable in the case of injuries and fatalities, because of the use of undefined standards.

The GSDM Road Master Plan elaborates in more detail on the level as well as the number of staff required for the GSDM Road Department.

The following are possibilities for capacity building:

a) Employ technical skills in the District Municipality and Local Municipality offices to do the project management of transport-related projects.
b) Provide in-house mentorship programmes, secondment to consulting firms and construction sites on a project basis, SETA-accredited training programmes, etc. for young engineers and technicians.
c) Budget for bursaries for civil engineers and technicians at undergraduate and postgraduate levels, specifically in Transportation Planning and Traffic Engineering.
d) Enter into agreements with recognised tertiary education institutions such as the Tshwane University of Technology, for the accelerated development of students as managers of current projects.
e) Appoint service providers such as civil engineering consultants (registered professionals with specialist skills in transportation planning, traffic engineering and land use planning) to assist with mentoring programmes, project management and ad hoc project development.

8.2.3 Management of facilities

Over 80% of the minibus-taxi facilities are informal, and are scattered across the town, causing great inconvenience to the passengers and operators. There is a need for intermodal facilities at strategic nodal points.

Facilities must be maintained so as to sustain efficient public transport services. However, maintenance and upgrading is costly. The following facilities management model is proposed.

The following are examples of the most common ways to manage a taxi holding facility:

a) **The local authority takes responsibility for everything at the facilities**. In this case, municipal cleaners clean the taxi-holding and ablution facilities and even provide the chemicals and toilet paper.
b) **The facility is on private property** and the private organisation is responsible for the management and maintenance of the facility.
c) **A management body is formed** or registered, for example a Section 21 company consisting of all the parties involved in the taxi holding facility. Such a body appoints or creates a management structure and is wholly responsible for the management and maintenance of the facilities.

Each of these examples has advantages and disadvantages. Before deciding on a management structure, the question to be answered is whether the facilities will be managed properly. Such management should preferably be achieved without additional cost to the local authority that is the custodian of the facilities, and without creating tension and power struggles among the parties traditionally present at public transport facilities.

8.2.3.1 A proposed approach to managing taxi holding areas/facilities

The proposed approach would consist of the following elements:

a) Joint venture
b) Management process.

The section below gives details about the above elements.

a) Joint venture agreement

The proposed approach to be followed in a local municipality area would be to establish a joint venture between the taxi industry and the local municipality. This joint venture should be based on a co-operation agreement between the taxi industry and the local municipality.

The rank maintenance and management policy should be based on the co-operation agreement between the respective local municipalities and the taxi industry. The basis for the co-operation agreement should be that the local municipality, which should be the owner of the land and property, would allow the taxi industry to use the facility so as to provide transport. The local municipality together with the GSDM should do the structural maintenance and the public transport industry the day-to-day maintenance and management of the rank and terminal.

Figure 8.2.3.1.1 is a graph of the parties to be involved as part of the joint ventures.

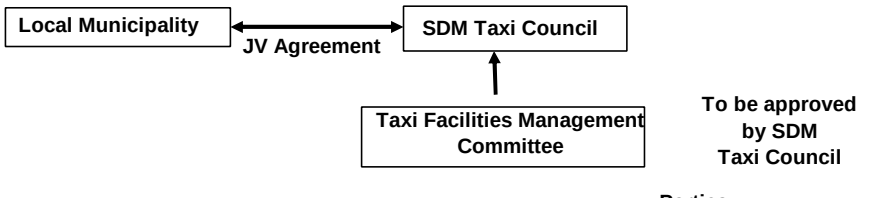

FIGURE 8.2.3.1.1: PARTIES TO BE INVOLVED AS PART OF JOINT VENTURE

b) Management process

The main principles that should be taken into account in developing a management process for the taxi-related facilities are as follows:

i) Avoid creating a new structure to take responsibility for the management and maintenance of the taxi-related facilities, because such structures need financial support
ii) Allow the taxi industry to play an important role in the management of the taxi facilities because the industry creates the business for the informal traders and other shop owners at the ranks, and the industry already manages the taxi operations through the queue marshals and rank marshals
iii) In keeping with the principles and objectives of the national government, the taxi association's members are empowered by being given the opportunity to develop skills as the managers of the business opportunity they help to create
iv) Keep the operators interested and committed by allowing the industry's members to share in the income generated at the ranks and terminals
v) Keep the taxi industry effective by having its members deposit a sum of money with the local municipality, to be used if the association does not fulfil the responsibilities stipulated in the co-operation agreement
vi) All taxi associations operating at the proposed taxi facilities should sign a management agreement with the controlling bodies, stipulating that they and their members and drivers will adhere to the rules of the facility and contribute to the cleaning of the facility, as the case may be
vii) Managing the taxi holding facilities could be based on a co-operation agreement between the local municipality and the Sekhukhune District Taxi Council.

To conclude, it could therefore be regarded as fair for the taxi associations to benefit from renting out business sites, such as hawkers' stalls and kiosks. Part of these funds could be used for the upkeep of the holding facility and the rest could be retained in the coffers of the taxi industry. The advantage is that the more effective the industry maintaining the ranks/holding facilities, the greater the profit.

The joint venture is in fact an opportunity for public transport operators who, through their transport activities, have opened up trading opportunities for the informal sector, to start new businesses.

The local municipality should, however, still be responsible for collecting and determining the fees for hawkers' stalls.

A Taxi Holding Facility Subcommittee should be formed as part of the local Transport Forum and would include representatives of the following stakeholders:

i) Local taxi industry
ii) Technical Services Department
iii) Traffic Department (Community Safety)

iv) Health Department.

This subcommittee should visit the public transport facilities on a monthly basis and report to the relevant structures. The monitoring report would be presented to the local transport forum for consideration and information.

A management committee should be established for the taxis in order to conduct the day-to-day management of the holding area. The purpose of the management committee would be to co-ordinate operations and to take responsibility for the management and maintenance of the facilities at the holding area.

The management committee for the taxi facilities would require a strong leadership. The success of the co-operation agreement depends largely on the management committee's commitment to making the agreement work. Figure 8.2.3.1.2 is a flow chart of the proposed management process.

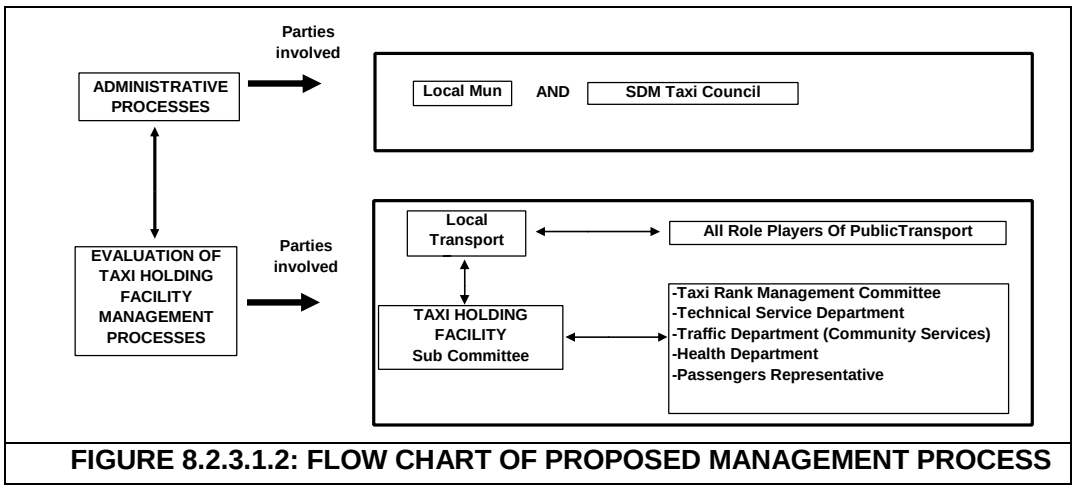

FIGURE 8.2.3.1.2: FLOW CHART OF PROPOSED MANAGEMENT PROCESS

8.2.4 Public-Private Partnerships

It is very important to give careful consideration to creating effective public-private partnerships. Such partnerships could be effectively utilised to –

a) develop ranking facilities, and
b) to improve the road infrastructure.

One should carefully investigate the possibility of mixing private funding with MIG funds in order to develop the maximum facilities.

8.2.5 Key Performance Indicators

The District Municipality must establish a performance management system as required by the Municipal Systems Act 32, 2000, Chapter 6. The District Municipality must promote a culture of performance management among political structures, political office-bearers, councillors and administrators.

The process of integrated transport planning should be dynamic and characterised by the continuous review and testing of goals and objectives against key performance indicators.

The District Municipality must apply key performance indicators (KPIs) to monitor progress in the implementation of policies and projects, and to monitor its performance as an implementing agent.

Two types of KPIs are identified:

a) *Customer-based indicators,* which measure the performance of the land transport system from the customer's point of view; and
b) *ITP-based indicators*, which measure the progress that the District Municipality makes with implementing the policies and projects contained in the ITP.

The indicators reflect the following priority areas:

a) Promotion of public transport usage,
b) Promotion of access to land transport, and
c) Road safety.

Table 8.2.5.1 shows the transport objectives, KPIs and recommended norms with regard to transportation. The ITP review will monitor the previous year's performance. The table differentiates between the KPIs of customers and those of the transport authority.

The District Municipality must finalise a list of Key Performance Indicators and monitor itself in terms of service delivery on a quarterly basis.

According to the Municipal Systems Act 32, 2000, the results of performance measures must be audited as part of a municipality's internal auditing process, be audited annually by the Auditor-General and be made known to the public through the Annual Report.

TABLE 8.2.5.1 – PROPOSED KEY PERFORMANCE INDICATORS			
Transport objective		**KPI**	**KPI norm**
CUSTOMER KPIs			
1.	Minimise travel distance	Percentage of commuters travelling less than 40 km to work	% Commuters
2.	Minimise travel time	Percentage of commuters travelling less than 1 hour to work	% Commuters
3.	Access and mobility	% of rural people living within 2 km of access to regular public transport services	% Commuters
4.	Minimise the cost of travel	% of households spending more than 10% of disposable income on public transport	% Households
TRANSPORT AUTHORITY KPIs			
1.	Improved transport safety	Accidents per 100 000 vehicles by mode and no. of pedestrian accidents	% Accidents
2.	Traffic safety	Expenditure on no. of hazardous locations identified and addressed. (Road safety projects and before-and-after studies.)	R/1000/population
3.	Provision of efficient, effective and sustainable transport infrastructure	Lane kilometres of freeways and arterials per 1 000 population	% Commuters
4.	Ensure sustainable and dedicated funding	Expenditure on road infrastructure, public transport infrastructure, planning and maintenance per 1 000 population	R/1000/population
5.	Level of media intervention and finance for promoting public transport	Expenditure on marketing of public transport	R/1000/population
6.	Promoting public transport	Customer satisfaction surveys	Various
7.	Travel Demand Management & Transport System Management	Expenditure on infrastructure projects, and on planning and design projects.	R/1000/population
8.	Formalisation of taxi industry	No. of permits converted to operating licences	No. of OL/no. of permits
9.	Land-use restructuring	Area of non-residential floor space and number of housing units developed in corridor and identification/infilling projects in urban areas	Various
10.	Institutional	No. of resolutions at Transport Forum meetings	No.
11.	Capacity building & skills development (internal)	Budget spent on internal training and bursaries for transport-related skills development	R/1000/employee
12.	Job creation & skills development (external)	Budget spent on training of emerging contractors	R/1000/person
13.		No. of emerging contractors employed (as lead contractor and subcontractor), and budget spent.	R/contractor

8.2.6 Institutional transformation

8.2.6.1 Establishment of a Transport Authority

The NLTTA identifies three tiers of governing bodies for transportation. The Central and Provincial Departments of Transport are the first two in the hierarchy. The third tier of government for transportation is the District Municipality and Metropolitan Municipality. A Transport Authority (TA) is an institutional structure (an organ of state) alongside a municipality consisting of a governing body of councillors, with the responsibility for delivering transport-related services at the municipal level of government.

A TA is a juristic person established to function separately from the participating municipality or municipalities. The TA is governed and controlled by the governing body appointed for it in accordance with its founding agreement, which governing body consists solely of councillors of the constituent municipality or municipalities. The founding agreement is between the MEC and the municipality or municipalities, including the declaration of a transport area (boundary). The TA must undertake at least six compulsory functions and can choose from numerous additional voluntary functions:

a) Prepare, implement and monitor transport plans
b) Develop land transport policy within its area, based on National and Provincial guidelines
c) Perform financial planning with regard to land transport within or affecting the transport area
d) Manage the movement of persons and goods on land by co-ordinating such movement
e) Encourage, promote and facilitate public consultation, participation or involvement, to ensure effective communication with customers, communities, organised labour and transport operators
f) Call for tenders for public transport services to be operated in terms of commercial service contracts, prepare tender specifications and documents for that purpose, evaluate the tenders and award the tenders
g) The TA must comply with its obligations as stated in sections 84 and 85 of the Municipal Structures Act. In addition, municipal roads, municipal airports, fire-fighting/incident management, etc are included as functions of the Transport Authority.

These functions are devolved from both the national and provincial spheres, for example commuter rail, subsidised bus services and the regulation of public transport – are all grouped into one effective and efficient institutional structure.

The Minister of Transport, the corresponding Province and participating municipalities may fund a Transport Authority.

The function of a Transport Authority may vary according to the following:

a) A comprehensive spectrum of transport responsibilities
b) Comprehensive responsibilities with a few exclusions, such as law enforcement and commuter rail
c) Restriction to specified responsibilities, for example the provision of public transport facilities and local roads only.

The holistic advantage of the Transport Authority as a governing body for transportation is a focal point of delivery, contact and accountability for transportation services. Further advantages and disadvantages are discussed in Table 7.2.6.1.1, courtesy of the Department of Transport.

TABLE 8.2.6.1.1 - ADVANTAGES AND DISADVANTAGES OF A TRANSPORT AUTHORITY *(46)*	
ADVANTAGES	**DISADVANTAGES**
Eradication of fragmentation resulting from transport provision being handled by three spheres of government	Possible perception of empire-building in land transport in the municipal sphere
Integrated transport service delivery across functions such as planning, operations, regulation, infrastructure, marketing and monitoring in the local sphere	Possible cases of unfounded mandates at the municipal sphere in terms of some of the optional functions (over and above the six compulsory functions)
Integrated and balanced transport service delivery across all modes of transport (public, private and non-motorised) in the local sphere	Possible uncertainty and loss of productivity due to institutional reorganisation resulting from the centralisation of land transport functions in the municipal sphere
Councillors dedicated to the transport function across the entire portfolio of transport functions and modes in the local sphere	Possible reduction of critical mass of some municipal departments below the level of viability
Executive responsibility for land transport in the local sphere	Possible complexities associated with (municipal) cross-border transport authorities
Officials dedicated to the transport function across the entire spectrum of transport functions and modes in the local sphere	
Local accountability and meeting local land transport need	
A single “pot” of money for land transport in the local sphere	
Improved use of resources and funding in the local sphere	
A seamless market-facing entity for customers (commuters) to deal with in the local sphere	
Improved transport service delivery for commuters/customers in the local sphere	

The formation of a Transport Authority has significant implications for skills and capacity, resources, organisational transformation, etc. The Municipality must be assured of political support and financial commitment. The establishment of a Transport Authority is as much a political process as a technical one *(50)*. The District Municipality may consider the establishment of a Transport Authority. The MEC for Transport must adjudicate the request and determine if the motivation has adequate administrative capacity, in terms of the following:

a) Administrative development programmes within the province
b) Technical functional reasons, which indicate clearly that it is more beneficial to deviate from the current administration.

8.2.7 Sekhukhune District Transport Forum

The Transport Forum is currently the "'technical committee" with representation and proposed representation from various transport sectors including, but not limited to, the following:

a) District Municipality Transport Manager
b) Local Municipality Transport Managers
c) Local Municipality Transport Forum Representation
d) Transport Portfolio Committee
e) Bus Operators Forum
f) Taxi Council
g) Law Enforcement Department
h) SAPS
i) Commuter Forum
j) Technical Adviser
k) Department of Transport
l) Department of Public Works
m) Department of Environmental Affairs and Tourism
n) Local Municipality Transport Forums.

The District Municipality and the constituent local municipalities jointly form the third sphere of government. Transport planning and implementation should therefore be done in partnership to maximise opportunities.

In terms of sections 84 and 88 of the Municipal Structures Act, the District Municipality must assist the Local Municipalities with the following:

a) Building the capacity of Local Municipalities in its area to perform their functions and exercise their powers where such capacity is lacking
b) Promoting the equitable distribution of resources between the Local Municipalities in its area to ensure appropriate levels of municipal services within the area
c) The receipt, allocation and, if applicable, the distribution of grants made to the District Municipality.

Synergy and co-ordination between the District Municipality and the Local Municipalities could be achieved through the District Transport Forum.

8.3 RECOMMENDATION

a) Due to capacity constraints, the option of establishing a Transport Authority is not yet the appropriate administrative mechanism for the GSDM. There is a need for additional capacity and skills to implement integrated land use and transportation planning and traffic engineering in the GSDM.
b) The District Transport Forum must be formalised by the Municipal Manager to function like that of an urban transport board, as described in the Urban Transport Act 78, 1977. The formalisation of the Transport Forum to function as a committee established by the Municipality could be justified by section 79 of the Municipal Structures Act 117, 1998. The Transport Forum must be responsible for the following:

    i) Identifying transportation needs
    ii) Approving the transport plans prepared by planning authorities
    iii) Consultation with stakeholders
    iv) Influencing policies
    v) Investigating opportunities for public-private partnerships to optimise the funding mechanism and maximise service delivery
    vi) Implementing the projects identified in the Integrated Transport Plan

vii) Measuring performance by means of Key Performance Indicators

c) The Transport Forum should meet at least once every quarter, and the District Municipality must budget for the functioning of the Transport Forum.

Chapter

9. STAKEHOLDER CONSULTATION

It was necessary to make use of the Sekhukhune District Transport Forum (SDTF) in order to facilitate public participation in the process of compiling the public transport documents. All public participation in the field of transport takes place via the SDTF, which serves as a platform where all transport stakeholders can participate in and give their input into transport-related issues.

The forum's main objective is to provide an ongoing mechanism through which the relevant role players can participate collectively. Some pertinent objectives for the forum are to –

a) serve as a means for people at grassroots level to communicate with the local municipalities about issues relating to transport;
b) be inclusive;
c) involve all transport sectors in the area (through proper communication structures);
d) unite the public transport industry in the area;
e) identify transport needs and monitor the implementation of measures to meet these needs, by means of –

    i) being part of the planning and operational process in the area;
    ii) being part of the process for making policy and drafting legislation;
    iii) ensuring peace and stability in the area by means of conflict resolution;
    iv) developing the skills of participants and creating an effective forum;
    v) improving transport in general;
    vi) providing economic assistance;
    vii) ensuring safe road conditions by enforcing adherence to traffic rules and regulations;

f) implement the NTTT recommendations.

The SDTF has an approved constitution as well as a code of conduct to ensure orderly and well-organised meetings. It is important to note that the SDTF is used as a basic planning platform to ensure uniformity in the district. It will become extremely important in future for local municipalities to have active transport forums so that the transport plans can be implemented.

The following representatives typically attend meetings of the transport forums:

a) District municipality

    i) Councillors from the relevant subcommittee
    ii) Officials of the following departments:

        - Technical Services Department
        - Traffic Department
        - Health Department
        - LED Department.

b) Limpopo Provincial Government

    i) Department of Public Works – Sekhukhune District Office
    ii) Department of Transport – Sekhukhune District Office
    iii) Traffic Control – Sekhukhune District Office

c) Local Municipalities – councillor and official
d) Business Forum
e) South African Police Service
f) Sanco

g) Spoornet
h) Taxi industry, including the local taxi operators, long-distance taxi operators and metered-taxi operators
i) Bus industry
j) Passengers and communities through unions and ward councillors
k) Roads Agency Limpopo
l) South African National Roads Agency Limited (SANRAL)
m) Organisations for persons with disabilities.

In addition to consultation with the SDTF, further detailed discussions were conducted on an ad hoc basis with some of the key players. The input of the various role players appears in the various sections of the OLS for the GSDM.

Figure 9.1 indicates the overall communication structure, apart from the forum used for preparing the GSDM-OLS. Table 9.1 gives a more detailed description of the respective role players.

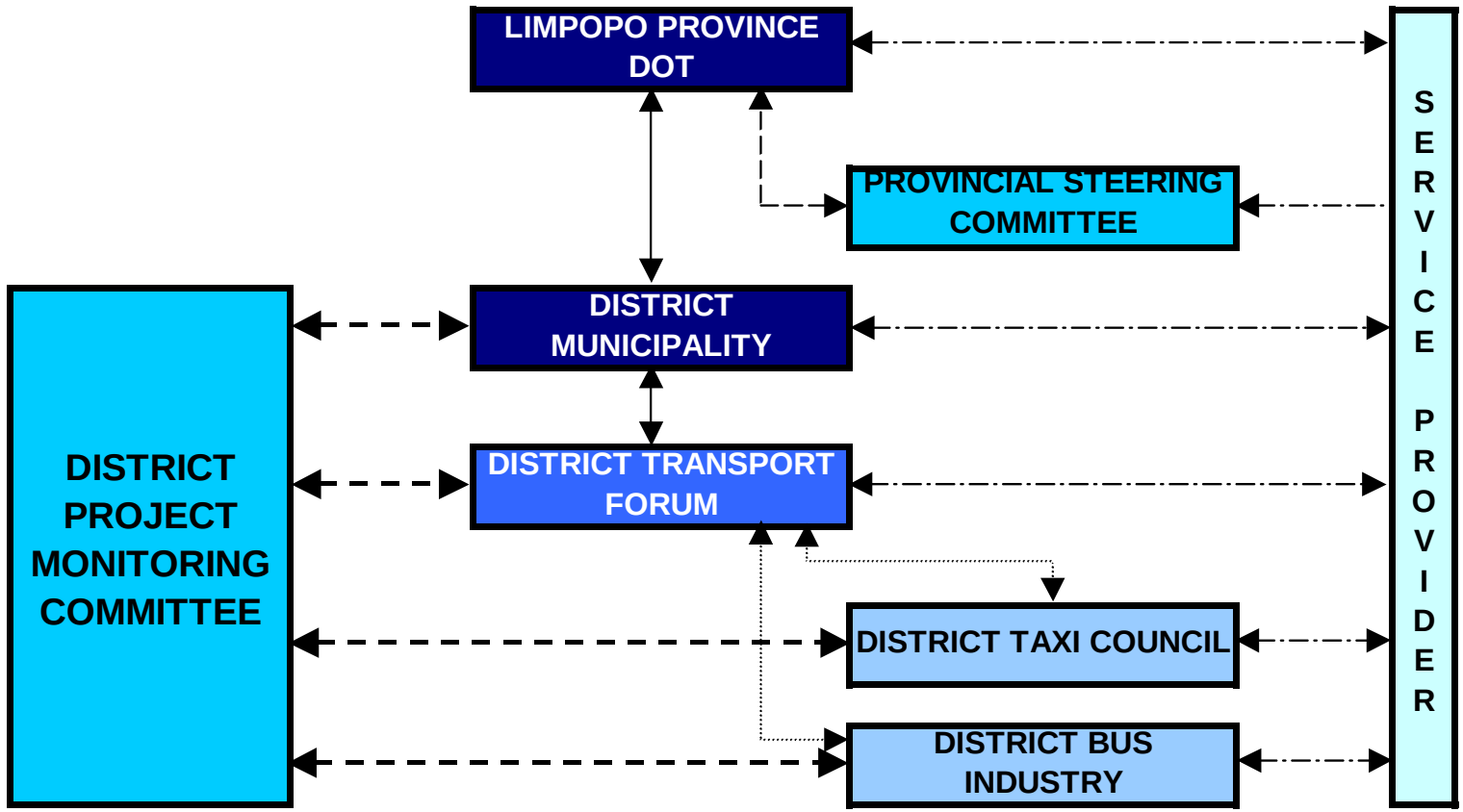

FIGURE 9.1: COMMUNICATION STRUCTURE USED FOR THE PREPARATION OF TRANSPORT PLANS

TABLE 9.1: FUNCTIONS AND MEMBERS OF THE VARIOUS STRUCTURES FOR THE PREPARATION OF DISTRICT TRANSPORT PLANS		
STRUCTURE	**MEMBERS**	**FUNCTIONS**
LIMPOPO DEPT OF TRANSPORT	a) Officials b) Politicians	a) Project financiers and those responsible for paying the service provider b) Provincial Project Co-ordinator c) Driving and liaison with the Provincial Steering Committee d) Liaising and interacting with the District Municipality e) Liaising and interacting with the service providers
PROVINCIAL STEERING COMMITTEE	a) Representative of National Dept of Transport b) Representatives of the Provincial Dept of Transport c) Representatives of the District Municipalities	a) Recommending the payments to be made to service providers b) Evaluating and recommending the approval of the reports c) Liaising and interacting with the Provincial Department of Transport d) The Provincial Steering Committee would make recommendations that the Provincial Department of Transport would enforce on the service provider
DISTRICT MUNICIPALITY	a) Officials b) Politicians	a) Liaising with Provincial Department of Transport b) Liaising with District Transport Forum c) Liaising with the District Project Monitoring Committee d) Liaising with the service providers
DISTRICT TRANSPORT FORUM	a) All role players in public transport	a) Ensuring involvement with people at grassroots level b) Reporting to their respective structures c) Advising the service providers Giving their support to the Transport Plans
DISTRICT PROJECT MONITORING COMMITTEE	a) Representative of the District Municipality b) Representatives of the Local Municipalities c) Representative of the Provincial Transport Department at district level	a) Liaising with the District Municipality b) Liaising with the Transport Forum c) Monitoring the progress of the project d) Liaise with the bus and taxi industries e) The District Monitoring Committee should make recommendations via the District Municipality that the Provincial Department of Transport would enforce on the service providers
DISTRICT TAXI COUNCIL	a) Representatives of the District Taxi Council	a) Working together with the service provider and the Project Monitoring Committee to ensure that the product would be

TABLE 9.1: FUNCTIONS AND MEMBERS OF THE VARIOUS STRUCTURES FOR THE PREPARATION OF DISTRICT TRANSPORT PLANS		
STRUCTURE	**MEMBERS**	**FUNCTIONS**
		acceptable to the taxi industry. b) Liaising with the taxi industry's structures, such as taxi associations and the Provincial Taxi Council
DISTRICT BUS INDUSTRY	a) Representatives of District Bus Operators	a) Working together with the service provider and the District Project Monitoring Committee to ensure that the product would be acceptable to the bus industry b) Liaising with the bus operators at lower levels
SERVICE PROVIDERS	Siyazi Joint Venture: a) Siyazi Limpopo b) Khosa Development Specialists c) Local Previously Disadvantaged Individuals	a) Carrying out the work b) Liaising with all the structures c) Consulting the Provincial Dept of Transport, Provincial Steering Committee, District Municipality, District Project Monitoring Committee and District Transport Forum, District Taxi Council and District Bus Industry

Chapter

10. PLAN OF ACTION AND PROJECTS

This chapter of the ITP contains a description of and programme for the prioritised projects, together with the five-year budgets for each project/action. The five-year budget is detailed for Year One and addressed as a consolidated schedule with less detail for Year Two to Year Five.

The transport plans should be updated every third year. However, the CPTR should be updated annually to determine the changes in the transportation system. Traffic counts, pavement conditions and hazardous locations must also be updated to assist with the prioritisation of projects.

Projects are prioritised separately for public transport (in the Public Transport Plan) and private land transport. Although several initiatives are not among the District Municipalities' competencies, such as heavy vehicle overload control, the District Municipality must submit a motivation to the Department of Transport to intervene with initiatives such as traffic counts or pavement conditions.

Also, law enforcement projects, road safety projects by the Department of Transport, and infrastructure projects on National Roads and Provincial Roads should be carried out with the participation of the District Municipality.

As regard the 2010 World Cup Soccer Tournament, there is a need for stronger relations between Transport Planning and Tourism. For example, the formalised metered-taxi associations should be represented on tourism committees and the Transport Forums. This would result in consistency in the standard of service and heightened awareness of safety and security, customer relations, etc.

The approach of the second PTP was to concentrate on the infrastructure related to public transport for the first five years of operation, and on constituting the proposed by-laws. In the review of the PTP, the focus will be on the more detailed operational and institutional matters.

The projects identified in the Public Transport Plan are also included in this document for the sake of continuity.

Table 10.1 provides a summary of the total costs related to the OLS, RATPLAN, PTP and ITP whereas Tables 10.2, 10.3, 10.4 and 10.55 contain the following information respectively:

a) **TABLE 10.2**: Projects related to the GSDM Operating Licensing Strategy and the financial implications
b) **TABLE 10.3:** Projects related to the GSDM RATPLAN and the financial implications
c) **TABLE 10.4:** Projects related to the Public Transport Plan and the financial implications
d) **TABLE 10.5:** Projects related to the Integrated Transport Plan and the financial implications.

The projects described in Table 10.5 are consequently described in more detail since the other projects have already been described as part of the OLS, RATPLAN and PTP

TABLE 10.1: SUMMARY OF TOTAL COSTS RELATED TO OLS, RATPLAN, PTP AND ITP			
PLAN	**ESTIMATED COSTS**		
	YEAR 1	**YEARS 2-5**	**TOTAL**
OPERATING LICENSING STRATEGY (OLS)	R5 380 000	R23 370 000	R28 750 000
RATIONALISATION PLAN (RATPLAN)	R14 025 942	R83 505 660	R97 531 602
PUBLIC TRANSPORT PLAN	R23 150 000	R42 850 000	R 66,000,000
INTEGRATED TRANSPORT PLAN	R40 800 000	R879 400 000	R920 200 000
TOTAL	**R 83,355,942**	**R1,029,125,660**	**R 1,112,481,602**

Although the report provides information on the budgets for the SDM, RAL and SANRAL road related projects, the budget as indicated as part of this section excludes the SDM, SANRAL and RAL budgets for upgrading as well as maintenance of roads.

TABLE 10.2: PROJECTS RELATED TO THE GSDM OPERATING LICENSING STRATEGY AND THE FINANCIAL IMPLICATIONS									Responsibility	Project duration
PROJECT	**1**	**2**	**3**	**4**	**5**	**YEAR 1**	**YEARS 2-5**	**TOTAL**		
OPERATING LICENSING STRATEGY PROJECTS (OLS)										
Project 1: Annual update of OLS						R0	R700 000	R700 000	**LPDORT/DM**	**4 months**
Project 2: Vehicle verification process to clear vehicles for taxi scrapping						R150 000	R0	R150 000	**LPDORT**	**3 months**
Project 3: Establishment of provincial Operating Licence Offices at District Municipality level General application process Assist with eliminating illegal operators on existing routes Grant operating licences for the recommended additional routes Grant special operating licences for transportation at funerals, functions, etc. Replacement of vehicle Colour coding of routes						R1 000 000	R 4 800 00	R5 800 000	**LPDORT**	**Ongoing**
Project 4a: Appointment of law enforcement officers dedicated to inspecting operating licences as well as rationalisation issues						R2 500 000	R12 000 000	R14 500 000	**LPDORT**	**Ongoing**
Project 4b: Special law enforcement campaigns on problem routes for the respective local municipalities (once a month)						R150 000	R750 000	R900 000	**LM & LPDORT**	**Ongoing**
Project 5: Establishment of Sekhukhune Taxi Co-operative						R150 000	R0	R150 000	**Limpopo Province Taxi Council & LPDORT**	**3 months**
Project 6: Maintenance of Sekhukhune Taxi Co-operative						R500 000	R1 500 000	R2 000 000	**Limpopo Province Taxi Council & LPDORT**	**Ongoing**
Project 7: Implementation and maintenance of route colour-coding system for taxis						R0	R700 000	R700 000	**LPDORT /DM**	**Ongoing**
Project 8: Establishment and maintenance of local transport forums.						R500 000	R1 600 000	R 2 100 000	**LPDORT /DM/LM**	**60 months**
Project 9: Maintenance of the District Transport Forum						80 000	320 000	R400 000	**DM**	**2 months**
Project 10: Development of Rank Management Agreements						R350 000	R500 000	R 850 000	**LPDORT /DM**	**3 months**
Project 11: Formalisation of the metered-taxi industry and scholar transport						R0	R500 000	R500 000	**LPDORT**	**3 months**
Total financial implications						**R5 380 000**	**R23 370 000**	**R28 750 000**		

TABLE 10.3: PROJECTS RELATED TO THE GSDM RATPLAN AND THE FINANCIAL IMPLICATIONS										
PROJECT									**Responsibility**	**Project duration**
RATPLAN PROJECTS	**1**	**2**	**3**	**4**	**5-7**	**YEAR 1**	**YEARS 2-7**	**TOTAL**		
Implementation of Subsidised negotiated contracts						R4 033 124	R24 198 748	R28 231 872	**LPDoRT**	**Seven years**
Project-2: Implementation of mine contracts						R8 815 390	R52 892 340	R61 707 730	**LPDoRT and Mines**	**Seven years**
Project-3: Implementation of monitoring firms						R1 027 428	R6 164 572	R7 192 000	**LPDoRT**	**Three years**
Project 4: Establishment of Transport Forums						Part of OLS projects	Part of OLS projects	Part of OLS projects	**LPDoRT, GSDM and Local Municipalities**	**Per annum**
Project-5: Updating of Rationalisation Strategy						R150 000	R250 000	R400 000	**LPDoRT & SDM**	**Per annum**
Project-6: Implementation of law enforcement						See PTP Budget	Cost included in OLB programme	Cost included in OLB programme	**Greater Sekhukhune District Municipality**	**Per annum**
Total financial implications						**R14 025 942**	**R83 505 660**	**R97 531 602**		

TABLE 10.4: PROJECTS RELATED TO THE PUBLIC TRANSPORT PLAN AND THE FINANCIAL IMPLICATIONS										
PROJECT									**Responsibility**	**Project duration**
	1	**2**	**3**	**4**	**5**	**YEAR1**	**YEARS 2-5**	**TOTAL**		
PUBLIC TRANSPORT PROJECTS (PTP)										
Project 1: Review CPTR						R300 000	R1 200 000	R 1,500,000	**LPDORT /DM**	**4 months**
Project 2: Review Public Transport Plan						R0	R400 000	R 400,000	**LPDORT /DM**	**3 months**
Project 3: Implementation of Non-motorised Transport Plan (Infrastructure)						R1 500 000	R6 000 000	R 7,500,000	**DM**	**Ongoing**
Project 4: Public Transport Facilities (Appendix B to the PTP)						R20 000 000	R30 000 000	R 50,000,000	**DM & Local Mun**	**Ongoing**
Project 5: Policy on subsidy for learners, students and the elderly						In-house	-	R 0		**6 months**
Project 6: Law enforcement campaigns						R1 000 000	R4 000 000	R 5,000,000	**LPDORT /DM**	**Ongoing**
Project 7: Address NLTTA section 31 – use of bakkies as vehicles for public passenger transport						R0	R150 000	R 150,000	**LPDORT /DM**	**18 months**
Project 8: GSDM policy on public-private partnership						R150 000	R0	R 150,000	**DM**	**2 months**
Project 9: Policy on uniform fare structures for the GSDM						R0	R200 000	R 200,000	**LPDORT**	**3 months**
Project 10: Engage with SANTACO and Provincial Taxi Councils to develop a unit rate for taxi fares						R0	R200 000	R 200,000	**LPDORT**	**3 months**
Project 11: Study innovative funding mechanisms for transportation (PLTF)						R0	R100 000	R 100,000	**LPDORT**	**3 months**
Project 12: Investigate feeder and distribution service along corridors						R100 000	R0	R 100,000	**LPDORT**	**3 months**
Project 13: Align Passenger Charter & Memorandum of Understanding with NDoT						R0	R100 000	R 100,000	**LPDORT**	**2 months**
Project 14: Marketing campaign to promote public transport (operators and DoT)						R0	R500 000	R 500,000	**LPDORT /DM/LM**	**Ongoing**
Project 15: Prepare Architectural theme for the GSDM area						R100 000	R0	R 100,000	**LPDORT /DM**	**3 months**
Total financial implications						**R23 150 000**	**R42 850 000**	**R 66,000,000**		

TABLE 10.5: PROJECTS RELATED TO THE PUBLIC TRANSPORT PLAN AND THE FINANCIAL IMPLICATIONS									Responsibility	Project duration
PROJECT	**1**	**2**	**3**	**4**	**5**	**YEAR 1**	**YEAR 2-5**	**TOTAL**		
INTEGRATED TRANSPORT PLAN PROJECTS (ITP)										
Project-1: Review ITP						R0	R500 000	R500 000	**LPDoRT/DM**	**3 months**
Project-2: Implementation of HR audit for Roads Section of GSDM e) Recruitment Plan f) Appoint Professional Engineer as adviser g) Develop KPI for Transportation Service Delivery h) Training of Project Managers						In-house	In-house	In-house	**DM**	**Continuous**
Project 3: Update Road Master Plan and include additional issues: i) Road classification j) Traffic counts k) Visual pavement assessment l) Visual assessment of structures/Bridge assessment m) Detour routes for hazardous materials n) Road maps o) Prioritised list of road sections for upgrading and maintenance p) Customise Road Management System from RAL to SDM						R500 000	R2 000 000	R2 500 000	**DM/RAL/ LPDoRT**	**Ongoing**
Project-4: Upgrade street layout in main economic centres d) CDB route layouts for Burgersfort e) Other Local Municipalities f) Internal service road for Burgersfort						R10 000 000 R300 000 R9 000 000	R90 000 000 R40 000 000 R81 000000	R100 000 000 R40 300 000 R90 000 000	**GTLM/DM/GRANT S/ NDoT/LM**	**48 months**
Project-5: Road Signs Contract						Cost to be determined through road management system			**DM**	**6 months**
Project-6: Road Markings Contract						Cost to be determined through road management system			**DM**	**6 months**
Project-7: Standard Road Guidelines and Policies for GSDM i) Traffic Calming Policy j) Traffic Impact Study Guidelines and Policy k) PPP for Infrastructure Management Guidelines and Policy l) Advertisement on Roads Policy m) Travel Demand Management Policy n) Parking Policy o) Road Access Management Policy p) Environmental Policy for Roads and Transport						R300 000 R150 000	R200 000 R75 000 R75 000 R75 000 R75 000 R100 000	R200 000 R300 000 R150 000 R75 000 R75 000 R75 000 R75 000 R100 000	**DM/LM/LPDORT/ SANRAL/RAL**	**48 months**
Project-8: Road safety audits to determine Hazardous Location Programme						R0	R500 000	R500 000	**LPDORT/DM/LM & private sector**	**3 months and ongoing**
Project-9: Prepare an Events Management Plan d) Burgersfort e) Marble Hall f) Groblersdal						R0	R300 000	R300 000	**DM/LM**	**6 month**
Project-10: Feasibility study on the establishment of a Disaster Management Centre e) Feasibility study f) Establish an Incident Management System g) Establish a Central Communications Centre h) Install emergency signs on R555 & R37						Needs to be co-ordinated with other Departments in the GSDM			**DM**	**24 months**

TABLE 10.5: PROJECTS RELATED TO THE PUBLIC TRANSPORT PLAN AND THE FINANCIAL IMPLICATIONS									Responsibility	Project duration
PROJECT	**1**	**2**	**3**	**4**	**5**	**YEAR 1**	**YEAR 2-5**	**TOTAL**		
INTEGRATED TRANSPORT PLAN PROJECTS (ITP)										
Project-11: Branding of tourism routes c) Marketing d) Signage						R0	R2 000 000	R2 000 000	**DEAT/ LPDoRT /DM**	**24 months**
Project-12: Traffic Signal Management and Signal Maintenance						R0	R1 000 000	R1 000 000	**DM**	**Ongoing**
Project-13: Procure GIS software and set up database						R0	R500 000	R500 000	**DoT/DM**	**12 months and ongoing**
Project-14: Preparation of Strategies c) Overload Control Strategy d) Airport Strategy						R0 R0	R300 000 R200 000	R300 000 R200 000	**DoT/NRA/RAL DM must participate**	**4 months**
Project-15: Rail infrastructure for mining developments						Existing initiatives will determine cost			**Dept Finance & Economic Development/DoT**	**Not available**
Project-16: Upgrading of Road R37 (Dilokong Corridor, 48 km @ R7m per km)						R 10 000 000	R326 000 000	R336 000 000	**NRA & co-funding**	**36 months**
Project-17: Upgrading of Road R555 (49 km @ R7m per km)						R10 000 000	R333 000 000	R343 000 000	**RAL & co-funding**	**36 months**
Project-18: Project to identify strategic mine routes that also serve the local community and could be co-funded by MIG						R50 000	R0	R50 000	**Mining industry**	**3 months**
Project-19: Co-ordinations of Transport related projects as part of the 2010 soccer World cup						R500 000	R1 500 000	R2 000 000	**DM/LM/LPDORT/ SANRAL/RAL**	**3 months**
					Total	**R40 800 000**	**R879 400 000**	**R920 200 000**		

Chapter

11. FUNDING

This chapter elaborates on the following:

a) Responsible agencies in the GSDM
b) Summary of total costs
c) Funding and subsidies
d) Current funding for public transport
e) Sources of funding.

11.1 RESPONSIBLE AGENCIES IN THE GSDM

The following authorities are significant planning authorities for transport in the GSDM:

a) National Department of Transport
b) Limpopo Province Department of Roads and Transport
c) Greater Sekhukhune District Municipality
d) Respective local municipalities
e) The South African National Roads Agency (SANRAL)
f) Road Agency Limpopo (RAL)
g) Department of Public Works.

Collection policies and systems undermine the potential revenue of the District Municipality because of the high level of poverty, the rural nature of the area and a shortage of resources such as capacity and appropriate skills.

Inter-governmental funds are distributed by the equitable share formula, and conditional grants through eight different programmes. Municipal infrastructure funding is allocated through Municipal Infrastructure Grants.

11.2 SUMMARY OF TOTAL COSTS

The estimated total cost for all transportation projects derived from the Integrated Transport Plan in the SDM is presented in **Table 11.2.1**.

TABLE 11.2.1: SUMMARY OF TOTAL COSTS RELATED TO OLS, RATPLAN AND PTP AND ITP

PLAN	ESTIMATED COSTS		
	YEAR 1	YEARS 2-5	TOTAL
OPERATING LICENSING STRATEGY (OLS)	R5 380 000	R23 370 000	R28 750 000
RATIONALISATION PLAN (RATPLAN)	R14 025 942	R83 505 660	R97 531 602
PUBLIC TRANSPORT PLAN	R23 150 000	R42 850 000	R 66,000,000
INTEGRATED TRANSPORT PLAN	R40 800 000	R879 400 000	R920 200 000
TOTAL	**R 83,355,942**	**R1,029,125,660**	**R 1,112,481,602**

The cost excludes all road costs except for the provision of additional road infrastructure along Road R37 as well as in Burgersfort. The road cost is included in the GSDM Road Master Plan.

The cost of the rail infrastructure as proposed in the Limpopo 2020 study is also excluded, as rail is not a core competency of the District Municipality. The feasibility study and the implementation of Overload Control Centres are also excluded from the total cost for the District Municipality, because the project is currently under the authority of the National Roads Agency, the Department of Transport and the Roads Agency Limpopo.

11.3 FUNDING AND SUBSIDIES

The question to be asked is whether public transport is a public service or is it market driven? Are subsidies an investment or a waste of taxes? What are the main social and economic objectives aligned with transport subsidies?

For the Limpopo Province, it is intuitively felt that public transport is a need, and that subsidies are necessary to provide access mobility so as to ensure an adequate standard of living for most people in the Province. Therefore the current circumstances qualify subsidies as an investment in the Limpopo Province.

Public transportation is a service with reasonable economics, where the bottom line should not be the dictating factor. Transit does not outperform the private mode in a free-market environment. There are several non-monetary, non-tangible benefits to society. These benefits are not marketable. Any reduction in capital and operating costs by deregulation would still have to consider the basic needs of the passenger.

The availability of needed funds is a basic condition for implementing the permanent provision of attractive services that can respond to increasing demands for high-quality, high-volume public transport. Similar to highways and other passenger transport facilities, transit investments come mostly from public funds.

The preferred modes of public transport are the bus and taxi. Higher-capacity buses currently operate during the peak periods only, but the lower-capacity taxis operate during the off-peak period on the same primary route. However, on some routes the taxi mode is in direct competition with the bus mode and is not viable. There is a potential for some routes to be converted solely to taxi routes owing to the low passenger volumes. There is also the potential for taxis operators to be contracted by the bus operators and, in effect, to provide a subsidised service.

The Limpopo Department of Transport must also resolve the issue of subsidies for learners, students and the elderly. The current data do not categorise the passengers as learners, students, persons with disabilities or the elderly. If these categories of passengers are included in the total number of passengers, they would be subsidised at the same rate as commuters. A concession is needed for these categories of passengers and this should be investigated further. There is also a need for a specific funding allocation for the provision of Class 1 improvements, not only for contracted operators but also for tourist bus operators.

11.4 CURRENT FUNDING FOR PUBLIC TRANSPORT

Each District Municipality receives a national allocation for its own municipality and its local municipalities. At present this is the main source of funds. The District is also assisted by the Limpopo DoT with the preparation of transport plans, bus subsidies and some capital projects. Effectively, the Limpopo and Mpumalanga Departments of Transport provide the major portion of public transport funding in the GSDM.

There are no funds allocated for transport planning and public transport capital expenditure in the IDP for the SDM, possibly because no transport plans have been prepared yet.

The essence of the mission of the Limpopo Department of Transport is to develop, co-ordinate, implement and manage an integrated, multimodal transport system. The vision of

the SDM is to be a custodian of integrated sustainable service delivery in partnership with local municipalities and communities. However, this mission and vision have not been fulfilled, which indicates the reality of the backlog in the delivery of public transport. Just as the backlog needs to be eliminated, proportionate funding is also needed.

It is not practical to maintain the status quo in terms of funding for public transportation in the GSDM in particular and in the Limpopo Province in general. There is a need for increased funding from the National and Provincial Government, and possibly the private sector. However, additional funds will be used to address the existing inefficiencies and backlog in public transportation and progressively achieve the stated objectives.

Irrespective of the funding source and the amount of funds available, there is a need to prioritise projects and expenditure. The SDM must not only focus on existing facilities, but also address new facilities as prioritised in this study.

11.5 SOURCES OF FUNDING

a) The Steelpoort Producers Forum, consisting of representatives of the mining houses in the area, is prepared to provide funds for planning purposes, for the following transport projects in the Greater Tubatse LM.

   i) CPTR, OLS, PTP and ITP during 2003
   ii) Detailed planning of a multimodal public transport facility in the Burgersfort CBD
   iii) Public transport by-laws (although the by-laws are designed for the Sekhukhune District Municipality, they would also be relevant to the GTLM)
   iv) Providing input into the transport of workers along the Dilokong Corridor (subsidised transport)
   v) Establishment and maintenance of the Greater Tubatse Transport Forum, since 2003
   vi) Establishment and maintenance of the Greater Tubatse Transport Forum, since 2005
   vii) Upgrading of Road R37 (Dilokong Corridor), traffic counts and feasibility study.

b) National and Provincial Government is the conventional source of funding for public transport planning and implementation. However, increased funding is needed and can be justified by transport plans.

c) The National Roads Agency (NRA) funds some projects on the R37 and N11. The District Municipality must be actively involved with the NRA and submit motivations for funding secondary projects, such as public transport facilities along the roads and road safety interventions. The District Municipality should use these flagship projects to apply for additional funds from the national Department of Transport.

d) The Roads Agency Limpopo (RAL). It is imperative that the RAL should provide supporting resources to the District Municipality, such as the Road Management System, training, funding and the secondment of staff.

e) Municipal Infrastructure Grant (MIG) – the District and Local Municipalities must submit motivations for funding from the MIG Fund to the Department of Provincial and Local Government, especially for flagship projects such as intermodal facilities, non-motorised transport projects and paratransit projects.

f) The District Municipality may engage with the private sector to develop facilities, specifically intermodal facilities, and to obtain bridging funds from the Municipal Infrastructure Investment Unit. For local government to qualify for funding from the Municipal Infrastructure Investment Unit (MIIU), the local government representatives should prepare and apply a policy on public-private partnerships.

g) The GSDM must submit a motivation to the Department of Transport for funding pilot projects, specifically for non-motorised transport and paratransit initiatives.

h) Law enforcement must deal aggressively with parking and speeding violations by issuing fines.

i) Engage with operators to pursue advertising on buses to generate operating revenue and contain operating subsidies. Advertising space includes vehicles, terminals, fare cards, maps, schedules and in-vehicle dynamic message signs.

j) Joint development among Government departments for liveable communities

    i) Department of Transport and Department of Local Government and Housing should co-ordinate land-use developments

    ii) Department of Transport and Department of Environmental Affairs and Tourism should obtain funds through the National Environmental Management (Air Quality Management) Act by submitting a motivation to reduce emissions by upgrading the rolling stock and branding the tourism routes

    iii) Department of Transport and Department of Education must address the subsidisation of transport for learners and students

    iv) Department of Transport and Department of Social Development must address the subsidisation of transport for the elderly.

The way forward is to motivate the prioritised projects in the Integrated Transport Plan (ITP) to the Integrated Development Plan (IDP). The construction and maintenance of public transport facilities and roads are in most cases labour-intensive, and are appropriate mechanisms to promote job creation.

Chapter

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