Limpopo Province: Department of Transport

First Rationalisation
For
The Sekhukhune District Municipality

Final Report

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REPORT TITLE

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EXECUTIVE SUMMARY

1.1 Introduction

The Limpopo Department of Transport appointed ARCUS GIBB (Pty) Ltd on 26 January 2004, to prepare the Rationalization Plan for the Sekhukhune District Municipality (SDM).

The subsidized bus services are operated by private operators and parastatals, and are managed by the Provincial DOT. This function is envisaged to be devolved to Local Government (Transport Authorities). In this particular case, Local Government is the represented by the District Municipality. In the current financial year, the District Municipality, the Limpopo Department of Transport is assisting the SDM in the preparation of the Rationalization Plan, and is the client for the project, while the District Municipality is the key stakeholder in the project.

There are no Commuter Rail Services and Municipal Bus Services in the SDM.

In terms of Section 25 of the NLTTA, it is proposed that a public transport service being operated in terms of a subsidy, be continued after expiry of the basis in terms of which it is currently operated, in terms of a subsidized service contract or concession, the planning authority where services are provided must prepare a Rationalization Plan.

1.2 Method

The Rationalization Plan was developed in close coordination with the OLS for SDM. This was to ensure that the public transport supply and demand is balanced, and to determine the possibility of commercial contracts and the implementation of the New Taxi Vehicle.

The rationalization process considered short-term plans, and medium to longer-term plans. The short-term plans are based on identification of duplication and direct competition between subsidized services and between modes, and effectiveness in terms of utilization of the available capacity.

The medium to longer terms considerations is based on the detailed investigation of the public transportation system, and will result in the restructuring of the public transport system. Other criteria included cost effectiveness, appropriate mode, user convenience and benefit, consistency in policies, and availability of supporting infrastructure such as roads.

The design criteria for the Rationalization Plan were compiled from various academic research papers, legislation, planning guidelines, and projects. The objective of the assessment was to obtain an optimal solution considering the needs of individual objectives of the Government, Operator, and Passenger.

1.3 Status Quo

Currently, the GNT bus service in the Greater Marble Hall and Greater Groblersdal LM are provided through interim contracts, and the GNT bus service in the Greater Tubatse LM is not subsidised. Historically, there was no commuter demand in the Tubatse LM. The Mpumalanga Department of Transport is the custodian for bus subsidies in the SDM. The current interim contracts expired and are renewed on a monthly basis until the new contracts are prepared. The Mpumalanga Department of Transport is currently preparing negotiated contracts.

The current bus operation may be described as the conventional fixed route, fixed schedule system. It is evident that commuter travel is the main travel pattern in the SDM for the subsidized bus service. There are some very long routes (from 40km to 120km), and intuitively the journey time is in excess of two hours. Some buses depart as early as 3:40am. These factors question the standard of living for many people commuting long distance, and motivate the correlation between Rural Development and Target Subsidies, in the short term.

There is also speculation that a high demand for weekend travel exists. Most people in the rural areas tend to do business in the towns on Saturdays only. It is highly likely that weekend demand may even supersede the weekday peak period for some routes. The bus schedules indicate morning and afternoon commuter trips on Saturdays, for some routes. The need for additional service on weekends is assessed.

The road conditions are generally very poor, especially in the rural areas. Such road conditions are a significant factor on the operating life of the rolling stock, operating costs, and level of service to the passenger.

There is no commuter rail service in the SDM.

1.4 Results

In a tendered contract between the Provincial Department of Transport and the operator, the subsidy is determined as the difference between the operating cost per kilometre and the estimated fare revenue. In most cases of subsidized public transport services, the subsidy/revenue ratio is 60/40 of the operating cost.

The Great North Transport Bus Service in the SDM operates on an interim contract in the Greater Marble Hall and Greater Groblersdal LM. The interim contracts expired and are currently renewed on a monthly basis until new negotiated contracts are prepared. The Mpumalanga Department of Transport is in the process of preparing negotiated contracts.

Although there is adequate coverage of bus service in the SDM, only 14 routes in the Greater Marble Hall and Greater Groblersdal LM are subsidised. The interim contract only subsidises workers. There are a significant number of learners on the same route who are not subsidised.

Thus, the bus service is covering several routes without subsidies, including the whole of the Tubatse LM.

In general, a small proportion of the population in the SDM are subsidised. Learners, students, and the elderly do not qualify for a concession fare, and workers on several other routes do not receive a subsidy at all. The current practice is not equitable. Several routes in the peak and off-peak periods in the SDM are identified for subsidisation, either through an interim contract or a tendered contract.

The average income spent on commuting in the SDM according to the NDOT study is 7%. This is acceptable according to the objectives of the policies of National Government, that is, to maintain the cost of travel to less than 10% of the disposable income.

1.5 Recommendations

From the analysis of the bus operations data, the following is recommended:

- There is need for improved communication and liaison, and coordination between the Mpumalanga and Limpopo Departments of Transport in the preparation of the subsidised contracts
- In the short term, there is need for at least an interim contract in the Tubatse LM.
- In the medium term, there is need for tendered contracts in the SDM.
- For the interim contracts, in addition to subsidies for weekly and monthly tickets, cash fares should also be subsidized, as an incentive to increase patronage
- The current interim contracts should include a subsidy for learners, students, and the elderly (Discounted fares should be categorized for learners, students, and the elderly)
- Only bus journeys exceeding 10km should qualify for a subsidy
- The option of increasing fares may be considered, as it is a mechanism to raise revenue and subsequently reduce subsidies. To the contrary, the service to the passenger should not be compromised considering the socio-economic circumstances of the passengers.
- In addition to the new peak services proposed, there is need for midday services on higher density routes.
- There is need to reduce journey time for most trips. The operator must provide a mechanism for prepayment of fares, and modify the doors on-board the bus fleet to expedite the boarding and alighting of passengers.

Also, to ensure effective and efficient service, the bus contracts must be monitored and audited regularly. For example, buses older than 15 years are not allowed to operate on tendered contracts. Hence, the following recommendations should be addressed in the next round of tendered contracts, and are consistent

with the recommendations from the NDOT Study – Report on the Optimisation of Subsidies, October 2002.

- Tendered contracts should be drafted with flexibility over the duration of the contract. Such flexibility should allow for the rationalization and restructuring of routes and services. Such flexibility could create uncertainty and risk for the operator and as a result increase tender price. Therefore, the client should have a defined plan for the restructuring of the public transport through this Rationalization Plan, and should incorporate the recommendations into the tendered contract.
- The budget must include escalation, contingencies, variations, and complimentary services
- The longer the contract duration, the lower the risk of short-term macro-economic fluctuations has an impact on service delivery. This implies that the risk of the variability of external factors (e.g. exchange rates, fuel price) to the operator should, in theory, reduce in the longer period for which the contract is awarded.
- Contracts should be at least 7 years
- The contract must specify the minimum level of service conditions
- Contracts should be performance based. Thus, the operator should be required to embark on an aggressive marketing exercise and apply innovative business practices to increase patronage. For example, revenue may be generated from advertising space on buses. Subsidy incentives should be provided for increased patronage, increasing operating speed and decreasing journey time, etc.
- Current interim and negotiated contracts should be converted to tendered contracts and all contracts should be based on the net cost model, where the sensitivity of fares and subsidies are tested.
- There must incentives to tender with smaller capacity vehicles (such as taxi co-operatives) to provide feeder services and midday services
- Contracts must make provision for complimentary services, for example, elderly people travel free of charge
- Make provision for automated fare collection, passenger information service (provision of routes maps, time tables, etc.)
- Contracts must include measures for accessible transport for persons with special needs.
- Internally, the Provincial Department of Transport must employ staff to monitor and audit effectiveness and efficiency of the bus contracts.

The total cost implication for the SDM is in Table 1, and is categorised according to the implementation schedule. The bus contracts are scheduled as 7-year contracts. The GNT bus service is currently in the process of restructuring, and funding for the enterprise could be ring fenced. Therefore, a major part of the envisaged cost could be for the new enterprises, instead of the Provincial Government.

Table 1 – Proposed Projects and Cost Implications

TABLE 1: PROGRAM AND FINANCIAL IMPLICATIONS												
PROJECT												
	1	**2**	**3**	**4**	**5**	**6**	**7**	**YEAR 1**	**YEAR 2-5**	**TOTAL**	**Action**	**Duration**
BUS MODE (RATPLAN)												
Project-1: Implement Tender or negotiated subsidy contracts (7-years)								R42 000 000	R 178 000 000	R220 000 000	**DoT**	**7 years**
Project-2: Monitoring and Auditing of Project 10 (7-years)								R4 200 000	R 17 800 000	R22 000 000	**DoT**	**7 years**
Project-3: Implement Class 1 Improvements									R 300 000	R 300 000	**DoT**	**1 year**
Project-4: Review Rationalisation Plan									R 300 000	R300 000	**DoT/DM**	**2 months**
Total								**R46 200 000**	**R196 400 000**	**R242 800 000**		

There are several externalities to be addressed by the public sector, such as, the provision of inter-modal facilities, upgrading of roads, and training of law enforcement officers in public transportation, and integrated land-use planning. The Public Transport Plan and Integrated Transport Plan address some of these externalities that could enhance public transportation, and optimise subsidies.

2 INTRODUCTION

2.1 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 practice of the Apartheid planning principles, that is, decentralized residential nodes with limited access and mobility to economic activity nodes mostly for the Previously Disadvantaged. The restructuring of the public transportation system is a process, and one of the initial steps is the preparation of the Rationalization Plan.

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2.2 Transparency

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

2.3 Capacity Building

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

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

Limpopo Provincial, District, and Local Government officials were presented with planning procedures and principles, analysis of public transportation data, and the criteria in preparation of recommendations for the restructuring of the public transport system. This is considered empowerment to officials who are not Transportation Engineers and Planners by profession, but project managers at the respective Departments. It is accepted that most officials involved in this project now have a better understanding on the planning and preparation of a Rationalization Plan, and are able to provide stronger leadership in subsequent projects.

2.4 Purpose of the Rationalization RATPLAN

The Concise Oxford dictionary defines *rationalizes*, in context, as a verb to make (a business) more efficient by reorganizing it to reduce or eliminate waste of labour, time, and materials. Thus, a component of the rationalizing in context is the optimisation of the transport services, by considering the objectives of the directly affected stakeholders, which are, the Government who provides subsidies, the passenger, and the vehicle operator.

A RATPLAN is required where the planning jurisdiction has subsidized public transport services operating in, to, or from the area. One of the main objectives is to rationalize the existing subsidized public transport service, by eliminating the poor practices of the past such as duplicating routes.

The purpose of the Rationalisation Plan as extracted from the TPR 6 Guideline Document is:

- To eliminate inefficiencies such as duplication and under-utilization of services within the subsidized bus system, and between operators
- To create a framework for the restructuring of tendered bus contracts, taking cognisance of the total public transport system, to obtain a more cost effective and efficient public transport system

- To create a long term plan to address the restructuring of the public transportation system

2.5 Objectives of the study

Since this is the first Rationalization Plan for the SDM, it is imperative not to overcompensate and dramatically transform the public transportation system in a short period of time. The paradigm shift in the restructuring of the public transportation system should be gradually implemented over a period of five years. Therefore, the goals based on the objectives, are categorized as short-term goals, and medium to long-term goals. Hence, the short-term focus (year 1) is the rationalization of the subsidized bus services. The medium-term focus (year 2 and 3) is the development of a framework for the design of the future service contracts for an optimised transportation system. The long-term focus (year 4 and beyond) is the design of rail concessions for commuter rail, where necessary.

The objectives of the Rationalization Plan as extracted from the TPR 6 Guideline Document are:

- To determine which interim bus contracts and tendered bus contracts expiring in the near future
- To rationalize within and between public transport modes and across borders of planning authorities, and inter-provincial transport
- To determine the extent of subsidization of services
- To determine the extent of urban and rural services and subsidies
- To determine where and to whom subsidies should be targeted
- To determine the incorporation of the 35-seat New Taxi Vehicle through the Taxi Recapitalisation Program
- To focus on the development of rural areas
- To address the transport needs of special categories of passengers
- To minimize levels of subsidy by optimisation of the public transportation system
- To minimize competition between public transport services and operators
- To stimulate competitive bidding between public transport operators through the structuring of tenders
- To ensure that passenger demand is addressed effectively and efficiently
- To facilitate and promote modal integration and integrated land use and transportation development

2.6 Scope of work

The preparation of the Rationalization Plan for the SDM is developed through a sequence of stages, based on the NLTTA Section 25, the Guideline Document TPR6, and the Minimum Requirements for Preparation of Rationalization Plans. The scope of work is described through each stage.

Stage 1

- Review CPTR data
- Identify gaps in the database
- Recommend requirements for additional data
- Assess public transport status quo and develop specific policies
- Consult with interested and affected parties

Stage 2

- Prepare policy framework (transport vision, goals, and objectives)
- Analyse population densities and growth areas (IDP)
- Address objectives as stated above
- Develop short term and long term recommendations
- Consult with interested and affected parties

Stage 3

- Prepare transport implementation proposals
- Prioritise transport proposals and prepare an implementation program
- Prepare a financial plan for the implementation program
- Consult with interested and affected parties

Due to the lack of detailed information on bus operations, and comprehensive financial information, it is not possible to embark on a detailed design of the public transport operations. Decisions on the approach towards subsidization must be guided by financial and economic principles. Given the flexible and phased approach in the preparation of the Rationalization Plan, the financial and economic implications will be addressed at a fairly coarse level for the short-term.

2.7 Study Area

The study area is the Sekhukhune District Municipality. The Census 2001 data and the IDP Review 2004/2005 provided the following statistics on the SDM.

- The population of SDM is approximately 967 200, and the approximate population per Local Municipality is in Table 2.1.
- The unemployment rate is approximately 70%

- There are five Local Municipalities in the SDM and is indicated in the locality map in Appendix A.
    - Greater Groblersdal
    - Greater Marble Hall
    - Greater Tubatse
    - Fetakgomo
    - Makhuduthamaga

Table 2.1 – Demographic Data for SDM

Local Municipality	Population	Employed	Unemployed	Physically Disabled
Greater Groblersdal	220 739			3140
Greater Marble Hall	121 323			1159
Greater Tubatse	270 122			2521
Fetakgomo	92 092			?
Makhuduthamaga	262 921			?
Total	**967 197**			

The SDM is a cross border District Municipality with the Limpopo Province and Mpumalanga Province.

The SDM is mostly rural, with 95% of the total population residing in the rural areas, and 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, Orighstad, Steelpoort, and Driekop. There are no Transport Authorities and Metropolitans Municipalities in the SDM.

There is gradual economic development specifically in agriculture, mining, and tourism. Mining is significant in the Greater Tubatse LM. There is speculation that Steelpoort is the one of the fastest growing towns in South Africa due to the mining activities. The projected growth for all major towns in the SDM is 1.2% annually till 2006 and thereafter 1% annually till 2008. However, the unemployment rate is very high (70% of economically active people) in the SDM.

Car ownership is low and commuters depend on public transportation. Further, mobility of communities is a serious concern. The travel time on some bus (and taxi trips) is very long, greater than one hour up to two-and-a-half hours. The trip distance is over 40km up to 120km in the case of Lobethal to Marble Hall. There are no subsidised bus services in the Greater Tubatse LM.

2.8 Format of the Report

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

Chapter 1 – Introduction

The Introduction describes the terms of reference for the consultant, and outlines the purpose, objectives and goals of the Rationalisation Plan. The introduction also describes the study area, the nature of consulting services rendered, the client responsible for the project, the validity period for the implementation of the Rationalisation Plan, and the various chapters of the report itself.

Chapter 2 – Assessment of existing Subsidised Services

The status quo of the bus service is described from data obtained from the Current Public Transport Record (CPTR) and the Subsidy Management System (SUMS). The bus routes are assessed and efficiencies and effectiveness of the service are determined, categorised in peak and off-peak service, and urban and rural service. Bus routes are superimposed on taxi routes, and timetables, fares, and operating conditions are compared to determine the competition between operators and modes for the same market. Bus routes are analysed to determine demand/need, capacity, duplication of routes, subsidy allocation, journey time, overcrowding, frequency, etc.

Chapter 3 – Policy framework

The legislative policy framework was derived from the White Paper on National Transport Policy, the NLTTA, MSA, PLTF, IDP Review 2003/2004, Report on the Optimisation of Bus Subsidies, Short Term Strategic Framework on Accessible Transport Second Draft July 2003, and the Guidelines and Minimum Requirements for the Preparation of the Rationalisation Plan. The technical framework that complemented the legislative framework was derived from various technical papers and project reports. The technical data is used as a guideline in the assessment and evaluation of the transportation system in the SDM.

Chapter 4 – Results and Recommendations (Rationalisation, Restructuring, and Evaluation)

The assessment of the current public transportation system in terms of bus routes (and taxi routes) is based on the policy framework. Proposals on rationalisation and restructuring of the transportation system are developed and prioritised. The assessment considers the impacts on other modes, infrastructure, and facilities, the objectives of the Government, the passenger, and the operator. The impacts and benefits in terms of user convenience, quality, and financial are documented and quantified where possible.

There is particular emphasis on the impact on subsidies and the level of service to the passenger. The restructuring and prioritisation is based on fundamental public transport planning principles. The RATPLAN proposals should be consistent with the OLS proposals and are presented accordingly. The financial implications are consolidated into a budget.

Chapter 5 – Stakeholder Consultation

The Rationalisation Plan is not necessarily required for presentation to the general public. There are representatives on the SDM Transport Forum to address the needs of the commuters. The stakeholders are identified and the consultation process is described. The respective roles and responsibilities of each stakeholder are described. The input of the stakeholders on the results and recommendations are also noted.

Chapter 6 – Implementation and Associated cost

A list of projects is identified in the short, medium and long term, and the cost estimated cost implications are also included. The projects should be considered in the IDP Review 2004/2005.

2.9 Deliverables

The specific deliverable for the project is a report on the Rationalization Strategy for the Sekhukhune District Municipality. The list of definitions and detailed analysis is attached to the Appendices.

2.10 Implementation of the Rationalisation Plan

This is the first Rationalisation Plan for the SDM. Considering the lack of comprehensive data, the results and recommendations are not prescriptive. This document should be considered a guideline and applied with discretion.

3 ASSESSMENT OF SUBSIDIZED SERVICES

3.1 Method

The Rationalization Plan was developed in close coordination with the OLS for Sekhukhune DM. This was to ensure that the public transport supply and demand is balanced, and to determine the possibility of commercial contracts and the implementation of the New Taxi Vehicle.

The rationalization process considered short-term plans, and medium to longer-term plans. The short-term plans are based on identification of duplication and direct competition between subsidized services and between modes, and effectiveness in terms of utilization of the available capacity.

The medium to longer terms considerations is based on the detailed investigation of the public transportation system, and will result in the restructuring of the public transport system. Other criteria included cost effectiveness, appropriate mode, user convenience and benefit, consistency in policies, and availability of supporting infrastructure such as roads.

The design criteria for the Rationalization Plan were compiled from various academic research papers, legislation, planning guidelines, and projects. The objective of the assessment was to obtain an optimal solution considering the needs of individual objectives of the Government, Operator, and Passenger.

3.2 Design Criteria

3.2.1 Key Performance Indicator for Stakeholders

It was essential not to assess the public transport system from an operational and financial perspective only, but to consider the user needs also. The following key indicators are significant for the optimisation of the public transport system:

Key indicators for passengers:

- Walking time
- Waiting time
- In-vehicle time
- Fare per trip
- Comfort (crowding)
- Security
- Reliability

The acceptable walking time in South African conditions and circumstances is one (1) kilometre or fifteen (15) minutes.

The bus timetable indicates the frequency, in-vehicle travel time, and supply of service. The CPTR data does not provide walking time, distance, waiting time, and level of security. The SUMS data indicates the number of buses deployed per month, and the penalty imposed for delays.

Key indicators for the operator:

- Number of passengers (market share)
- Revenue
- Minimizing operating cost

Key Indicator for Government:

- Passenger satisfaction
- Utilization
- System operating cost
- System capital cost
- Revenue (fare/km)
- Subsidy
- Effective service including the provision of transport to the needy and disabled

3.2.2 Bus Utilization

The bus capacity is 65 seated and 20 standing passengers for a regular bus. The articulated bus capacity is 100 seated and 40 standing passengers. The optimisation of routes is focused on eliminating 'unproductive' routes where the utilization is less than 50%. Services in direct competition with subsidized services should be relocated. A utilization of greater than 85% or more than four persons per square meter is considered as overcrowding. The maximum headway for bus service in the peak period is 30 minutes.

A standard bus route should be eliminated from the system and replaced with another bus route or mode if the peak hour demand is less than 90-120 passengers per hour, depending on the land use. However, the route could be served with smaller capacity vehicles such as the midibus (20 minute headway) or minibus (8 minute headway). Similarly, a minibus taxi route with less than 25 passengers per hour in the peak hour could be eliminated and passengers would be assigned to the nearest alternative route.

The CPTR database does not provide line haul passenger volumes, that is, number of passengers boarding and alighting at each stop. However, for commuter trips, it is assumed that most passengers board at one origin and alight at a common destination. The exact revenue cannot be determined because fares are distanced based.

If fares were the main criteria for mode choice, then the bus mode would attract more passengers. Factors such as comfort, safety, reliability, speed, etc., have a bearing on mode choice. The relative attractiveness of the public transport mode for some bus routes cannot be quantified because the rural terrain dictates the mode accessibility. Thus, for such routes the passengers are captive to bus mode. Thus, in the evaluation of the routes, the road pavement conditions also served as a critical factor to determine the appropriate mode for the route.

Most commuters purchase weekly and monthly tickets, but the database does not indicate the number of tickets and the number of cash paying passengers.

The revenue calculation in this study utilized the cash fare for the full length of the route, assuming most passengers travel full length of the route.

The average bus utilization is determined by the following equation:

$$\text{Average Bus Utilization} = \frac{\text{(number of passengers per month)} \times 100\%}{\text{(number of trips per month)} \times 65}$$

3.3 Planning of bus routes

3.3.1 High Rider-ship Corridors

Although the broader region of the Limpopo Province is rural, in context of this study, routes less than 40km are considered urban, and routes greater than 40km are considered rural.

Typically 40 000 or more passengers/day per direction:

- Corridor is likely to support rail or dedicated public transport road infrastructure in congested areas (fixed guide way)
- Line haul on road based corridors should be served by bus
- Feeders and distributors by bus or taxi

3.3.2 Moderate Rider-ship Corridors

Typically 10000 to 40 000 passengers/day per direction:

- Corridor is likely to support road infrastructure with partial priority for public transport
- Line haul on road based corridors should be served by bus
- Feeders and distributors by bus or taxi

3.3.3 Low Rider-ship Corridor

Typically less than 10000 passengers/day per direction:

- Corridor is likely to support road infrastructure with partial priority for public transport
- Line haul on road based corridors should be served by taxi
- Feeders and distributors by taxi modes
- Preferably routes should be paved

3.4 Circuitous Routing

Circuitous routing is the deviation of the vehicle from the trunk route, where the trunk route is from the suburb to the business district. This type of operation is acceptable when the dominant passenger volumes are at mid route. When the majority of the passengers are from the origin of the route then circuitous routing at mid route is not acceptable because the majority of the passengers are delayed. A graphical presentation of circuitous routing is in Figure 3.1.

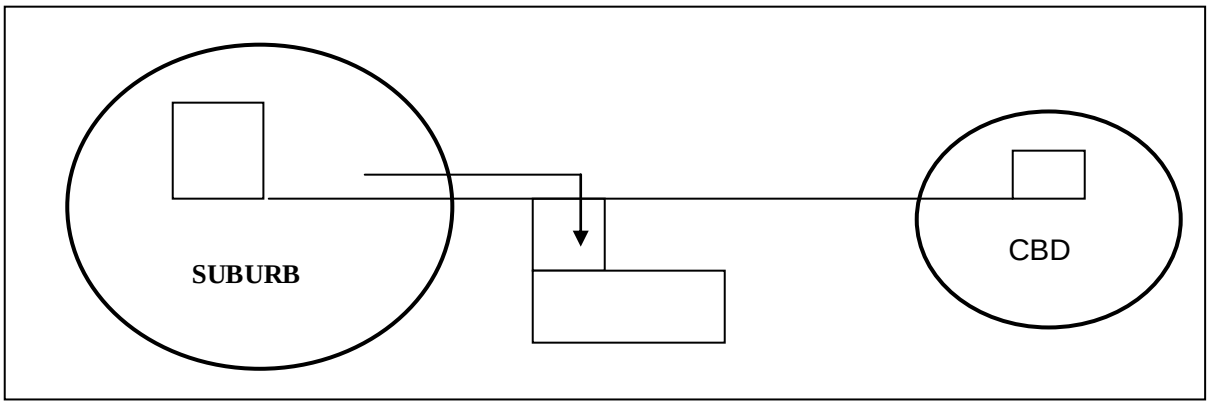


Figure 3.1 - Circuitous Routing at Mid-route

3.5 Subsidies

A tendered contract and negotiated contract are based on revenue kilometres, while an interim contract is based on multi-journey weekly and monthly ticket sales. A negotiated contract is a contract that is converted to a contract that subsidizes revenue kilometres without a competitive tendering process.

Most public transport services around the world are subsidized and designed with similar technical specifications and guidelines. However, most South African commuters are captive public transport users, as they have no choice of alternative private transport. As a result, the main beneficiaries of current passenger transport subsidies in South Africa are the captive passengers from the segregated settlements, and not to provide mobility and accessibility to the unemployed, very poor, the aged, persons with disabilities, and learners and students.

In the SDM, the Great North Transport (GNT) Bus Service provides subsidised service through an interim contract with the Mpumalanga Department of Transport, in the Greater Marble Hall and Greater Groblersdal Local Municipalities. GNT also provides bus service in the Greater Tubatse LM, but the service is not subsidised.

The rationale for subsidizing public transport is that if the market provides services at market related prices without subsidies, and then it would result in less services or services that are not affordable, irrespective of the income groups. Thus, the very poor are further marginalized.

One of the stated principles of the NLTTA is that public transport must be given higher priority than private transport, and all spheres of government must promote public transport. Private car users are normally targeted through subsidized public transport in developed countries in order to contain externalities such as congestion and pollution and improving the utilization of infrastructure.

3.6 The net cost contract model

The net cost contract model is currently used in the tendered/interim contracts by Provincial Departments of Transport. In the net cost contract model the difference between the cost of service provision and the estimated fare revenue is compensated for by subsidies. The fare revenue is based on the operator's passenger revenue forecast. The contract puts the commercial revenue risk as well as operational risk firmly with the operator.

The operating cost per kilometre for the bus operations is compared to the revenue and subsidy per kilometre. The revenue per kilometre is determined by the following equation:

Revenue per kilometre = (fare for the longest segment) x (no. Of passengers per month)
(Number of kilometres per month)

The following items make up the operating cost:

- Fuel
- Tires and tubes
- Lubrication
- Spare parts
- Salaries of bus drivers
- Salaries of maintenance personnel
- Salaries of other personnel
- Taxes, licenses, insurance of bus
- Depreciation of bus
- Renting of building and equipment
- Management and Administration
- Other general expenses
- All other depreciation

For the tendered/negotiated contracts the total number of passengers per month includes learners, (ticket passengers). The revenue in the negotiated contracts refers only to weekly and monthly tickets.

This study is partially an audit/review of the existing bus contracts to establish the financial efficiency of the contracts. The net cost contract model assessment process is described in Figure 3.2.

An example of the analysis in the net cost model is in Appendix B.

The analysis separated urban and rural routes to determine the respective subsidies. The operators were not willing to divulge operating cost information to determine the unit cost and to test the sensitivity of fares and subsidies, due to the restructuring and privatisation of the GNT Bus Service. Nevertheless, the current subsidy information was adequate to obtain the basic results and recommendations.

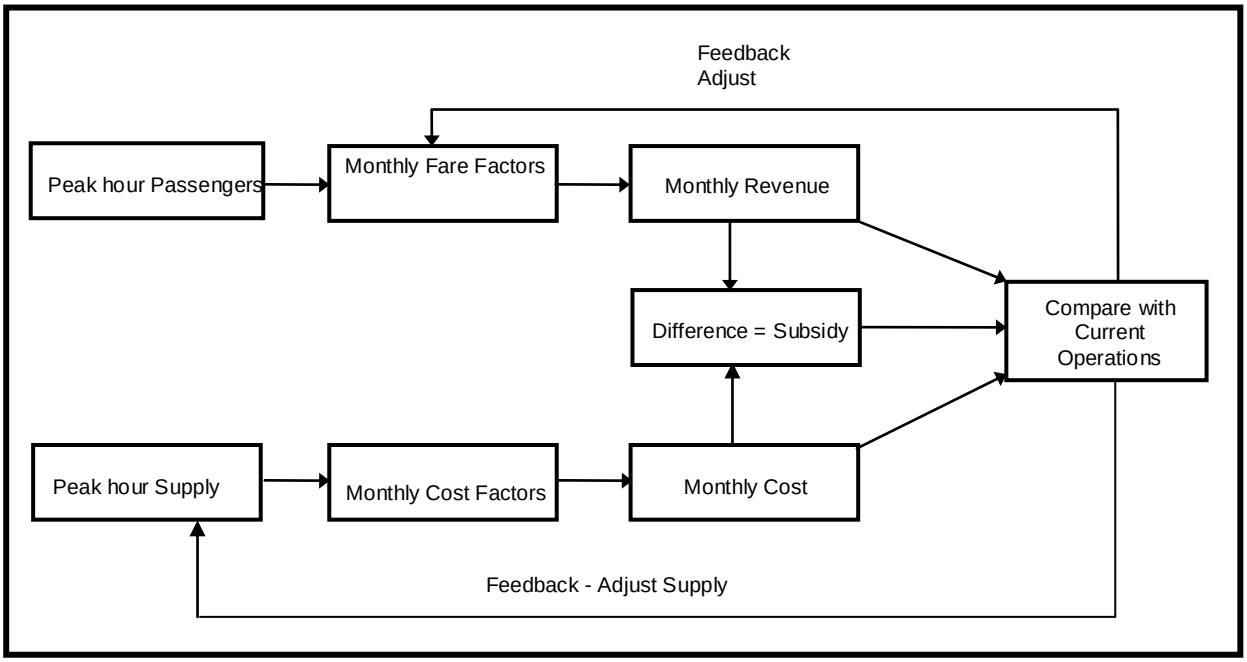


Figure 3.2 – Net Cost Model

3.7 Targeting of subsidies

There may be more innovative means of serving isolated communities through the appropriate mode of transport, instead of buses only. This is consistent with the NDOT vision of subsidizing journeys, not modes. However, allocating subsidies to the appropriate mode of transport should be achieved in a way that does not cause disruption and conflict in the public transport industry.

The study carried out by the NDOT in 2002 to determine the targeting of subsidies, assessed the subsidy data for all Provinces in South Africa. Table 3.1 presents the results obtained for the Limpopo Province and specifically the SDM. The results are compared with the assessment of the CPTR and SUMS data in the Rationalization Plan, to determine the relative changes in the subsidy allocation.

Table 3.1 - Results from Report on the Optimisation of Subsidies (2002)

Municipality	Average Household Income	Urban (%)	Rural (%)	Subsidised Pass.trips/day	Subsidy per passenger trip	Average Income spent on Transport
Sekhukhune	2 109	5	95	12 027	0.95	6
Capricorn	2 091	13	87	32 227	6.04	5
Waterberg	2 489	24	76	8313	6.50	7
Vhembe	4 213	8	92	25 426	7.16	6
Bohlabela	1 617	4	96	15 714	2.12	5
Mopani	2 746	15	85	28 910	2.92	7

According to the NDOT study, the National average subsidy for each subsidized bus passenger is approximately R198 per month. The average subsidy per passenger trip amounts to approximately R5-62, while each bus kilometre operated is subsidized to the extent of R5-88/km.

In this RATPLAN, the average subsidy per person per month is determined by the following equation:

$$\text{Average subsidy per person per month} = \frac{\text{No. Of trips} \times (0.9) \times (65)}{2 \times 22}$$

The following assumptions were considered in the above equation:

- 90% utilization per bus
- The bus capacity is at most 65 seats
- There are at least 22 working days per month
- Each passenger in the morning trip makes a return trip in the afternoon

3.8 Subsidy per passenger trip

This indicator shows the extent to which individual passenger trips are subsidized in absolute monetary terms. It is useful in comparing the relative subsidy that each passenger receives in the various areas.

According to the results from the NDOT Study – Report on the Optimisation of Subsidies, October 2002, the **subsidy per passenger trip** is as follows:

- National average = R5.62 (all contracts)
- Limpopo Province average = R4.57 (all contracts)
- Sekhukhune District Municipality average = R0.95 (interim contracts only)

3.9 Subsidy per Revenue Kilometre

This indicator is the rate at which bus revenue kilometres are subsidized in absolute monetary terms. The rate is dependant on the operating cost, and is significantly impacted by the cost of fuel. This performance measure is useful in comparing the relative subsidy that each contract qualifies for, by region.

According to the results from the NDOT Study – Report on the Optimisation of Subsidies, October 2002, the **subsidy per revenue kilometre** is as follows:

- National average = R5.88 (all contracts)
- Limpopo Province average = R4.14 (all contracts)
- Sekhukhune District Municipality average = R1.38 (interim contracts only)

3.10 Cost of Restructuring

Currently, the GNT bus service in the Greater Marble Hall and Greater Groblersdal LM are provided through interim contracts, and the GNT bus service in the Greater Tubatse LM is not subsidised.

Thus, in the restructuring of the bus services in the SDM, the estimated cost of an interim contract and negotiated contract is calculated, to ensure equitable and consistent application of bus subsidisation in the SDM. The following options are considered for the Greater Tubatse LM:

- Interim contract – workers only
- Interim contract – workers and learners
- Negotiated contract

The following options are considered for the Greater Marble Hall and Greater Groblersdal LM:

- Include new routes in the current interim contract – workers only

- Include new routes in the current interim contract – workers and learners
- Convert the current interim contract to negotiated contract including the new routes

The contracts are based on the following assumptions:

- 50% of utilisation is workers
- 25% of utilisation is learners
- 25% of utilisation is casual passengers
- For the interim contracts, learners fares are discounted by 25%
- At least two trips per day on routes without passenger data
- The subsidy per ticket is equal to the ticket price for the interim contract (interim contracts)
- The subsidy per revenue kilometre is R12 (negotiated contracts)

3.11 Assessment of the CPTR and SUMS Data

The assessment of the CPTR data realised there was no data on the bus services in the SDM. A secondary source (Siyazi) provided bus data for the Greater Tubatse LM, including bus services contracted by the mines. The project team obtained data directly from GNT for SDM, and SUMS data from the Mpumalanga Department of Transport. There is no detailed operational data for non-subsidised services in the SDM, except for the GNT bus data in the Tubatse Local Municipality.

The SUMS database confirmed some of the information obtained from GNT, such as routes and the subsidy claimed per month. The SUMS information is deemed more reliable since an independent auditor audits the payment certificate.

In general, the CPTR data was of no assistance in preparing the Rationalisation Plan for SDM because it had no data on the bus services in the SDM. Nevertheless, there are several other constraints in the database, which are:

- There is no CPTR database, except for the CPTR report
- There is no data on special needs passengers
- There are no GIS co-ordinates for the road network and public transport facilities
- There is no data on in-vehicle waiting time and queues, walking time, transfers, and en-route number of passengers boarding and alighting to determine the real demand and reliability of the service
- The road pavement condition is not adequately described

Demographic data, including the number of persons with disabilities in the SDM was obtained from the IDP Review 2003/2004 and IDP Review 2004/2005 planning documents.

Every bus route and taxi route in the database was plotted by hand to obtain a graphical presentation of the bus and taxi operations in the SDM. In this way the competing routes were identified and analysed further. The data (where available) was tabulated and assessed.

The input data are:

- Bus timetable
- Route origin, destination, and length
- Vehicles trips per month
- Vehicle kilometres per month (km)
- Number of workers per month
- Number of learners and casual passengers per month
- Current Subsidy per month

The analysis resulted in the following:

- Number of trips needed
- Estimated subsidy for an interim contract and negotiated contract
- Additionally, bus routes or corridors were compared with taxi routes

Aligning the results with the design criteria, the following significant results are documented:

- Salient public transport corridors
- Potential Circuitous Routes
- Average trip utilization for buses
- Total Subsidy per month for SDM
- Potential routes with direct and indirect competition between taxis and subsidized bus operations
- Efficiency of bus operations
- Estimated subsidies for new interim and negotiated contracts

4 POLICY FRAMEWORK

4.1 White Paper on National Transport Policy

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

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

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

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

Strategic Objectives

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

Customer-based

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

4.2 National Land Transport Transition Act, Act 22 of 2000

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

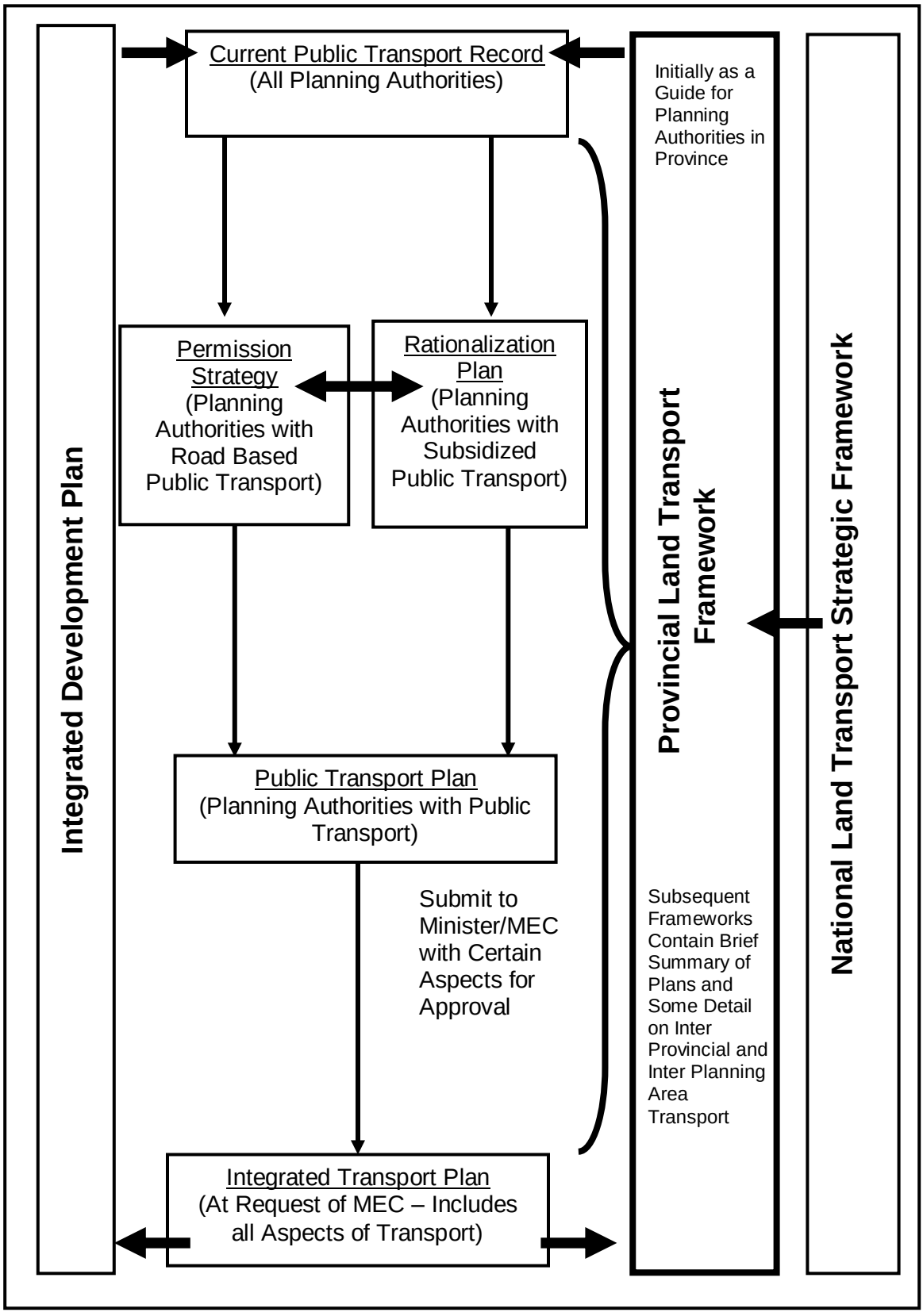
Section 4(1) (k) - The needs of special categories of passengers must be considered in planning and providing public transport infrastructure, facilities, and services, and these needs should be met as may be possible by the system provided for mainstream public transport.

Section 5(6) (b) - The Minister must set norms and standards of a general nature in respect of fares for subsidized public transport services by road and rail with a view to effective targeting of subsidy in terms of National policy, providing integrated fare and ticketing systems in public transport networks, and achieving cost recovery by operators.

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

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

Figure 4.1 – Hierarchy of Transportation Plans



Section 25 (1) - Where it is proposed that a public transport service being operated in terms of a subsidy be continued after expiry of the basis in terms of which it is currently operated, in terms of a subsidized service contract or concession, every planning authority in whose area the service is operated must prepare a rationalization plan which must eventually become part of its Public Transport Plan, before the service to be operated in terms of the subsidized service contract is put out to public tendering, with a view to:

(a) Rationalizing subsidized services within and between modes;

(b) Determining where and to what extent subsidies should be paid;

(c) Rationalizing subsidized services across the borders of planning authorities and in relation to inter-provincial transport;

(d) Minimizing the level of subsidy;

(e) Minimizing competition between subsidized services;

(f) Structuring subsidized service contracts or concessions in such a way as to attract sufficient competitive bidding by qualifying tenders;

(g) Ensuring that routes and route networks are utilized optimally so as to meet passenger needs effectively and efficiently; and

(h) Facilitating the future development of an integrated public transport system.

Section 25 (2) - The rationalization plan must contain at least the following:

(a) The proposed changes to the existing routes or networks or both;

(b) The proposed changes to the passenger-carrying capacity of the services operated on the routes or networks, or both;

(c) The policy proposed for the structuring of contracts or concessions for competitive tendering;

(d) A statement setting out the potential impact of the rationalization on the various transport modes;

(e) An indication of the improvements to be effected for the benefit of passengers;

(f) An indication of the obstacles foreseen with regard to the implementation of the plan, and the strategies proposed to overcome them.

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

(a) There are no existing scheduled services on the same route or on another route in the same corridor; and

(b) Relevant transport plans allow for its use.

4.3 Moving South Africa

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 captive to the cheapest mode of public transport.

Public Transport requires improvement in performance and productivity. There is need for well-planned tenders, effective industry regulation and enforcement, improved sustainability or operators through encouragement or re-investment and redirection of a portion of the subsidy towards capital investment, and the establishment of a stable and consistent funding framework. Optimise modal economics and service mix by selecting the optimal mode based on cost/service trade-off. Subsidies should only be provided for the optimal mode if at all. Subsidies should be targeted at affordable access to the optimal mode.

4.4 National Department of Transport 2003/2004 Business Plan

The Policy Objectives and goals emanate from the White Paper on National Transport Policy. The core objective of the Division of Public Transport is to manage public transport operations to best suit the needs of the public.

4.4.1 Manager – Bus and Rail Operations – Objective

- Effective management and administration of the road-based public transport subsidy and adherence to the Public Finance Management Act.
- Provision of cost effective and affordable public passenger transport driven by the economics of competition in the market place, through negotiated contracts or competitive tendering.
- The restructuring of the parastatal or municipal owned bus companies and/or the promotion of Black Economic Empowerment (BEE).

4.5 Limpopo Province Land Transport Framework (Limpopo in Motion)

4.5.1 Transportation Vision Statement for the Limpopo Province

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

4.5.2 Transportation Mission Statement for the Limpopo Province

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

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

4.5.3 Transportation Goals for the Limpopo Province

The transportation goals for the Province are:

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

4.5.4 Objectives for Transportation in the Limpopo Province

The relevant transportation objectives are:

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

4.5.5 Policy Principals for Transportation in the Limpopo Province

- Social needs and Priorities – emphasis should be placed on the social needs of the disadvantaged communities, especially those in rural and other under-developed areas.
- Role of Government and the private sector – The limited ownership profile of the transport providers requires restructuring in order to broaden and democratise the current dispensation. There is need to ensure wider

participation by the disadvantaged communities in the provision and maintenance of the transport system.

- Economic – the transport sector should be aimed at increased employment of the workforce.
- Financial Framework – the extent of subsidization for public transportation and funding for infrastructure, and the priority and funding balance between them.
- Financial Framework – the affordability problem for both the passengers in terms of fare levels and for the Government in terms of the budget requirements
- Land Transport service provision – Subsidized services or any transport service for which public transport permits are required, should only be within the framework of an approved transport plan.

(a) Strategies Based on Policy

- Provide effective financial and economic support to public transport
- Promote the most cost-effective mode of transport
- Gradually phase out subsidies for services longer than a prescribed minimum (possibly 40km) to encourage densification in the urban nodes.
- To introduce subsidy mechanisms that will encourage the business sector to create employment opportunities closer to residential areas
- Implement measure to promote shorter travelling distances
- Implement incentives to operators for affordable tariffs
- Focus on prioritised economic activity nodes and transport nodes in the transport plans.
- Identify minimum service levels of the public transport services serving economic activity nodes.
- Identify and award sustainable bus contracts
- Use financial and economic support measures to promote sustainability in the bus industry
- Develop a holistic and integrated funding strategy focusing on maximizing the transport budget from the Provincial allocation, and by achieving efficiency gains through better utilization of available funds
- Explore the possibility of additional funding sources

(b) Projects Based on the Strategy

- Develop OLS, RATPLAN, PTP, and ITP
- Feasibility Study for Seshego – Polokwane Rail Commuter System
- Feasibility Study for rail system along the Dilokong Corridor

- Implement the recommendations of the Rationalization Plan
- Determine transport needs of learners, elderly, and disabled
- Determine the routes where taxis play a more prominent role
- Investigate incentives for improved levels of efficiency and effectiveness of public transport services
- Investigate alternative funding options – the role of Public Private Partnerships.
- Develop Key Performance Indicators to measure the performance of service providers

4.6 Limpopo Province Integrated Rural Development Framework

One of the mechanisms to achieve sustainable model integration is to ensure that the provision of public transport is business driven and based on sound business principles.

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

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

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

4.7 Strategic Framework – Accessible Transport Strategy

4.7.1 The strategic objectives of the NLTSF are:

- Ongoing consultation will take place with the disability sector.
- Implementing authorities will be empowered to improve accessibility across all modes through the integrated planning process

- "Reasonable accommodation" of persons with disabilities will be initiated by prioritising high-impact, lower-cost action and,
- Pilot projects will be launched in rural areas to test solutions and develop a rural accessibility strategy.

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

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

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

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

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

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

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

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

4.7.2 Accessible Transport Strategy's Action Areas

- Implement low-cost accessible features for ambulatory passengers. This will affect the exterior, entrance and interior designs of the 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 on-line infrastructure, in accordance with the guiding principles/recommendations of the NLTSF - towards achieving "reasonable accommodation", as part of their transport planning processes. The same is applicable to non-metropolitan municipalities

falling under category B (i.e. Local) as well as those falling under category C (i.e. Districts).

- Where accessible corridors cannot be created solely by introducing new vehicles with Class 1 improvements already built into them, existing vehicles already in operation will be retrofitted with Class 1 improvements to provide the required level of accessibility in the corridor.
- Safety features to be introduced when existing vehicles are redesigned and refurbished. These safety features refer to the additional ones for usage by passengers with disabilities. All land transport operators shall make provision of suitable storage facilities for both long and short distance travel passengers to store their supportive devices (such as crutches, walking sticks, wheel chairs, etc) on rail coaches, buses and taxis, in support of inter-connectivity in the travel chain.

4.8 Sekhukhune IDP 2004/2005 Review

4.8.1 Vision of the SDM

A custodian of integrated sustainable service delivery in partnership with Local Municipalities and communities

4.8.2 Mission of the SDM

The mission of the SDM is, to provide creative development solutions through:

- A co-ordinated framework for District Developmental planning
- Fostering active community involvement
- Creating a learning organisation conducive for development of human capital
- Enhancing sound inter-governmental relations through good governance
- Equitable distribution of resources

Under the strategic plan for transport and related projects only road infrastructure is addressed. There are no plans and projects for the public transportation system, except for the upgrading of roads. The 2004/2005 IDP Review Process is not yet aligned with the recommendations of the current transport plans.

4.9 Optimisation of Bus Subsidies – NDOT Study, October 2002

4.9.1 Regulated competition

As soon as local planning is in place, operating licenses and contracts will only be awarded in terms of an approved passenger transport plan. All road-based

passenger transport modes including minibus taxis may compete for tendered contracts.

4.9.2 Commuters (workers)

Commuters are people travelling daily between home and work by means of public transport. Most South African commuters can be regarded as captive public transport users as they have no choice of alternative private transport. This category constitutes the main beneficiaries of current passenger transport subsidies in South Africa within the current subsidy system, not the unemployed or very poor.

4.9.3 Learners and students

The current bus subsidies budget makes little provision for learner transport. Subsidized buses serve mainly peak hour commuters and offer limited off-peak services to scholars and students.

4.9.4 Private car users

One of the stated principles of the NLTTA is that public transport must be given higher priority than private transport, and all spheres of Government must promote public transport. Private car users are normally targeted through subsidized public transport in developed countries in order to contain externalities such as congestion and pollution and improving the utilization of infrastructure.

4.9.5 Social Category

The motivation for targeting subsidies revolves mainly around the social obligation of Government to provide mobility and accessibility.

In terms of poverty, the rationale for subsidizing public transport is that, if the market provides services at market related prices without subsidies, it would result in less services or services that are not affordable to the very poor.

4.9.6 Economic efficiency through marginal costing

To encourage the use of public transport, the economic theory of second best pricing is applied by providing public transport services at a fare also below marginal cost and subsidizing the difference between the fare and the marginal cost of public transport.

Currently, the net-cost contract model is being used by Provincial Departments of Transport. The contract model puts the commercial revenue risk as well as operational risk firmly with the operator. In the net-cost contract model the difference between the cost of service provision and the fare revenue is compensated for by subsidies. The fare revenue is based on the operator's passenger revenue forecast.

4.9.7 Socio-Economic justification for subsidies

According to the NDOT study report, *Optimisation of Bus Subsidies, October 2002*, the majority of unsubsidised buses are operational in the Eastern Cape, Cape Town, Gauteng and **Limpopo** Provinces. Only 1.2 percent of the population in the Limpopo Province is subsidized, at an average value of R4-57 per passenger trip. The average subsidy per passenger trip for SDM is R0.95. Figure 4.2 indicates the average subsidy per passenger by Province in South Africa in 2002, and reveals that the Limpopo Province has the largest rural population and the second lowest subsidy per passenger trip.

Without affordable transport, people are deprived of employment opportunities, education, health services and social interaction. Affordability can only be achieved by subsidizing public transport. In areas with low per capital income, affordability (through subsidization) is of particular importance to prevent the exacerbation of the negative impacts of low income and high unemployment.

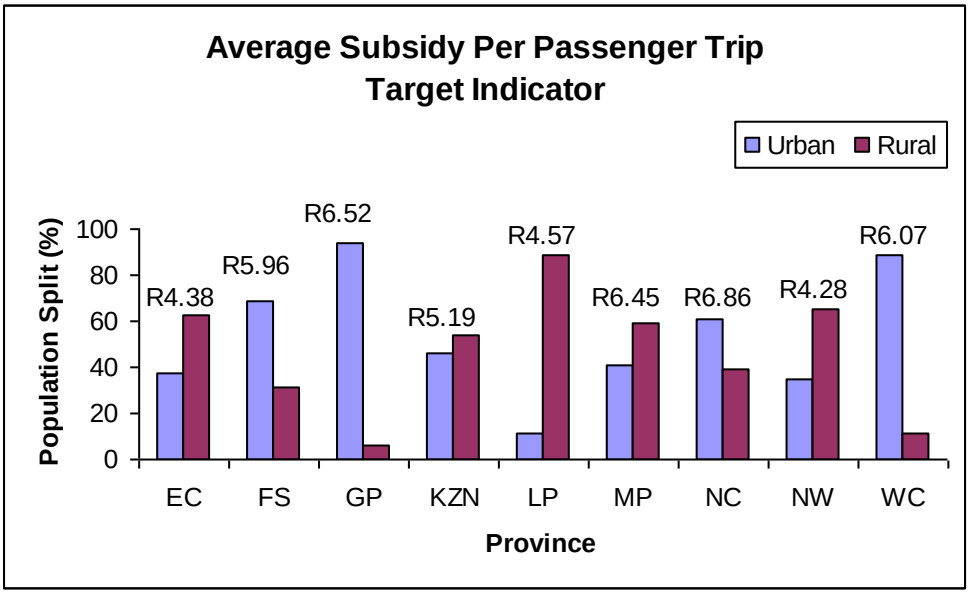


Figure 4.2 - Average Subsidy Per Passenger Trip per Province

The Limpopo Province is largely rural, and sparsely populated. In light of the demographics and geographical location of the population, it is deduced that in the short term, subsidies should be targeted to alleviate poverty, by providing accessibility, and mobility. In the medium to long term, subsidies should be structured to encourage densification, and improving level of service, including efficiency and effectiveness.

4.9.8 Option for the targeting of bus subsidies

There may be more cheaper and innovative means of serving isolated communities through the appropriate mode of transport, instead of buses. This is consistent with the NDOT vision of subsidizing journeys, not modes. However, allocating subsidies to appropriate mode of transport would have to be achieved in a way that does not cause disruption within the industry.

4.9.9 Tendered Contracts

The longer the contract duration, the lower the risk of short-term macro-economic fluctuations impact service delivery. This implies that the risk of the variability of external factors (e.g. exchange rates, fuel price) to the operator should, in theory, reduce. Therefore, seven-year bus contracts must be procured.

The objectives of targets set by the authority or Government should be clear, whether it is minimisation of subsidies, reducing congestion or increasing mobility for designated beneficiaries such as people with disabilities, low income groups, learners, students, and elderly.

Contracts should be performance based with incentives, and should be monitored by Provincial staff or independent auditors.

The following were recommended in the study, *Optimisation of Bus Subsidies, October 2002*:

- Services currently operating in terms of interim contracts be converted to negotiated contracts and all current tender contracts be put out to tender as soon as the existing contract term expire taking into account the rest of the recommendations
- All contracts are based on the net cost model
- A gradual movement in subsidies towards the (unemployed) poor, elderly, learners and students in rural areas and isolated communities across the country including the usage of taxis
- Short-term measures of accessible transport are implemented on all subsidised buses in order to assist passengers with special needs
- The Adjusted CPI formula where fuel is a separate but smaller component of the formula be developed and used for all subsidised services
- The duration of contracts is extended to 7 years
- The average age of the bus fleet is set at 15 years per contract
- Confirm the appropriate mode of transport in areas being subsidised
- Interim contracts with excessively high subsidies be identified and addressed
- Staff and monitoring be established between the NDOT and Provincial Department of Transport to ensure constancy and value for money in the management of the negotiated contract process.

4.10 Paradigm Shift in Public Transportation Planning

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

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

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

4.11 Funding and Subsidies

Is public transport a Public service or is it market driven? Are subsidies an investment or a waste of taxes? What are the main social and economical objectives aligned with transport subsidies?

For the Limpopo Province, it is intuitive that public transport is a need, and subsidies are necessary to provide access mobility to ensure an adequate standard of living for most people in the Province. Thus, 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 private mode in a free market environment. There are several non-monetary, non-tangible benefits to society. These benefits are not marketable. Reducing capital and operating costs by deregulation must still consider the basic needs of the passenger.

Availability of needed funds as a basic condition for implementing the permanent provision of attractive services that can respond to increasing demands for high quality, high volume public transportation. Similar to highways and other passenger transportation facilities, transit investments come mostly from public funds.

Where mass transit is a public service, the Public Sector must set the standards, funding, and fares, and Government must ensure transportation is a basic right for its citizens.

The Limpopo Department of Transport must guard itself from the “irresponsible supply cycle”, where there is little or no control on the contracted operator. Where control is defective, the operator neglects the passenger needs, and passengers look for an alternative mode, which could result in the ‘illegal’ supply of public transportation, decreasing fare revenue, increasing operating cost, increasing subsidies, and possible conflict. Some passengers are captive, and are violated in their pursuit to accessibility and mobility.

The preferred modes of public transport are the bus and taxi. Currently, the higher capacity buses operate during the peak periods only, while the lower capacity taxi mode operates 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 potential for some routes to be converted to taxi routes only due to the low passenger volumes. There is potential also, for taxis operators to be contracted by the bus operator and effectively provide a subsidized service. The details of which are described in the results of the study.

The Limpopo Department of Transport must also resolve subsidies for learners, students, and elderly. The current data does not categorize the passengers as learners, students, disabled, or elderly. If these categories of passengers are included in the total number of passengers then they are subsidized at the same rate as commuters. There is need for a concession for these categories of passengers, and 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 too.

4.12 Alternative/Innovative Funding

In addition to the fixed sum of bus subsidy from the National Department of Transport, the Provincial Department of Transport must research alternate funding mechanisms for public transportation. For example, advertising on buses is a lucrative generator of operating funds. The Department of Transport must correspond with the Department of Environmental Affairs and Tourism to obtain funds through the National Environmental Management (Air Quality Management) Act to reduce emissions by upgrading the rolling stock. Similarly, the Department of Education must also contribute funds for the transportation of learners and students, and the Department of Social Development must contribute funds for the subsidisation of the elderly.

4.13 Adoption of Policy

In addition to the Provincial Land Transport Framework in the form “Limpopo in Motion”, the policy framework compiled in this chapter provides particular guidance for provision of subsidized public transport services for the medium to long term.

The impact of the planning policies of the Apartheid South Africa is severe. Therefore, this policy framework must be addressed with discretion, and the applications should be practical and feasible. For example, the reduction of subsidies will only be realised with the progressive transformation of the Institutions, and improvements to integrated land use and transportation planning, and the upgrade of infrastructure.

5 RESULTS AND RECOMMENDATION – RATIONALIZATION, RESTRUCTURING AND EVALUATION

5.1 Status Quo

5.1.1 Subsidised Bus Operations

The dominant travel pattern of passengers is home to work in the morning and return in the evening. On most routes the demand peaks during the morning forward trip and evening return trip.

Currently, the GNT bus service in the Greater Marble Hall and Greater Groblersdal LM are provided through interim contracts, and the GNT bus service in the Greater Tubatse LM is not subsidised. Historically, there was no commuter demand in the Tubatse LM. The Mpumalanga Department of Transport is the custodian for bus subsidies in the SDM. The current interim contracts expired and are renewed on a monthly basis until the new contracts are prepared. The Mpumalanga Department of Transport is currently preparing negotiated contracts.

There are also a number of non-subsidised operators, which either operates independently or on contracts with the local mines.

The current bus operation may be described as the conventional fixed route, fixed schedule system. It is evident that commuter travel is the main travel pattern in the SDM for the subsidized bus service. There are some very long routes (from 40km to 120km), and intuitively the journey time is in excess of two hours. Some buses depart as early as 3:40am. These factors question the standard of living for many people commuting long distance, and motivate the correlation between Rural Development and Target Subsidies, in the short term.

There is also speculation that a high demand for weekend travel exists. Most people in the rural areas tend to do business in the towns on Saturdays only. It is highly likely that weekend demand may even supersede the weekday peak period for some routes. The bus schedules indicate morning and afternoon commuter trips on Saturdays, for some routes. The need for additional service on weekends is assessed.

The road conditions are generally very poor, especially in the rural areas. Such road conditions are a significant factor on the operating life of the rolling stock, operating costs, and level of service to the passenger.

5.1.2 Rail Industry

Currently, there are no other existing commuter rail services in the SDM.

5.2 Results

The assessment of the bus service in the SDM include the following:

- Impact on passengers and the quality of service
- Impact on the taxi mode
- Subsidy, revenue, and operating cost
- Availability and condition of infrastructure
- Efficiency and effectiveness of service
- Confirmation of data and results through the stakeholder consultation and participation process

The details of the analysis for the bus routes are in Appendix C, and a map with the bus routes is in Appendix D.

5.2.1 Level of Service for Passengers

(a) Long Distance (Rural) Routes

There are a few long distance subsidised routes in the Greater Groblersdal LM and Greater Marble Hall LM. The salient long-distance routes are in Table 5.1. Most of these routes originate in the Makuduthamaga and Fetakgomo LM. The main activity centres are the towns of Groblersdal, Marble Hall, Phokwane, Burgersfort, Steelpoort, Driekop, and Jane Furse.

Table 5.1 – Long Distance Routes in SDM

Origin	Destination	Distance
Subsidised Routes		
Vaalbank	Marble Hall	73
Non-Subsidised Routes		
Masoing	Groblersdal	103
Jane Furse	Groblersdal	102
Tsimanyane	Groblersdal	79
Moletlane	Marble Hall	83
Veeplaats	Marble Hall	117
Makadikwe	Marble Hall	91
Lobethal	Marble Hall	122
Jane Furse	Leeufontein	105
Machakaneng	Burgersfort	93
Orighstad	Mahlashi	91
Gasekabate	Jane Furse	91
Riba Cross	Burgersfort	86
Nkopi	Burgersfort	113
Jane Furse	Leeukop	96

Most of the deep rural routes are more than 80 kilometres and the pavement condition of the residential end of the route is gravel. The commuter bus service operates mainly in the morning and afternoon peak period only. There is no subsidized service during the off-peak period. The same applies for Saturdays. The in-vehicle time for most rural routes ranges from 1.5 hours up to 2.5 hours. Some trips start as early as 3:40am.

Although there is adequate coverage of bus service in the SDM, only a total of 14 routes in the Greater Marble Hall and Greater Groblersdal LM are subsidised. The interim contract only subsidises workers. There are a significant number of learners on the same route who are not subsidised.

Thus, the current bus service is covering several routes without subsidies, including the whole of the Tubatse LM.

There is no data to determine the level of security of the passengers while walking, waiting, and on-board the vehicle. Further, there is no waiting time data to determine the reliability of the service.

(b) Short Distance (Urban) Routes

There are relatively more short distance subsidized bus routes than long distance routes in the Greater Marble Hall and Greater Groblersdal LM. The routes originate from towns and villages such as Motetema, Tafelkop, Meoding, Monsterlus, Leeufontein, etc., to Gorblersdal, and Mamphogo, Mooihoek, Rakgwadi, etc., to Marble Hall. The activity centres are the towns of Groblersdal, Marble Hall, Phokwane, and Jane Furse. The commuter bus service operates mainly in the morning and afternoon peak period only. The in-vehicle time for the urban routes is in most cases one hour. This indicates the poor road conditions that dictate the journey time, even on short distance trips.

There are some short distance routes with midday service, such as Motetema, Tafelkop, Mmotwaneng, Maserumula Park, etc., to Groblersdal, and Mamphogo to Marble Hall. As a result the average utilisation is low, but the utilisation during the peak periods is over 50%. However, the utilisation includes learners and casual passengers. The subsidised workers make up at most 50% to 75% of the total number of passengers per trip.

In general, a small proportion of the population in the SDM are subsidised. Learners, students, and the elderly do not qualify for a concession fare, and workers on several other routes do not receive a subsidy at all. The current practice is not equitable. Several routes in the peak and off-peak periods in the SDM are identified for subsidisation, either through an interim contract or a tendered contract.

5.2.2 Circuitous Routing at Mid-Route

There is no line haul data to determine the number of passengers boarding and alighting at each stop along the bus route. Hence, circuitous routing could not be identified with passenger volumes only. However, the route description reveals

on most routes the bus traverses through several villages before heading to the town. It is not possible to determine the number of passengers being delayed by circuitous routing. Due to the geographical location of villages in the rural areas, it is highly likely that most routes are circuitous routes at mid-route.

Currently, this practice is unavoidable due to the spatial location of commuters, the lack of subsidies, and inevitable need for higher utilisation.

5.3 Public Transport Corridors

Currently, there is no evidence of direct competition within the bus mode for the subsidised and non-subsidised routes. However, there is partial overlapping of subsidised and non-subsidised routes, and are indicated in Table 5.2. Since there is a common operating company, the service is structured such that the passengers along the trunk line route could board either bus.

Table 5.2 – Routes with Subsidised and Non-Subsidised Service

Origin	Destination	Bus Route Numbers
Motetema	Groblersdal	3015, 4001
Moeding	Groblersdal	3019, 4004, 4017
Luckau	Groblersdal	3021, 4007
Monsterlus	Groblersdal	3022, 4009, 4027
Rakgwadi	Groblersdal	3023, 4015
MMatilu	Groblersdal	3025, 4020

The public transport corridors identified in the SDM are described in Table 5.3. The corridors are identified by the current pattern of bus and taxi routes.

The corridors support road infrastructure with partial priority for public transport. Ideally, the trunk line should be served by bus mode with feeder and distribution service by bus or taxi modes. Unfortunately, due to the poor road conditions, the taxi vehicle cannot cover the rural areas and operate as a feeder service.

During the off peak period the appropriate public transport mode is a smaller capacity vehicle such as the taxi vehicle. Thus, there is need to prioritise the upgrading of roads, and other safety improvements, with specific attention for public transport vehicles.

Table 5.3 – Public Transport Corridors in the SDM

Local Municipality	Town	Corridor	Corridor Length
Greater Groblersdal, Greater Marble Hall, Fetakgomo, Makuduthamaga	Gorblersdal	Monsterlus to Groblersdal	40km
		Tsimanyane to Groblersdal	80km
	Marble Hall	Leeufontein to Marble Hall	20km
Greater Tubatse	Burgersfort	Orighstad to Burgersfort (R555)	75km
		Driekop to Burgersfort (R37)	40km
		Steelpoort to Burgersfort (R555)	30km
	Orighstad	Leboeng to Orighstad (R36)	30km

5.4 Subsidies

In a tendered contract between the Provincial Department of Transport and the operator, the subsidy is determined as the difference between the operating cost per kilometre and the estimated fare revenue. In most cases of subsidized public transport services, the subsidy/revenue ratio is 60/40 of the operating cost.

The Great North Transport Bus Service in the SDM operates on an interim contract in the Greater Marble Hall and Greater Groblersdal LM. The interim contracts expired and are currently renewed on a monthly basis until new negotiated contracts are prepared. The Mpumalanga Department of Transport is in the process of preparing negotiated contracts.

Although there is adequate coverage of bus service in the SDM, only 14 routes in the Greater Marble Hall and Greater Groblersdal LM are subsidised. The interim contract only subsidises workers. There are a significant number of learners on the same route who are not subsidised.

Thus, the bus service is covering several routes without subsidies, including the whole of the Tubatse LM.

In general, a small proportion of the population in the SDM are subsidised. Learners, students, and the elderly do not qualify for a concession fare, and workers on several other routes do not receive a subsidy at all. The current practice is not equitable. Several routes in the peak and off-peak periods in the

SDM are identified for subsidisation, either through an interim contract or a tendered contract.

The average income spent on commuting in the SDM according to the NDOT study is 7%. This is acceptable according to the objectives of the policies of National Government, that is, to maintain the cost of travel to less than 10% of the disposable income.

5.5 Provision for Persons with Disabilities

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 life cycle and impairment passengers, but not those who use wheelchairs. Such improvements include small design changes in vehicles (such as installing sufficient grab-rails, or using high-contrast colours on steps and hand-holds to improve visibility), improved infrastructure (such as sheltered and safe bus stops), and improved operational practices (such as keeping the vehicle stationery 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 the blind passenger boards, the driver should note the alighting point of the passenger.

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

5.6 Learners, Students, and the Elderly

There are several bus trips with learners only. Learners do not qualify for subsidies or discounts. Similarly, there are no concessions for students and the elderly. Learners and students fares could be discounted up to 50%, while the elderly could travel for free.

5.7 Recommendations

The socio-economic circumstances and current public transport inefficiencies in the SDM dictates the recommendations. Specifically, the unemployment rate in the SDM is approximately 70%, and the average household income is approximately R2100 per month. Currently, the average proportion of disposable income spent on commuter travel is 7%. A very small portion of the worker population is subsidised in the SDM. Thus additional services and subsidies are necessary to empower and enhance the quality of life for the people of SDM.

5.7.1 Subsidies and Contracts

The short-term rationalization process has limited efficiencies gains, mainly intra-operator. Interim contracts provide very limited scope for major restructuring and large gains in financial effectiveness. Tendered bus contracts provide an opportunity for major restructuring of bus services and bringing about substantial savings in subsidy.

The detailed breakdown of operating cost data is not available due to the sensitivity of the information. Otherwise, the net cost contract model could have been used to determine the sensitivity of fares and subsidies. Nevertheless, under the circumstances, the bus service is effective but the level of service is not adequate. This is mainly due to the lack of subsidies to assist the operator to improve the quality of service.

Most commuters in the SDM are lower income persons, and there are many unemployed. Therefore the bus service is a need and not a demand. Hence, there is need for improvements to the current bus service.

The analysis to determine the approximate subsidies for the bus service in the SDM is in Appendix E.

From the analysis of the bus operations data, the following is recommended:

- There is need for improved communication and liaison, and coordination between the Mpumalanga and Limpopo Departments of Transport in the preparation of the subsidised contracts
- In the short term, there is need for at least an interim contract in the Tubatse LM.
- In the medium term, there is need for tendered contracts in the SDM.
- For the interim contracts, in addition to subsidies for weekly and monthly tickets, cash fares should also be subsidized, as an incentive to increase patronage
- The current interim contracts should include a subsidy for learners, students, and the elderly (Discounted fares should be categorized for learners, students, and the elderly)
- Only bus journeys exceeding 10km should qualify for a subsidy
- The option of increasing fares may be considered, as it is a mechanism to raise revenue and subsequently reduce subsidies. To the contrary, the service to the passenger should not be compromised considering the socio-economic circumstances of the passengers.
- In addition to the new peak services proposed, there is need for midday services on higher density routes.
- There is need to reduce journey time for most trips. The operator must provide a mechanism for prepayment of fares, and modify the doors on-board the bus fleet to expedite the boarding and alighting of passengers.

Also, to ensure effective and efficient service, the bus contracts must be monitored and audited regularly. For example, buses older than 15 years are not allowed to operate on tendered contracts. Hence, the following recommendations should be addressed in the next round of tendered contracts, and are consistent with the recommendations from the NDOT Study – Report on the Optimisation of Subsidies, October 2002.

- Tendered contracts should be drafted with flexibility over the duration of the contract. Such flexibility should allow for the rationalization and restructuring of routes and services. Such flexibility could create uncertainty and risk for the operator and as a result increase tender price. Therefore, the client should have a defined plan for the restructuring of the public transport through this Rationalization Plan, and should incorporate the recommendations into the tendered contract.
- The budget must include escalation, contingencies, variations, and complimentary services
- The longer the contract duration, the lower the risk of short-term macro-economic fluctuations has an impact on service delivery. This implies that the risk of the variability of external factors (e.g. exchange rates, fuel price) to the operator should, in theory, reduce in the longer period for which the contract is awarded.
- Contracts should be at least 7 years
- The contract must specify the minimum level of service conditions
- Contracts should be performance based. Thus, the operator should be required to embark on an aggressive marketing exercise and apply innovative business practices to increase patronage. For example, revenue may be generated from advertising space on buses. Subsidy incentives should be provided for increased patronage, increasing operating speed and decreasing journey time, etc.
- Current interim and negotiated contracts should be converted to tendered contracts and all contracts should be based on the net cost model, where the sensitivity of fares and subsidies are tested.
- There must incentives to tender with smaller capacity vehicles (such as taxi co-operatives) to provide feeder services and midday services
- Contracts must make provision for complimentary services, for example, elderly people travel free of charge
- Make provision for automated fare collection, passenger information service (provision of routes maps, time tables, etc.)
- Contracts must include measures for accessible transport for persons with special needs.
- Internally, the Provincial Department of Transport must employ staff to monitor and audit effectiveness and efficiency of the bus contracts.

There is concern that the National Department of Transport already set a budget for subsidies, while there is need for additional subsidized services in the SDM. The SDM, Mpumalanga Department of Transport, and Limpopo Department of Transport must engage with the NDOT for additional funds to upgrade and add subsidized services in the SDM. Further, pilot projects for the provision of transport to special needs passengers should be investigated and funded by the NDOT.

The National Department of Transport, Mpumalanga Department of Transport, and Limpopo Department of Transport must correspond with the Department of Environmental Affairs and Tourism to obtain funds through the National Environmental Management (Air Quality Management) Act, to upgrade the rolling stock, justified by the reduction of particulate matter.

Similarly, the Department of Education must also contribute funds for the transportation of learners and students, and the Department of Social Development must contribute funds for the subsidisation of the elderly.

5.7.2 Route Optimisation

(a) Short Term

On several routes there is only peak period-subsidized bus service. There is need for additional services during the off-peak period. Bus service may not be feasible due to the low demand. However, smaller capacity vehicles are an option for midday service.

Similarly, there is need for additional services on weekends, at least on Saturdays.

There is need for bus service to be organized especially for the month end activity of farm workers. Such trips should also be subsidized. The bus operator and SDM should identify such routes and motivate the need for additional subsidies to the Provincial Department of Transport.

Thus there is need to expand services in the current bus contracts, and redesign the bus contracts to incorporate the new routes and services, and to revisit the specifications for an improved level of service.

New routes are identified from Burgersfort to the Samancor mine, Modikwa mine, Twickenham mine, and the Marula mine. There is need for subsidised services on these routes, and the use of articulated buses to convey approximately 2000 commuters per day per mine. Currently, the Modikwa mine contracts bus service for the employees, and other mines may follow suite. There is potential for the mines to work with Government and jointly subsidise the bus service to the mines.

(b) Medium Term

Bus operators should procure the services of the taxi industry to provide scheduled services during the off peak period. The Limpopo Department of

Transport and the Mpumalanga Department of Transport must encourage the formation of a consolidated taxi company to tender for routes as a joint venture with the bus companies. This process provides opportunities for emerging enterprises.

The cumulative boarding time for all passengers is approximately half the journey time. There is need to improve the efficiency of the service and the level of service for the passengers. To reduce the boarding time, and journey time, a prepared fare collection must be implemented. Also, buses should be modified so that there is a separate door for boarding and alighting passengers, or a wider door to allow free flow, higher volumes of boarding and alighting passengers.

5.7.3 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 (<40km or one hour), and maintaining the monthly travel cost below 10% of disposal income is dependant on the value to time of the passenger. Nevertheless, it is assumed that the value of time for the economically active passenger is relatively higher.

(a) Medium Term

It was found that, in the *Manual for Traffic Impact Studies (RR93/635), National Department of Transportation*, there are no explicit guidelines for the proactive measures in supplying 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 is the formulation of development strategies, policies and plans to guide the physical development of regions, towns or cities. Development Control is public control over the development and use of land in order to achieve the aims of planning and to ensure order.

Considering the dynamic changes to public transportation and the emphasis thereto in the National Land Transport Transition Act, it is equally necessary for the District and Local Municipalities to initiate the following concept.

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

Thus, there is need for continuous liaison and coordination between Town Planning, Provincial Department of Housing, and Transport Planning including the OLB and Registrar, to ensure control in public transport supply in new developments.

There are several new mining and residential developments in the SDM. The current bus operators are supplying new services or additional services on existing subsidized routes. The new services are not subsidized.

An interim contract or a tendered contract is required for all commuter routes in the SDM.

(b) Long Term

Ideally, the rural population should relocate to the urban area to attain densification. However, it is not practical and job opportunities in the urban areas dictate the desire to relocate from the deep rural areas to the urban areas. The relocation of the economically active people from the rural to the urban areas is gradual. Currently, many people travel long distances daily from home to work and back. Therefore, Town Planning in the economic centres such as Groblersdal, Marble Hall, and Burgersfort, etc., must 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 lower cost housing promoting densification, and as a result reduce travel time, the cost of travel and subsidies.

5.7.4 Persons with Disabilities

(a) Short Term

Subsidized Transport for persons with disabilities should be addressed through the Class 1 improvements in the short to medium term. Further, there is need for data on the number of person with disabilities, and the particular need on specific routes. The District Municipality must also identify the NGOs currently providing the service to persons with disabilities. The Limpopo and Mpumalanga Departments of Transport must provide subsidies for such services where necessary and procure the services of operators including NGOs already supplying such services, to provide a specific service to persons with disabilities instead of major changes to the current bus fleet. Also, all buses in the current contracts must have Class 1 improvements.

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

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

(b) Medium Term

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 is feasible for the operator to supply a Paratransit service instead of transforming the whole bus fleet.

5.7.5 Infrastructure and Facilities

The short term and medium term improvements to public transport infrastructure and facilities is addressed in more detail in the Public Transport Plan. Several existing formal and informal inter-modal facilities require renovation and upgrading, and are also addressed in greater detail in the Public Transport Plan.

(a) Medium to Long Term

There is need for inter-modal facilities at various locations on the public transport network. This is addressed in the Public Transport Plan, and subsequent projects are motivated in the Integrated Development Plan.

There is indication that the poor condition of the rolling stock is attributed to the poor conditions of the road network. Also, the poor road conditions contribute to the longer journey time. Thus, there is need to upgrade roads to ensure an efficient public transport service, and in general, improved access and mobility for all residents in the respective regions.

The public transport corridors will be addressed in the Integrated Transport Plan, together with the Road Agency Limpopo.

5.7.6 Law Enforcement

There is need for consistent law enforcement to monitor compliance to specifications and regulations. The ultimate objective is to ensure the safe transit of passengers, and a safer road environment. Buses should be tested and inspected every six months for roadworthiness and renew its operating permit annually. Bus drivers should be in possession of the code EC driver's license and a professional driver's permit.

Therefore, law enforcement officers must monitor buses and drivers at the depot for the applicable licenses and permits. It is not practical to inspect the vehicle during operations, as passengers could be delayed, unless the vehicle is overloaded.

There is also a need for law enforcement officers to be trained in the application of public transport policies and regulations.

5.7.7 CPTR

The CPTR 2003 did not have adequate data to assist in the preparation of a comprehensive analysis. Therefore the next CPTR should be designed according to the requirements of the CPTR guideline TPR 4, Rationalization Plan, Operating License Strategy, and the Public Transport Plan.

For example, there are bus services contracted by mines. There is no data in the CPTR to confirm the routes and schedules of non-subsidized bus services, to

compare with the current subsidized services. It is likely that non-subsidized bus operations are in direct competition with the subsidized services, or there could be a duplication of service that cannot be detected, etc.

Therefore, there is need for stringent control and management from SDM, to compile the CPTR.

6 STAKEHOLDER CONSULTATION

6.1 Introduction

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

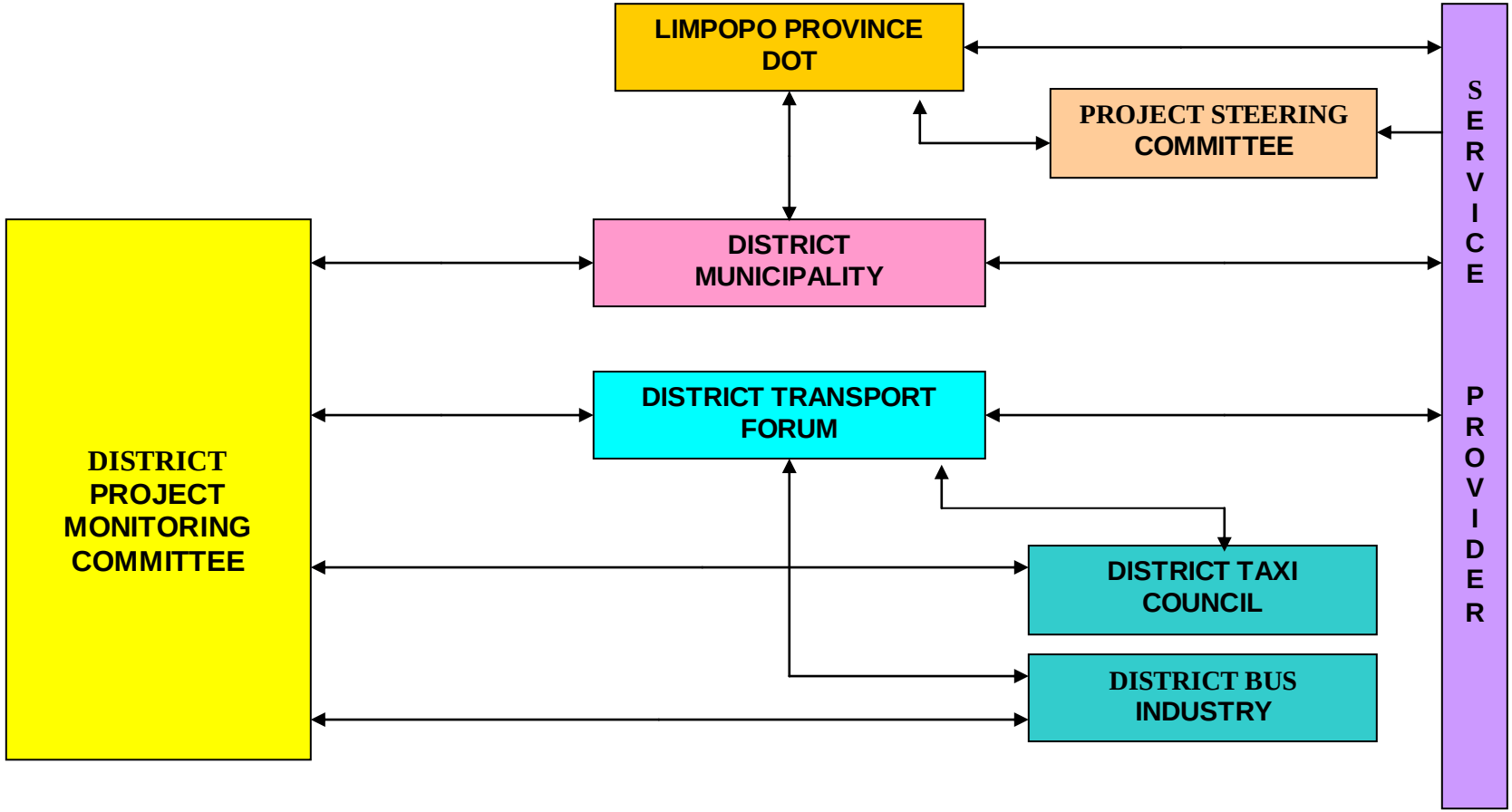
Representatives from the District Municipalities, Local Municipalities, Local Transport Forums, and NGOs, formed the District Transport Forum, and are effectively the technical committee for the project.

The communication and liaison structure, and the respective functions were guided by the Limpopo Department of Transport, and are described in Figure 6.1.

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

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

FIGURE 6.1 - COMMUNICATION STRUCTURE FOR THE PREPARATION OF TRANSPORT PLANS



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

6.2.1 Limpopo Department of Transport

(a) Politicians

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

6.2.2 Provincial Steering Committee

(a) Representative of National Department of Transport

(b) Representatives from the Provincial Department of Transport

(c) Representatives from the District Municipalities

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

6.2.3 District Municipality

(a) Officials

(b) Politicians

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

6.2.4 District Transport Forum

(a) All public transport role players

- To ensure involvement on grass root levels
- Report to their respective structures
- Advising the service provider
- Provide their support for the plans

6.2.5 District Project Monitoring Committee

(a) Representative of the District Municipality.

(b) Representative of the Local Municipalities.

(c) Representative of the Provincial Transport Department on District level

- Liase with the District Municipality
- Liase with the Transport Forum
- Monitor the progress of the project
- Liase with Bus and Taxi Liaison Structures

6.2.6 District Taxi Council

(a) Representatives of the District Taxi Council.

- Work together with the Service Provider and the Project Monitoring Committee to ensure the plan is accepted by Taxi Industry.
- Liase with the Taxi Industry such as Taxi Associations as well as the Provincial Taxi Council.

6.2.7 District Bus Industry

(a) Representatives of Bus Operators.

- Work together with the Service Provider and the District Project Monitoring Committee to ensure that the product would be acceptable for the Bus Industry.

6.2.8 Service Provider

(a) ARCUS GIBB

- Prepare RATPLAN

- Liase with all the structures
- Consult with the Provincial Department of Transport, Provincial Steering Committee, District Municipality, District Project Monitoring Committee, District Transport Forum, District Taxi Council and Bus Industry.

6.3 Progress to Date

6.3.1 Steering committee Meeting

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

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

6.3.2 Technical Committee Meeting

There was consistent liaison with the Sekhukhune District Municipality Transport Manager, Mr. Solly Mokoena, and Ms. Esther Radingwana, who in turn arranged the technical committee meeting with the District Transport Forum. There was one meeting with District Transport Forum on April 2004. At the first meeting there was representation from GNT Bus Service, the Taxi Council, Mpumalanga Department of Transport, and SDM. The second meeting was held on 5 May 2004.

6.3.3 Bus Operations

There was regular communication with the manager of bus operations at the Mpumalanga Department of Transport, to obtain SUMS data and the status quo of bus operations throughout the Province. There was also liaison with the depot manager for GNT Bus Service – Western Region to obtain detail bus routes and subsidy data.

6.3.4 IDP Manager

There was correspondence with the IDP Manager Mr. Masha Aubrey, to include the recommendations of the draft Rationalisation Plan and Operating License

Strategy in the IDP Review 2004/2005, even though the Public Transport Plan and Integrated Transport Plan are not yet prepared.

6.4 Conclusion

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

7 IMPLEMENTATION AND ASSOCIATED COSTS

7.1 Review of Recommendations

The extent of the public transport system is complex and the rationalization and restructuring of the public transport system should be implemented gradually, to avoid a sudden change in the system, and cause inconvenience to the passenger and operator. Thus, a flexible and phased approach in the rationalization and restructuring of the public transport system is recommended.

The short-term focus is on optimising the subsidized bus service and balancing the supply and demand for public transport, and eliminating direct competition between modes and operators. The medium term focus is directed at establishing a framework for rationalization and restructuring of the public transport system as a whole.

The implementation of infrastructure projects is addressed in detail in the Public Transport Plan, and subsequently in the Integrated Transport Plan, and the Integrated Development Plan Review 2004/2005.

7.2 Bus Operations

- There is need for additional subsidies for the bus operations in the SDM.
- Table 7.1 describes the routes, the number of trips per day, and the cost for various subsidy options. The proposal is the minimum service needed in the peak periods, and excludes midday trips.
- Details of the analysis are described in Appendix E.

The proposed contracts are based on the following assumptions:

- 50% of utilisation is workers
- 25% of utilisation is learners
- 25% of utilisation is casual passengers
- For the interim contracts, learners fares are discounted by 50%
- At least two trips per day on routes without passenger data
- The subsidy per ticket is equal to the ticket price for the interim contract (interim contract)
- The subsidy per revenue kilometre is R12.00 (tendered contract)

Currently, GNT is the prominent bus operator in the SDM, and operates an interim contract in the Greater Groblersdal and Greater Marble Hall LM. There is little opportunity for other operators in the SDM, and the negotiated contract must consider opportunities for emerging bus operators in the SDM.

The GNT Bus Service is currently in the process of restructuring. Therefore, it is likely that the parastatal could become an agency and its funding ring fenced. As a result, the subsidy implication for the Province could be negated.

Table 7.1 – Cost of New Bus Services

Local Municipality	No. of Trips/mth Needed	Total km/mth	Current Subsidy/mth (R)	Interim Contract (incl. Learners) (R)	Interim Contract (workers only) (R)	Tendered Contract (R)
Greater Groblersdal	2315	76 954	152 676	433 000	330 000	923 500
Greater Marble Hall	870	61 075	66 875	345 400	182 000	733 000
Greater Tubatse	7293	176 529	0	1 400 000	1 370 000	2 120 000
Total	**10 478**	**314 558**	**219 551**	**2 178 400**	**1 882 000**	**3 776 500**

7.2.1 Cost for Additional Capacity

The total subsidy per month for additional capacity in the SDM, as recommended for the above mentioned routes, and described in Appendix E, is approximately R3.8 million for the negotiated or tendered contract (including learners), and approximately R1.9 million for the interim contract providing subsidies for workers only.

In addition to the subsidies, there is need for monitoring of contracts and auditing of the monthly payments certificates by an independent service provider. Monitoring could be implemented manually or electronically. The capital cost for the electronic mechanism is glorified and expensive. Nevertheless, the electronic mechanism is more effective. For the interim contracts, the estimated cost for start-up, manual monitoring, auditing, and project management is 5% of the subsidy contract value, that is, R95 000 bi-monthly (workers only) or R110 000 bi-monthly (including learners). For the tendered contract, the estimated cost for start-up, electronic monitoring, auditing, and project management is 10% of the subsidy contract value, that is, R380 000 per month.

7.3 Provision for Persons with Disabilities

7.3.1 Project – Class 1 Improvements to Current Fleet

Subsidized Transport for persons with disabilities should be addressed through the Class 1 improvements in the short to medium term.

Currently, most buses have handrails. Buses should have high-contrast colours on steps and handrails to improve visibility. Improvements to infrastructure such as sheltered and safe bus stops are ongoing per Local Municipality. Therefore, the estimated cost for on-board improvements is minimal and is actually the standard vehicle specification, which should be addressed by the operator.

7.3.2 Project – Data Capturing and Feasibility of Paratransit Service

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

The data capturing of transportation needs for persons with disabilities should be prioritised in the preparation of the next CPTR. Therefore, there is no specific cost for this effort. However, the feasibility for a paratransit service should be an independent study. The pilot study must be funded by the NDOT.

7.3.3 Project – Non-Motorised Transportation for Learners

Where schools are within a 5km radius, there is potential for non-motorised transportation such as bicycles and donkey carts for learners, including safer walkways. This will be addressed in more detail in the Public Transport Plan.

7.3.4 Project – Design and Construction

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

7.4 Alternative/Innovative Funding

In addition to the fixed sum of bus subsidy from the National Department of Transport, the Provincial Department of Transport must research alternate funding mechanisms for public transportation. For example, advertising on buses is a lucrative generator of operating funds. The Department of Transport must correspond with the Department of Environmental Affairs and Tourism to obtain funds through the National Environmental Management (Air Quality Management) for the upgrading of rolling stock. The primary motivation is based on the reduction of pollution through new vehicles, while the secondary motivation is based on the improved level of service to the passengers.

Similarly, the Department of Transport must correspond with the Department of Education to obtain funds for the subsidisation of learners and students, and the Department of Social Development should contribute to the subsidisation of the elderly.

Innovative funding is addressed in the Public Transport Plan. However, the Limpopo Department of Transport needs to research this subject, with the objective of improving and expediting service delivery, specifically in transportation.

7.5 Total Cost Implications

The total cost implication for the SDM is in Table 7.2, and is categorised according to the implementation schedule. The bus contracts are scheduled as 7-year contracts. The GNT bus service is currently in the process of restructuring, and funding for the enterprise could be ring fenced. Therefore, a major part of the envisaged cost could be for the new enterprises, instead of the Provincial Government.

Table 7.2 – Proposed Projects and Cost Implications

TABLE 7.2: PROGRAM AND FINANCIAL IMPLICATIONS												
PROJECT	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**YEAR 1**	**YEAR 2-5**	**TOTAL**	**Action**	**Duration**
BUS MODE (RATPLAN)												
Project-1: Implement Tender or negotiated subsidy contracts (7-years)								R42 000 000	R 178 000 000	R220 000 000	**DoT**	**7 years**
Project-2: Monitoring and Auditing of Project 10 (7-years)								R4 200 000	R 17 800 000	R22 000 000	**DoT**	**7 years**
Project-3: Implement Class 1 Improvements									R 300 000	R 300 000	**DoT**	**1 year**
Project-4: Review Rationalisation Plan									R 300 000	R300 000	**DoT/DM**	**2 months**
Total								**R46 200 000**	**R196 400 000**	**R242 800 000**		

There are several externalities to be addressed by the public sector, such as, the provision of inter-modal facilities, upgrading of roads, and training of law enforcement officers in public transportation, and integrated land-use planning. The Public Transport Plan and Integrated Transport Plan address some of these externalities that could enhance public transportation, and optimise subsidies.

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