

# STATUS QUO TECHNICAL NOTE

## TRANSPORTATION

*South Eastern District Local Area Plan*



# 1 INTRODUCTION

## 1.1 PURPOSE AND APPROACH

The purpose of this technical note is to provide the current reality in the South Eastern District area of Msunduzi with respect to Transportation, in the form of a situational analysis.

The intention of this situational analysis is to develop an integrated understanding of the strategic and local contextual attributes of the study area with respect to development trends, pressures, issues, problems, potentials and current transportation management systems.etc

This technical note focuses on:

- A review of the existing transport network.
- Cataloguing of previous/current relevant studies.
- Meetings with involved Transport Authorities
- Identification of Gaps/Missing Information
- Identification of Major Issues.

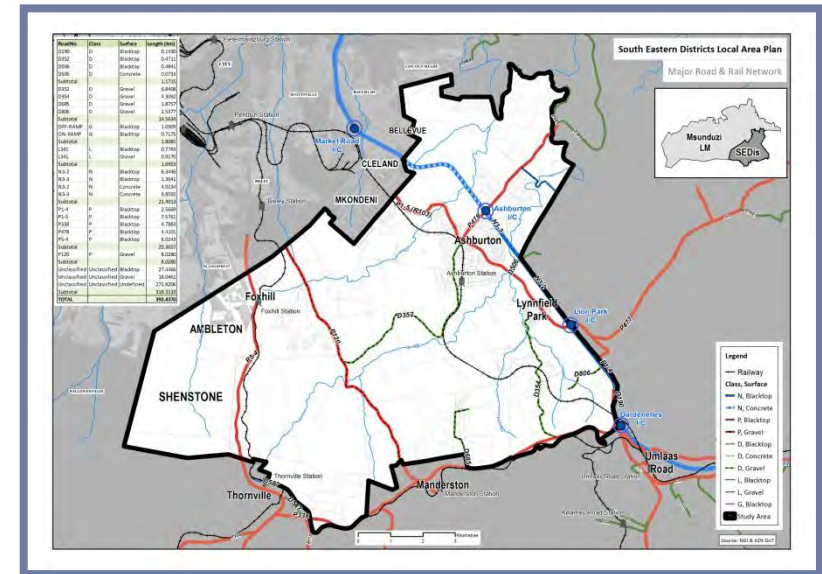
## 1.2 THE STUDY AREA

The project area has been extended where appropriate, especially as this relates to interfaces with adjacent transport systems.

# 2 BACKGROUND INFORMATION

## 2.1 EXISTING ROAD NETWORK

The **existing road and rail network** in the Msunduzi South Eastern District Local Area Plan (SEDis LAP) is shown below (larger version attached as Annexure A)



Other significant roads in the area are controlled by the Municipality and generally serve local access needs.

A summary of the existing major road network is shown in the table below.

RoadNo	Class	Surface	Length (km)
N3-2	N	Blacktop	6.3446
N3-3	N	Blacktop	1.3641
N3-2	N	Concrete	4.9234
N3-3	N	Concrete	8.8592
P1-4	P	Blacktop	2.5669
P1-5	P	Blacktop	7.5761
P5-4	P	Blacktop	6.0243
P120	P	Gravel	8.0280
P338	P	Blacktop	4.7883
P478	P	Blacktop	4.4101
D190	D	Blacktop	0.1430
D352	D	Blacktop	0.4711
D352	D	Gravel	6.8408
D354	D	Gravel	4.3092
D506	D	Concrete	0.0733
D506	D	Blacktop	0.4841
D685	D	Gravel	1.8757
D806	D	Gravel	1.5377

Major interchanges on the National Route that are located within the study area are:

- Dardenelles Interchange
- Lion Park Interchange, and the
- Ashburton Interchange

## 2.2 EXISTING RAIL NETWORK

There are two rail lines that traverse the SEDis area (refer Annexure A).

- a. Main line from Durban to Johannesburg. This line carries significant quantities of freight as well as a scheduled passenger service. A station exists at Ashburton.
- b. Feeder/haulage line parallel to the Richmond Road which traditionally serviced local industry. A station exists in the study area at Foxhill and other stations at Bisley, Thornville and Manderston are situated adjacent to the study area.

Over the last 30 years or so, the question of the viability of rail as a mode for passenger transport and also freight transport within Msunduzi has been raised a number of times. In each case an investigation was undertaken, either specifically relating to passenger rail, or as part of a wider study for public transport within the area.

The investigations came to the conclusion that passenger rail is not a viable option for Msunduzi, based on the following factors:

- The relatively low population densities and employment concentrations would generate very low passenger volumes. To make viable trips, therefore, the frequencies would be very low, making it inconvenient for passengers.
- There would be a need for mode transfers to ensure good ridership, with a feeder system to the rail stations. Passengers are resistant to transfers over short distances.
- The relatively short distances from residential areas to the various employment areas essentially nullify the greater journey speeds of rail.
- The complete feeder system would need to be constructed, whereas road based public transport can be provided incrementally.
- The rail system would operate well below its capacity.
- The cost to provide an attractive service would be very high in both capital and operating costs, and affordable fare levels would come nowhere near meeting these costs.
- Road based public transport systems would continue to provide more than adequate capacity for the needs of passengers within Msunduzi.

However recent initiatives have suggested that an express commuter passenger train service could be introduced between Pietermaritzburg and Durban.

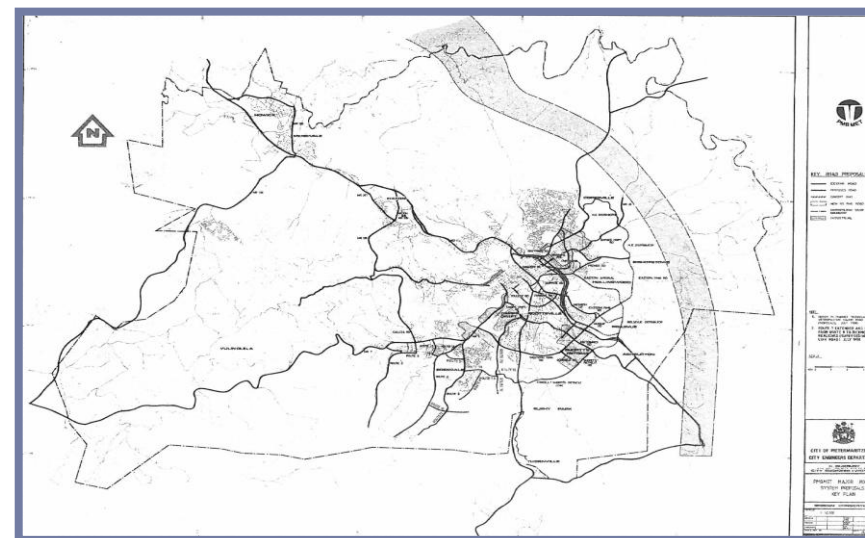
The future of rail freight services is being addressed by various studies at both national and provincial levels.

## 2.3 PREVIOUS STUDIES

There have been numerous planning and design projects that have been undertaken over the years that relate to various degrees to traffic and transportation issues in the area under review.

The most pertinent previous studies or available information with the most relevant data to this Local Area Plan exercise are (but not limited to) the following:

- Bus/Rail Study for Greater Edendale, May 1980 (City Engineer's Department, Pietermaritzburg).
- Investigation into the viability of providing a Light Rail Transit System into the Edendale Valley as an Alternative Mode of Public Transport, August 1986 (City Engineer's Department, Pietermaritzburg).
- Assessment of the Viability of a Light Rail Transit System for Edendale, September 1989 (PMBMET Transportation Study, SEBCON Consortium).
- **Metropolitan Major Road System Proposals (1990):** This report set out a proposed future major road network to support the on-going growth in the city. The 'PMBMET MAJOR ROAD SYSTEM PROPOSALS KEY PLAN' is shown below (larger version attached as Annexure B). Although this plan is many years old, the majority of the proposals are still relevant.



- **Interim Transport Plans - PMBMET:** Work undertaken as part of the PMBMET Metropolitan Transportation Study is contained in documented annual Interim Transport Plan documents.
- **CPTR (2002): Current Public Transport Record** - This comprehensive exercise lead to the compilation of a detailed record of all public transport movements and routes throughout the area. Annexure C shows all routes and ranks identified in this exercise.
- **Public Transport Plan (2005):** This plan was commissioned by the uMgungundlovu District Municipality. The plan covers a programme of action with regard to studies required and a five-year plan of infrastructure needs in the area.
- **N3 PMB Bypass Traffic Study (2004):** This study was commissioned by the South African National Roads Agency Limited. The study determined the on-going capacity improvements required in the N3 freeway corridor within this area.

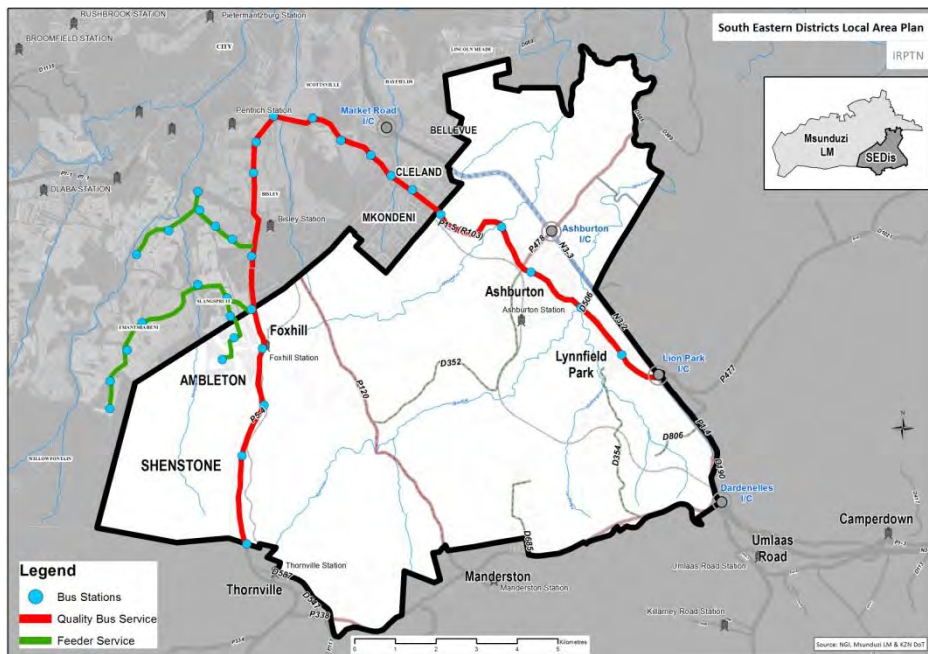
- **Market Road Interchange and Greytown Road Interchange Study (2006):** This study was a joint initiative of the Municipality and the South African National Roads Agency Limited following initial work covered by the PMB Bypass Traffic Study (see above). The report details the specific major improvements required at both the Market Road and Greytown Road interchanges on the N3 freeway.
- **Msunduzi Traffic Model (2006):** A traffic modeling project for the municipality is available and may inform this project.
- **Msunduzi Integrated Development Plan (2011):** Data from the IDP initiatives will be a vital input into this project.
- **Annual Traffic Counts and Public Transport Counts:** As part of the PMBMET project traffic volumes on the Central Area cordon and screen-lines have been collected on an annual basis. Public Transport vehicle and passenger volumes throughout the city have also been collected on a regular basis. This data set will provide very robust input to the Msunduzi Local Area Plan project.
- **uMgungundlovu District's Current Public Transport Record/Public Transport Plan revision project (date):** This exercise was undertaken recently and the final report is imminent.
- **Mkhondeni Spruit Catchment Strategic Environmental Assessment:** It is noted that a strategic environmental assessment of the Mkhondeni Spruit was carried out. Information from this exercise may inform new road alignments and will be of value to the Transportation Plan project as this catchment area is a potential growth point in the Municipality.
- **Implementation of an Integrated Rapid Public Transport Network (IRPTN) in Msunduzi, Scoping Study (March 2008):** This study identified and assessed the feasibility of a Bus Rapid Transport system for Msunduzi.
- **Non-Motorised Transport (NMT) Project (2009):** A policy document detailing needs and requirements for the formalisation of a non-motorised transport system within the Msunduzi Municipality has been compiled.
- **Spatial Development Framework (2009):** This document gives a broad assessment of transportation needs in the area. Data from the SDF initiatives will be a vital input into this project. The map showing 'NODES AND ROADS' from the SDF is attached as Annexure D.
- **Comprehensive Integrated Transportation Plan - Draft (2010 to 2015):** This document correlates, reviews and updates previous transportation reports and planning.
- **Traffic Count Information Mega Yearbook 2011.** The South African National Roads Agency SOC Ltd. has produced a yearbook which comprehensively details their road network both in terms of infrastructure and traffic. Pertinent traffic information has been extracted from this document and is incorporated in this report as Annexure E.
- **Future Planning National Route 3 (current):** The South African National Roads Agency SOC Ltd. is at present assessing the future needs along the N3 corridor.
- **Integrated Rapid Public Transport Network (IRPTN) in Msunduzi (current):** The IRPTN is currently in the design stage and this will inform several aspects of the SEDis LAP.

## 2.4 REVIEW

During the review of the existing available information several deficiencies, inadequacies and omissions were identified, viz

- Existing Road Classifications in the SEDis do not correspond to latest National Department of Transport Roads Infrastructure Strategic Framework for South Africa (RIFSA) guidelines. The KwaZulu-Natal: Department of Transport (KZN:DoT) have recently commenced a Road Classification project that identifies and classifies all Public Roads in the province to the RIFSA standards. Preliminary findings will be available during June 2013.
- Traffic volumes on the Provincial road network are outdated. The latest comprehensive traffic data available comes from documentation dated 2000 which details traffic counts carried out between 1993 and 2000. However the KZN:DoT is embarking on a new data collection project encompassing all provincial roads. The information contained in this document will be available in late 2013.
- Traffic volumes on the municipal controlled roads are limited to specific sections of roads or major intersections. The information is generally not sufficient for planning purposes. At present uMgungundlovu District Municipality (incorporates SEDis area) are undertaking a Road Asset Management System (RAMS) project. The RAMS project includes traffic count information on non-National and Provincial controlled roads. This project is due for completion in 2016. However specific information may be available earlier.
- The Msunduzi Municipality have recently (April 2013) advertised for tenderers to update the Msunduzi Roads Asset Management Plan (RAMP). The outcome will be a Pavement Management System (PMS) based on the conditional assessment analysis. The contract period for this project is six months.
- Accident statistics on the road network are limited to an outdated data base at the KwaZulu-Natal Department of Roads and collision accident forms held at local police stations. During examination of data, several major deficiencies were identified that render as unsatisfactory the use of these statistics for analysis purposes. **This is a serious deficiency which should be addressed.**
- There is no consolidated plan showing the combined traffic impact of development proposals for the area. **This is a serious deficiency which should be addressed.**
- There is no existing road condition assessment on the Provincial road network in the SEDis area. The KwaZulu-Natal Department of Transport is in the process of setting up a Pavement Management System encompassing all roads in the Province. The information from this report should be available between August and December 2013.
- A project prioritisation system is being developed to facilitate the ranking of all projects within the KZNDoT based on technical criteria. The system will commence with the identification and prioritisation of road projects. Preliminary information will be available towards the end of 2013.
- The future Public Transport system for the SEDis area has not as yet been formalized. Preliminary proposals emanating from the IRPTN project have identified two significant Quality Bus Service routes in the SEDis area, viz Provincial Main Road 1-5 (R103) (Old Main Road) and on Provincial Main Road 5-4 (P5) (Richmond Road). In addition a Feeder Route servicing the Ambleton area is also proposed. These routes and proposed Bus Stations (stops) are shown below (larger version attached as Annexure F). Interaction with IRPTN planners and SEDis LAP planners is considered essential at an early stage.





- The future movement of freight on both road and rail in the province is at present being assessed by affected authorities. Preliminary information will be available towards the end of 2013.

### 3 MAJOR ISSUES

In general, the SEDiS LAP is satisfactorily served by the existing road network to accommodate the present land-usages.

The National Route is of critical importance to the area and any change in operations on this transport corridor would have a fundamental influence on any forward planning.

There are no sections of appreciable congestion or delays on the road network other than those created by road accidents or scheduled events (eg Comrades Marathon, AmaShovaShova cycle race).

There is an established rail network in the area under review and this could prove a valuable asset.

However, initial discussions/investigations have identified the following major issues that were considered as points of major importance to this planning process:

- **National Route.** Uncertainty regarding an alignment of any future 'By-pass' and how this would influence planning in the area.
- **Linkage between Shenstone/Ambleton and Mkhondeni.** At present there is no direct link between the residential areas of Shenstone and Ambleton and the employment opportunities at Mkhondeni.
- **Linkage between Mkhondeni and north-eastern suburbs.** At present residents of the north-eastern suburbs have difficulty accessing the industrial areas at Mkhondeni.
- **Access to National Road.** Shenstone and Ambleton residents have at present, circuitous journeys to access the National Road network.
- **Public Transport Network.** Existing public transport routes are ill-defined and unscheduled.
- **Public Transport Facilities.** Existing public transport facilities are outdated. A new network of public transport facilities is necessary.
- **New Developments (Industrial / Commercial / Residential).** Several significant developments are in various stages of approvals. These include the Burton Heights, Hilcove Hills and the Ashburton Mixed-Use proposals.
- **Non-Motorised Transport.** Formalised pedestrian/cycle facilities are minimal/non-existent in this area. Pedestrians, cyclists and horses often share narrow and sometimes poorly maintained pathways.
- **Condition of Existing Roads.** Several of the roads on the existing network are showing signs of various degrees of distress and many require repair/upgrading/reconstruction.
- **Road Safety.** Any of the above, or combination of, identified deficiencies may contribute to potentially create dangerous situations.
- **Inappropriate Heavy Vehicle Usage.** Numerous heavy vehicles are using the P1-5 (R103) Polly Shortts road reportedly to avoid traffic law enforcement on the National Route.



## 4 KEY FINDINGS

The key findings of the transportation technical note are set out below.

Traffic Issues	Key Findings
<b>N3 Corridor</b>	<ul style="list-style-type: none"> <li>The N3 corridor is a major structuring element with strategic national, provincial and local significance. The prime function of the route is as long distance, high speed movement corridor and this role should not be undermined.</li> <li>There are also significant agglomeration benefits and development opportunities along the corridor, mainly within associated nodes at or near key intersections including the Umlaas Road/N3 interchange, the Lynnfield Park/N3 interchange and the Ashburton Centre.</li> <li>Significant development pressure is being experienced along the N3 corridor with private developers seeking to unlock the development potential of lands at Lynnfield and Umlaas Road. These developments yet to be approved.</li> <li>Uncertainty regarding an alignment of any future 'By-pass' and how this would influence planning in the area.</li> </ul>
<b>R56 Richmond Road (P5)</b>	<ul style="list-style-type: none"> <li>The R56 is a key north-south movement route and structuring element within the SEDis but development along the R56 has thus far been limited.</li> <li>The R56 corridor has potential as a residential expansion area and future economic opportunity area. Key opportunities identified in the SDF include the Ambleton City node to the north, the Thornville node to the south and economic opportunity areas between these two nodes.</li> </ul>
<b>Public Transport</b>	<ul style="list-style-type: none"> <li>Existing public transport operations are sometimes ill-defined and unscheduled.</li> <li>Many of the existing public transport facilities are outdated. A new network of public transport facilities is necessary.</li> </ul>
<b>Integrated Rapid Public Transport Network</b>	<ul style="list-style-type: none"> <li>This is probably the most significant transport initiative that has been undertaken recently.</li> <li>An Integrated Rapid Public Transport Network with associated depots (including workshops), interchanges, holding areas and feeder services will operate throughout the Msunduzi area.</li> <li>The implications of these operations will extend into other spheres of municipal infrastructure and planning.</li> </ul>
<b>Access to National Road</b>	<ul style="list-style-type: none"> <li>Shenstone and Ambleton residents have at present, circuitous journeys to access the National Road network.</li> </ul>
<b>Linkage between Shenstone/Ambleton</b>	<ul style="list-style-type: none"> <li>At present there is no direct link between the residential areas</li> </ul>

<b>and Mkhondeni</b>	of Shenstone and Ambleton and the employment opportunities at Mkhondeni.
<b>Linkage between Mkhondeni and north-eastern suburbs</b>	<ul style="list-style-type: none"> <li>At present residents of the north-eastern suburbs have difficulty accessing the industrial areas at Mkhondeni.</li> </ul>
<b>New Developments (Industrial / Commercial / Residential)</b>	<ul style="list-style-type: none"> <li>Several significant developments are in various stages of approvals. These include the Burton Heights, Hilcove Hills and the Ashburton Mixed-Use proposals.</li> </ul>
<b>Non-Motorised Transport</b>	<ul style="list-style-type: none"> <li>Formalised pedestrian/cycle facilities are minimal/non-existent in this area. Pedestrians, cyclists and horses often share narrow and sometimes poorly maintained pathways. .</li> </ul>
<b>Condition of Existing Roads</b>	<ul style="list-style-type: none"> <li>Several of the roads on the existing network are showing signs of various degrees of distress and many require repair/upgrading/reconstruction.</li> </ul>
<b>Road Safety</b>	<ul style="list-style-type: none"> <li>Any of the above, or combination of, identified deficiencies may contribute to potentially create dangerous situations.</li> </ul>
<b>Inappropriate Heavy Vehicle Usage</b>	<ul style="list-style-type: none"> <li>Numerous heavy vehicles are using the P1-5 (R103) Polly Shortts road reportedly to avoid traffic law enforcement on the National Route.</li> </ul>