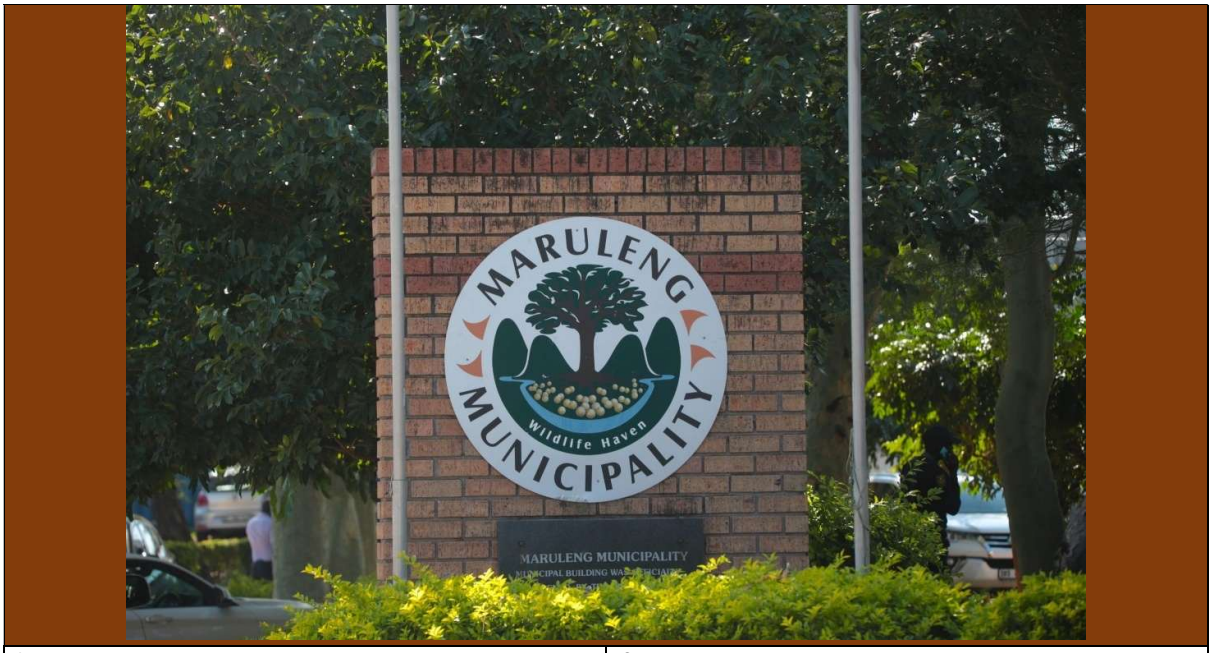
LOCAL INTEGRATED TRANSPORT PLAN

MARULENG LOCAL MUNICIPALITY

2025-2030

LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
TRANSPORT AND COMMUNITY SAFETY



PREPARED FOR:	ADDRESS:
MARULENG LOCAL MUNICIPALITY	64 SPRINGBOK STREET HOEDSPRUIT

Appendix C

Freight and Logistics Strategy



LOCAL INTEGRATED TRANSPORT PLAN

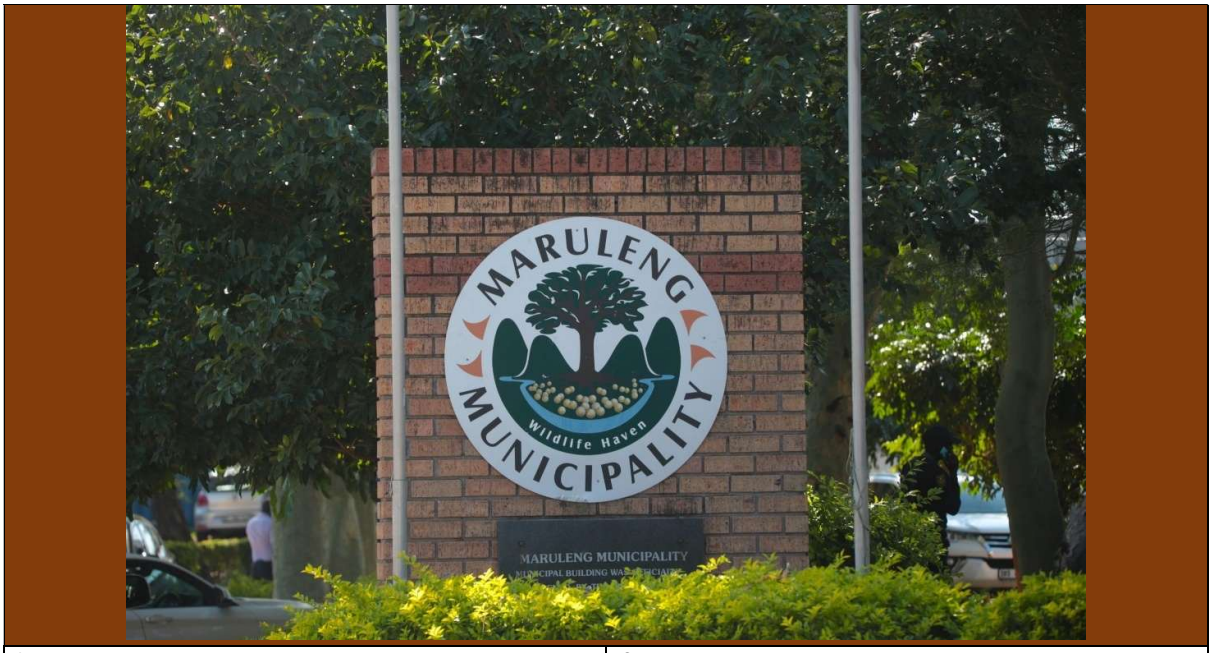
MARULENG LOCAL MUNICIPALITY

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LIMPOPO
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TRANSPORT AND COMMUNITY SAFETY

FREIGHT AND LOGISTICS STRATEGY



PREPARED FOR:	ADDRESS:
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1 FREIGHT AND LOGISTICS STRATEGY

This chapter addresses the following aspects:

a) Legislative and policy requirements.
b) Situational analysis of freight aspects.
c) MLM freight profile.
d) Freight vehicle management and overload control (logistics strategies).
e) Dangerous goods movement.
f) Conclusion.

These aspects are discussed in detail in the sections to follow.

1.1 Legislative/Policy/Guideline Requirements

This section focuses on relevant national, provincial and local policy and legislation that guides freight transport planning and infrastructure requirements.

1.1.1 National Policy

From a national policy perspective, the National Freight Logistics Strategy (NFLS) and the National Transport Master Plan (NATMAP) need to be considered from a freight policy perspective.

The growth in freight traffic has surpassed most of the 20-year growth forecasts made by the Government's Moving South Africa initiative many years before they were expected. This has placed massive pressure on infrastructure and operations to deliver acceptable levels of service. The NFLS is a response to the freight system's inability to fulfil the demand for cargo movement at prices, levels of service, quality of service and levels of acceptable reliability. The strategy is developed based on the following principles.

The principles include:

a) Ownership of infrastructure.
b) Management of infrastructure.
c) Operations on infrastructure.
d) Regulatory structure.
e) Skills development.

The strategy implementation is centred on the following**:**

a) Governance management.
b) Regulatory and institutional reform.
c) Convergence with Transnet strategy.
d) Integrated planning, information collection and forecasting.

e) Specific interventions include:

i) Linking the first and second economy and assisting BEE and SMMEs.
ii) Skills development.
iii) Corridor interventions and management.

1.1.2 Road Freight Strategy for South Africa

The location of Hoedspruit as part of MLM both regionally and with its proximity to the SADC region makes road freight transport a critical component of the **MLM-LITP**. It is therefore important to consider the findings of the Road Freight Strategy (RFS) for South Africa, undertaken in 2011 by the Department of Transport. The report covered the following:

a) Excess freight on roads.
b) Poor road conditions.
c) Overloading and ineffective law enforcement.
d) Slow regional integration.
e) A poor road safety record.

Given that roads and more specifically those carrying freight over long distances are an asset of national importance, the DOT report recommends that this should be reflected in terms of organisational authorities responsible for road maintenance and overload control.

The strategy indicates that a relatively high percentage of the 120 weighbridges in the country are either in disuse or non-operational. In the Limpopo province, there are nine weighbridges, half of which operate 24/7 and the remainder operate sixteen hours a day. There are no weighbridges in the MLM region. Some freight transport operators are using the lack of a weighbridge as an opportunity to escape prosecution for overloaded vehicles. The general lack of operational weighbridges provincially and regionally results in freight traffic deviating to “back routes” resulting in a devastating effect on lower-order roads which are generally not designed for high volumes of heavy vehicles.

This can be prevented by implementing mobile weighbridge technologies. Weigh-in-motion (WIM) and portable weigh pads can provide the element of surprise which lacks permanent weighbridges. Although current legislation does not allow for prosecution based on these measurements, it can be used for screening purposes. Overloaded vehicles can be identified on almost any route and sent to a permanent weighbridge. WIM technology has the added advantage that information obtained can be used to identify when or where additional law enforcement is required.

The existing provincial weighbridge network consists mainly of fixed weighbridges, which are not 100% effective in controlling overloading. They are easily bypassed by using alternative routes, particularly on the secondary and tertiary road networks, where little overload control enforcement is done; or in the case of MLM where no control exists. Transgressing transport operators are aware of the limitations of overload control law enforcement and take advantage of the situation.

From the above, it is evident that, although important, the practical implications for MLM relate to the maintenance of the transport infrastructure and the interventions regarding the regional freight corridors.

1.1.3 NATMAP 2050

The NATMAP 2050 concludes that future freight development should be demand driven and that the logistics system in South Africa will require significant policy changes to incorporate the views and development perspectives of major industry players. Potential policy changes should incorporate strategies to address the current monopolistic positions of major service providers such as rail, ports and pipeline services. This monopolistic approach has a major negative impact on the operational efficiency and provision of resources and subsequently threatens the ability of the industry to meet future demands.

The demand for rail services on specific corridors (urban and rural) cannot be underestimated and ignored which is in direct contrast with the rapid growth of road freight transport. This rapid supply of growth causes severe strain on existing infrastructure such as the deterioration of road infrastructure, congestion, accidents and pollution and it impacts negatively on freight transport costs. The infrastructure capacity constraints of rail ensure that passenger trains receive preference above freight trains which causes delays for freight train deliveries.

The following main conclusions are drawn by the NATMAP 2050 document, namely that:

a) “Freight transport operations in all modes will supply services to meet the demands of customer industries.
b) Government will supply infrastructure and will manage effective quality regulations.
c) There will be regulated free and open competition within and between all freight modes.
d) Infrastructure usage charges will provide for current rehabilitation and sustainable funding.
e) Freight transport services will be self-sustaining for both infrastructure and operations.
f) Quality regulation will be based on defined and legislated standards to control externalities and ensure equitable competition.
g) The Department of Transport will be structured to manage the quality standards effectively, with appropriate delegation to provinces and agencies, based on monitored performance contracts.
h) Private sector investment and innovation will be promoted in all freight modes including PPP developments in regulation and provision of subsidised social services, e.g., branch lines and rural facilities.
i) Effective and appropriate information systems will be developed as part of operator registration systems in all modes, to inform policy directions.
j) Effective cross-border procedures and processes will be developed and implemented to promote South Africa’s regional trade.
k) Intermodal transport will be promoted by removing restrictions on road and rail operations.

l) Long term strategies and measures will be developed to forestall the impacts of liquid fuel shortages.
m) Coastal shipping and a South African merchant marine industry will be promoted" (Source NATMAP 2050).

Several critical freight-related projects have been identified in the NAPMAP 2050 planning document, which is earmarked for implementation within the Limpopo Province. **Table C-1** Indicates the list of relevant freight-related projects for reference.

TABLE C-1: LIST OF CRITICAL FREIGHT PROJECTS FOR THE LIMPOPO PROVINCE (2010 – 2050)

Project Ref No.	Infrastructure Projects Summary per Province
4474	Feasibility Study & Project Management for Development of Polokwane Multi-Modal Logistics Hub & a One-Stop Border Facility in Musina/Martins Drift (Groblersbrug).
660	Pre-feasibility & Construction of the Aero-city Concept and Repositioning of the Polokwane International Airport.
4475	Dilokong Corridor: Extension of Moloto Rail/Road Corridor into Limpopo along Sekhukhune Corridor with Burgersfort.
4481	Upgrade D113: Link between Sun City to Derspoort via Limpopo.
4483	Upgrade of R37 linking Burgersfort via Lydenburg to N4 Corridor and Maputo Harbour.
4567	Jane Furse: Extend New Moloto Rail Corridor
4545	Pretoria – Polokwane High-speed Rail

Source: NATMAP 2050

Most of the projects, indicated in the table above, will have a direct regional impact on freight movement within the province, but most of the projects will only have a limited or indirect impact on freight movement within MLM in general.

1.1.4 Provincial Policy

The relevant freight-related Provincial Policy for Limpopo includes the following:

a) Provincial Land Transport Framework (PLTF).
b) Limpopo Logistics Cluster Intervention.
c) Limpopo Province Growth and Development Strategy (LPGDS).

1.1.4.1 Provincial Land Transport Framework (PLTF).

The current Limpopo PLTF 2015-2019 identified several high impact projects for the Limpopo Province. These projects are aimed at solving a range of freight-related challenges including maintaining the quality of the road, building rail and air freight

capacity and improving policy compliance, especially overload control. These projects include (based on Limpopo PLTF Tables 8-6 and 8-7):

a) Upgrade of Roads R37, D113 and D844 which provide a link between key freight attractions and generators within and outside of the province.
b) Upgrading of provincial coal haulage roads.
c) Upgrading of the road network serving the Waterberg biosphere.
d) Construction of formal truck stops to enable road hauliers to rest, refuel and get food in a safe and secure place.
e) Johannesburg-Polokwane high-speed line providing service for time-sensitive freight.
f) Dilokong rail corridor connecting Gauteng-Burgersfort-Polokwane.

The PLTF also presents a conceptual freight network aimed at improving the efficiency of freight transport in and out of the province. The conceptual network, shown in **Figure C-1**, (taken from Figure 9-4 in the PLTF) was developed with the objective of connecting major freight attractions and linking the rural economy to the mainstream economy.

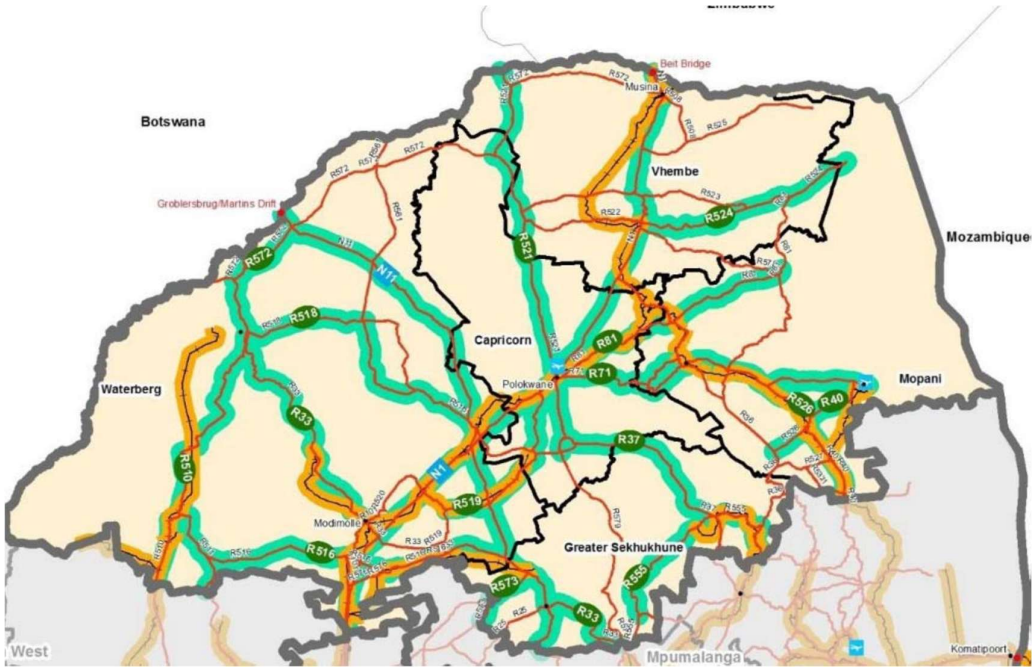


FIGURE C-1: CONCEPTUAL ROAD AND RAIL FREIGHT NETWORK FOR LIMPOPO

Source: PLTF 2015-2019

1.1.4.2 Logistics Cluster Investigation Intervention (Industrial Clusters as a Vehicle for Economic Development)

The logistics cluster investigation conducted by the Limpopo Economic Development, Environment and Tourism Department (LEDET, 2008) identified several initiatives that will promote economic development and enhance freight transport by means of improved linkages. These initiates were:

a) The development of a Musina dry port (trucking depot).
b) The establishment of a logistics hub in Marble Hall.

The provision of these facilities would, inter alia, deliver the following possibilities:

a) Create a blueprint for a distribution and logistics hub in the triangular zone connecting Botswana, Zimbabwe, Lesotho, Namibia, Mozambique, Swaziland, Zambia, Malawi and the rest of Africa.
b) Build, upgrade and integrate the specialised infrastructure needed to create the hub and links to it.
c) Create efficient processes and working procedures in the hub (e.g., in customs) and building skills to support them.
d) Galvanise the entry of key private players.
e) Create an autonomous body to market and manage the distribution and logistics hubs in the province.

1.1.4.3 Limpopo Province Growth and Development Strategy (LPGDS)

The PGDS for the Limpopo Province identifies transport as the enabler in facilitating economic growth in the region as well as being the mechanism to improve the movement of people, goods and services. Transport is thus seen as a strategic objective of growing the local economy and, in doing so, improving the quality of life for all.

The emphasis thus from a provincial perspective is to improve all modes of transport within the province to ensure improved levels of service for the movement of people as well as improved freight movement to deliver products to the markets.

1.1.5 Local Policy

The relevant freight-related local policy for MLM is prepared in line with the following:

a) MLM-LITP 2025 to 2030.
b) MLM Spatial Development Framework 2024.
c) MLM 2021 to 2026 IDP 2024/25 Review).

1.1.5.1 Maruleng Local Integrated Transport Plan (2025–2030)

The freight aspect of this report focused primarily on the management of freight traffic through the provision of key infrastructure and policy development. The primary challenge addressed by the report is the deteriorating road infrastructure due to high truck volumes, overloading and underutilised rail capacity. MLM serves as a major freight route both regionally and with neighbouring SADC countries especially Mozambique given the proximity of that neighbour

The following freight needs were identified:

a) One of the key strategies identified in Chapter 1 the MLM-LITP is contained under Objective C (a) of Table 1.4 - “Safeguard and Improve the Utilisation of Resources”: Implement Freight Overloading Project
b) Similarly, another key strategy identified is referenced under Objective D (b) of Table 1.4 - “Expansion of the Transport System”: Control of Heavy Vehicles
c) There is a need to maintain dedicated routes for the transport of hazardous substances.

The report also provides a detailed framework for the development of the municipality’s overload control strategy. The framework covers policy considerations, the development and location of screening and control facilities, and implementation processes.

1.1.5.2 Maruleng Local Municipality Spatial Development Framework 2024 (Review)

A key strategic thrust highlighted by the MLM-SDF (2024) is that of optimisation of freight transport. The upgrading of the railway network will relieve the over-use of the road network for freight transport. Congestion caused by trucks, along the Phalaborwa-Hoedspruit-Mbombela (R40) road will be alleviated somewhat.

An initiative by the Hoedspruit Farmers in 2022 to revive the local and regional railway lines to enable the daily export of produce and goods to national ports such as Durban and Richards Bay need to be further explored.

1.1.5.3 2021 to 2026 Maruleng IDP (Reviewed 2024/25)

The 2024/25 review of the 2021 to 2026 MLM-IDP unfortunately does not identify freight transport improvement as an anchor project.

Similarly to the 2024 SDF, the IDP identifies the need for significant investment in road and rail infrastructure as well as the establishment of an Airfreight Hub.

1.1.6 Policy Conclusions

Based on the above policy, the following relevant conclusions are derived regarding the planning of freight interventions for MLM:

a) Improved enforcement of road freight policies such as overloading and transportation of dangerous goods.
b) The establishment of an Airfreight Hub in Hoedspruit.
c) Significant Investment in road and rail infrastructure.

1.2 Situational Analysis of Freight Aspects

This status quo of the freight strategy chapter aims to reflect on the most recent strategies and studies relating to all modes of freight transport on all levels of government. The most critical initiatives and projects are summarised under the different levels of government which will enable the municipality to plan, budget and align its internal resources for the implementation of such projects when required.

1.2.1 Provincial Freight Profile

The provincial freight profile will be discussed in terms of the following:

a) Logistics infrastructure and facilities.
b) Road freight considerations.
c) Rail freight considerations.
d) Air freight considerations.
e) Provincial freight conclusion.

1.2.1.1 Logistics Infrastructure and Facilities

There are currently three main intermodal facilities within the Limpopo Province, namely:

a) The Polokwane Intermodal Facility.
b) The Tzaneen Intermodal Facility.
c) The Phalaborwa Intermodal Facility.

The Phalaborwa Intermodal Facility operates from 06h00 to 18h00 Monday to Friday. When there is a need, the facility also operates on weekends. Currently, about 99.5% of the commodities handled at the facility are mining products that are transported in containers distributed to Durban and Maputo ports for export. The facility is currently underutilised as it has a capacity for 45 containers per day but currently handles 400 containers per month.

The Tzaneen Intermodal Facility currently has no facilities for handling goods on site. The area is solely used for loading citrus fruit during the months of May, June and July only. The Polokwane Intermodal Container Facility is the busiest facility. The facility operates from 07h30 to 16h30 from Monday to Friday. The facility also operates on weekends when there is a need. Currently, the facility handles mostly containers that are destined for Pretoria/Durban. The continued development and utilisation of this infrastructure will enable effective linkage with the existing freight hubs to improve local and cross-border freight movement. The spatial distribution of the above-mentioned intermodal facilities is depicted in **Figure C-2.**

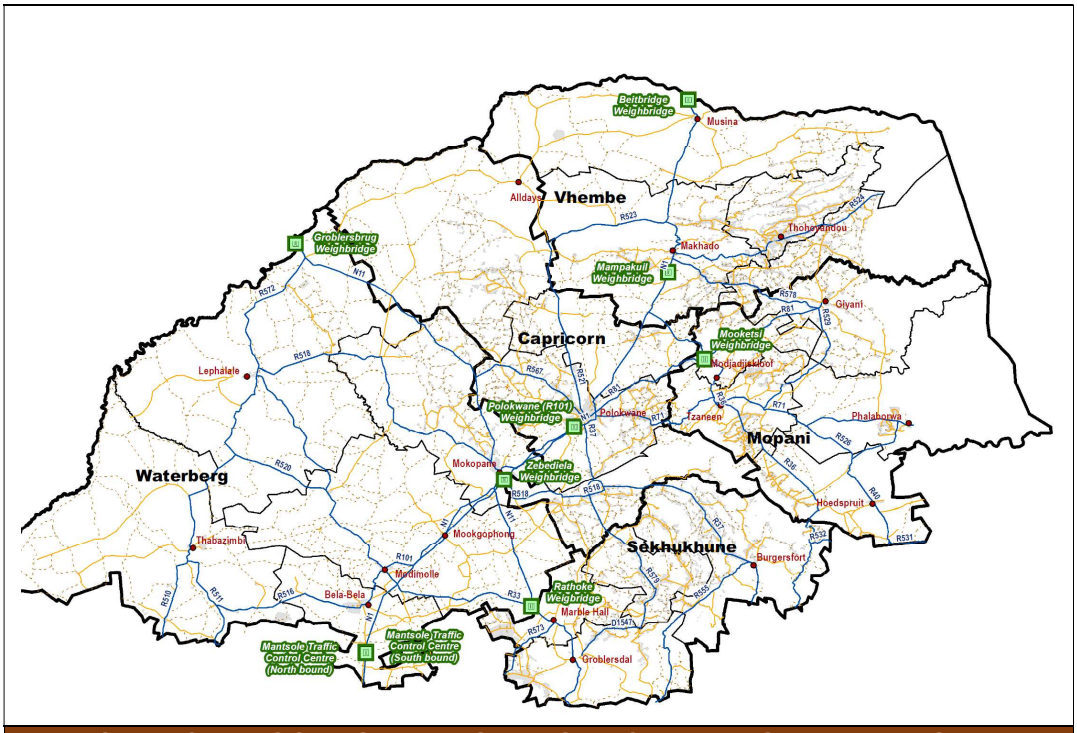


FIGURE C-2: LOCATION MAP OF PROVINCIAL FREIGHT INTERMODAL FACILITIES

Source: Limpopo Freight Databank: Interactive Map

The importance of Maruleng as a freight hub is thus underlined by the planning initiatives. In addition to the above, cross-border movement from adjoining SADC countries further increases the freight movement into the province which results in increased pressure on the province's limited infrastructure resources. These borders posts situated within the province are shown in **Figure C-3**.



FIGURE C-3: LOCATION MAP OF PROVINCIAL BORDER POSTS

Source: Limpopo Freight Databank: Interactive Map

The vast number of border posts indicates the strategic importance of the province from a cross-border freight movement perspective. The freight activity at the various border posts is listed in **Table C-2** and indicates the tonnage of road-based freight generated by the individual border posts.

TABLE C-2: BORDER POSTS AND GENERAL FREIGHT MOVEMENT

Border	Total Freight (tonnes)	Commodities
Beitbridge	2.6 million	The main identifiable commodities by vehicle were fuel (9%), chemicals (8%), containers (7%) and perishables (53%). Other commodities by vehicle were machinery/vehicles (2%), timber (2%), iron/steel (1%) and rock/stone/ore (2%). Unidentified cargo comprising other (14%) and under sail/tarpaulin (40%) totalling 54% of all vehicles surveyed.
Groblersbrug	1.1 million	The main identifiable cargoes are fuels (170 400 tonnes p.a.) westbound and containers (104700 tonnes p.a.) also westbound into Botswana.

Source: Limpopo Freight Databank:

It is recommended that MLM should develop a Truck Inn Facilities at Klaserie and Mica. The truck inn will provide a safe resting area for the drivers with facilities for fuel, food and sleeping. Additionally, this will reduce the destruction of sidewalks and road furniture, which result from trucks parking in the town centre.



FIGURE C-4: LOCATION OF PROPOSED MLM TRUCK INN

1.2.1.2 Road Freight Considerations

A vast network of national, provincial and metropolitan roads exists within the Limpopo Province. The MLM experiences several challenges when freight movement is concerned. Large industrial and mining, although not located in MLM, conglomerates tend to use road-based freight transport predominantly above that of rail. This phenomenon has a serious impact on the existing road infrastructure and the future expansion of road-based infrastructure as this preference increases daily. Detailed information related to the MLM could not be obtained.

1.2.1.3 Rail Freight Considerations

Rail infrastructure for the Limpopo Province is limited to two mainlines, namely:

a) Hoedspruit – Komatipoort – Maputo link.
b) Hoedspruit – Kaapmuiden – Durban link.

NATMAP (2050) strategy has identified several rail links based on economic activity within the province and outside its borders. These links will expand the current Transnet freight network to the following areas, namely:

a) Lephalale – Mahalapye: New line to link the Waterberg Coal Fields with the proposed Trans-Kalahari corridor.
b) Matlabas – Vaalwater – Modimolle: A new line and rebuilt of the branch line to link the Waterberg Coal Fields with the main rail network to Richards Bay.

The alignment of these important branch and main lines for the Limpopo Province is indicated in **Figure C-5**.



FIGURE C-5: RAIL LINK LAYOUT FOR THE LIMPOPO PROVINCE

Source: Limpopo Rail Freight Databank

The existing mainline corridors within the province are shown in T**able C-3** and border posts and general freight movement

TABLE C-3: BORDER POSTS AND GENERAL FREIGHT MOVEMENT

Link Type	Rail Link	Distance (km)	Total Freight Volumes/p.a. (million - tonnes) (2011)	Volumes/p.a. per Commodity (mil – tonnes)	Commodities
Main Line	Pretoria – Pienaarsrivier – Polokwane – Musina – Beit Bridge	579	1,8	0,5 0,727 0,3 0,071	Through traffic (both dir.). Liquid petroleum, cement & grain. Coal. Fluorspar, lime.
Main Line	Pyramid South – Brits – Rustenburg – Thabazimbi – Lephalale	347	6,7	5,0 0,85 0,55	Coal. Iron Ore. Cement & clinker.

TABLE C-3: BORDER POSTS AND GENERAL FREIGHT MOVEMENT					
Link Type	**Rail Link**	**Distance (km)**	**Total Freight Volumes/p.a. (million - tonnes) (2011)**	**Volumes/p.a. per Commodity (mil – tonnes)**	**Commodities**
Main Line	Groenbult – Tzaneen – Hoedspruit (incl. Phalaborwa branch) – Kaapmuiden	384	5,0	2,2 3,6	Rock phosphate Magnetite

Source: Limpopo Freight Databank

Strategically, from a freight perspective, the Hoedspruit to Beit Bridge link is an important link between Polokwane, KwaZulu-Natal and the border. In addition to transit traffic, this link also transports citrus fruit from along the route.

1.2.1.4 Air Freight Considerations

As described in **Chapter 2** of the MLM-ITP, there are three main airports located within MLM:

a) East Gate Airport (EGA).
b) Hoedspruit Civil Airport (HCA).
c) Hoedspruit Airforce Base.

The geographical locations of the airports are depicted in **Figure C-6** below.

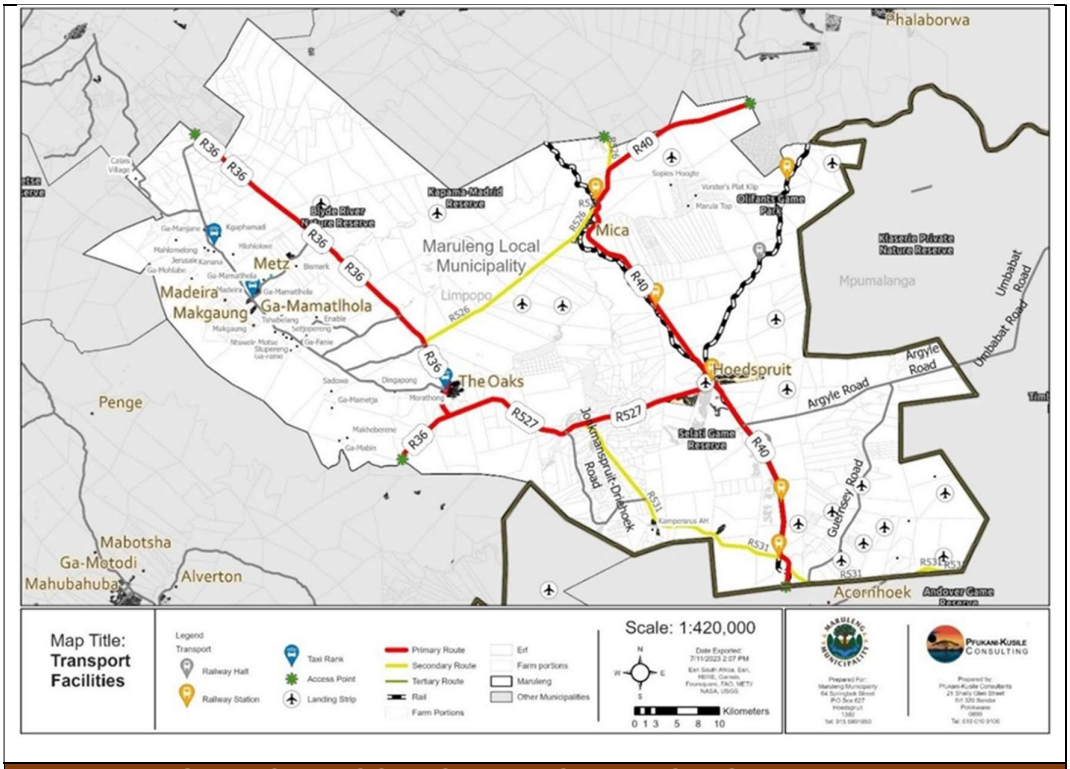


FIGURE C-6: LOCATION MAP OF AIRPORTS WITHIN MLM

Source: Limpopo Freight Databank

EGA shares space with Hoedspruit Airforce Base and operates daily flights to OR Tambo and Cape Town International Airports. There is currently a process underway to convert EGA into South Africa's 4th international airport. This will be a game changer for tourism to the region.

HCA is privately owned and serves as a secondary aviation arrival point for private, emergency and chartered flights thereby serving a significant portion of the region's tourism sector.

There is currently minimal airfreight that passes through either airport. The establishment of an Airfreight Hub as mentioned previously in this Appendix will increase freight in this space.

1.2.1.5 Provincial Freight Conclusions

Based on the above, it is concluded that the following provincial freight transport considerations impact directly on MLM, namely:

a) **Freight Logistics Infrastructure**: Progress is being made on the development of a Truck Inn Facility in MLM at the existing Klaserie Railway Station. This will help provide drivers with a safe parking area and protect the town's infrastructure.

b) **Law Enforcement**: Approximately 65% of freight accidents can be addressed through law enforcement initiatives. This implies that law enforcement with a specific focus on heavy vehicles needs to receive attention.

c) **Air Cargo Development:** The proposed development of an Airfreight Hub was identified as another proposed investment in logistics infrastructure that requires further investigation. This development is key to supporting the vision of positioning MLM as a regional logistic hub, encouraging the move away from road freight and giving the local agricultural sector opportunity to export their goods nationally and to neighbouring countries.

d) **Rail Capacity and Utilisation:** An emphasis is placed on the underutilised rail capacity in the province. The development of local branch networks will be critical to improving the accessibility to rail and encouraging a shift from road freight.

1.3 MLM Freight Profile

MLM has a strong tradition of agriculture, which is emphasised in the MLM IDP Draft 2022-2023. The draft IDP proposes that promoting agriculture could be a crucial step towards reducing poverty and supporting economic growth, as the agricultural sector has provided employment opportunities for many unskilled workers and has contributed to the country's export revenue. By encouraging and improving this sector, local communities could benefit significantly. To achieve this, it is important to connect producers with markets, adopt low-capital-intensive practices, increase crop yields, and make efficient use of available water and land. The agricultural sector in MLM comprises both commercial and small-scale farmers, with citrus and mango being the area's most renowned products for production and export. Livestock farming, particularly cattle, goats, and poultry, also plays a significant role in the local economy. **Figure C-7** contains the employment per sector in MLM as an indication of the potential freight for a specific sector and the important of property road infrastructure for freight.

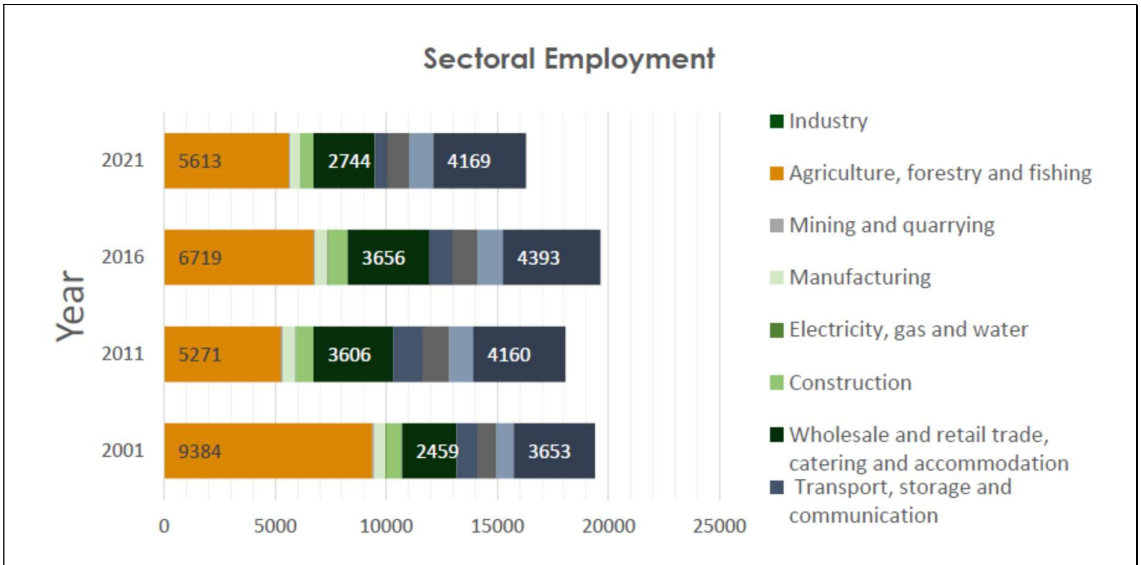


FIGURE C-7: EMPLOYMENT PER SECTOR IN MLM AS AN INDICATION OF THE POTENTIAL EXTENT OF FREIGHT FOR A SPECIFIC SECTOR

Source: *MLM-SDF 2024, Figure 32: Employment by sector (Quantic based on Stats SA, 2021).*

1.4 Freight Vehicle Management and Overload Control for MLM

The following are relevant for this section:

a) Policies.
b) Overload Control Strategy.
c) Static Weighbridges.
d) Screening Points.
e) Checkpoints.

The above-mentioned are incorporated in the underneath section.

1.4.1 Policies

The Road Freight Strategy for South Africa, undertaken by the NDoT in 2011, deals extensively with overload control.

One of the important findings was that the development of transport corridors could be made more effective if planning and budgeting for major projects were carried out under the auspices of the same authority. The report recommends that planning and execution of road maintenance should be based on priorities co-ordinated with industry needs rather than the capacities of provincial and local budgets.

The proposed solution is to reorganise the responsibility for roads as follows:

a) Expand SANRAL's road network, enabling it to manage all main freight routes, including those currently in the secondary and tertiary road categories where there is inadequate provincial or local capacity.
b) Give provinces greater capacity to manage roads, mainly by reclassifying to their authority the major roads currently falling under municipalities.
c) Municipalities should be managing only the local and urban roads after the process of reclassification and reassignment of resources.

It was also proposed that a National Road Maintenance Fund (NRMF) be established, and the funds utilised for two purposes:

a) Road maintenance and infrastructure provision (75%).
b) Overload control law enforcement (25%).

International experience has shown that a decentralised approach to overload control where law enforcement is carried out by all levels of government is not the solution. The DoT's proposed solution is to establish a single national overload control inspectorate and to consolidate the municipal operations to a provincial level, which would then report to the inspectorate.

Planning of the regular enforcement activities would take place on a provincial level. The overload control inspectorate will also be the custodian of a national overload enforcement database. The overload control inspectorate should be constituted under the RTMC.

1.4.2 Overload Control Strategy

S**ection 1.4.1 above** implies that the Overload Control Strategy for MLM should complement the National and Provincial Policies. The MLM Overload Control Strategy will therefore additionally include a network of checkpoints, screening stations and static weighing (see **Figure C-8**).

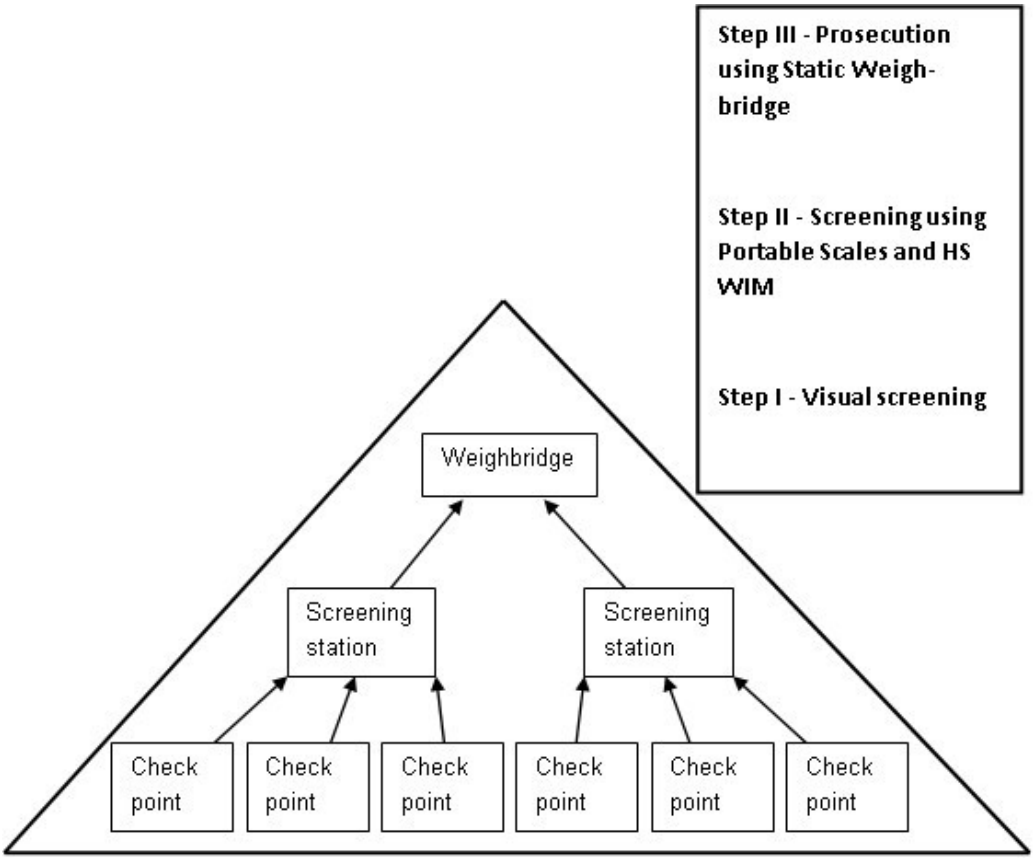


FIGURE C-8: MLM OVERLOAD CONTROL NETWORK THAT WILL LINK IN WITH NATIONAL AND PROVINCIAL NETWORKS

Source: COT Overload Control Strategy (2004)

1.4.3 Static Weighbridges

Currently, there are nine operational weighbridges within Limpopo Province with an additional three weighbridges which are currently closed. There is no static weighbridge currently within MLM. The challenge with static weighbridges is that drivers often avoid them, using alternate routes that either have no weighbridges or have non-operational weighbridges. **Figure C-9** indicates the location of weighbridges in the Limpopo Province and the alternate routes used by truck operators.

Static weighbridges are required for prosecution and are expensive. This is the final stage of the law enforcement process, as the actual prosecution of offenders will be done at static weighbridges.

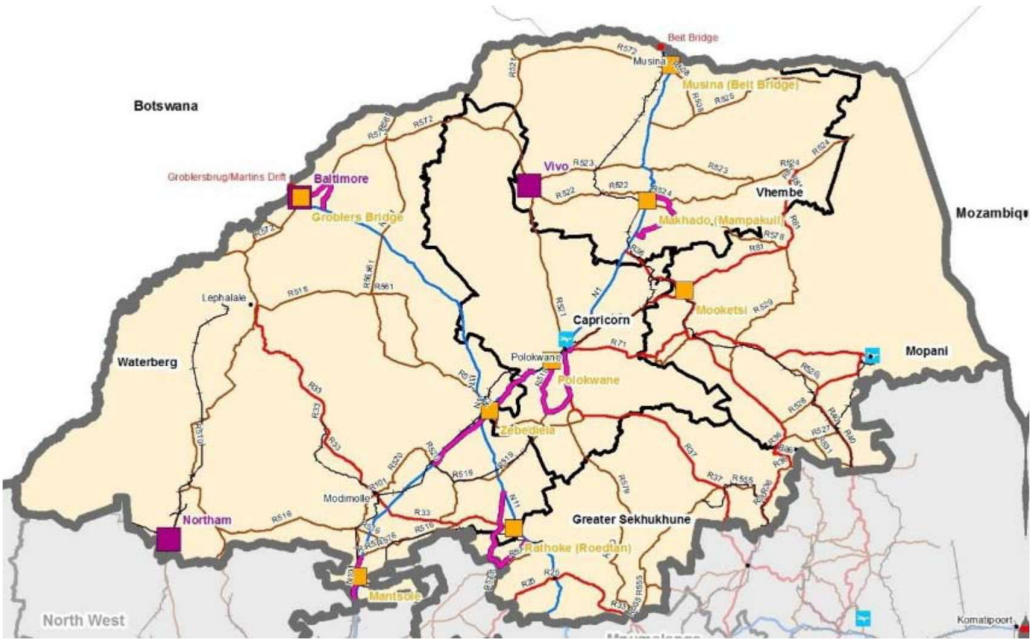


FIGURE C-9: LOCATION OF WEIGHBRIDGES IN LIMPOPO AND ALTERNATE ROUTES USED BY DRIVERS

Tables C-4.1 to C-4.2 show the number of vehicles screened and weighed within at each of the operational weighbridges of SANRAL and **Tables C-4.3 to C-4.4** for weighbridges for DoT Improving compliance requires finding ways to combat avoidance of weighbridges by drivers. As mentioned above, there are no static weighbridges located within MLM.

TABLE C-4.1: LIMPOPO WEIGHBRIDGE FOR SANRAL STATISTICS FOR 2018

Data	Mantsole (N1)	Zebediela (N1)	Beitbridge (N1)	Polokwane (R101)	Totals
Vehicles screened	1,312,720	668,949	347,559	60,518	**2,389,746**
Vehicles weighed	252,698	141,154	144,138	48,820	**586,810**
Vehicles overloaded	141,052	30,672	30,176	9,688	**111,429**
% Overloaded (of total weighed)	55.81%	22%	20.93%	19.84%	**19%**
% Overloaded vehicles charged	3.76%	6.19%	9.78%	22.60%	**10.58%**

TABLE C-4.2: LIMPOPO WEIGHBRIDGE FOR SANRAL STATISTICS FOR 2019

Data	Mantsole (N1)	Zebediela (N1)	Beitbridge (N1)	Polokwane (R101)	Totals
Vehicles screened	1,291,806	618,024	298,706	52,111	**2,260,647**
Vehicles weighed	276,599	161,659	178,681	53,688	**670,627**
Vehicles overloaded	69,380	33,562	38,799	9,514	**151,255**
% Overloaded (of total weighed)	25.08%	20.76%	21.71%	17.72%	**16%**
% Overloaded vehicles charged	1.59%	1.02%	1.71%	3.11%	**1.61%**

TABLE C-4.3: PROVINCIAL TRAFFIC CONTROL CENTRES STATISTICS FOR 2018			
Name of Institution	**Vehicles Weighed**	**Vehicles Charged**	**No.: Hours Operated**
Mooketsi TCC	54 943	484	6 432
Rathoke TCC	24 265	236	3 640
Groblersbrug TCC	33 610	548	4 390
Mampakuil TCC	46 360	723	4 170
Total	**159 178**	**1 991**	**18 632**

TABLE C-4.4: PROVINCIAL TRAFFIC CONTROL CENTRES STATISTICS FOR 2019			
Name of Institution	**Vehicles Weighed**	**Vehicles Charged**	**No.: Hours Operated**
Mooketsi TCC	63 442	501	8 592
Rathoke TCC	42 582	805	6 142
Groblersbrug TCC	41 958	665	5 733
Mampakuil TCC	55 116	911	5 480
Total	**203 098**	**2 882**	**25 947**

1.4.4 Screening Stations

A screening station is a location where the actual screening of potential overloaded vehicles occurs. The screening in MLM will be conducted via weigh-in-motion equipment. Screening stations will be located on a site outside the road reserve, with good access from all directions and paved surfaces to support portable weighing equipment. Sufficient parking is needed at these screening stations. Suspected overloaded vehicles will be assembled there and then escorted to a static weighbridge. A static weighbridge therefore needs to be developed in MLM. Not all screening stations need to be used at the same time as this may be dependent on freight traffic patterns. Heavy vehicles identified at screening stations with a high likelihood of being overloaded will be sent, under escort, for weighing and possible prosecution to the nearest static weighbridge. Refer to **Figure C-10** for a typical layout of a screening station for class 2 roads.

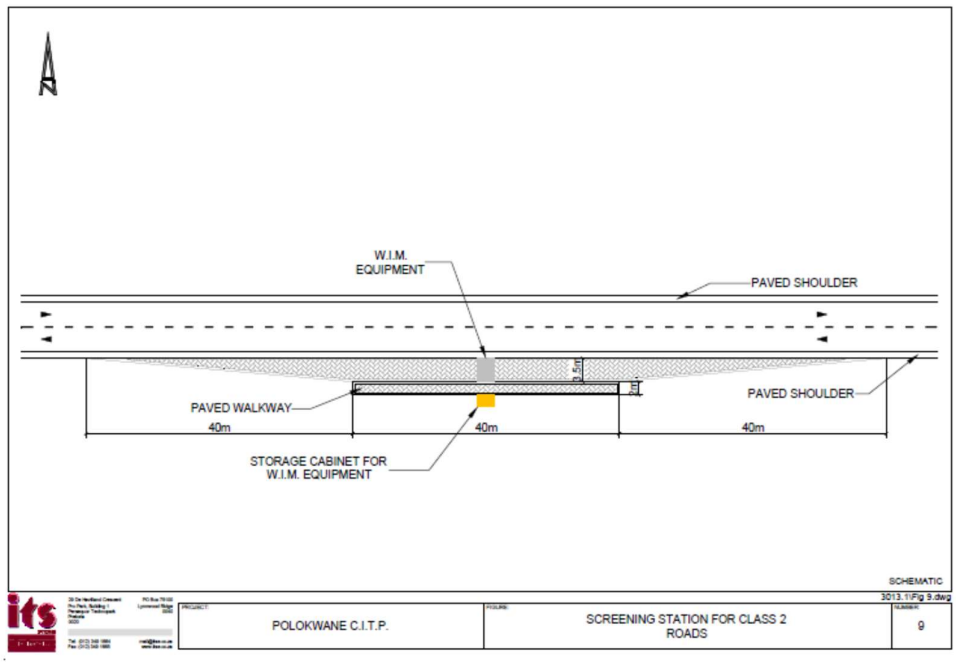


FIGURE C-10: TYPICAL LAYOUT OF SCREENING STATION FOR CLASS 2 ROADS

1.4.5 Checkpoints

Checkpoints are based on the premise of visual screening. Checkpoints do not have fixed locations bases as this may defeat the actual purpose of the exercise. The location of checkpoints is rather based on predetermined routes that are normally used by heavy vehicles. Traffic officers can move around at various checkpoints that will be located near screening stations. Traffic officers can observe heavy vehicles at various points on the road network. They will visually assess the load of an approaching heavy vehicle, and, if thought to be overloaded, stop the heavy vehicle and instruct the driver to proceed to the screening station operating nearby. It should be noted that if the checkpoint is situated near a static weighbridge, the traffic officer may instruct the driver to go directly to the weighbridge.

1.5 Dangerous Goods Movement (Hazmat Strategy)

The section elaborates on the following:

a) National Land Transport Act (NLTA) 15 of 2009.
b) Limpopo Provincial Land Transport Framework (PLTF) 2015 to 2019.
c) MLM Dangerous Goods Movement.

1.5.1 National Land Transport Act 5 of 2009 and the Amendment Act 23 of 2023

The following are indicated in terms of the NLTA:

"35. *(5) All Provincial Land Transport Frameworks must include routes for the transporting of dangerous goods through the province, as reflected in the integrated transport plans within its jurisdiction."*

"36. *(3) All integrated transport plans must include routes for the transporting of dangerous goods by road through their areas."*

"38. *(1) On approval of the national land transport strategic framework, a provincial land transport framework or an integrated transport plan, the Department, MEC or the planning authority, as the case may be, must publish, in the Gazette, Provincial Gazette or newspaper circulating nationally, in the province or municipality, as the case may be, the prescribed particulars of such plans, which must include particulars of routes for dangerous goods."*

1.5.2 Limpopo Provincial Land Transport Framework (PLTF), 2015 to 2019

Section 9.1.5 of the PLTF contains the following concerning *"Dangerous Goods Movement Legislation"*:

"*The legislation pertaining to the transportation of hazardous materials is spread over several government departments and is the responsibility of all levels of government.*

a) Definition of Hazardous Materials

Hazardous materials are substances that could be biological, chemical, radiological or physical, which could potentially be harmful to humans, animals or the environment through direct contact or contact with other substances. The transportation of these substances is potentially dangerous due to the risk of an accident or spillage.

The routes that are specified in the table below are routes that are classified as main routes and generally avoid residential areas and towns. However, sometimes this cannot be achieved as the destinations of hazardous materials such as oil, gas and fuel are within commercial areas. In these cases, hazardous materials will be transported on routes travelling through commercial areas.

In the case of an accident or spillage, it is important that the District Municipality's Hazmat/Hazchem response equipment and plans are in working order."

b) Roles of the Different Spheres of Government

"Table 9.2 as part of the PLTF reflects a summary of each Act's general focus and the resultant-imposed duty or responsibility on local authorities. Due to the age of some of the pieces of legislation the general term local authority or even municipality is sometimes used and therefore a specific distinction between District Municipalities (DM) and Local Municipalities (LM) are not always clear."

Table C-5 underneath provides a copy of the Legal Framework Summary as obtained LPTF.

TABLE C-5: COPY OF LEGAL FRAMEWORK STRATEGY SUMMARY FOR MOVEMENT OF DANGEROUS GOODS

Act	General Focus	Local Authority Duty/Responsibility
National Road Traffic Act, No 93 of 1996.	The focus is on consignor, operator and consignee.	No specific imposed duty or responsibility on the local authority in whose jurisdiction transport takes place.
National Land Transport Act, No 5 of 2009.	The Act requires all planning authorities to develop freight transport strategies, specifically indicating freight routes to be used.	Local Authorities must develop a freight transport strategy and identify routes for transportation of all dangerous goods.
Environmental Conservation Act, No 73 of 1989.	Focuses on rehabilitation of environment after incidents and spillages.	The competent authority or local authority may direct a person responsible for causing harm to the environment to rectify or remedy the situation at own cost.
Constitution of South Africa.	Responsibility for fire services is placed with municipalities.	Municipalities must perform all fire and emergency rescue services in their areas of jurisdiction.
Hazardous Substances Act, No 15 of 1973.	The focus is now mainly on classification after transfer of certain control functions to the National Land Transport Act.	No specific imposed duty or responsibility on the local authority in whose jurisdiction transport takes place.
Petroleum Products Act, No 120 of 1977.	Promulgation of regulations on the transport of petroleum products.	No specific imposed duty or responsibility on the local authority in whose jurisdiction transport takes place.
Explosives Act, No 15 of 2003.	Regulates transport of explosives.	No specific imposed duty or responsibility on the local authority in whose jurisdiction transport takes place.
Disaster Management Act, No 57 of 2002.	Manages various government bodies for disaster management.	Allows DM to create Municipal Disaster Management Advisory Forum. Every LM must prepare a Disaster Management Plan in which transport of dangerous goods must be included.
Fire Brigade Services Act, No 127 of 1987.	Regulates the rendering of fire and rescue services.	The local authority responsible for services relating to fire fighting and rescue. Allows the local authority to formulate and enforce applicable bylaws.

Source: Limpopo PLTF 2015 to 2019

Section 9.2.4 of the PLTF contains the following concerning *"Routes for Transporting Dangerous Goods"*:

"The routes that are specified in Table 9.9 of LPTF, are routes that are classified as main routes and generally avoid residential areas and towns. However, sometimes this cannot be achieved as the destinations of hazardous materials such as oil, gas and fuel are within commercial areas. In these cases, hazardous materials will be transported on routes travelling through commercial areas.

In the case of an accident or spillage, it is important that the MDM Hazmat/Hazchem response equipment and plans are in working order."

Table C-6 below provides a copy of routes as main routes for the transport of dangerous goods as obtained from the LPTF.

TABLE C-6: COPY OF MAIN ROUTES SUMMARY FOR THE TRANSPORT DANGEROUS GOODS

District Municipality	Information from District ITPs	Recommended Routes	
Capricorn[120]	No dedicated routes for transportation of hazardous substances.		
Mopani[121]	Hazardous substances to be transported along major roads, avoiding towns and major residential areas. Sometimes hazardous substances are to be transported to main commercial areas (fuel, diesel and gas).	From Polokwane to Tzaneen	
		Between Polokwane and Giyani	
		From N1 through Soekmekaar to Tzaneen	
		From Tzaneen to Ohrigstad	
		From Tzaneen to Mica	
		From Gravelotte to Phalaborwa	
		From R36 between Tzaneen and Trichardtsdal to Giyani	
		From Hoedspruit to Phalaborwa	
Waterberg[122]	Hazardous substances are often transported through the area of Bela-Bela by road and rail in North-South and South-North directions. Transnet Freight Rail is a suitable and safe transporter of all classes of hazardous substances	Road: N1 through area of Bela-Bela	
		Road: R101 through area of Bela-Bela	
		Rail: through area of Bela-Bela	
Sekhukhune[123]	No dedicated strategy for the transport of hazardous substances.		
Vhembe[124]	Hazardous substances to be transported along major roads, avoiding towns and major residential areas. Sometimes hazardous substances are to be transported to main commercial areas (fuel, diesel and gas)	N1	From Polokwane to Beitbridge
		R522	Between Vivo and Makhado Town
		R523	From Vivo through Waterpoort to N1 National Road
		R521	From Vivo to Pontdrift border
		R572	From Musina to Pontdrift border
		R524	From Makhado Town to Punda-Maria
		R81	From Mphakati to Giyani
		R525	Between Musina and Tshikondeni

[120] CDM DITP, 2013
[121] MDM DITP, 2015
[122] WDM DITP, 2014
[123] SDM DITP, 2007
[124] VDM DITP, 2015

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Source: Limpopo PLTF 2015 to 2019

Section 9.2.5 of the PLTF contains the following concerning *"Provincial Strategy on Freight Routes"*:

a) Transporting of Dangerous goods

*The **District Municipalities** should accommodate the transportation of hazardous goods through its jurisdiction by way of the following:*

i) Bypass routes to avoid residential areas or detours for heavy vehicles and hazardous materials.

ii) Avoid the transportation of hazardous goods through towns and sensitive areas.
iii) Evaluate route plans submitted by operators.
iv) To be equipped with an Incident Management System and protocols to respond to incidents involving hazardous goods.
v) *Law enforcement must be knowledgeable with dangerous goods protocols and legislation to manage offenders and incidents involving hazardous materials*.

b) Incident Management Plans

Limpopo Province, in collaboration with national and local government, will have to develop incident management plans for all national, toll and provincial roads and corridors in the province in line with the National Road Traffic Act, Act 93 of 1996. Incident plans for the road network in Limpopo Province will have to be co-ordinated on a provincial level and executed on a corridor basis. Traffic law enforcement and communication will have to form an integral part of the provincial strategy to manage incidents, monitor and inspect the transportation of dangerous goods.

In the short-term, contact will have to be made with municipalities to consider the movement of dangerous substances on their respective road networks, which should serve as input into the development of a Limpopo Provincial incident management strategy."

1.5.3 MLM Dangerous Goods Movement

At this stage, the MLM does not have a strategy for the movement of hazardous materials and dangerous goods through its area of jurisdiction. It is therefore one of the issues that need to be addressed in terms of future projects in collaboration with MDM. Typical aspects of the strategy include the following:

a) **Preparedness**: This relates to the preparedness of Hazmat emergency services within the municipality. In addition to this, the institutional coordination between emergency response teams within the Mopani District Municipality and even provincial officers.

Other aspects relate to:

i) Legal and policy framework.
ii) Training and training standards.
iii) Availability of hazmat emergency equipment and supplies.
iv) Dangerous goods route determination.

b) **Response:** The important aspects include:

i) Notification and reporting.
ii) Hazard analysis.
iii) Response procedures.
iv) Cost recovery.

c) **Recovery:** Aspects related to the following:

i) Post-incident analysis.
ii) Investigation and enforcement.

Interim routes were identified as part of the 2023/2028 MLM-LITP for freight and dangerous goods movements until a strategy for the movement of hazardous materials and dangerous goods is prepared.

There are three types of freight and dangerous goods traffic in MLM:

a) Bypass/through freight and dangerous goods traffic:

i) The origin or destination is not MLM.
ii) The most prominent external routes for this traffic are:

- ✓ Road R71 North of MLM, from Tzaneen.
- ✓ Road R36 West of MLM, from Tzaneen
- ✓ Road R40 North and South of MLM, from Phalaborwa through Hoedspruit to Mbombela
- ✓ Road R531 South of MLM
- ✓ Road R532 Southwest of MLM
- ✓ Road R526 North of MLM

iii) Freight and dangerous traffic from the north to the south and vice versa from Road R40 respectively to Roads R531, R526, R71 and R36 (vice versa) have no bypass route, and therefore must travel through east of the CBD of Hoedspruit.
iv) Other freight and dangerous goods related through traffic must make use of internal MLM routes (roads).
v) **Figure 2.26** demonstrates the MLM freight and dangerous goods road network in MLM.

b) External to internal and vice versa freight and dangerous goods traffic to MLM:

i) This traffic is generated when MLM is serving as an origin or destination.
ii) This traffic makes use of the non-central MLM roads as far as possible.
iii) Typical freight includes courier services, construction material, manufacturing material, delivery of vehicles, transport of mining material and goods, petroleum, chemicals, etc.

iv) The traffic will make use of the MLM Freight and Dangerous Goods Road Network as indicated in **Figure C.10**, where possible but needs to divert on local streets to reach their destinations.

c) Internal freight and dangerous goods traffic within the borders of MLM:

i) This traffic will not exit the borders of MLM.
ii) The traffic is mostly related to the delivery of freight and dangerous goods from distribution depots to sale points.
iii) The traffic will make use of MLM Freight and Dangerous Goods Road Network where possible but needs to divert on local streets to reach their destinations.

Figure C-11 indicates the MLM interim Freight and Dangerous Goods Road Network.

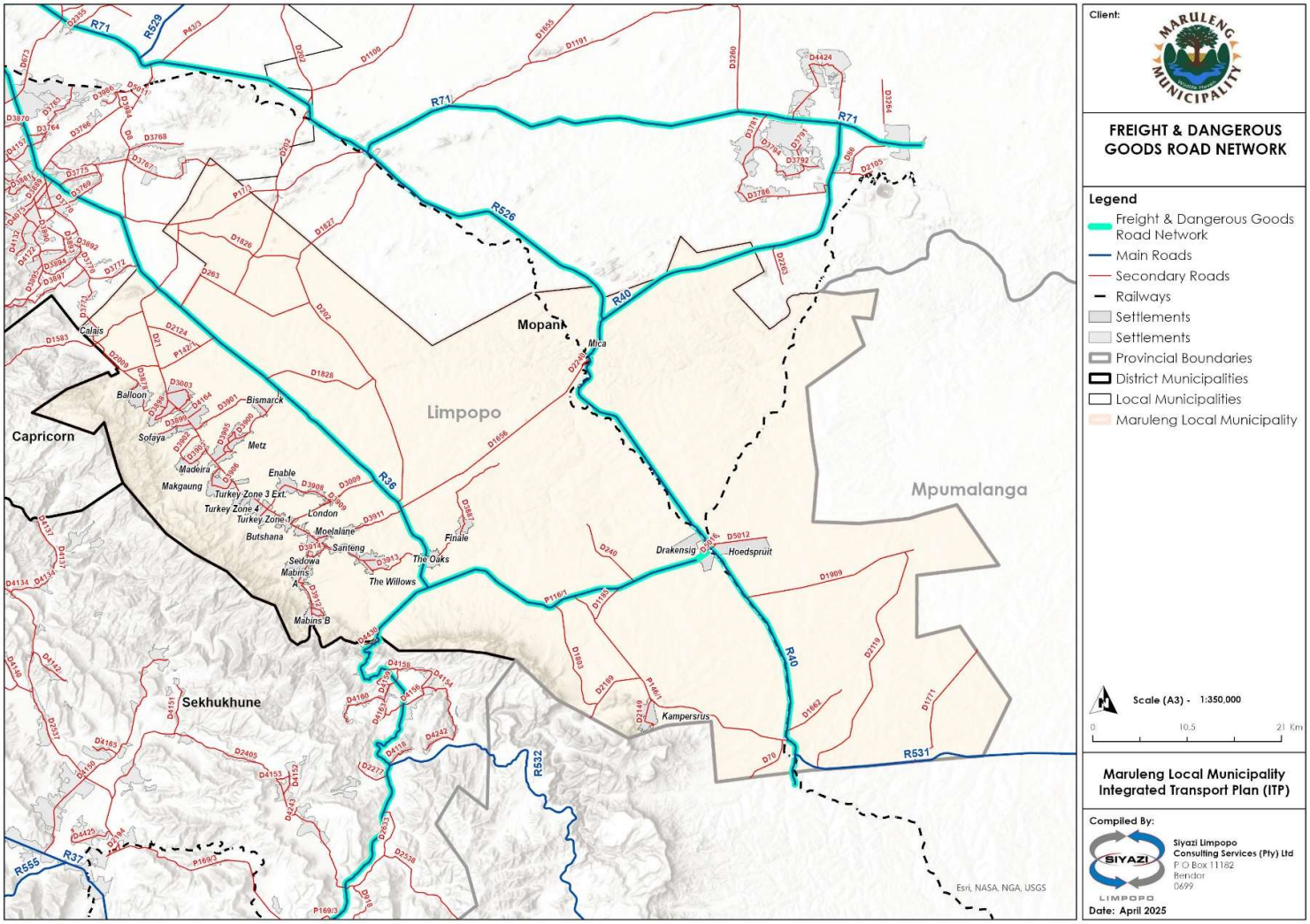


FIGURE C-11: MLM INTERIM FREIGHT AND DANGEROUS GOODS ROAD NETWORK

1.6 Conclusion

Based on the above, the following aspects require further investigation:

a) Development of Freight Logistics Hub in MLM.
b) The development of a Truck Inn in MLM at Klaserie.
c) Implementation of an Overload Control Strategy for MLM.
d) Implementation of a Static Weighbridge.
e) Development of a Dangerous Goods Movement (Hazmat) strategy for MLM.