

B/SM 13/21-66.2: REVIEW OF THE STELLENBOSCH COMPREHENSIVE INTEGRATED TRANSPORT PLAN

Stellenbosch CIP 2022 – 2026 – Final Draft 2

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Acronyms

1LM	FIRST- AND LAST MILE
4IR	FOURTH INDUSTRIAL REVOLUTION
ACSA	AIRPORTS COMPANY OF SOUTH AFRICA
AI	ARTIFICIAL INTELIGENCE
AM	ANTE MERIDIEM (BEFORE NOON)
AVT	AUTONOMOUS VEHICLE TECHNOLOGY
BAR	BASIC ASSESSMENT REPORT
BRT	BUS RAPID TRANSIT
CBD	CENTRAL BUSINESS DEVELOPMENT
CCTV	CLOSE CIRCUIT TELEVISION
CITP	COMPREHENSIVE INTEGRATED TRANSPORT PLAN
COVID-19	CORONAVIRUS DISEASE 2019
CWDM	CAPE WINELANDS DISTRICT MUNICIPALITY
DITP	DISTRICT INTEGRATED TRANSPORT PLA
DORA	DIVISION OF REVENUE ACT
DOT	DEPARTMENT OF TRANSPORT
DTPW	DEPARTMENT OF TRANSPORT AND PUBLIC WORKS
EA	ENVIRONMENTAL AUTHORISATION
EIA	ENVIRONMENTAL IMPACT ASSESSMENT
EMME/4	EMME/4 RANSPOR
ETA	ESTIMATED TIME OF ARRIVAL
EV	ELECTRICAL VEHICLE
FIFA	FEDERATION OF INTERNATIONALE DE FOOTBALL ASSOCIATION
GABS	GOLDEN ARROW BUS SERVICES
GDP	GROSS DOMESTIC PRODUCT
GHG	GREEN HOUSE GAS
HEALTHNET	HEALTH NON-EMERGENCY TRANSPORT
HOV	HIGH OCCUPANCY VEHICLE
IDP	INTEGRATED DEVELOPMENT PLAN
IoT	INTERNET OF THINGS
IPTN	INTEGRATED PUBLIC TRANSPORT NETWORK
ITP	INTEGRATED TRANSPORT PLAN
IUDF	INTEGRATED URBAN DEVELOPMENT FRAMEWORK
LED	LOCAL ECONOMIC DEVELOPMENT
LGES	LOCAL GOVERNMENT EQUITABLE SHARE
LITP	LOCAL INTEGRATED TRANSPORT PLAN
LRT	LIGHT RAIL TRANSIT
MAAS	MOBILITY AS A SERVICE
MBT	MINI-BUS TAXIS
MEC	MEMBER OF EXECUTIVE COUNCIL
MFMA	MUNICIPAL FINANCE MANAGEMENT ACT
MIG	MUNICIPAL INFRASTRUCTURE GRANT
MOU	MEMORANDUM OF UNDERSTANDING
MSA	MUNICIPAL SYSTEMS ACT
MSDF	METROPOLITAN SPATIAL DEVELOPMENT FRAMEWORK
MTEF	MEDIUM TERM EXPENDITURE FRAMEWORK
NATMAP	NATIONAL TRANSPORT MASTER PLAN
NDC	NATIONALLY DETERMINED CONTRIBUTION
NDOT	NATIONAL DEPARTMENT OF TRANSPORT
NFC	NEAR FIELD COMMUNICATION
NGO	NON-GOVERNMENT ORGANISATION
NLTA	NATIONAL LAND TRANSPORT ACT

NMT	NON-MOTORISED TRANSPORT
O-D	ORIGIN-DESTINATION
OLS	OPERATING LICENCE????
OLP	OPERATING LICENSE PLAN
PM	POST MERIDIEM (AFTER MIDDAY)
PRE	PROVINCIAL REGULATING ENTITY
PTMF	PROVINCIAL TRANSPORT MANAGEMENT FORUM
PTNG	PUBLIC TRANSPORT NETWORK GRANT
PLTF	PROVINCIAL LAND TRANSPORT FRAMEWORK
PPTIF	PROVINCIAL PUBLIC TRANSPORT INSTITUTIONAL FRAMEWORK
PSDF	PROVINCIAL SPATIAL DEVELOPMENT FRAMEWORK
PT	PUBLIC TRANSPORT
PTSN	PUBLIC TRANSPORT SERVICE NETWORK
PV	PRIVATE VEHICLE
RFID	RADIO FREQUENCY IDENTIFICATION
RMP	ROADS MASTER PLAN
RSC	REGIONAL SERVICES COUNCIL
SALGA	SOUTH AFRICAN LOCAL GOVERNMENT ASSOCIATION
SAPS	SOUTH AFRICAN POLICE SERVICES
SB	STELLENBOSCH
SBCITP	STELLENBOSCH COMPREHENSIVE INTEGRATED TRANSPORT PLAN
SDF	SPATIAL DEVELOPMENT FRAMEWORK
SDP	SITE DEVELOPMENT PLAN
SM	STELLENBOSCH MUNICIPALITY
SRA	STELLENBOSCH RATE PAYERS ASSOCIATION
SSW	SOMERSET WEST
SU	STELLENBOSCH UNIVERSITY
TCT	TRANSPORT FOR CAPE TOWN
TDM	TRANSPORT DEMAND MODEL
TOD	TRANSIT ORIENTED DEVELOPMENT
WCG	WESTERN CAPE GOVERNMENT

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1 INTRODUCTION

1.1 Legal Basis for the Preparation of Integrated Transport Plans

Stellenbosch Municipality has been designated as a Type 1 Planning Authority and therefore a Comprehensive Integrated Transport Plan (CITP) needs to be prepared, updated and overhauled in terms of the National Land Transport Act 2009.

In terms of Government Gazette No. 881, National Land Transport Act 2009, Minimum Requirements for the Preparation of Integrated Transport Plans, 26 July 2016, CITPs are to be prepared every 5 years. CITPs need to present the municipality's long-term transport vision and objectives, as well as provide strategy that would enable the municipality to realise its transport vision. Once the first ITP had been prepared, selected aspects are to be updated on an annual basis, synchronised with the annual updating of the Integrated Development Plan (IDP). A complete overhaul of an ITP needs to be done every 5 years.

The last CITP for Stellenbosch Municipality was prepared for the period 2016-2020, with the last annual update completed in June 2020. An review of the CITP for the period 2022 to 2026 commenced in January 2022 and this update represents a 5 yearly **Overhaul**. The overhauling of the CITP requires *inter alia* that:

- every aspect of the previous CITP must be re-examined to see if it is still up to date,
- the previous CITP revised and updated where necessary and relevant new aspects added,
- a new Transport Register be prepared,
- reflect new revisions of the municipality's Spatial Development Framework (SDF),
- provide a revised Public Transport Plan dealing with the restructuring of the public transport network of services, and
- provide an update of progress made with previously proposed action plans and projects and propose additional plans and projects.

1.2 Purpose of the CITP

Generally, transportation planning is strategic in nature and focussed on the longer-term outcomes as derived from national, provincial and local policies and inputs and guides the restructuring and development of the transportation network and services. The desired outcomes of the CITP include:

- Improved mobility, access and travel times;
- Reduction of congestion and parking challenges;
- Affordability of transport to all users of the system, and
- An increased use of non-motorised transport (NMT).

Further, these outcomes need to be pursued in the context of promoting environmental sustainability, social inclusion, improved traveller security and integration with land use development. Resilience in relation to changes in the external environment, as well as the efficiency benefits offered by technological advancement and development are also important considerations in planning the future municipal transport system.

Transformation of a municipal transportation network takes time and requires substantial investment and resources to develop significant pieces of infrastructure. Given the fact that the CITP is a plan for a 5-year period, there needs to be a realistic view and understanding of what can be done and implemented within this timeframe and with the resources and budgets available. However, the manner in which the municipal transportation network is developed over the next 5 years should not prevent or preclude the restructuring thereof in pursuit of the longer-term vision and objectives for transport in Stellenbosch.

1.3 Area Covered by the Stellenbosch CITP

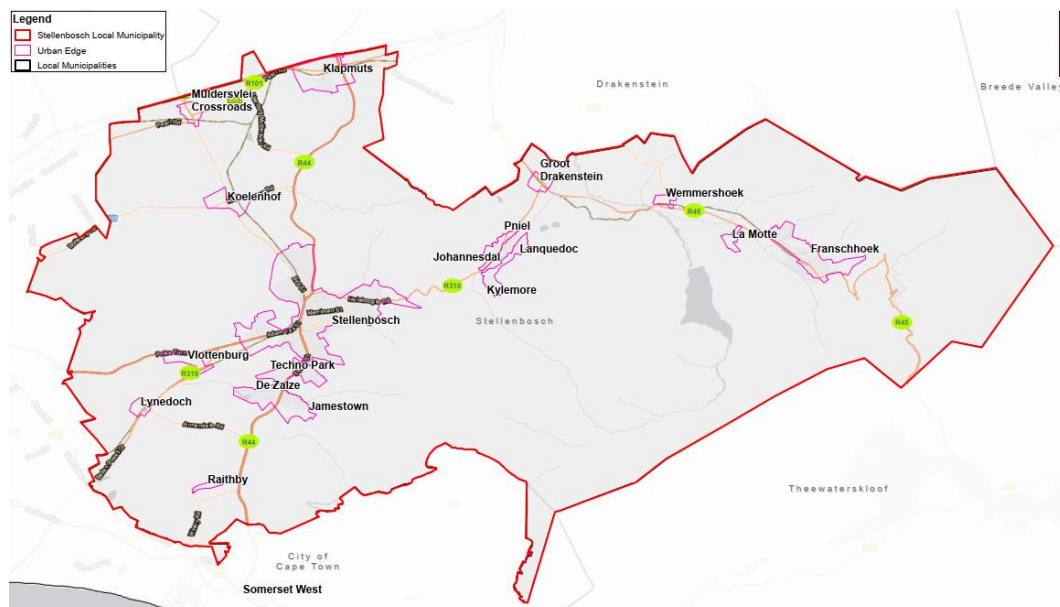
Stellenbosch Local Municipality covers approximately 830km² and forms part of the Cape Winelands District (CWD) municipal area and borders the Drakenstein, Breede Valley and Theewaterskloof Local Municipalities as well as the Cape Town Metropolitan Municipality on the West as shown in **Figure 1-1**.



Figure 1-1: Stellenbosch Local Municipality Locality

The municipal area includes the towns of Stellenbosch and Franschhoek, as well as the settlements of Klipmuts, Koelenhof, Kylemore, Johannesdal, Pniel, Jamestown and Raithby as shown in Figure 1-2. The 2020 Socio-economic Profile published by the Western Cape Government and quoting 2019 figures, indicate the municipality has a population of 193 000 inhabitants and contains 49 000 households. 80% of the population is between the ages of 15 and 65. The population is projected to grow to 210 000 by 2024. Close to 90 000 of the municipality's inhabitants stays in the town of Stellenbosch and its suburbs, whereas 18 000 stays in Franschhoek. The average household size is 3.7 persons, with the population density of the Municipality being 232 people/km².

The town of Stellenbosch is linked to the N1 in the north by the R44 and to Somerset West in the south. The R310 links it to Cape Town Metro in the west and Groot Drakenstein in the north-east. Franschhoek is connected to the rest of the municipal area by the R45.



The District Integrated Transport Plan, which addresses transportation in the Cape Winelands District which Stellenbosch forms part of, must be prepared by the Cape Winelands District Municipality (CWDM). The coordination and integration of this DITP and the Stellenbosch CITP is therefore important. The District Municipality also has a shared responsibility for municipal roads in the district as a whole, as well as regulating road-based passenger transport services in the district. The District Municipality formed part of the stakeholder process.

The Municipal Council have adopted the 5th generation Integrated Development Plan (IDP) 2022-2027 in August 2022, which contains a section on transportation. Alignment between the CITP and IDP is essential and needs to be coordinated, as the IDP provide the basis for the annual municipal budget.

PRASA plans and operates the commuter rail services between Stellenbosch and neighbouring municipalities. Although a route network of scheduled long- and short-distance road-based public transport services was included as one of the key strategies in the CITP 2016-2020, at present no scheduled and/or subsidised road transport services are operated within the municipality.

The following Municipal partnerships have been established and relate to Transportation:

- ICLEI (International Council for Local Environmental Initiatives) - A partnership between the City of Cape Town, ECLEI and Stellenbosch Municipality to discuss developments in Transport, Waste and Electricity Generation, towards ensuring sustainability.
- IPC (Integrated Planning Committee) - The IPC is a working group between the City of Cape Town, Stellenbosch, Saldanha Bay, Overstrand, Theewaterskloof, and Drakenstein Municipality that discuss all transport related matters to effectively promote regional planning;
- LTAB (Land Transport Advisory Board) - is a partnership between political leaders to discuss Land Transport related matters that affect transport in the area.
- The Mobility Forum and NMT Working Group - this group was established to discuss transport related matters that affect the Stellenbosch municipal area, including all relevant governmental institutions and other role-players.
- NMT (Non-motorised Transport Working Group) -
- Western Cape Government Department of Environmental Affairs and Development Planning – A partnership around the implementation of the Adam Tas Corridor Catalytic initiative.
- Western Cape Department of Public Works, Roads and Transport – As part of the Provincial Sustainable Transport Programme (PSTP) the Western Cape Department of Public Works, Roads and Transport identified Stellenbosch as a priority municipality for the development of a sustainable transport system. The emphasis will be the development of a public transport system. The emphasis will be the development of a public transport system and the development of infrastructure to improve non-motorised transport.

1.5 Liaison and Communication Mechanisms

- Periodic meetings with internal municipal departments
- Periodic meetings held with Provincial Roads Department
- Periodic meetings held with the University of Stellenbosch
- Taxi Liaison Committee meetings are periodically held
- Stake Holder Consultations and Public Participation during the Annual Updates of the CITP
- Periodic Meetings with the NMT Working Group
- Municipal Processes such as the public participation processes of the IDP

1.6 Contents of the ITP

The contents and format of the overhauled CITP 2022-2026 for Stellenbosch Municipality complies with the Minimum Requirements for the Preparation of Integrated Transport Plans, 26 July 2016 and consists of the following chapters:

- Chapter 2 – a summary of relevant and applicable policy directives and legislation that enabled the review and potential update of the longer-term transport vision and objectives for Stellenbosch Municipality;
- Chapter 3 – a description of the transport system within the Stellenbosch Municipal area, which also forms the core of the Transport Register;

- Chapter 4 – a summary of the relevant spatial development frameworks and the inter-action between land use development and transport;
- Chapter 5 – provides for a description of transport user needs assessment, which is largely based on the stakeholder engagement process;
- Chapters 6 to 11 – the review, update and development of new plans and strategies for the various components of the Stellenbosch transport network and services;
- Chapter 12 – a summary of the existing funding strategy and budgets, and
- Chapter 13 – provides a description of the stakeholder engagement and consultation process.

In addition to providing transport vision statement and objectives, a preferred longer-term transport scenario and a future transport concept are also described in Chapter 2, which provides the basis for the strategies and projects contained in Chapters 6 to 11.

During this overhaul of the CITP, limited additional surveys and counts were done and most of the information contained in the Transport Register was either taken from the last CITP update or from data collected prior subsequently, but not forming part of the overhaul process. A CITP overhaul process often is based on outputs from a travel demand forecast, which would then form the basis for certain proposals and projects put forward in such a plan. However, for the overhaul of this CITP no travel demand forecasting model was used.

The most significant new development initiative and local spatial development framework that will in future have a significant impact on the transport system in Stellenbosch is the Adam Tas Corridor (ATC), as described in Chapter 4. The Adam Tas Local Spatial Development Framework was adopted in 2021 and it therefore was key to assess the transport proposals contained in this local spatial development framework, as well as consider the impact that this development will have on the Stellenbosch transport system and the manner in which the development of the transport system can best support and unlock this development initiative.

2 TRANSPORT VISION & OBJECTIVES

2.1 Introduction

The Transport Vision and Objectives for the Stellenbosch Municipality needs to be:

- Aligned with the latest National and Provincial Policy and Legislation;
- Aligned with Transport Vision(s) and Objectives of the Western Cape Province as expressed in its latest Provincial Land Transport Framework (PLTF), the Cape Winelands District Municipality, as well as the transport related policies and objectives in the Stellenbosch Municipality Integrated Development Plan (IDP) 2022-2027;
- Promote and support the integration of transport and land use development as put forward in the Spatial Development Framework (SDF/s);
- Be underpinned by policies and strategies applicable to transportation and aimed at promoting of sustainability;
- Take cognisance of latest technological advancements to improve the efficiency of transport;
- Consider needs identified through the Stakeholder Engagement process, and
- Address gaps and deficiencies in the municipal transport system.

2.2 Context Setting

As part of setting the context for the development of the **Vision and Objectives**, the legislation and policies applicable to transportation in Stellenbosch is summarised below, as well as the general vision(s), policy statements and objectives contained in the various transportation planning frameworks and plans developed at the national, provincial and district municipal level. The mode specific objectives are mostly provided and expanded on in the mode specific chapters.

The background and transport context in this Chapter is further extended with a summary of the legislation, policies and strategies developed at various spheres of government, with the aim of promoting sustainability.

2.2.1 Legislation

The purpose and scope of the National Land Transport Act (NLTA) of 2009 is:

- to further the process of transformation and restructuring the national land transport system initiated by the Transition Act;
- to give effect to national policy;
- to prescribe national principles, requirements, guidelines, frameworks and national norms and standards that must be applied uniformly in the provinces and other matters contemplated in section 146 (2) of the Constitution, and
- to consolidate land transport functions and locate them in the appropriate sphere of government.

The NLTA further prescribes in *Chapter 4 – Transport Planning* of the Act, that land transport planning must be integrated with the land development and land use planning processes, and the integrated transport plans required by this Act are designed to give structure to the function of municipal planning mentioned in Part B of Schedule 4 to the Constitution, and must be accommodated in and form an essential part of integrated development plans, with due regard to legislation applicable to local government, and its integrated transport plan must form the transport component of the integrated development plan of the municipality.

Types of plans required by this Act includes:

- A National Land Transport Strategic Framework prepared by the Minister;
- Provincial Land Transport Frameworks prepared by the MECs, and
- Comprehensive Integrated Transport Plans prepared by planning authorities.

The Municipality of Stellenbosch is subject to the requirement of item c) above which is to develop an integrated transport plan. This requirement will be complied with by means of the Comprehensive Integrated Transport Plan (CITP) development.

The NLTA Minimum Requirements for the Preparation of Integrated Transport Plans of 2016 further stipulates the desired outcomes of an Integrated Transport Plan (ITP or CITP) and guides the planning authorities to understand which improvements are needed to achieve these desired outcomes, as summarised below. The desired outcomes of ITPs are improved accessibility, reduction of congestion, improved affordability of transport, improvement of travel times, increased use of NMT and solving problems relating to parking.

The improvements needed to achieve the desired outcomes of the ITPs, are:

- Proactive Transport planning;
- Facility planning;
- Better informed law enforcement;
- Infrastructure planning (road and rail upgrades required etc.);
- Integration of public transport services, and
- Land-use/spatial planning.

2.2.2 Policy

The National Transport Policy White Paper presents the broad goal of transport in South Africa to be the smooth and efficient interaction that allows society and the economy to assume their preferred form.

The White Paper's vision for South African transport is 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 following broad goals are set by the National Government's transport policy to achieve this vision:

- To support the goals of the Reconstruction and Development Programme for meeting basic needs, growing the economy, developing human resources, and democratising decision-making;
- To enable customers requiring transport for people or goods to access the transport system in ways which best satisfy their chosen criteria;
- To improve the safety, security, reliability, quality, and speed of transporting goods and people;
- To improve South Africa's competitiveness and that of its transport infrastructure and operations through greater effectiveness and efficiency to better meet the needs of different customer groups, both locally and globally;
- To invest in infrastructure or transport systems in ways which satisfy social, economic, or strategic investment criteria, and
- To achieve the above objectives in a manner which is economically and environmentally sustainable and minimises negative side effects.

The policy further expands on specific goals and objectives for the following six areas grouped into *Infrastructure* and *Operation and Control* as listed below:

- Infrastructure
 - Transport infrastructure (all modes)
- Operation and Control
 - Land passenger transport;
 - Land freight transport;
 - Civil aviation;
 - Maritime transport, and
 - Road traffic and safety.

The Revised White Paper of the National Transport Policy reformulated the vision for South African Transport in the 2017 draft as follows:

"A transport system that provides equitable and reliable access for all in an economically and environmentally sustainable manner to advance inclusive growth and competitiveness of the country."

This vision will be achieved if the government succeeds to provide a transport system that can/will:

- Facilitate the movement of goods and people;
- Enable equitable access to personal economic opportunities and social services;
- Support economic and environmental sustainability and inclusive growth, and
- Advance national, regional, and global competitiveness of the country.

To achieve this, there must be adequate supply of transport infrastructure and services in relation to demand. Furthermore, for the users of transport, the supply should be **accessible, cost effective, time efficient and reliable, safe and secure**.

The 2017 draft revision White Paper concluded that the policy goals and objectives of 1996 are still relevant today.

2.2.3 Western Cape Provincial Land Transport Framework (PLTF) – 2016/17-2020/21

As for all plans and frameworks, the PLTF strategy for coordinating provincial transport across all modes and sectors was developed in alignment with the following:

- A legal framework;
- A strategic and policy framework, and
- The “status quo” for transport in the Western Cape.

In considering these listed strategy outputs the following goals and respective objectives have been developed for the PLTF:

- PLTF-1: Establish and operationalise a Provincial Transport Management Forum (PTMF) to manage and coordinate trans-modal and transversal transport across the Western Cape
 - Appoint the core and second-tier groups;
 - Finalise the entity name, mission and mandate, modus operandi;
 - Review the PLTF strategic goals and KPIs, and amend as required;
 - Institute PLTF monitoring and reporting from the outset, and
 - Assess organisational options, whether legal/regulatory enablement of the PTMF is necessary and take appropriate action.
- PLTF-2: Develop a transversal plan to promote transport safety and security for road, rail and NMT
 - Develop a road safety plan addressing issues such as compliance with road safety regulations, education and awareness;
 - Develop a rail safety plan covering the network, stations and intermodal interchanges;
 - Develop a plan to ensure regulatory compliance for vehicles, covering registration, licencing, overloading;
 - Develop a plan for collective management of unrest occurrences, e.g. MBT/Bus conflict, other civil unrest affecting transport, and
 - Develop an NMT masterplan and ensure it is incorporated appropriately at all levels of government. Ensure that it promotes commuter safety and mobility, via provision of dedicated NMT facilities, e.g. cycle paths, pedestrian paths, bridges, signals.
- PLTF-3: Promote and coordinate integrated transport
 - Monitor IPTN progress at MyCiTi and GoGeorge;
 - Develop strategies for implementing the actual “integration” across more modes, e.g. integrate route scheduling and fare management across Metrorail, other non-contracted bus services, MBTs, and
 - Develop lower budget IPTN-equivalents for less affluent municipalities/districts.
- PLTF-4: Develop transport plans to respond to rural socio-economic challenges and development objectives
 - Review the draft PPTIF proposal and finalise the rural transport development approach and plan;

- Ensure that appropriate aspects of the NMT masterplan are incorporated in all rural transport plans and transport development projects, and
- Review options to assume control of “scholar transport” and integrate with public transport to improve efficiency.
- PLTF-5: Develop key trans-modal strategies to promote economic efficiencies within transport
 - Develop a strategy to promote a shift from private to public transport;
 - Develop a strategy to promote a shift of freight from road to freight rail;
 - Focus infrastructure maintenance on highest priority road and rail networks, and
 - Develop coordination mechanisms within spatial, road and rail planning to improve commuter access to public transport.
- PLTF-6: Optimise transport fund sourcing and allocation
 - Review transport funding priorities, and revise funding allocation as required;
 - Ensure all available State funding sources are fully exploited, via rigorous socio-economic analysis and substantiation;
 - Explore alternative funding sources, e.g. strategic partnerships, special grants, green technology opportunities, and
 - Identify opportunities to optimise funding by applying demand management and user-pay principles.
- PLTF-7: Roll out the PLTF strategic goals and objectives to all transport entities.
 - Identify the PLTF goals and objectives that are applicable to each transport entity (e.g. PRASA, Metrorail, TCT, and District & Local Municipalities;
 - Incorporate the PLTF goals into current and future transport plans, and
 - Monitor and ensure implementation.

2.2.4 District Integrated Transport Plan (DITP) of Cape Winelands

The Cape Winelands District Integrated Transport Plan for 2016 – 2021 contains the district and local municipalities vision for transport.

“**Innovative Mobility**” was the Transport Vision as stated in the previous DITP of 2011-2016 and has remain the same for the 2016-2021 plan. The vision is supported by the mission statement of “**A sustainable transport system which provides access for social and economic opportunity**”, which suggests that sustainable transport is a system with low negative environmental impacts yet high positive social value, and which supports efficient economic development. The Cape Winelands District Integrated Transport Plan proposes how to translate these principles into practical applications.

2.2.5 Stellenbosch Municipality 5th Generation Integrated Development Plan 2022-2027 (IDP)

Stellenbosch introduced the One Plan (20-30 Years), which is a strategic plan put in place to strengthen and enhance the IDP. The IDP is to be reviewed on in a 5-year cycle, based on progress made with the implementation of the One Plan, updates to the Spatial Development Framework, Sectoral Plans, Infrastructure Plans and Financial Strategies. The CIP is one of the sectoral plans that forms part of this 5-year update cycle, with the IDP providing a guiding framework for the next CIP update and the CIP update to be taken into the following IDP as one of the sectoral plans.

The Vision of Stellenbosch is portrayed in terms of Figure 2-1, where Stellenbosch Municipal area is envisaged as an Integrated “**Valley of Opportunity and Innovation**”. The vision is supplemented by the mission of the Municipality; to deliver cost-effective services that will provide the most enabling environment for civil and corporate citizens. In order to achieve the vision and mission, 5 Strategic Focus Areas were identified as outlined in this figure.



Figure 2-1: Vision and Strategic Focus Areas for the Greater Stellenbosch

The following key priorities in the latest IDP have relevance to the integrated transport planning for Stellenbosch, namely:

- Fostering a customer centric approach to basic services;
- E-governance (SMART CITY) – Stellenbosch and partners are in the process of planning for the first smart city in the Cape Winelands – with a view to optimise existing infrastructure;
- Critical road infrastructure upgrades are required from a safety and developmental point of view;
- The Adam Tas Corridor Development – an excellent private-public partnership for sustainable urban development and inclusive growth, and
- Continuing to improve on a safer environment, through adding to our existing cameras and surveillance networks, as well as supporting and creating more neighbourhood watches.

The IDP indicate that the manner that the vision should be translated for transport and addressed in the CITP is shown in Figure 2-2.



Figure 2-2: Translation of the Vision into the development of the Transport System

More specifically aimed at making progress towards the realisation of Vision from a transport perspective, the IDP proposed the following four strategic transport interventions, which is unpacked more extensively in Figure 2-3:

- **Towards a Car-Free Living** – refers to strategies that encourage more effective modes of travel such as public transport, NMT, and other mechanisms to increase the number of passengers per vehicle
- **Travel Demand Management** - refers to strategies that manage overall demand for travel during peak periods, such as congestion pricing and parking management
- **Infrastructure and Operational Enhancements** - refer to capacity improvements to transport infrastructure but only as part of the overarching transport philosophy in Stellenbosch, and
- **Optimal Land Use and Interconnected nodes** - refers to integrated land use and transport planning, which supports and promotes transit orientated development (TOD).

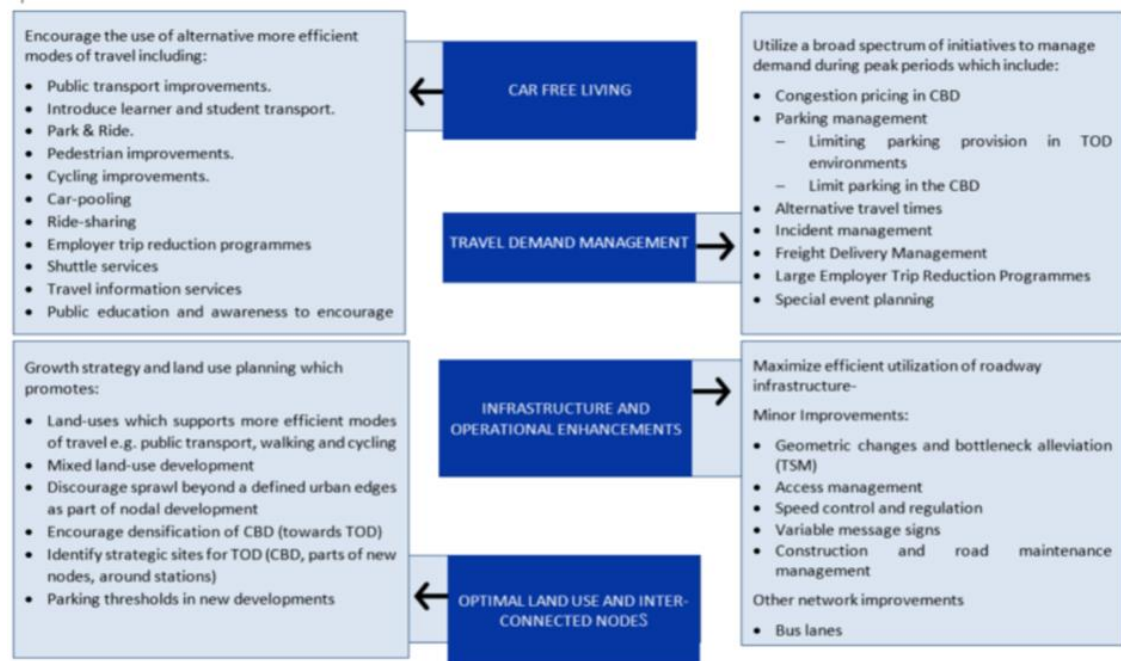


Figure 2-3: Strategic Transport Interventions provided in the IDP

2.2.6 Previous Stellenbosch Municipality CITP(s)

The previous CITP for the Municipality of Stellenbosch echoes the Strategic Focus Areas of the IDP and enhances the transport elements of the various focus areas. The key action areas that were identified to expand the IDP Strategic Focus Areas to include transportation is as follows:

- Road infrastructure improvements;
- Effective public transport system;
- Walking and cycling network improvements;
- Freight network improvements;
- Travel demand management, and
- Streamlined governmental and administrative processes to facilitate the implementation of much needed transport solutions.

The key action areas as listed above were further focused on key areas of implementation action for transport in within the Stellenbosch Municipality and includes:

- A well-functioning road network with good regional access;
- An effective public transport system with good regional access and local public transport, and
- A walkable and cyclable centre of town.

2.2.7 Stellenbosch Spatial Development Framework (SDF)

The Stellenbosch SDF of 2019 aims to achieve the following:

- Enable a vision for the future of regions and places that is based on evidence, local distinctiveness and community derived objectives;
- Translate this vision into a set of policies, priorities, programmes, and land allocations together with the public-sector resources to deliver them;
- Create a framework for private investment and regeneration that promotes economic, environmental and social well-being for a specific region or area, and
- Coordinate and deliver the public-sector components of this vision with other agencies and processes to ensure implementation.

Listed below are the specific spatial policies to support the MSDF concept and settlements plans:

- Maintain and grow the assets of the Stellenbosch Municipality's natural environment and farming areas;
- Respect, preserve and grow our cultural heritage, the legacy of physical artefacts and intangible attributes of society inherited from past generations maintained in the present and preserved for the benefit of future generations;
- Direct growth to areas of lesser natural and cultural significance. Allow future opportunity to build on existing infrastructure investment, on the opportunity inherent in these systems when reconfigured, augmented or expanded;
- Clarify and respect the different roles and potentials of existing settlements;
- Ensure a balance approach to transport in Stellenbosch Municipality, that appropriately serves regional mobility needs and local level accessibility improvements;
- Develop all settlements as balanced, inclusive, appropriately serviced, communities, negotiable through NMT and exhibiting a positive relationship with surrounding nature and agricultural land;
- Actively seek conditions to enable the private and community sectors to align their resources and initiatives with the MSDF principles and proposals, and
- Focus major development energy in Stellenbosch Municipality on a few catalytic development areas that offer extensive, inclusive opportunity.

2.2.8 Promotion of Sustainable Transport

Sustainable Transport is the planning and provision of services and infrastructure for the mobility of people and goods in a manner that is safe, accessible, and affordable for all. Sustainable Transport is efficient and resilient, while minimising the environmental impact and advancing economic and social development to benefit today's and future generations. Sustainable Transport aligns fully with key imperatives of poverty alleviation and reduced inequality and is therefore key to achieving a **Just Transition**.

The specific approaches contributing to Sustainable Transportation includes the:

1. **Society** - where Sustainable Transport will facilitate equitable and safe access to opportunities;
2. **Economy** - where Sustainable Transport will be affordable and support a vibrant economy inclusive of growth. and
3. **Environment** - where Sustainable Transport will limit the impact on the environment.

The above three pillars should be applied for the integration of urban and land use planning with transportation and can be achieved by implementation of the spheres of NMT, Public Transport, Travel Demand Management and Transport Oriented Development.

Applicable legislation and policies to take into consideration in the vision and objectives to develop Sustainable Transportation include:

- Green Transport Strategy 2018 – 2050;
- Nationally Determined Contribution (NDC), and
- Western Cape Government (WCG) 2019 Greater Cape Metro Regional Spatial Implementation Framework.

The abovementioned documentation is summarised as follow:

- Green Transport Strategy 2018 – 2050
The transport Sector contributes 10.8% (cities +/-40%) SA's Green House Gas (GHG) emissions and the strategy is therefore integral to achieving the National Development Contribution (NDC) targets for reducing GHG emissions. The stated Goal is: "... **substantially reduce GHG emissions and other environmental impacts from transport sector by 2050**". This can be achieved by having at least a 20% migration of persons/passengers from private to public transport and NMT and 30% migration of freight from road to rail.
- Nationally Determined Contribution (NDC)
The Presidential Climate Commission (2021) provides the overarching approach to reducing GHG emissions to stay below 2°C and achieve a Net Zero worldwide by 2050. The Energy Sector will be the initial focus leading up to 2030 whereafter the Transport Sector will follow. It should be ensured that current planning does not lock out opportunities to shift.
- Western Cape Government (WCG) 2019 Greater Cape Metro Regional Spatial Implementation Framework
The framework provides long term strategic direction and coordination to the overall growth, spatial development, land use management, and conservation. The framework sets out the region's spatial agenda through 9 levels including *Integrated Transport and Mobility*. The specific strategies to be developed for include:
 - Regional Public Transport;
 - NMT;
 - Freight Logistics, and
 - Freeways.

Some changes in the external environment to consider in the planning of Sustainable Transportation include:

- The Climate Change dialogue that is rapidly shifting;
- The concept of 15-Minute Cities where all amenities are within a 15 – 20 minute walking or cycling distance;
- The need to consider NMT (walking and cycling) and Public Transport and not only Electric Vehicles as key enablers in reducing GHGs;
- The recognition of the need for a Just Transition addressing inequality issues in the accessing of opportunities, and
- The implications of evolving technology supporting the **Active Mobility** space such as e-bikes, pedelecs, e-scooters, cargo bikes and so forth.

2.2.9 The Fourth Industrial Revolution (4IR)

The Fourth Industrial Revolution (4IR) can be described as the application of technology to merge the physical and digital world. The 4IR is characterized by the speed at which it is evolving and its presence in almost every industry and country. As a result of the 4IR the world experiences the transformation of entire systems of production, management, and governance. Breakthroughs in fields such as artificial intelligence (AI), robotics, the Internet of Things (IoT), autonomous vehicles, 3-D printing, nanotechnology, biotechnology, materials science, energy storage, and quantum computing to list a few (Schwab, 2016).

The 4IR has an impact on businesses, the government, people, but most importantly for this study an impact on transportation and the future of it.

A 4IR product/development that can be classified as one of the outcomes with most significant impact on the transportation system is Autonomous Vehicle Technology (AVT). AVT is the idea of a vehicle that is fully automated with no human control required. It is expected that the use of AVT will result in operational efficiencies, lower freight costs, improved fuel efficiency and reduced delivery times. An example is where AI and IoT based radar, laser and camera systems allow freight vehicles to navigate pathways so as to effectively reduce any dysfunctionalities or accidents while optimizing fuel consumption (Ranawat, 2020).

Some beneficial key changes took place in the way an ordinary consumer interacts with the transportation industry because of Artificial Intelligence. These changes include (Ranawat, 2020):

- The introduction of smart cashless and cardless payment using radiofrequency identification (RFID) or near field communication (NFC) that can be applied in various scenarios;
- Secure booking systems that are enhancing mobility as a service for instance Uber, and
- Multi-channel Customer Assistance, AI and IoT have enabled mobility service authorisers to convey transport related information with consumers including Estimated Time of Arrival (ETA) and virtual assistants.

With the automation of systems, it became possible to optimise transport operations more efficiently than before as high-quality data and analytics significantly became available and improve transportation planning through increased visibility. With the new access to rich data generated daily it became possible to anticipate demand, plan more effectively and track distribution in real time (Logistics & Transport, 2020).

Even though South African logistics and transportation companies are still exploring innovations from the Second and Third Industrial Revolutions, a solid foundation needs to be created to support the implementation of 4IR technology.

2.3 Vision

The stakeholder participation process engaged participant on the importance on matters and aspects directly and indirectly related to transportation in Stellenbosch. The outcome of this process is summarised in

Sustainable and Integrated Transport for All

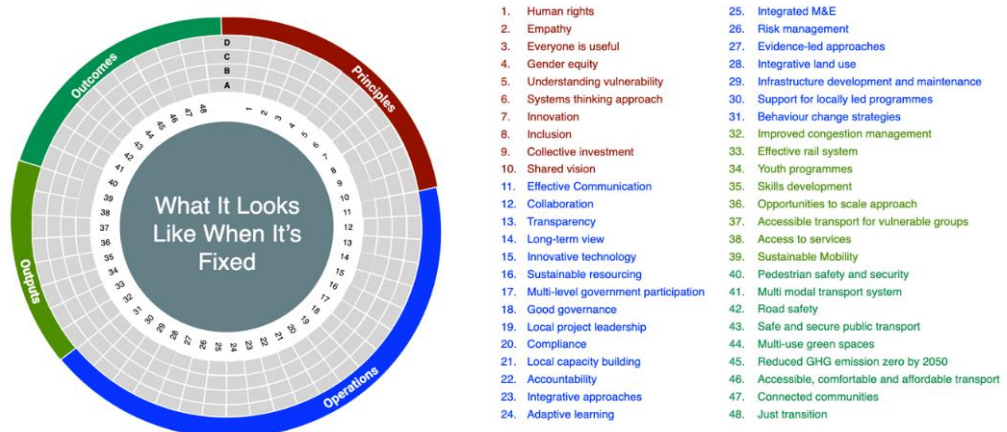


Figure 2-4.

Sustainable and Integrated Transport for All

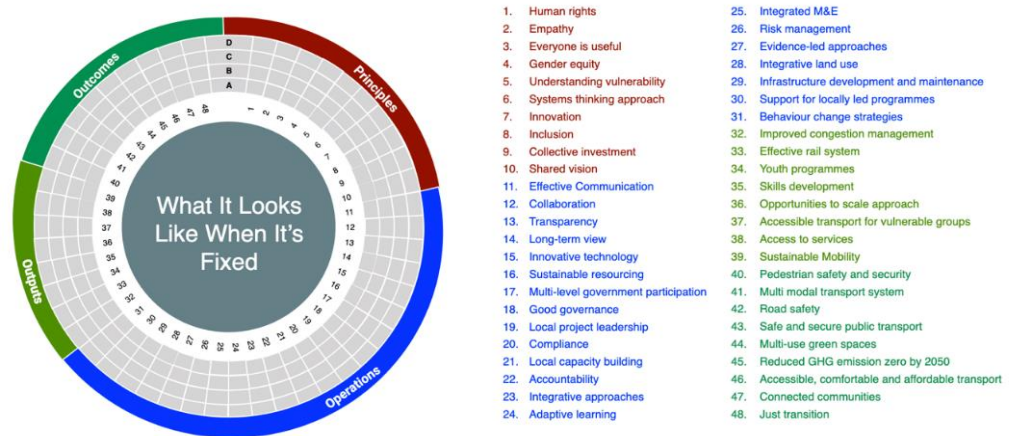


Figure 2-4: Stakeholder Engagement and Participation Process Summary

It can be concluded that transport is not an end in itself, but a facilitator of wellbeing and property, giving people access to opportunities such as work, health, education and social and recreational activities. A well-functioning transport system facilitates equitable access to key opportunities and services.

Taking cognisance of the existing policy and legislative framework summarised in sections above, identified user needs and the stakeholder engagement process, the proposed Vision for transport for Stellenbosch Municipality is as follows:

Stellenbosch Municipality has an integrated, effective and sustainable transport system, which unlocks economic opportunities and is accessible, safe, reliable and affordable to all communities serviced by the municipality.

2.4 Objectives

Pursuant in achieving the Vision and addressing user needs, issues and gaps, the following Objectives for the transport system for Stellenbosch Municipality over the next 5 years and beyond are proposed:

<p>Sustainable Mobility for All</p> <ol style="list-style-type: none"> 1. Adequate mobility and inclusion of all communities, road users and pedestrian groups: <ul style="list-style-type: none"> • Commuters; • Scholars and Students; • Tourists, and • Mobility impaired and persons with disabilities. 2. All mobility options available to travellers are: <ul style="list-style-type: none"> • Safe; • Accessible; • protects the environment, and • preserves heritage. 	<p>Land Use and Transport Integration</p> <ol style="list-style-type: none"> 1. Densification at public transport nodes and along key transport corridors; 2. Higher density housing developments within or close to the core and nodes, well served by public transport; 3. Diversify types of land use at new nodes to reduce travel, and 4. Mixed use developments well served by NMT.
<p>Road Infrastructure & Parking</p> <ol style="list-style-type: none"> 1. Provides adequate capacity and safe mobility of all modes of transport on all routes, roads and streets; 2. Reduced congestion; 3. Minimises the impact of through traffic; 4. Reduce the impact of extensive on-street parking of private vehicles; 5. Parking developments that tie-in with and promotes the use of public transport; 6. Acceptable maintenance; 7. Include Universal Design principles, and 8. Maintains the character and heritage of the Stellenbosch and Franschhoek Towns. 	<p>Public & Non-motorised Transport</p> <ol style="list-style-type: none"> 1. Affordable, safe, secure and attractive public transport services; 2. Access to all communities and areas within the municipal boundary; 3. Enhance the role of commuter rail; 4. Safe and convenient first- and last mile (1LM) travel of public transport users; 5. Safe and convenient infrastructure & facilities for travellers using NMT as a primary mode, and 6. Promote car free living in the Stellenbosch Municipal area.

Freight Transport	Safety & Security
<ol style="list-style-type: none"> 1. Designated, controlled and policed freight route through the Municipal Area, 2. Routes for transportation of hazardous freight, and 3. Efficient over-load control. 	<ol style="list-style-type: none"> 1. Prioritise safety and security of <u>all</u> users; 2. Monitored, controlled, and executed; 3. Behaviour change programmes to improve mutual consideration of different road users, and 4. A gendered lens on safe mobility.
Institutional, Funding and Communication	
<ol style="list-style-type: none"> 1. Integrated Planning that has broad buy-in and is achievable, understandable, and communicable; 2. Transport budget allocations in line with future vision for the municipal transportation system; 3. Inter-governmental collaboration and coordination; 4. Partnerships with private sector; 5. Programmes, projects and plans include innovation, introduction of technologies that will promote efficiency and sustainability, and 6. Communication strategy and responsive and accountable feedback loops between users and the Municipality. 	

2.5 Preferred Future Transport Scenario

2.5.1 Scenario Development

A preferred scenario was developed to guide the strategies, implementation plans and key projects for the CIP. The process commenced with the identification of a number of high-level scenarios that were narrowed down to the following two scenarios:

- **Scenario 1: Improved Current Trajectory**
- **Scenario 2: Focussed Investment on Public Transport and Non-motorised Transport**

These two scenarios were further unpacked, assessed and measure against the transport Vision and Objectives, in order to decide on a preferred scenario. Based on the assessment, it is proposed that the Scenario 2, with a focus on public and non-motorised transport, is the preferred approach to be taken by the Municipality in the further development of its transport system.

Although the two scenarios are not mutually exclusive and Scenario 1 could be a first step and provide a basis for pursuing Scenario 2, there is a risk with following such an approach, as the Municipality may remain locked into very much a "business as usual" scenario, which could then impact on its ability to change tack towards a more public transport and non-motorised transport investment focus later.

The preferred scenario is aligned and in support of the future transport system as described in a number of strategies and plans already adopted by the Municipality, which articulates its support for more focussed investment in public and non-motorised transport, such as:

Strive towards car-free living in Stellenbosch

A traffic management approach that favours more vulnerable road users, the introduction of measures to reduce traffic flow in the CBD and develop more pedestrian-friendly or pedestrianised streets in the CBD, should be pursued.

This approach can only really be successful if it is underpinned by a CBD public transport distribution service.

Achieve a modal shift in the Stellenbosch CBD towards public transport, walkability and cyclability

Achieving a modal shift towards public transport, walking and cycling will require that streets must be transformed into vibrant pedestrian-friendly space with supporting land use, sidewalks that are universally accessible, traffic management in favour of pedestrians, cycling and public transport.

Parking in the CBD reduced over time by introducing differential parking tariffs with more affordable parking at the outskirts of the CBD.

Creating dignified living spaces in previously disadvantaged areas

Pedestrian footways/paths and cycle networks are required to connect people to civic amenities, schools, public transport facilities and markets. These should be quality environments, bringing dignity to the public space.

2.5.2 Description of Key characteristics of the preferred scenario

The key characteristics of the preferred scenario, Focussed Investment on Public Transport and Non-motorised Transport, are described as follows:

Mobility for All

- Roads and streets are for all (not only private vehicles) with selected streets dedicated to walking and cycling with vehicular access restricted/not allowed;
- Travellers within the municipal area have a variety of viable and safe mobility choices, ranging from NMT, public transport, MAAS options and private vehicles;
- Travellers exercise a wider variety of mobility choices than for choice users only relying on their private vehicles;
- Congestion is reduced as a result of travellers making different choices;
- More commuters travelling from outside the Municipality to work in Stellenbosch use public transport to do so;
- In addition to using mini-bus taxi services, commuters also use scheduled public transport available on certain key routes and within core areas;
- Travellers that cannot afford any other transport, use well developed and safe NMT facilities;
- Residents living in new decentralised nodal developments on core public transport routes can rely on scheduled public transport to commute to work, go to university, school, etc.;

- Students mostly use park-&-ride facilities, shuttle bus services or walk/cycle between the university and their places of residence;
- Although many scholars are picked up and dropped off at schools by private vehicles, other modes are available to them to travel conveniently and safely to school and back, such as walking and cycling;
- Tourists mostly use private vehicles and MAAS to access the Stellenbosch Town, but then use park-&-ride facilities, shuttle bus services or NMT to move around, and
- The elderly and people with physical disabilities have very limited mobility options.

Sustainable Transport

- A significant reduction in transport related green-house emissions is due to both a reduction in the need to travel and a shift towards sustainable modes;
- Travel is reduced due to the integration of land use and transport throughout the municipality;
- Shift from private to public transport by choice-users has and is taking place as a result of viable and safe public transport and/or MAAS options;
- Shift from motorised to non-motorised transport is taking place because of improved NMT infrastructure and facilities, and
- Behaviour change strategy being implemented.

Land-use & Transport Integration

- The need to travel is reduced by more mixed-use land use development;
- Development of the transport network and land use development is better integrated, with the main driver being sustainability;
- Adam Tas corridor development continues as planned and is supported by scheduled public transport services along key routes;
- Continued densification within the Urban Edges and focus on brownfield redevelopment;
- New high density housing developments is supported by scheduled public transport services;
- Existing higher density housing areas to be expanded through land-use diversification to better support need for convenience, commercial and public facilities, and
- Transit -Oriented development nodes are established around transport nodes (for instance at rail stations) where modal transfers can be facilitated.

Road Infrastructure & Parking

- The road network is developed and redeveloped such that streets within Stellenbosch Town, provide for different types of functionalities, some providing for

higher levels of mobility for private vehicles and others providing more for access, public transport and specifically NMT;

- Upgrades, redevelopment and development of roads makes adequate allowance for all mode of transport (cross-section, servitude boundary to boundary, urban design);
- Bypass road options for through traffic are developed and evaluated through a strategic environmental assessment;
- Parking requirements related to new development are scaled down in favour of public transport and NMT facilities considering all socio-economic and environmental costs/benefits;
- Park-&-ride facilities have been developed to serve the Stellenbosch Town and Franschhoek;
- On-street parking has been reduced and/or taken away on certain functionality type streets;
- Where available, on-street parking has been made more expensive to encourage motorists to park-&-ride and/or use NMT, and
- Continued and improved road maintenance.

Public Transport

- Commuter rail is reintroduced and provides a viable public transport option for both captive and choice users to areas surrounding/outside the Municipality;
- Commuter rail is expanded (possibly including LRT between SSW and SB on current line);
- Provincially subsidised bus services are extended to link areas from outside the Municipality, not served by rail;
- A scheduled shuttle service link park-&-ride facilities with key destinations with the Town CBD and University (dedicated US student shuttle service was absorbed into this service) – also in Franschhoek;
- Scheduled public transport services link key nodes within the municipal area, including the Town CBD, i.e. Adam Tas Corridor and Jamestown;
- Unscheduled public transport, mainly mini-bus taxis provide for the demand for public transport where scheduled services do not exist, and
- Student transport – evaluating re-introduction of e-scooters (may be e-bikes) as on campus mobility platform.

Non-motorised Transport

- Pedestrianisation of some streets in the Stellenbosch Town CBD;
- Further development of bike paths and pedestrian routes linking outlying communities and neighbourhoods with economic opportunities within the Municipality;
- Expanded NMT essential infrastructure, including previously “missing links”;
- Pedestrian routes are well integrated at public transport interchanges;
- Cycle facilities within Stellenbosch Town, along with bicycle parking and safe storage;
- A bike-sharing scheme has been introduced;
- Improved NMT facilities around schools, with scholars walking and bicycling, and
- Decluttered sidewalks to promote NMT and Universal Access as part of urban design.

Freight Transport

- Whilst freight by road remains the main transport mode, the role of rail in this respect is re-evaluated;
- Strategic freight network;
- Klapmuts truck-stop development;
- Effective overloading control, backed by law enforcement (weigh-in-motion mats)/technology introduction;
- Regulated and enforced routes for the transportation of dangerous goods, and
- First and last mile services – EV support.

Safety & Security of Travellers

- Behaviour change programmes to improve mutual consideration of different road users;
- Stellenbosch municipal area is a 24/7 complete user-friendly town;
- Road safety and awareness is improved;
- Security is improved at public transport ranks, interchanges and major NMT routes throughout the municipality;
- Safety training for taxi associations and taxi drivers;
- Safety dialogues between taxi associations, taxi drivers and potential new users;
- Safe and healthy sanitation at public transport ranks;
- Safety grading system for public transport;
- Vulnerable road users are prioritised at points of intersection;
- Speed limited and traffic calming around schools;
- Visible policing;
- Urban design which includes safety-in-design considerations;
- Perceptions of safety (personal public safety) and security is significantly improved;
- A gendered lens on safety and security, and
- Map and respond to user patterns, elderly, youth, people with disabilities, women and children.

Technological Advancement & Innovation

- Traffic management systems and information available for traffic and congestion management;
- Technology applied for commuter safety at interchanges and key NMT routes;
- Technological advancement in vehicle propulsion systems reduce emissions;
- Public charging facilities are available for EVs in collaboration with private sector, and
- Preparing to introduce new technology into transportation system (autonomous vehicles, 4IR and big data, electric vehicles and charging stations, e-bikes/scooters for hire, also student focussed).

Funding

Additional funding allocated and secured through partnerships with public and private entities for;

- the development and improvement of NMT infrastructure and facilities in general, but specifically along provincial routes, as well as at and around new private developments, and
- public charging facilities available for electric vehicles, in partnerships with the private sector.

Institutional Arrangements & Communication

- Communication mechanism focusses on behaviour change and accountability framework through relationship building and trust (culture of mutual respect, high expectations and trust). It should include a clear public engagement and education programme;
- SDPs include provision for public transport (where applicable) and NMT;
- Zoning implications such as building lines and parking requirements consider the safe NMT infrastructure and facilities;
- TIAs are based on person trips (not vehicle trips) and include NMT;
- Municipal by-laws are aligned with IDP strategic objectives;
- Partnerships for the development and management of transportation with the various sectors of government, as well as the private sector are in existence;
- Development and implementation of communication strategy in support of the scenarios;
- Responsive and accountable feedback loops between users and city;
- Development and implementation of communication in support of the scenarios, and
- Responsive and accountable feedback loops between users and the city.

Preservation of Heritage

Balanced approach is followed towards mobility and preservation of heritage, specifically with consideration given to the development of NMT infrastructure.

2.6 Future Transport Concept

To provide a framework and guidance to the mode specific strategies and plans contained in Chapters 6 to 11 of the CITP, the Vision, objectives and preferred transport scenario were translated into a Future Transport Concept consisting of a number of building blocks that will enable the future development of public and non-motorised focussed integrated transport system for Stellenbosch Municipality. The Concept and its building blocks are:

1. Development of **park-&-ride facilities** for travellers traveling to Stellenbosch from outside the municipal area, with e-vehicle charging facilities
2. Introduction of **scheduled shuttle services**, linking;
 - park-&-ride facilities;
 - Krigeville school precinct;
 - key nodes; Kayamandi, Stellenbosch CBD, University, rail stations and higher-density residential areas;
 - higher-density corridors, such as Adam Tas Corridor, and
 - to Somerset-West (as a later phase).
3. Reinstatement and expansions of **commuter rail** (possible additional stations in ATC)
4. Partial or full **pedestrianisation of some streets** within the Stellenbosch Town CBD and Franschhoek
5. Establishment of a “**core**” **bicycle network** with related infrastructure and facilities with the introduction of a Bike Sharing Scheme
6. Development and **redevelopment of streets and roads**, which provides for different types of functionality, some providing more for access, public transport and NMT and others providing for higher levels of mobility for private vehicles
7. **Reduced on-street parking**
8. Needs of the elderly and people with disabilities as pedestrians are catered for in the development and redevelopment of streets (layout and cross-section, fence-to-fence)
9. **HOV facilities** and public transport priority measures on arterials, such as the R44
10. **Bypass road options** for through traffic be considered
11. **Integrated traveller safety and security framework** in place with active monitoring and management through application of technology
12. **Deployment of ITS solutions** to promote convenient travel, TDM, information sharing, public transport ticketing, freight vehicle over-load control, etc.

3 TRANSPORT REGISTER

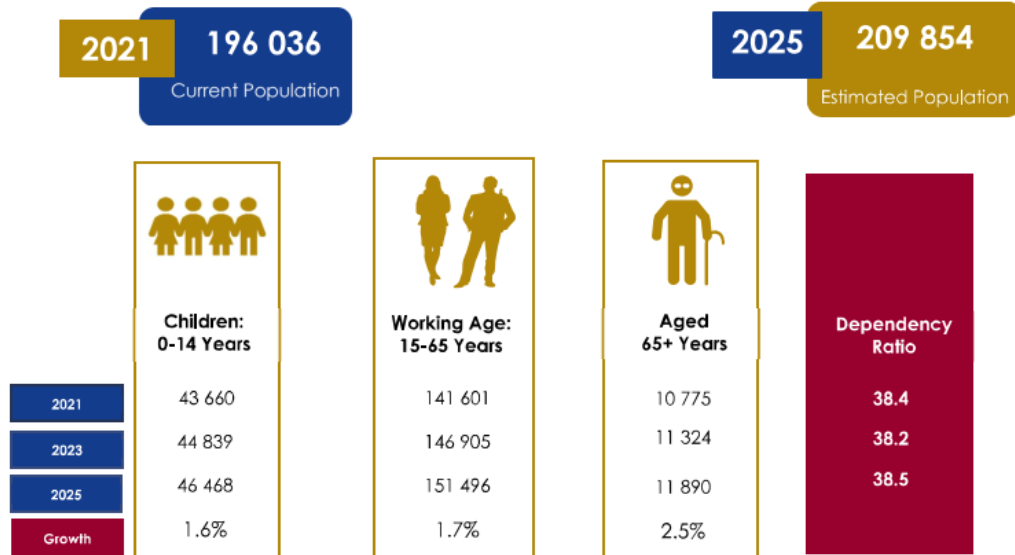
The objective of the Transport Registry is to provide an overview of the current land transport system operations within Stellenbosch Municipality. It reflects various aspects of the area which include demographics, the transport system status quo, system management, performance levels, and the status and condition of transport facilities. This will assist in understanding the transport system, as well as its ability to meet the needs of the community by providing effective and efficient transport services and infrastructure.

The register will further assist in pinpointing the shortcomings and identifying strengths, weaknesses, and opportunities.

3.1 Demographic and Socio-Economic Characteristics of Stellenbosch Municipality

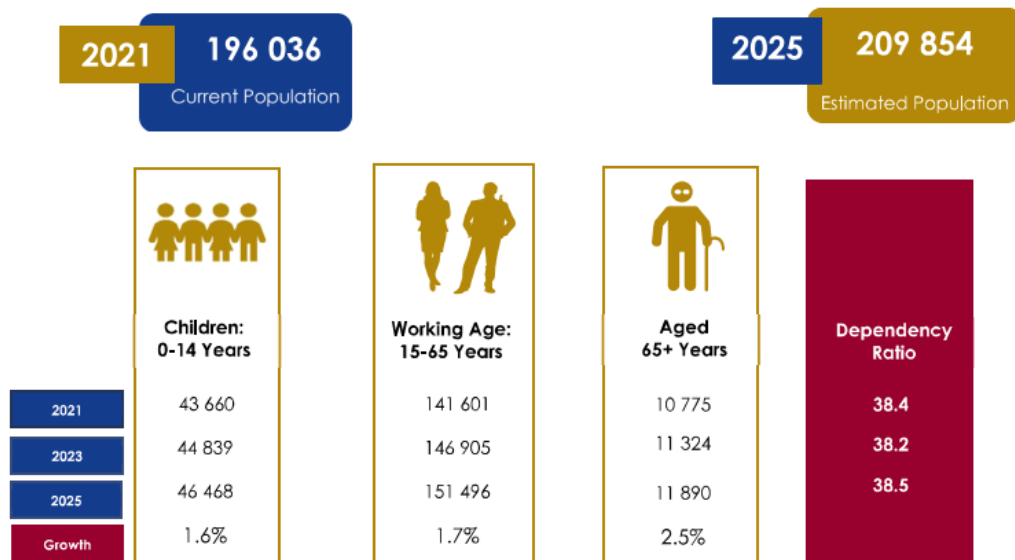
3.1.1 Population

Stellenbosch's population totals 196 036 persons in 2021, and is expected to increase to 209 854 by 2025, equating to an average annual growth rate of 1.7 % for the period. Stellenbosch has an ageing population. The highest growth for the aged cohort is an average annual rate of 3.6% for the period 2021 to 2025. This is more than double the growth in the working age cohort (1.6%).



Source: Western Cape, Social – Economic Profile 2021

Figure 3-1 has been taken from the IDP 2022-2027.



Source: Western Cape, Social – Economic Profile 2021

Figure 3-1: Age Cohorts and Dependency Ratio

3.1.2 Population Density

Stellenbosch has a population density of 234 people / km².

3.1.3 Learner growth rate and schools

Learner enrolment in the Stellenbosch area increased with the same rate as population as the growth rate (1.7%). There are 39 schools in the Stellenbosch area.

3.1.4 Health Facilities

In 2020, the Stellenbosch municipal area had 8 primary healthcare facilities which comprise of 7 fixed clinics and 1 community day care centre. There is also a district hospital, 9 ART treatment sites and 13 TB clinics.

3.1.5 Income Levels

The Gross Domestic Product (GDP) per capita is on a downward trend across most local municipal areas. The Gini-coefficient (measuring income inequality) has worsened in the Stellenbosch Municipal area and increase from 0.614 in 2014 to 0.631 in 2020.

3.1.6 Basic Service Delivery

Access to affordable transportation is not currently measured in basic service delivery and is believed to be a gap in the approach to service delivery as access to public facilities and amenities is facilitated by affordable transportation.

3.1.7 Economic Growth and Employment

In 2019, the economy of the Stellenbosch Municipal area was valued at R 16.759 billion (current prices) and employed 78 449 people. The economy is expected to decline with 6.7% (and even more due to the impacts of loadshedding) with a significant number of jobs being lost.

The finance, insurance, real estate, business services and wholesale and retail trade, catering and accommodation and manufacturing are the main drivers of the Stellenbosch economy. The former two grew by 2.4% and 2.1% respectively between 2015 and 2019. The largest decline is expected in the construction industry which is expected to decline by 19.8%.

It is estimated that total employment in 2020 was expected to be 73 790 workers of which 73.6% is in the formal sector while 26.4% is informally employed. The average growth for the formal sector is 0.4% and for the semi-skilled sector 0.5%. Low-skilled employment contracted at an average annual rate of 1.4% per annum. Overall, formal and informal employment contracted by 0.4% and 2.1% respectively between 2016 and 2020 (and is expected to continue or the contraction rate may even increase).

3.2 General Overview of the Transportation System

3.2.1 Modal split

The 2016 CIP indicated a vehicle modal split with a high bias towards private "light" vehicles. However, the more recent National Household Travel Survey of 2020 (Department of Statistics, 2020) data was analysed at a Transport Zone level, to try and get more up to date information on transport in Stellenbosch. **Table 3.1** shows the modal split for the Transport Analysis Zones that constitute the Stellenbosch area.

Table 3.1: Modal Split for Stellenbosch

Description	Percentage
Train	4
Bus	0.5
Taxi	63
Car/bakkie/truck/lorry driver	28
Car/bakkie/truck/lorry passenger	2
Walk	1
Total	100

3.2.2 Public Transport System

In the absence of passenger rail services in Stellenbosch at present, public transport in Stellenbosch Municipality consists mainly of minibus-taxi services and limited services by Golden Arrow Bus Service (GABS). The minibus-taxi operators transport the majority of commuters not only within the municipality's boundaries but also between areas from outside of the municipality such as Somerset West, Kuils River, and Paarl. There is a large prevalence of unlicensed minibus-taxi operators operating on routes within the municipality. Golden Arrow Bus Services provides 6 services into and out of Stellenbosch. Passenger rail services were provided by Metrorail, a member of PRASA, and provided a minimal passenger service of around two trains per peak hour, stopping at seven train stations within the Stellenbosch municipal boundaries.

Stellenbosch University (SU) provides a weekday shuttle service exclusively for students and staff between various campus and parking facilities. Tygerberg resident students are also able to book a shuttle seat in advance between the Tygerberg and Stellenbosch campus.

Other public transport services include the long-distance commercial bus services provided by, Translux, and Intercape and on-demand transport services provided by e-hailing companies such as Uber. There are also various tourist related transport services. (Update of the Comprehensive Integrated Transport Plan (CITP) for Stellenbosch Municipality, 2020).

3.2.3 Institutional and Organisational Structure of the Public Transport Industry

As indicated above, the minibus-taxi is the main mode of public transport in Stellenbosch. The industry in Stellenbosch has organised itself into three associations:

- Stellenbosch Taxi Association;
- Franschhoek Taxi Association, and
- Kayamandi Taxi Association.

There are also limited scheduled bus services in Stellenbosch Municipality. These are operated by Golden Arrow Bus Services (GABS) in terms of an operating contract with the Western Cape Government.

The passenger rail service, (currently not operating in Stellenbosch) is operated by Metrorail a division of PRASA.

Although Stellenbosch Municipality does not have direct control over these management entities, it is important for them to foster good relationships with transparent and regular liaison.

3.2.4 Minibus Taxis

Minibus taxis provide unscheduled flexible services that can adapt to transport demand. This makes it the dominant public transport mode in Stellenbosch. Minibus taxi vehicles do not display routes, origin, destination, or fares. Fares are paid in cash. The capacity of minibus taxis ranges between 12-16 (Update of the Comprehensive Integrated Transport Plan (CITP) for Stellenbosch Municipality, 2020).

The main minibus taxi hubs in Stellenbosch Municipality include Stellenbosch, Kayamandi, Franschhoek and Klapmuts. **Figure 3-2** shows the taxi ranks within Stellenbosch Municipality (Update of the Comprehensive Integrated Transport Plan (CITP) for Stellenbosch Municipality, 2020).

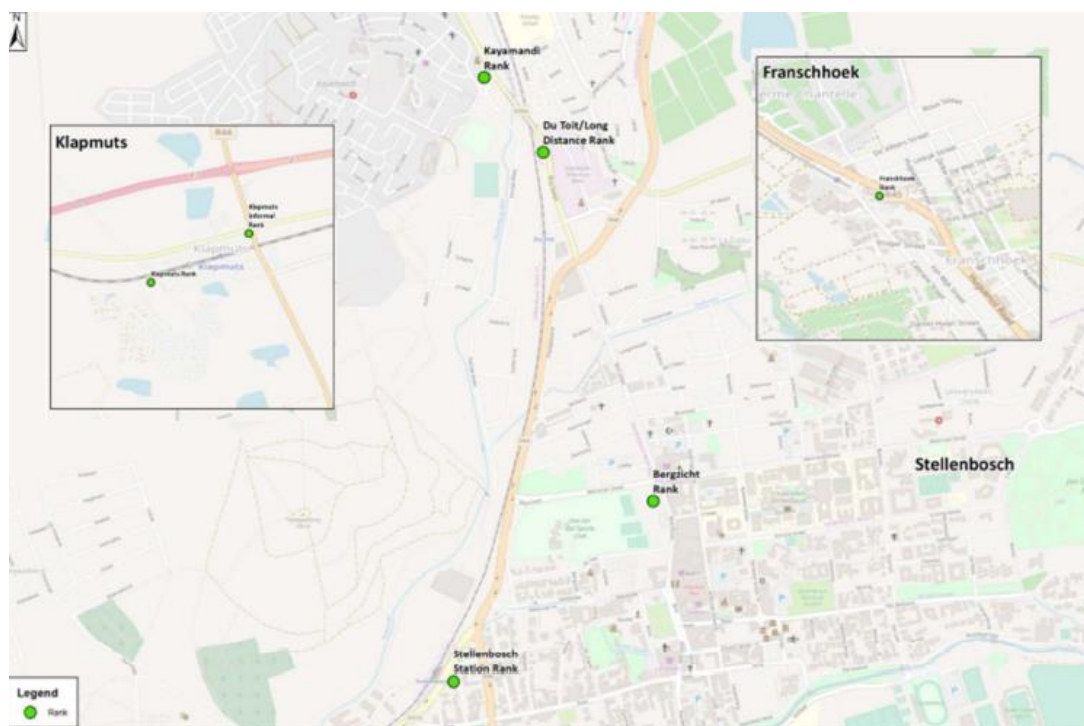


Figure 3-2: Taxi Ranks within Stellenbosch University

(Source: Update of the Comprehensive Integrated Transport Plan for Stellenbosch Municipality, 2020)

The passenger volumes at the various taxi ranks were observed during surveys in 2019. The counts only include AM and PM peaks (Update of the Comprehensive Integrated Transport Plan (CITP) for Stellenbosch Municipality, 2020).

Table 3.2 reflects the minibus-taxi passenger volumes.

Table 3.2: Minibus Passenger Volume

Rank	W/day	%	Fri	%	Sat	%	All pay	%	Total	%
Bergzicht	3568	42	4599	47	2988	44	4726	55	15972	47
Kayamandi	1835	21	1842	19	1417	21	2023	24	7118	21
Du Toit Station	1023	12	1140	12	967	14	1116	13	4246	13
Stellenbosch Station	1058	12	1141	12	212	3			2411	7
Franschhoek	590	7	562	6	617	9			1769	5
Klapmuts WC			103	1				8	103	
Klapmuts	481	6	373	4	596	9	671		11	6
Total	8645		9760		6797		8536		13374	

It was identified that minibus routes in Stellenbosch were problematic. **Table 3.3** shows the various problems, together with the best way forward.

Table 3.3: Minibus Route Problems and Solutions

Minibus Taxi Route Problem	Best Way Forward
<ul style="list-style-type: none"> • Inaccurate and lack of correlation or consistency between all database sources i.e. PRE database, taxi associations, and municipality making it difficult to verify the actual number of routes • Routes were established more than 20 years ago; they are therefore no longer relevant with new or changing land use • Road network and other infrastructure changes (consolidation of ranks) have occurred making route descriptions no longer valid • No correlation or accuracy of the number of OLs • Not accurate vehicle registration numbers or owner information • No maps of routes make it difficult to confirm actual route alignments • There are duplicate or multiple route numbers between the same origin and destinations (OD) pair 	<ul style="list-style-type: none"> • Multiple route numbers for the same O-D pair were consolidated into one route number • Where there were minor route variations or “vias” between the same O-D pair these were included in the one route number with a few road link options • Where the B destination was a neighbourhood without a rank the route was modified to allow collection and feeding within the boundaries of the neighbourhood • Route numbers that were no longer viable due to a shift in rank location or lack of demand were deleted. • The final consolidated route description took into account all route variations between O-Ds as well as the actual routes recorded as part of the onboard surveys.

Table 3.4 and **Table 3.5** summarise the revised route structure for local routes. These changes were made based on the above principles. This revision allowed for a consolidation of routes between the same O-D. A total of 16 local routes which serve the following local neighbourhood destinations and towns within the municipal area.

- Between Stellenbosch and Kayamandi, Idasvalley, Cloetessville, Jamestown, Koelenhof, Vlottenburg, Lynedoch Station, Devon Valley, Elsenberg, Jonkershoek and the R310;
- Between Stellenbosch and Klapmuts, Pniel, Kylemore, Lanquedoc, Franschhoek;
- Between Franschhoek and surrounding residential areas and farms, and
- Between Klapmuts and surround residential areas, Simondium and Muldersvlei and Elsenburg.

Table 3.4: Revised Local Routes for Stellenbosch Municipality

TA	New #	Route Name	Consolidate Route #s	Route Numbers Removed
Stellenbosch 9 routes	656	Stellenbosch - Idasvalley	656, 657, 658, 659, 660, 661,	630, 631, 632, 633, 634, 635, 705, 706, 707, 916, 917, 942
	665	Stellenbosch - Cloeteville	665	636, 637, 666, 702, 703, 704
	670	Stellenbosch - Jamestown	670,671	638, 639, 782, 783
	662	Stellenbosch - Koelenhof	662	
	663	Stellenbosch - Vlottenburg/ Lynedoch Station/Devon Valley	663, 664, 672	
	667	Stellenbosch - Kylemore/ Pniel/ Lanquedoc	902, 903, 667, 668,754	
	675	Stellenbosch - Jonkershoek	675	
	673	Stellenbosch-Elsenburg	673a, 673b, 674a, 674b, A63	
	Y48	Stellenbosch-R310	Y48, Y49, Y50	
Franschhoek 5 routes	A96	Franschhoek - Franschhoek Plase		
	G60	Klapmuts- Stellenbosch via Muldersvlei	G58, G60	
	G61	Klapmuts - Simondium		
	M59	Klapmuts - Klapmuts		
	Z47	Franschhoek - Stellenbosch		
Kayamandi 1 route	676	Stellenbosch - Kayamandi	676, 677, 722, 723, 813, 814, 815	

Table 3.5: Revised Inter-Municipal Routes for Stellenbosch Municipality

TA	New #	Route Name	Consolidate Route #s	Route Numbers Removed
Stellenbosch 2 routes	669	Stellenbosch – Somerset West	669, 741, T43	
	A88	Stellenbosch - Kuilsrivier		
Franschhoek 4 routes	755	Franschhoek - Paarl	755, 873	
	G15	Klapmuts - Paarl	G15, G57	
	G59	Klapmuts-Dandarach Farms Paarl		
	N42	Franschhoek - Paarl Mall		
Kayamandi 2 routes	N12	Stellenbosch (DuToit) –Bellville (long distance rank)		
	Q80	Kayamandi-Lwandile		

Table 3.6 shows the routes that serve each rank.

Table 3.6: Routes serving the Various Ranks in Stellenbosch

No.	Facility Name	Destinations Local / Commuter (C); Inter-Municipal (IM); Long Distance (LD)	Route Nos per Rank
1.	Bergzicht	C: Idasvalley, Cloeteville, Jamestown, Koelenhof, Vlottenburg/ Lynedoch Station/Devon Valley, Kylemore/ Pniel/ Lanquedoc, Jonkershoek, Elsenburg, Kayamandi IM: Somerset West,	656, 665, 670, 662, 663, 667, 675, 673, Y48, 676

No.	Facility Name	Destinations Local / Commuter (C); Inter-Municipal (IM); Long Distance (LD)	Route Nos per Rank
2.	Kayamandi	Stellenbosch CBD	676
3.	Du Toit	IM: Lwandile, Bellville LD: Eastern Cape destinations	N12, Q80
4.	Stellenbosch Station	IM: Somerset West, Kuilsrivier	669, A88
5.	Franschhoek	C: Franschhoek Plase, Stellenbosch IM: Paarl, Paarl Mall	A96, Z47
6.	Klapmuts Winelands Centre	C: Stellenbosch via Muldersvlei, Simondium, Klapmuts IM: Dandarach Farms (Paarl)	G60, G61, M59
7.	Klapmuts	C: Stellenbosch via Muldersvlei, Simondium, Klapmuts IM: Dandarach Farms (Paarl)	G60, G61, M59

Table 3.7 and **Table 3.8** summarise the distances per route. It also summarises the average 1-way route distance for all routes serving a particular rank as well as the average speed and estimated turnaround time for these group of routes.

Table 3.7: Distance and Average Travel Time per Local Route

TA	New #	Route Name	Average 1-way Route distance [km]	Avg. Speed	Turn-around Time [hh:mm]
Stellenbosch	669	Stellenbosch – Somerset West	20.5	59	00:35
	A88	Stellenbosch - Kuilsrivier	No data		
Franschhoek	755	Franschhoek - Paarl	36.3	61	01:00
	G15	Klapmuts - Paarl	17.4	56	00:31
	G59	Klapmuts-Dandarach Farms Paarl	Na data		
	N42	Franschhoek - Paarl Mall	34.2	70	00:49
Kayamandi	N12	Stellenbosch (DuToit) –Bellville (long distance rank)	25.6	64	00:40
	Q80	Kayamandi-Lwandile	26.3	53	00:50

Table 3.8: Distance and Average Travel Time per Inter-municipal Route

TA	New #	Route Name	Average 1-way Route distance [km]	Avg. Speed	Turn-around Time [hh:mm]
Stellenbosch	656	Stellenbosch - Idasvalley	5.9	28	00:21
	665	Stellenbosch - Cloeteville	10.5	38	00:27
	670	Stellenbosch - Jamestown	8.5	31	00:27
	662	Stellenbosch - Koelenhof	24.0	62	00:39
	663	Stellenbosch - Vloottenburg/ Lynedoch Station/Devon Valley	10.9	78	00:14
	667	Stellenbosch - Kylemore/ Pniel/ Lanquedoc	16.5	57	00:29
	675	Stellenbosch - Jonkershoek	3.0	25	00:12
	673	Stellenbosch-Elsenburg	16.9	41	00:41
	Y48	Stellenbosch-R310	18.0	95	00:19
Franschhoek	A96	Franschhoek - Franschhoek Plase	No data		
	G60	Klapmuts- Muldersvlei- Stellenbosch	8.8	52	00:17
	G61	Klapmuts - Simondium	22.6	42	00:54
	Z47	Franschhoek - Stellenbosch	8.9	40	00:22
Kayamandi	676	Stellenbosch - Kayamandi	22.6	42	00:54

Passenger waiting times usually serves as a measure or indicator for service quality. The average waiting time was recorded at the various ranks. It is based on the time a person enters the queue and when the vehicle departs. **Table 3.9** summarises the average waiting time during peak periods at the various ranks. Typically, the average waiting time during peak hour ranges from 1 minutes to 54 minutes. The analysis shows that Bergzicht station has the longest wait time of 54 minutes. On average Klapmuts Winelands Centre has the highest waiting time of 25.50 minutes and Franschhoek Rank has the least waiting time of 4.72 minutes.

Table 3.9: Average Passenger Waiting Time

Rank Number	Rank Name	Average Wait Time During Peak Hour (minutes)
1	Bergzicht	14.34
2	Franschhoek Rank	4.72
3	Kayamandi	7.91
4	Du Toit	8.14
5	Klapmuts	14.10
6	Klapmuts Winelands Centre	25.50
7	Stellenbosch Station	10.95
8	Average Waiting Time	9.60

The general services characteristics of the minibus-taxi operations in Stellenbosch as conveyed by the taxi associations during the stakeholder consultation process are summarised as follows:

- Peak: 6am - 9am and 2pm – 5pm;
- These patterns are fairly regular patterns due to daily commuters;

- Age of typical passengers during peak period 18 – 45;
- Off-peak show much less predictable usage patterns;
- Mix of ages, sometimes older passengers above 60 (on social grant days mostly), and
- R44 route is quieter on Mondays when many restaurants are closed.

During the stakeholder consultations held with the minibus-taxi associations on 3 May 2022, the associations indicated that people are using e-hailing services and lift clubs because they collect at drop them at their destination. These services are reliable and convenient, users perceive them as safe. The taxi associations indicated that they have a schedule that taxis follow. Stellenbosch Taxi Association taxis leave every half an hour from ranks between 9am and 5pm, even if they are not full while Kayamandi Association indicated that from 6am their taxis depart every 15 minutes from ranks even if not full.

The associations further indicated that they have not fully recovered from the impact of COVID-19. They have lost 40% of their income since COVID-19 as some people have lost their jobs, others are working from home and people opt for lift clubs or e-hailing services to minimise the risk of contracting COVID-19. Many operators have had vehicles repossessed as they could not keep up with repayments. The representatives indicated that they are experiencing an increase in the number of people who are using their services as a result of an increase in petrol prices. They have also shared that there are more people using public transport around social grant collection dates.

3.2.5 Commuter Bus Services

Golden Arrow runs limited services into and out of Stellenbosch as shown in [Table 3.10](#). It was indicated by the company that certain services had to be cancelled owing to a reduction in subsidy from the provincial Department of Transport.

Table 3.10: Commuter Bus Service in Stellenbosch¹

Code	Origin	Destination	Distance	Days	Times
MKC2	Stellenbosch	Town Centre	57.2	MO-FR	17H00
MKC6	Stellenbosch	Town Centre	63.6	Cancelled	
MKC7	Town Centre	Stellenbosch	63.3	Cancelled	
MKC8	Town Centre	Stellenbosch	63.6	Cancelled	
MKC9	Town Centre	Stellenbosch	61	Mon-Fri	05H30
RRB5	Macassar	Somerset West	26.4	Cancelled	
RSA2	Stellenbosch	City	62	Cancelled	
RSA3	City Golden Acre D Line	Stellenbosch	62	Cancelled	
RSA4	Stellenbosch	City	63.3	Mon-Fri	05h00
RSA5	City Golden Acre D Line	Stellenbosch	64.1	Mon-Fri	17h10
RUG2	Kuils River Term	Polkadraai	12.8	SAT	11h30
RUG3	Polkadraai	Kuils River Term	12.9	SAT	08h25

Detailed route descriptions are provided in [Appendix A](#).

3.2.6 University Shuttle Services

During weekdays, Stellenbosch University offers shuttle services for students and staff to and from various campus destinations to decentralised parking facilities. This service focuses on the following needs:

- Transport between the general parking areas on the edge of campus and central campus during the day;
- Transport to and from service divisions and departments on the edge of campus (e.g. Food Science and Welgevallen), to and from central campus, and
- Transport of congress attendees to and from the general parking areas on the edge of campus.

¹ e-mail correspondence received from Mr Eckhard Scholtz, Schedules Manager at GABS, on 24 May 2022.

Tygerberg students can book the services between the campus collection point and a nearby shopping centre, currently Tyger Valley between Monday and Wednesday, and to Parow Centre on Thursdays (Update of the Comprehensive Integrated Transport Plan (CITP) for Stellenbosch Municipality, 2020). The daily central campus service runs between 07:00 -17:30 and a booked evening service is available from 18:00 to 02:00. The service focuses on transport from parking areas to campus, transport from departments to and from the central campus, and the transport of congress attendees to and from the general parking areas (Update of The Comprehensive Integrated Transport Plan (CITP) For Stellenbosch Municipality, 2020).

In 2017 The University also offered a night shuttle service to Kayamandi. This service operates twice a day, namely at 18:00 and 20:00 (<https://www.matiemedia.org/night-shuttle-service-kayamandi-fully-operational/>)

3.2.7 Rail

3.2.7.1 Infrastructure and Services

The rail network in the Western Cape is extensive and provides linkages between various points within the province. The Stellenbosch municipal railway system consists of 18km of railway line. There are seven (7) railway stations in the municipal area namely Klapmuts, Muldersvlei Koelenhof, Du Toit, Stellenbosch, Vlootenburg, and Lynedoch (Update of the Comprehensive Integrated Transport Plan (CITP) for Stellenbosch Municipality, 2020). The stations can be seen in **Figure 3-3**.

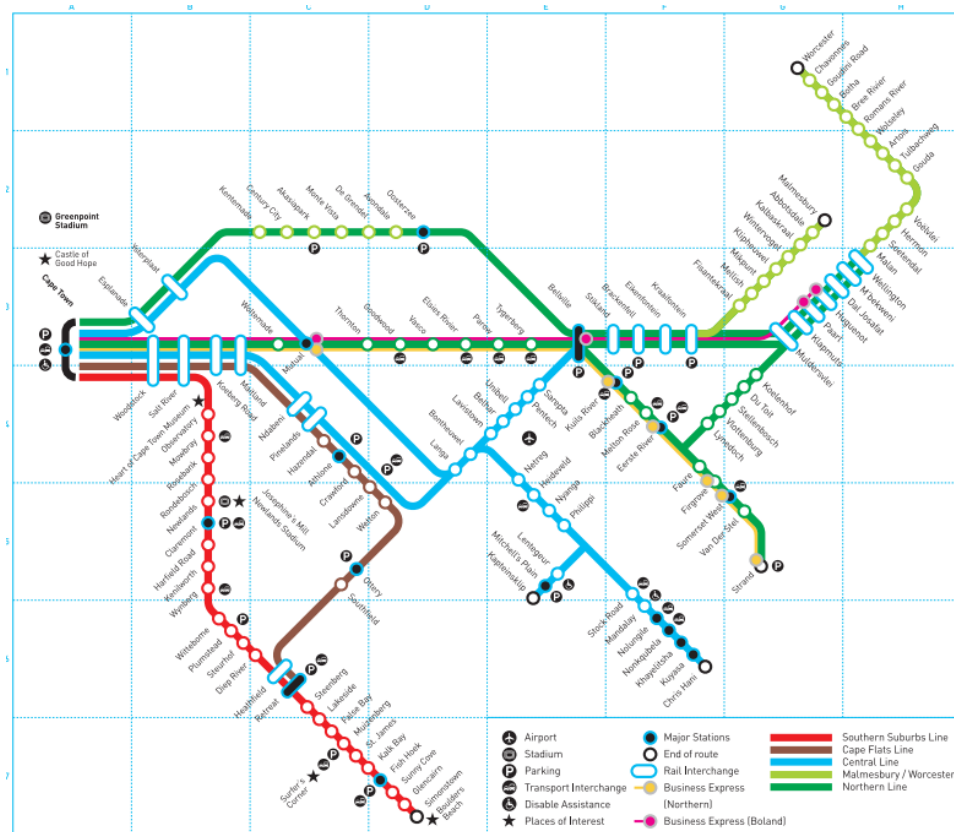


Figure 3-3: Railway line in Stellenbosch

(Source: Comprehensive Integrated Transport Plan for Stellenbosch Municipality, 2016)

At present (May 2022) there are no railway services running in the Stellenbosch municipal area. However, there were limited rail services in operation during the previous update of the CITP (Update of the Comprehensive Integrated Transport Plan (CITP) for Stellenbosch Municipality, 2020), with the rail services originating from the northern line through the Stellenbosch Municipal area, with two trains per peak hour. From Monday to Friday, 25 trains operated daily, in each direction whereas Saturday and Sunday 15 and 13 trains operated respectively.

Table 3.11 shows the outdated fares for rail as of 2015.

Table 3.11: Rail Rates

Station	km Zone	Single		Week		Month	
		Metro Plus	Metro	Metro Plus	Metro	Metro Plus	Metro
Lynedoch	30/40	R15.50	R9.50	R127	R61	R394	R184
Vlottenburg	41 – 135	R18.50	R12	R152	R78	R471	R239
Stellenbosch	41 – 135	R18.50	R12	R152	R78	R471	R239
Du Toit	41 – 135	R18.50	R12	R152	R78	R471	R239
Koelenhof	41 – 135	R18.50	R12	R152	R78	R471	R239
Muldersvlei	41 – 135	R18.50	R12	R152	R78	R471	R239
Klapmuts	41 – 135	R18.50	R12	R152	R78	R471	R239

The rates are based on km zoning pricing, with distances ranging between 136-200km.

As per rail passenger surveys conducted in 2007 and 2012, there was a substantial reduction in rail ridership with a decrease of 13%. This data is outdated, and this figure could be considerably higher. **Table 3.12** illustrates the decrease in rail ridership (Update of the Comprehensive Integrated Transport Plan (CITP) for Stellenbosch Municipality, 2020).

Table 3.12: Rail Ridership

Station	Boarding		Alighting		% Difference 2007 to 2012
	2007	2012	2007	2012	
Klapmuts	1692	1468	1646	1426	-13.3%
Muldersvlei	3919	3713	3213	3722	4.2%
Koelenhof	651	686	576	614	5.9%
Du Toit	2808	2863	2589	2695	3.0%
Stellenbosch	2209	2471	2553	2286	-0.1%
Vlottenburg	448	482	505	544	7.7%
Lynedoch	653	624	793	811	-0.8%

Although there are at present no rail services running, stakeholders such as the Municipality has expressed views that the public transport system in the Stellenbosch area must have a rail component so that communities have access to such rail options where warranted.

3.2.7.2 Planned re-introduction of rail services in Stellenbosch

At a meeting with PRASA's Western Cape Regional Management on 8 April 2022, firm plans and timelines for the re-introduction of passenger rail services in Stellenbosch were shared with the project team. According to this plan the following actions and timelines are applicable:

- Full services started on 31 March 2022 on the Northern Corridor, from which the line to Stellenbosch branches off;
- PRASA is in contact with Transnet as the owner of the line to repair the damage to OHTE infrastructure on the Paarl line;
- PRASA is aiming to reintroduce services from Bellville to Eerste Rivier by June 2022 and then from Eerste Rivier to Muldersvlei by from 1 September 2022;
- PRASA aims to introduce services based on the same timetables and fare structure as before the cessation of services, and
- Diesel locomotives will be considered if electric traction is not feasible in the short term.

PRASA also expressed the desire to work closely with Stellenbosch Municipality to determine demand levels and ensuring effective service delivery. It was also indicated that PRASA was aware of the proposed initiatives on the redevelopment of the Adam Tas corridor which proposes the redevelopment of the Van der Stel sportsground and the possibility of relocating the station towards the sportsground. However, no formal communication has been directed to PRASA in this regard. PRASA expressed the

clear desire to become part of this (and other) TOD initiatives in a structured and co-ordinated manner. they did express the view that this initiative.

With regards to the rail line infrastructure PRASA indicated that there is sufficient space in the current rail reserve for the doubling of the Eerste Rivier to Strand line, but this development is totally dependent on demand on the section.

3.2.8 Other Public Transport

Other Public Transport include long-distance and cross-border transport, non-motorised transport (NMT), and health transport services.

3.2.8.1 Long-Distance and Cross-Border Transport

In the recent past, three (3) commercial bus services provided services to and from Stellenbosch, namely Greyhound, Translux, and Intercape (Update of the Comprehensive Integrated Transport Plan (CITP) for Stellenbosch Municipality, 2020). However, Greyhound announced in February 2021 that all services in South Africa will be ceased.

The operators mainly travel on the national routes (N1, N2, and N3) between major cities. The Translux bus currently operates along four routes through Stellenbosch which depart from the Stellenbosch Station while Intercape operates from Cape Town on routes throughout South Africa and to neighbouring countries. (Update of the Comprehensive Integrated Transport Plan (CITP) for Stellenbosch Municipality, 2020). Langeberg Bus Service also offers services into and from Stellenbosch to various destinations in the Western Cape.

3.2.8.2 Tourist Services

There are various operators that offer tourist services in and around Stellenbosch. **Table 3.13** shows the schedules and tour types offered by three tour bus operators in the Stellenbosch Area (Stellenbosch and Franschhoek CBD Tour Bus Study, 2018)

Table 3.13: Tour Bus Operators

Tour		Days	Departure Time	Return Time
Cape Explorer	Full-day	Monday, Wednesday, Friday, Saturday	08:25 to 09:00	17:30
Hylton Ross	Full-day	Weekdays and weekends	08:00	18:00
Hylton Ross	Half-day	Weekdays and weekends	13:45	18:00
Springbok Atlas	Full-day	Weekdays and weekends	08:30	17:00
Springbok Atlas	Half-day	Weekdays and weekends	14:00	18:00

Apart from the above tour operators, there are also operators like Stellenbus Tours, Sunbird Tours, A2B Tours, Oak Leaf Shuttles, Wynland Toere, Camino Tours and Stellenbosch Wine Tours to name a few. There is also a Guided Bike Tour of Stellenbosch service.

Table 3.14 shows the inbound and outbound tour bus movements for the period 16 May – 22 May 2018. It should be noted that these volumes are pre-COVID-19 and are also outside traditional high traffic periods such as the Easter Weekend (Stellenbosch and Franschhoek CBD Tour Bus Study, 2018).

Table 3.14: Daily Tour Bus Screen-Line Counts: Stellenbosch

Direction	Wed, 16 March 2018	Thu, 17 May 2018	Fri, 18 May 2018	Sat, 19 May 2018	Sun, 20 May 2018	Mon, 21 May 2018	Tue, 22 May 2018
Inbound	55	49	79	53	27	56	39
Outbound	39	37	79	63	27	63	56
Total	94	86	158	116	54	119	95

3.2.9 Non-Motorised Transport (NMT)

NMT includes walking, cycling, animal-drawn vehicles, wheelchairs, and all other transport that does not utilise a motor or engine for movement. The most common forms of NMT in Stellenbosch are walking

and cycling. Figure 3-4 shows the definition of NMT (Update of the Comprehensive Integrated Transport Plan (CITP) for Stellenbosch Municipality, 2020)

$$\begin{aligned}
 \text{NMT} &= \text{Pedestrians} && \& \text{Cyclists} \\
 &\text{incl. People with special categories of need} && \& \text{Cyclists} \\
 &+ \text{electrically powered (=motorised) personal vehicles, such as e-scooters,} \\
 &\text{e-bikes, pedelecs, power chairs/mobility scooters, etc.}
 \end{aligned}$$

Figure 3-4: NMT Definition

Stellenbosch has a very attractive environment for NMT, as it has a walkable CBD with short distances between residential areas. The demand for NMT transport is further increased due to the University of Stellenbosch being within the CBD where students primarily walk between venues. There are 120 km of sidewalks and 30km of cycle infrastructure which makes up 80% of NMT infrastructure in Stellenbosch Municipality. More than half of the infrastructure is in the town of Stellenbosch (Update of the Comprehensive Integrated Transport Plan (CITP) for Stellenbosch Municipality, 2020).

Although the CBD is relatively pedestrian-friendly the ever-increasing traffic and parking in the CBD as well as old street infrastructure with no dropped kerbs pose a threat for disabled people using wheelchairs and people using trolleys/ prams, skateboarders, and cyclists.



Figure 3-5 and **Figure 3-6** show the NMT infrastructure in Stellenbosch Municipality (Update of The Comprehensive Integrated Transport Plan (CITP) For Stellenbosch Municipality, 2020).

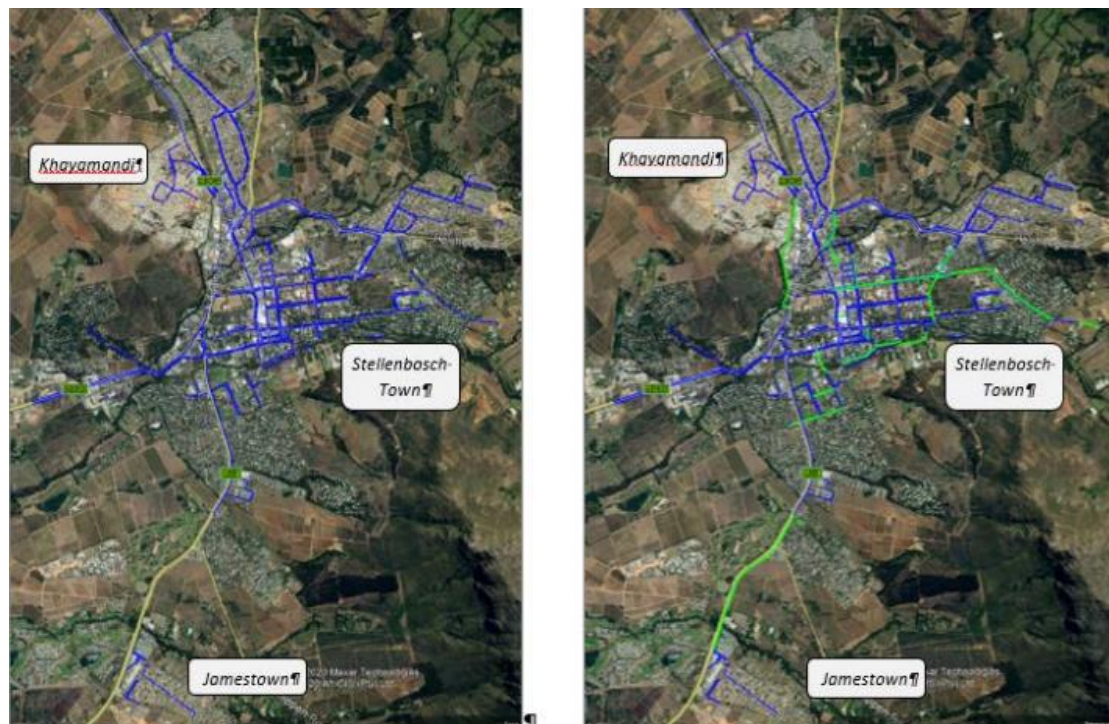


Figure 3-5: Existing Sidewalk Infrastructure in Stellenbosch with Cycle Facilities (Green)



Figure 3-6: Existing Sidewalk Facilities in Kylemore/Pniel/Franschoek and Existing Cycle Facilities (Green)

Around 30% of roads in the municipality have sidewalks, however, cycle infrastructure has shared facilities with pedestrians and in many cases, sidewalks are too narrow and lack continuity (i.e. condition and connectivity) (Update of the Comprehensive Integrated Transport Plan (CITP) for Stellenbosch Municipality, 2020).

3.2.10 Health Transport Services

The HealthNET (Health non-emergency Transport) provides a provincial function for non-emergency patients between home and facilities. Bookings are made online through the provincial health care facility (hospital/clinic). There is a total of 90 HealthNet vehicles operational in the Western Cape. Table 3.15 shows the list of Healthcare Facilities and Locations in Stellenbosch Municipality (Update of the Comprehensive Integrated Transport Plan (CITP) for Stellenbosch Municipality, 2020).

Table 3.15: List of Healthcare Facilities and Locations in Stellenbosch Municipality

Healthcare Facility Name	Location/Address
--------------------------	------------------

Aan-het-Pad Clinic	6851 Long Street, Cloeteville, 7600
Cloeteville CDC	c/o Bell and Tennant Street, Cloeteville, 7600
Devon Valley Mobile 1	Helshoogte Road, Idas Valley, 7600
Dirkie Uys Street Satellite Clinic	Dirkie Uys Street, Franschhoek, 7690
Don and Pat Bilton Clinic	5 Pajora Way, Jamestown, 7600
Franschhoek Mobile 1	Dirkie Uys Street, Franschhoek, 7690
Groendal Clinic	1 Stiebeuel Straat, Franschhoek, 7690
Groot Drakenstein Mobile 1	19 Skoolstraat, Kylemore, 7680
Idas Valley clinic	Helshoogte Road, Idas Valley, 7600
Kayamandi Clinic	56 Bassi Street, Kayamandi, Stellenbosch, 7600
Klapmuts Clinic	342 Merchant Street, Klapmuts, 7600
Koelenhof Mobile 1	6852 Long Street, Cloeteville, 7600
Kylemore Clinic	19 Skoolstraat, Kylemore, 7680
Simondium Clinic	Watergate Road, Simondium, 7670
Simondium Mobile Clinic	Watergate Road, Simondium, 7670
Stellenbosch Hospital	80 Merriman Street, Stellenbosch, 7600

3.2.11 Learner Transport Services

Apart from the Western Cape Department of Education's learner transport contract services, private operators also provide specific learner transport to several schools in and around Stellenbosch. Such operators include (but are not limited to) the following:

- GEM Shuttles and Transport (Pty) Ltd and Stubbs Tours (Stellenbosch and Pniel);
- Somerset West Bus Fund;
- Eljosa;
- Trisvana Charter and Scholar Services;
- Bettina Shuttle, and
- P Jagers Transport.

3.2.12 Levels of satisfaction with aspects of the transport system and different modes

The NHTS (2020)² asked households to indicate their levels of satisfaction with the various public transport modes. **Table 3.16** to **Table 3.18** show the satisfaction levels of households in Stellenbosch, with each table highlighting the top five issues that households are not satisfied with.

² data for the NHTS were collected mid-Jan to mid-March 2020, i.e. pre-COVID-19.

Table 3.16: Household Satisfaction (Metrorail)

Metrorail				
	#	Description	Satisfaction	Value ³
TOP 5 ISSUES	1	The travel time by train	Dissatisfied	3,2
	2	The punctuality of trains	Dissatisfied	3,2
	3	The level of crowding in the train	Dissatisfied	3,2
	4	The frequency of trains during peak period	Dissatisfied	3,1
	5	The facilities at the stations e.g. Toilets, Offices	Dissatisfied	3,1
	6	The frequency of trains during off-peak period	Dissatisfied	3,1
	7	The train service overall	Dissatisfied	3,1
	8	Security on the walk to/from the station	Dissatisfied	3,0
	9	Security on the train	Dissatisfied	3,0
	10	Security at stations	Dissatisfied	3,0
	11	Safety from accidents	Dissatisfied	3,0
	12	The distance between the train station and your home	Dissatisfied	2,7
SATISFIED	13	The train fares	Satisfied	2,3

(Source: NHTS, 2020)

Table 3.17: Household Satisfaction (Minibus-taxi)

Minibus-taxi				
	#	Description	Satisfaction	Value
TOP 5 ISSUES	1	The level of crowding in the taxis	Dissatisfied	2,7
	2	The facilities at the taxi ranks e.g. Shelters	Dissatisfied	2,7
	3	The waiting time for taxis	Dissatisfied	2,6
	4	Safety from accidents	Dissatisfied	2,6
	5	The frequency of taxi during off-peak period	Dissatisfied	2,5
SATISFIED	6	The taxi fares	Satisfied	2,4
	7	Security at the taxi ranks	Satisfied	2,4
	8	Behaviour of the taxi drivers towards passengers	Satisfied	2,4
	9	The frequency of taxi during peak period	Satisfied	2,4
	10	The taxi service overall	Satisfied	2,4
	11	Roadworthiness of taxis	Satisfied	2,4
	12	The travel time by taxi	Satisfied	2,4
	13	Security on the taxis	Satisfied	2,4
	14	Security on the walk to/from the taxi rank	Satisfied	2,3
	15	The distance between the taxi rank/route and your home	Satisfied	2,1

³ Very satisfied = 1 / Satisfied = 2 / Dissatisfied = 3 / Very dissatisfied = 4

(Source: NHTS, 2020)

Table 3.18: Household Satisfaction (Bus)

Bus ^[1]				
	#	Description	Satisfaction	Value
SATISFIED	1	The facilities at the bus stops e.g. shelters	Satisfied	2,4
	2	The distance between the bus stop and your home	Satisfied	2,2
	3	Security on the walk to/from the bus stop	Satisfied	2,2
	4	Availability of information	Satisfied	2,2
	5	The travel time by bus	Satisfied	2
	6	Security on the buses	Satisfied	2
	7	Behaviour of the bus drivers towards passengers	Satisfied	2
	8	The bus service overall	Satisfied	2
	9	Security at the bus stops	Satisfied	1,8
	10	The level of crowding in the bus	Satisfied	1,8
	11	Safety from accidents	Satisfied	1,8
	12	The frequency of buses during peak period	Satisfied	1,8
	13	The frequency of buses during off-peak period	Satisfied	1,8
	14	The punctuality of buses	Satisfied	1,8
	15	The bus fares	Satisfied	1,8

(Source: NHTS, 2020)

^[1] Interpret with caution as the sample size is only 5.

3.2.13 Average travel times

Table 3.19 indicates the average household travel times as recorded during the NHTS (2020). For walking, the average walking time to use public transport is reflected.

Table 3.19: Average Household Travel Times by mode of transport

Description	Values in minutes	
	Stellenbosch	South Africa

Trip purpose	Work	35	45
	Food and grocery shops	18	19
	Other shops ^[1]	34	97
Walking time to Public Transport	Train	30	
	Bus	12	
	Taxi	17	
	Average	20	

^[1] For example, furniture or clothing shops

3.2.14 Main public transport problems and issues

In this section the main transport problems and issues are presented based on two main sources of information. General problems and issues as identified by households during the NHTS (2020) are discussed in section 3.3.9.1 and the issues identified during the first set of stakeholder engagements (April and early May 2022) are presented in Section 3.3.9.2.

3.2.14.1 Transport problems identified by Households

Households were asked to indicate the two main issues they have with transportation. The following are their answers *ranked from most frequently reported to least frequently reported*. The top concerns are accessibility followed by safety as shown in **Table 3.20**.

Table 3.20: Transport problems identified by Households (NHTS, 2020).

Issue	Description	Value ^[1]
1	No buses available	1,609587083
2	No taxis at specific times e.g. late at night	1,758052308
3	Congestion	1,773643932
4	Reckless driving by taxi drivers	1,795727861
5	Crime	1,827836179
6	Trains are not reliable	1,830560928
7	No trains available	1,863039273
8	Overload	1,879875536
9	Parking	1,920780422
10	Trains too far	1,947657893
11	Rude drivers	1,960541586
12	Taxis too expensive	1,970515516

^[1] Where 1 = Yes and 2 = No. Therefore, the closer to 1, the more of an issue.

3.2.14.2 Transport problems identified during the stakeholder consultation process

During peak traffic, congestion levels along arterial roads are high. This is especially problematic for minibus taxis, since public transport users' trips typically involve several chains, and therefore are already longer in duration than private transport users' journeys. In addition, minibus taxis must load and off-load passengers along the route, resulting in further delays. Minibus taxi association leaders have expressed strong desire for dedicated HOV (high occupancy vehicle) lanes to be added along key arterial roads to alleviate this issue.

Increasingly students are contributing to traffic congestion levels in Stellenbosch, since there have been relaxations of parking eligibility criteria by Stellenbosch University (previously first year students were not permitted to park on campus, however, this policy was withdrawn). Since Stellenbosch University does not have sufficient parking on campus to accommodate students' vehicles, most students park in streets and parking lots in and around Stellenbosch (exacerbated by reduction from R8 per hour to R4 per hour due to political pressure exerted after the initial increase to R8).

There are not enough laybys/dedicated stopping bays for minibus taxis in central parts of Stellenbosch.

Relocation of the “Die Braak” minibus taxi rank (which was very centrally located) to Bergzicht means that most passengers do not disembark at the rank, but rather in the street close to the old “Die Braak” rank, where minibus taxis are no longer permitted, but do so anyway due to the needs of their passengers. In addition, those passengers who then need to return home via taxi must walk an additional kilometre to get to Bergzicht (which is far especially when carrying shopping).

Stellenbosch University indicated that in response to protests and disruption caused by minibus taxi operators, university properties which were accessed by students via university operated shuttles were sold. The minibus taxi operators argued that the shuttles were encroaching on their routes and taking business away from them. The shuttle service was however for students/staff only, and not a paid for service.

Criminal syndicates in the area have vandalised and stolen significant amounts of copper cabling and signalling equipment along Metrorail lines servicing the municipality, therefore despite travel demand returning post-COVID-19, service cannot resume.

Roads are automobile oriented, with inadequate provisions for NMT modes. This is especially problematic for school children and parents, who are not adequately protected from motorised traffic. In addition, those wanting to use push scooters and skateboards on public roads are in contravention of by-laws. Stellenbosch Municipality plans to implement NMT facility upgrades in historic centre have been met with resistance from residents, due to heritage concerns.

In the post-COVID-19 era, many restaurants continue to have outdoor dining tables on the sidewalks, however this further reduces space for pedestrians. Proposals to remove parking bays to extend sidewalks have been put forward by the municipality, but some business owners in the area are strongly opposed to this, due to their concern that reduced street parking will result in a reduction in customers/patrons.

Many higher order roads fall partially under the jurisdiction of the municipality, and partially under the jurisdiction of provincial government. A lack of coordination means that maintenance along these roads, particularly along portions under the jurisdiction of provincial government, is poor. Compounding the issue is incompatibility in terms of infrastructure specifications of the two spheres of government. For example, while the municipality uses LED lighting, the province still uses sodium lighting.

Littering was cited as a major concern at taxi ranks, deterring potential choice users of minibus taxis further, and likely motivating captive users to seek alternative/private transport modes as their financial circumstances improve.

Property developers are constrained by current legislated minimum parking requirements even in central parts of Stellenbosch, hampering potential for densification through mixed-use redevelopment.

It is understood that much of the traffic congestion during peak periods is a result of through-traffic, rather than vehicles starting/ending their journey within Stellenbosch (it is for this reason that several bypasses are being planned).

A lack of affordable central housing was identified to be a primary contributing factor for high levels of commuting by those who work in Stellenbosch (but who are unable to afford to live in Stellenbosch). Similarly, schools are far from most outlying residential areas, increasing the need for travel.

Most planned affordable and low-income housing projects are greenfield developments in peripheral locations, which would perpetuate the need for longer distance travel. Some of the planned smaller affordable housing projects in more central areas have been heavily resisted by property owners in these areas (including the mayor), due to fears that such development would reduce property values in the area.

A lack of adequate provision for the circulation of vehicles in informal settlements makes it challenging for motorised public transport to service these areas. In addition, fire and rescue services are often unable to access these sites during emergencies, resulting in far larger scales of damage that there might have been otherwise.

Suspected extortion rackets are operating at some minibus taxi ranks, whereby vehicles and their occupants are “held hostage” by rent seekers, who only allow vehicles to depart once a ransom has been paid. In addition, it is alleged that sometimes drivers who are members of one association prevent drivers who belong to competing associations from entering taxi ranks.

3.3 Roads and Traffic

The Stellenbosch Municipal Area is located within the district municipality of Cape Winelands, both municipalities included in the Western Cape Province. This placement indicates that the roadway infrastructure and associated traffic conditions of the roadways within the Stellenbosch Municipal boundary are shared (to an extent) between authorities. Within this chapter, Chapter 3.4, a summary of

the roadways and associated conditions with specific regard to the Municipality of Stellenbosch is provided.

3.3.1 Road Network and Infrastructure

The total road network of Stellenbosch Municipality totals to 312 km of which the town of Stellenbosch consists of 160.1 km access roads and 52.9 km collector roads. The next largest extent of road network is Franschhoek (32.2 km) and then Klapmuts (20.8 km). **Table 3.21** illustrates the kilometres of the Stellenbosch Municipality road network by functional class (Review of the Comprehensive Integrated Transport Plan (CITP) for Stellenbosch Municipality, June 2020).

Table 3.21: Kilometres of Stellenbosch Municipality Road Network by Functional Class

	Functional Class (road length in km) – Source 2020 CITP Review				
Town	Arterial	Distributor	Collector	Access	Total
Devonvale	0.0	0.0	0.0	7.8	7.8
Franschhoek	0.0	0.0	2.9	29.3	32.2
Klapmuts	0.0	0.0	0.0	20.8	20.8
Kylemore	0.0	0.0	0.7	6.0	6.7
La Motte	0.0	0.0	0.0	4.6	4.6
Lanquedoc	0.0	0.0	1.6	7.1	8.7
Meerlust	0.0	0.0	0.0	1.0	1.0
Pniel	0.0	0.0	0.0	10.6	10.6
Raithby	0.0	0.0	0.0	2.8	2.8
Stellenbosch	4.0	0.0	52.9	160.1	217.0
TOTAL	4.0	0.0	North 58.1	250.4	312.5

The major roads serving the town of Stellenbosch can be defined as a radial network, combining in the central town to form a single north/south route through the town – the R44/Adam Tas Road, which is largely under provincial control, whilst the municipality is responsible for a section through Stellenbosch – refer to **Figure 3-7**. Three routes from the north and east plus three from the south and west feed into the central Adam Tas Road. This major road layout resulted from the topography of the area and the farming activities to the west. It does confirm that **the R44** is the access route with the highest significance in the Municipality, which is confirmed by the modelling results from the 2019 Stellenbosch RMP – refer to **Figure 3-8**. The R44 forms a southerly link to Somerset West, as well as a northerly link to Paarl. The six major routes serving central Stellenbosch from the surrounding areas are:

- M12/Adam Tas Road - a westerly link to the City of Cape Town;
- R310/Adam Tas Road – a westerly link to the City of Cape Town;
- R44 south – a southerly link to Somerset West;
- R310/Helshoogte Road – an easterly link to Franschhoek;
- R44 north – a northerly link to Klapmuts and Paarl, and
- R304/Klipheuwel Road – a northerly link to the N1 freeway and also Cape Town.

The most important secondary routes for central Stellenbosch are those providing access into the town (from the major network):

- Dorp Street – Access from Adam Tas to central town;
- Merriman Street – Access from Adam Tas to central town;
- Bird Street – Access from R304 and northern areas to central town;
- Van Reede/Piet Retief – Access from R44 and southern areas to central town, and
- Cluver Street – Access from the R310 to central town.



Figure 3-7: Radial layout of major and secondary roads serving central Stellenbosch

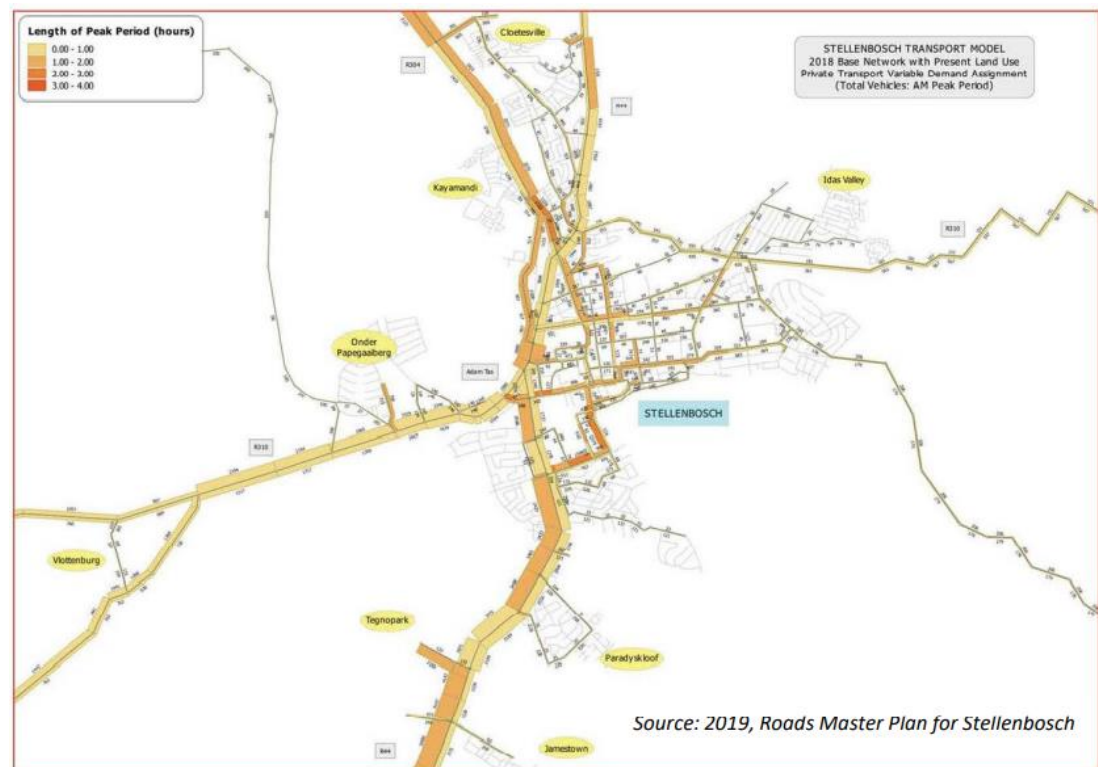


Figure 3-8: Modelled traffic volumes for am peak period for 2018 – Stellenbosch Roads Master Plan (2019) – confirming major north/south traffic demand on western side of Stellenbosch - through R44/Adam Tas/R304

A more detailed summary of the Stellenbosch Municipality and all its major connectors are provided in [Table 3.22](#) and [Figure 3-9](#) illustrates the network of roads in the full municipal area (Review of the Comprehensive Integrated Transport Plan (CITP) for Stellenbosch Municipality, 2020).

Table 3.22: Stellenbosch Municipality Roads and Connections

Road Name	Connectivity
-----------	--------------

R45- R43-R62 route	Connects the Saldanha Industrial Development Zone and the N2 via Worcester
R46-R62	Connects movement to and from the northern areas of the Western Cape along the N7 towards the N2
R300	Provides connection between the N1 and the N2 on the western side of the Drakenstein Mountain
R44	Provides connection between the N7 in Malmesbury, with the N1 and the N2 as well as linkages to Paarl in the north and Somerset West/Khayelitsha in the south. The R44 further extends from Wellington in the north of the Drakenstein Municipality, continues through Agter-Paarl, intersects with the N1 just north of Klapmuts, continues through Stellenbosch and Somerset-West to Kleinmond in the Overberg District Municipality.
R310	Internal east-west connection to Kylemore and Pniel.
R45 and R310	Provides connectivity between Franschhoek and Paarl
R304	Extends from the Atlantis area on the West Coast, around the northern and eastern side of Durbanville, to eventually link into Stellenbosch – forms an important link with the N1 and the Koelenhof node
M12	Also known as the Polkadraai road, the M12 extends from Parklands and crosses the N1 in the Platteklouf area. It then extends eastwards into Stellenbosch.

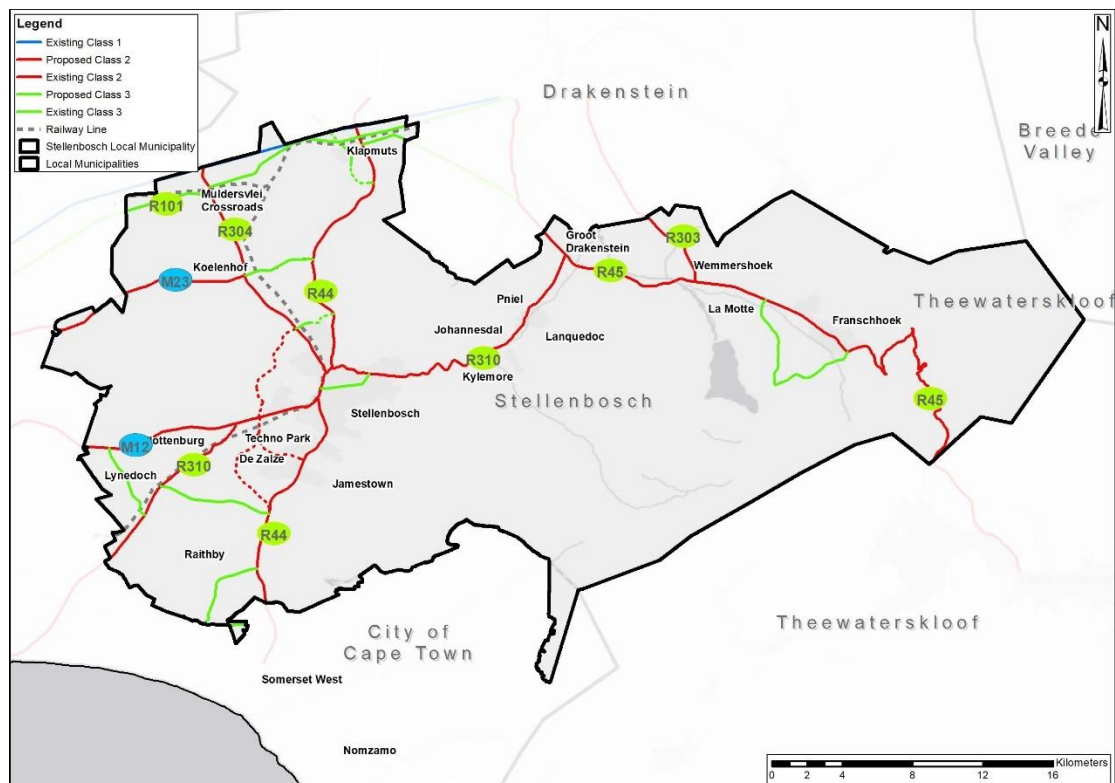


Figure 3-9: Network of Major Roads in Stellenbosch Municipal Area

3.3.2 Road Conditions

Of the Municipal Road Network approximately 98% of the total road length is bitumen paved roadways with remainder block paved roads (1.8%) and concrete paved roads (0.02%). The road conditions are summarised in **Table 3.23** (CITP 2016).

Table 3.23: Road Conditions

Element	Condition (% of total)				
	Very Good	Good	Fair	Poor	Very Poor
Road Surfacing	31	26	25	15	4
Structural Condition	51	32	5	9	4

Also refer to Section 7.3.

3.3.3 Traffic Volumes and Congestion

Traffic surveys have been done in October/November 2022 in the municipal area, largely to compare with previous observations and to determine any discernible effects due to the COVID-19 epidemic of 2020/21. The counts were done at 15 intersections and divided into three groups as shown below. The detailed survey information for each intersection is shown in **Appendix B**.

Traffic volume surveys – five major access points to Stellenbosch but excluding the direct vicinity of the Stellenbosch CBD

Figure 3-10 shows the location of the five major access points where traffic volume surveys were done.



Figure 3-10: Location of five major access points to Stellenbosch town where traffic volume surveys have been done in 2022

1. Techno Park / R44;
2. R310-Adam Tas / Dorp Street;
3. R310-Adam Tas/R304/R44/Bird Street;
4. R44/Helshoogte Road
5. Helshoogte Road/Cluver Street

The surveys were undertaken during the following times (the exact days are shown in [Appendix B](#)):

- Tuesday/ Wednesday, 12 hour counts from 06:00 to 18:00;
- Thursday, 3 hour AM peak counts from 06:00 – 09:00
- Thursday, 3 hours PM peak counts from 15:00 – 18:00

Traffic volume surveys – nine major (but smaller) nodes in the Stellenbosch Municipal area

Figure 3-11 shows the location of nine major intersections where traffic volume surveys were done.

6. R310-Baden Powell/ Annandale (for the Lynedoch area);
7. R44/Winery Road (for the Raithby area);
8. R304/Bottelary Road (for the Koelenhof area);
9. R44/Kromme Rhee Road (for the Koelenhof area);
10. R101-Old Paarl Road/R44 (for the Klapmuts area);
11. R310-Helshoogte Road/R45 (for the Franschhoek-Stellenbosch-Paarl link area);
12. R45/R301 (for the Wemmershoek area);
13. R45/Lambrecht Road (for the Franschhoek area and entrance into Franschhoek);
14. Helshoogte Road in vicinity of Kylemore and Pniel to determine through traffic of these areas.

These surveys were undertaken during the same times as indicated for (a) above (the exact days are shown in [Appendix B](#)).

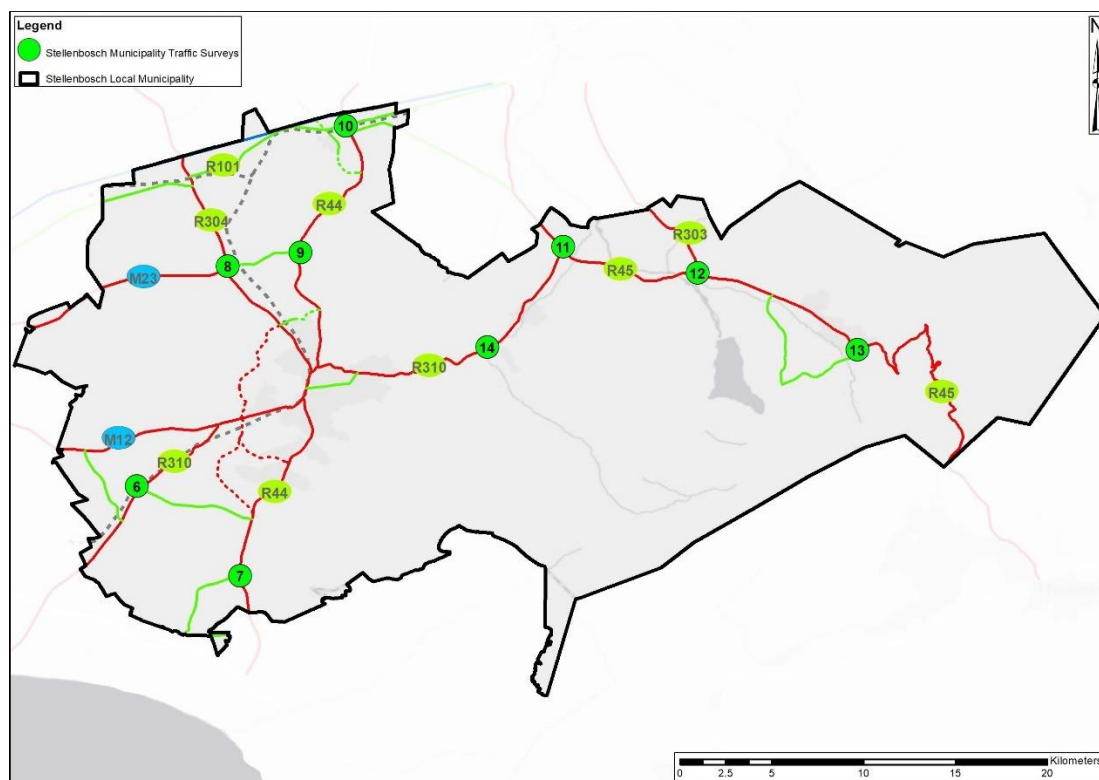


Figure 3-11: Location of nine major intersections in Stellenbosch Municipal area where traffic volume surveys have been done in 2022

Traffic volume surveys – one location in Franschhoek over the weekend peak period

Figure 3-12 shows the location of one intersection in Franschhoek where traffic volume surveys were done over a weekend.

15. Weekend peak period survey in Franschhoek at the intersection of R45-Huguenot St / Lambrechts Rd / Excelsior Rd on a Saturday, 3 hour counts from 09:00 to 12:00.

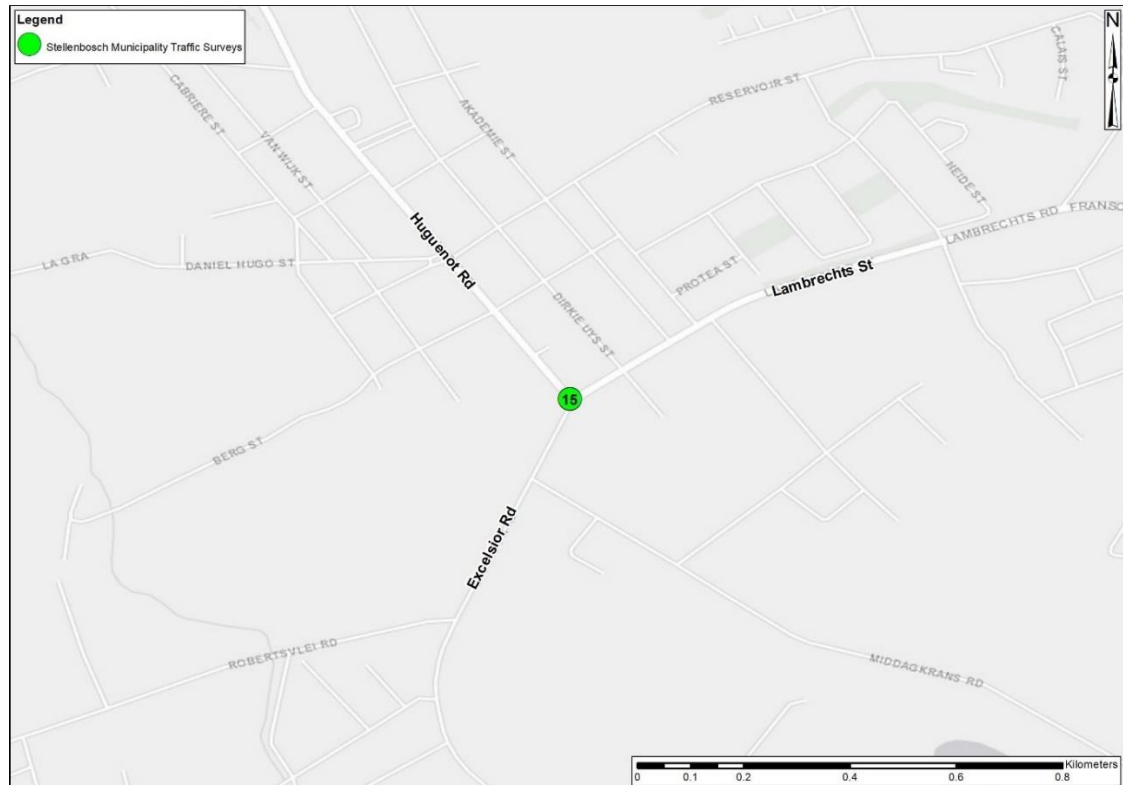


Figure 3-12: Location of one Intersection in Franschhoek where traffic volume surveys have been done over a weekend in 2022 (R45/Excelsior/Lambrechts)

Table 3.24 shows the inbound and outbound traffic volumes for the weekday am peak hour for 2017, 2018 and 2019 (from Update of the CIP for Stellenbosch Municipality, 2020), compared with the 2022 traffic surveys. Some locations are not directly comparable, but the conclusions below can be made.

Table 3.24: Inbound and Outbound Traffic Volumes (Weekday AM Peak Hour)

Road	2017		2018		2019		2022	
	In	Out	In	Out	In	Out	In	Out
R44 (opposite Paradyskloof)	2468	1372			2286	1849	2418	2135 (just north of Techno Park)
R44 (south of Technopark)	2497	782			3167	1157	3216	1279
R44/Van Reede (north of Technopark)			2229	1896	2336	1949		
R310 (west of R44)	665	491			1465	1045		
R310 (before Polkadraai)	665	491					1083	393 (Annandale to M12)
R310 (Devon Valley Road inter)	1725	1463						
R310 (at Dorp Street)			1984	1200	2161	1233	2290	1410 (South of Dorp)
R304 (north of Kayamandi)	1266	429					1293	862 (Just south of Bottelary)
R304 (at George Blake Rd)			1183	674		752	908 (Just west of R44)	
R44 (north of Helshoogte)	1447	479					2011	998

Road	2017		2018		2019		2022	
	In	Out	In	Out	In	Out	In	Out
R44 (at Helshoogte)			1344	695	1586	742	1919	985
R310 Helshoogte (east of Cluver)	530	258					793	1005
R310 Helshoogte (at La Colline Road)			508	792	652	1244		
R45 at R310 Helshoogte Road (north of R310)							815	542

Comparing traffic volumes with previous counts is a bit risky due to some uncertainty with the exact location of all previous counts. It is also true that at some locations the traffic demand exceeded the capacity in the past and also now (congestion present for a long time), so the volumes are limited by the capacity and cannot increase further. The following conclusions can be made wrt the **morning peak hour**:

R44: The counted volumes from the south into Stellenbosch are the same (due to capacity constraints north of Techno Park – around 1200 veh/h/lane) or higher (south of Techno Park) as counted in 2017 – the volumes out of Stellenbosch are slightly higher, indicating more economic activity in Techno Park than in the past.

The counted volumes on the northern (Paarl) side are higher than ever in the past into Stellenbosch and even out of Stellenbosch – the current volume of 1000 veh/h/lane entering from the north must be close to the capacity of that section.

R304: The counted volumes inbound just south of Bottelary are the same as in 2017 (although not at the same location), but the outbound volume is higher, which indicates higher interaction from Stellenbosch to the north and west (N1 and Cape Town) – similar to trend on R44.

The inbound volume at the R304 (Bird) intersection with the R44 is lower than in 2018, but in view of the queuing present there it can be accepted that it presents the current capacity of the R304 (Bird) at that location. The outbound volume is higher than observed before.

R310 (from west): The inbound volume just south of Dorp is slightly higher than reported before (estimated at capacity with the current 1150 veh/h/lane observed there). The outbound volume is slightly higher than reported before.

At the R310 (Helshoogte) intersection just to the east of Cluver both the in and outbound volumes are substantially higher than reported for 2017, which indicates a much stronger interaction to the east with Pniel and Franschhoek. The outbound volume is even higher than inbound, which is considered strange.

R45 (north of R310): The movement from the north (Paarl side) is high (close to capacity) with about half of the vehicles turning right towards Pniel and the other half proceeding in the Franschhoek direction.

The R45 in Franschhoek (Main Street) shows similar volumes (around 200 veh/h/direction in the weekday morning peak hour than during a Saturday morning between 11:00 and 12:00. This street in central Franschhoek is narrow and has substantial friction due to the on-street parking and high pedestrian traffic. Based on the counts, it is estimated that some spare capacity still exists.

Overall Conclusion: The counts were done during the latter part of October 2022 and the first half of November 2022. It is possible that the university's activities could already have slowed down at this time. Even so, the observed volumes are generally higher than reported before, which indicates very little, if any, remaining impact from the COVID-19 pandemic. At a number of locations the volumes are basically the same as those observed previously which is attributed to oversaturation, i.e. the capacity of the sections has been reached (resulting in differing degrees of queuing being experienced).

There are five major locations where traffic from outside Stellenbosch can enter the central town – they are the five locations listed under Section 3.3.3 (a). There are smaller other links into central Stellenbosch not included here, e.g. the George Blake link through Plankenburg and the Blaauwklippen link past the east of Jamestown. Their role as feeders into Stellenbosch is considered relatively small, though.

At the five locations there are eight road links (see **Figure 3-13**) feeding into/out of the central part of Stellenbosch. To obtain an idea of the traffic volumes entering/leaving the central part of Stellenbosch from outside the central town (Kayamandi, Voeltjiesdorp, Cloetesville, Idas Valley, Jamestown, Techno Park and Weltevrede excluded from central town) the counts on a cordon around the town (see Figure 3-13 and Figure 3-14) have been extracted and are shown in **Table 3.25**. The observed flows at all of these locations contain an element of through traffic, the extent of which is unknown at present (no origin/destination surveys have been done). There is also an element of double counting in **Table 3.25** – e.g. traffic entering the cordon from the R44 south, do exit the cordon at the Techno Park link. Even so, Table 3.25 shows a summary of the total traffic volumes (all types of vehicles) on the eight external links which have been observed:

Table 3.25: Inbound and Outbound Traffic Volumes (to/from central Stellenbosch) over defined cordon (Weekday and AM and PM Peak Hours)

	AM P Hour (veh/h)			PM P Hour (veh/h)			Est daily volume (2 way)
	In	Out	Total	In	Out	Total	Total veh/day (split 50/50)
R44 south Techno Park	3216	1279	4495	1643	2900	4543	45 000
Techno Park Road	260	1896	2156	1572	264	1836	20 000
R310 west of Dorp	2290	1410	3700	1741	1628	3369	35 000
R304 west of Adam Tas/R44	752	908	1660	757	1426	2183	19 000
Lang Street South (Cloetesville)	528	273	801	235	346	581	7 000
R44 north of Helshoogte	2011	998	3009	1335	1540	2875	29 000
Rustenburg Street (Idas Valley)	1252	523	1775	581	881	1462	16 000
Helshoogte east of Cluver	793	1005	1798	604	921	1525	17 000
TOTAL	11 102	8 292	19 394	8 468	9 906	18 370	188 000

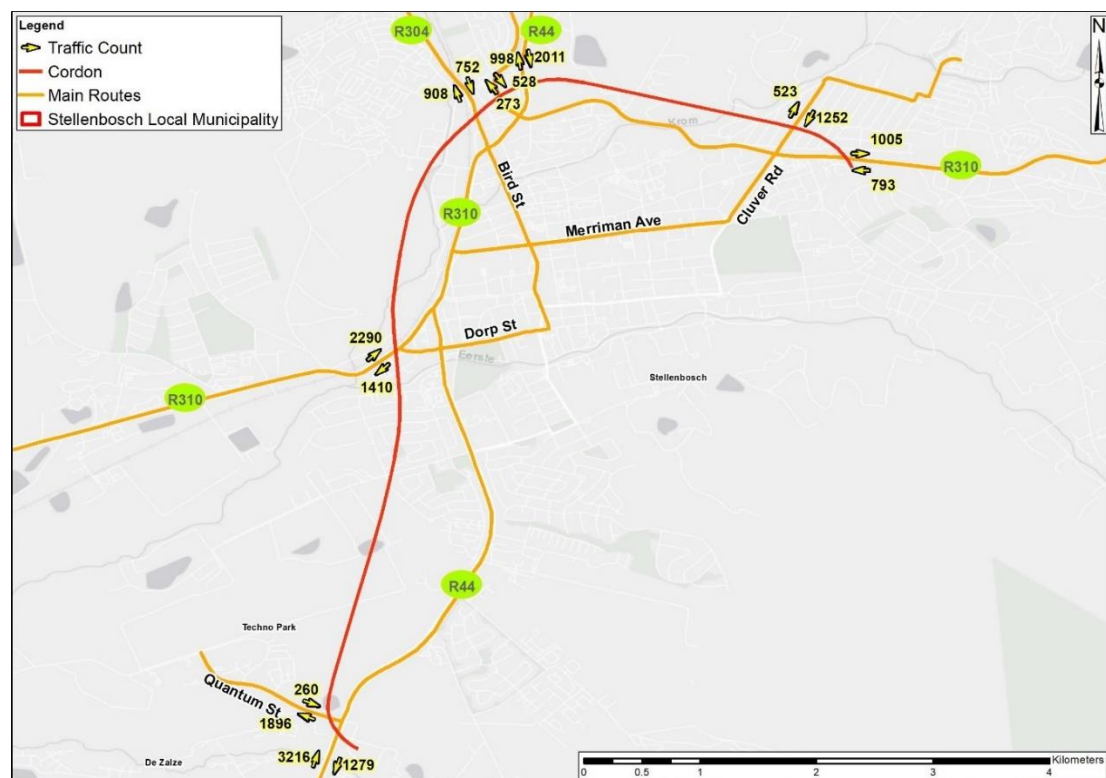


Figure 3-13: 2022 AM Peak Hour Cordon counts on the major feeder routes to central Stellenbosch



Figure 3-14: 2022 PM Peak Hour Cordon counts on the major feeder routes to central Stellenbosch

From the above the following can be concluded wrt the major road links crossing a cordon around central Stellenbosch:

1. The most important external route into/out of central Stellenbosch is the R44 from/to Somerset West in the south. Approximately 4500 vehicles enter/leave central Stellenbosch on this route in the peak hours. At a typical average vehicle occupancy of 1.5 persons/vehicle, this implies approximately 6750 persons in the peak hours, and at a typical ratio of 10% of daily traffic in the peak hour, the daily (24 hour) two way volume is estimated at 45 000 vehicles/day – note this is to the south of the Techno Park intersection – the total two way volume on the R44 just north of this intersection is basically the same due to the movements to/from Techno Park – refer to **Appendix B**.
2. Techno Park Road carries high numbers of traffic in the peak hours which is only possible due to the recent partial widening to two lanes per direction. The planned construction of a new link from Techno Park Road to the R310 can be expected to put the road under further pressure.
3. The R310 linking with Kuils River and the N2 is the second largest feeder from outside Stellenbosch with about 3500 vehicles/hour in the peak hours and 35 000 vehicles/day in both directions.
4. It is known that substantial queuing occurs at some of these locations, so the actual traffic demand (at least in the peak hour) is in fact higher than the counted volumes (or put differently, the demand is exceeding the peak hour capacity at some of these locations). The most obvious location is the R304 entrance into Stellenbosch where long queues are present (in and outbound) during both the morning and afternoon peak hours. This is also illustrated through the equal entering volumes of just above 750 vehicles/hour in the am and pm peak hours, which is the capacity of the eastbound leg of the R44/R304 intersection – to the west of the R44. This location, with Bird Street only one lane/direction, can be considered the biggest bottleneck in Stellenbosch.
4. On a daily basis approximately 188 000 vehicle trips, or approximately 282 000 person trips (at 1.5 persons/vehicle) are crossing the defined cordon around the central part of Stellenbosch from outside of the central part of the town – as mentioned all of the traffic from/to Kayamandi, Voeltjiesdorp, Cloetesville, Idas Valley, Jamestown, Techno Park and Weltevrede are included in the number. Should it be assumed that 25% of this traffic is through traffic, i.e. no destination in central Stellenbosch, then it implies that the person trips to/from central Stellenbosch (from outside the defined cordon into/out of central Stellenbosch) are:
 - During the peak hours: approximately 21 000 (directional split +-60/40)
 - During the day: approximately 210 000

Should the percentage of through trips be lower than 25%, and allowance is made for minibus taxi trips, these numbers will be higher.

5. The highest percentage of trucks occurs on the R44 at the R44/Bird intersection during the afternoon off peak hour (not shown in [Appendix B](#)). Also at the R44/Techno Park intersection, a reasonable number of trucks are present, although percentage wise it is low. Between 14:00 and 15:00 on 26 October 2022 the number of trucks on the R44 travelling north and south was:

	R44/Bird	R44/Techno Park
Northbound	66 out of 620 total vehicles (11%)	38 out of 1343 total vehicles (3%)
Southbound	52 out of 652 total vehicles (8%)	54 out of 1618 total vehicles (3%)

The origin/destination of these vehicles is not known. It is considered that it could be an indication of a reasonable through traffic component for trucks on the R44 through Stellenbosch.

6. High numbers of minibus taxis were found at three intersections (refer to [Appendix B](#)):

	AM peak hour	PM peak hour
R44/Techno Park		
Northbound:	175 of 2250 vehicles (8%)	85 of 1511 vehicles (6%)
Southbound:	54 of 1174 vehicles (5%)	71 of 2079 vehicles (3%)
R310/Dorp		
Northbound:	106 of 1459 vehicles (7%)	41 of 1131 vehicles (4%)
Southbound:	97 of 1037 vehicles (9%)	71 of 1068 vehicles (7%)
R44/Bird		
Eastbound (to CBD)	63 of 464 vehicles (14%)	31 of 444 vehicles (7%)
Westbound (from CBD)	52 of 332 vehicles (16%)	54 of 497 vehicles (11%)

The highest percentage of minibus taxis has been observed on Bird Street at the R44/Bird/R304 intersection. This clearly illustrates the importance of minibus taxi movement on Bird Street and the demand for these services to/from Kayamandi. The highest numbers of minibus taxis have been observed at the R44/Techno Park intersection – approximately 230 minibus taxis north and south during the morning peak hour. Minibus taxi numbers also exceed 200 veh/h on the R310 at the Dorp Street intersection during the morning peak hour. Minibus taxi numbers are higher at all these locations during the morning peak hour than during the afternoon peak hour.

3.3.4 Parking

The most recent investigation into the parking situation in Stellenbosch was completed in June 2021 by Messrs SMEC (Stellenbosch Bulk Parking). It focused on Stellenbosch CBD (as defined – refer to

[Figure 3-15](#)) and Techno Park. The CBD by and large excluded the Stellenbosch University campus.

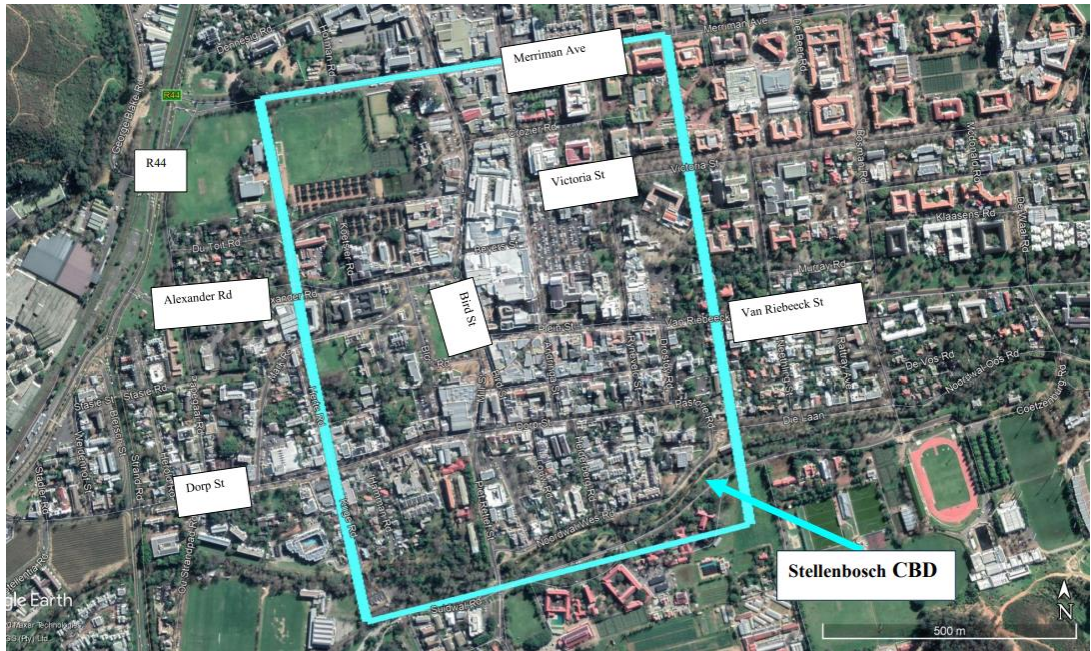


Figure 3-15: Stellenbosch CBD as defined in 2021 Parking Study

Sections 3.1 and 3.2 of the SMEC study describe a VISSIM model (microscopic simulation) that was built to model the existing traffic flows in Stellenbosch. It employed existing counts from the municipality – source is MPA Traffic Counts Report of R310 and R44 corridors of 2019. Section 3.3 of the study shows that many intersections are operating beyond their capacity, and the results of the study will be used to determine the best access and egress arrangements to the parking garage.

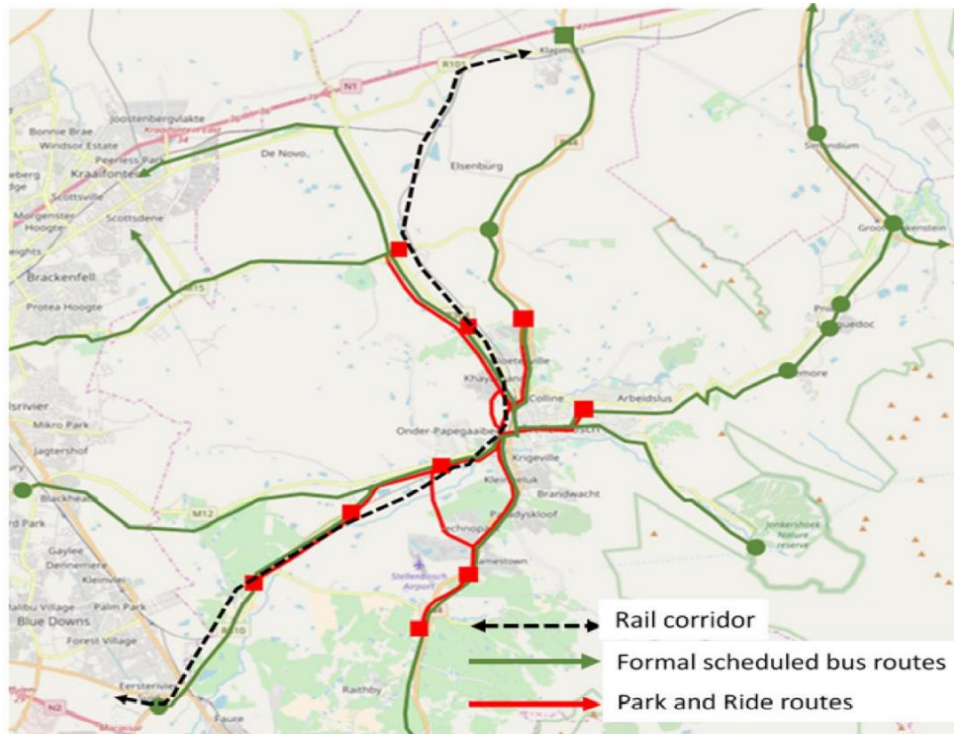


Figure 3-16: Formalised bus system and park and ride concept as suggested in Stellenbosch SDF

Section 4.3 describes a parking demand study done for the Stellenbosch CBD. It refers to the park and ride concept, together with a formalised bus system, suggested in the Stellenbosch SDF as shown in Figure 3-16. It found that there are 686 on street and 1087 off-street parking spaces (total 1773) available in the CBD. A survey of parking utilisation done in September 2020, i.e. in the COVID-19 restriction period, indicated that the overall maximum parking utilisation was 55% (p105). It was found that some on street parking locations did reach full saturation (p107). Based on further surveys in 2021, the prediction for 2023 indicated a possible shortage of 113 parking spaces (p137). It was further predicted that a shortage of an additional 222 parking spaces could be expected for 2028 (p139).

Section 4.4 eventually concluded that depending on the scenario assessments, the CBD could require between 145 and 298 additional parking spaces between 2021 and 2028.

Section 4.5 describes the parking survey for Techno Park. Due to COVID-19, it was done differently to the CBD. Questionnaires were sent to the approximately 90 companies having offices there. Based on this it was concluded that there are 1857 parking bays available and a demand for 2577, which implies a shortfall of 720 parking bays (p147).

Section 5 describes the evaluation of the optimum locations for additional parking in the CBD and Techno Park. A facility of 120 to 300 parking spaces (in a multi-story structure) at the Eikestad Mall (p155) and 150 to 200 spaces (open at-grade parking) at a Location 5 in Techno Park (p170) were identified as the optimum solutions. Rest of Section 5 is devoted to potential designs for these facilities.

Section 6 is devoted to a financial value assessment for the two envisaged facilities. In Section 8 it is finally concluded that the Eikestad Parking Garage should be considered a viable option for a PPP project to be registered at National Treasury (p231), and that an at-grade parking facility at Techno Park is not viable as a PPP but should rather be considered as a conventional project.

3.4 Freight Transport

Figure 3-17 shows the heavy vehicle volumes on the major roads. During the number plate survey that was undertaken for Stellenbosch Municipality, the heavy vehicles were surveyed during the PM peak period – 3PM to 6PM ((Update of the Comprehensive Integrated Transport Plan (CITP) for Stellenbosch Municipality, 2020). This provides a limited snap-shot of the heavy vehicle operational hours.

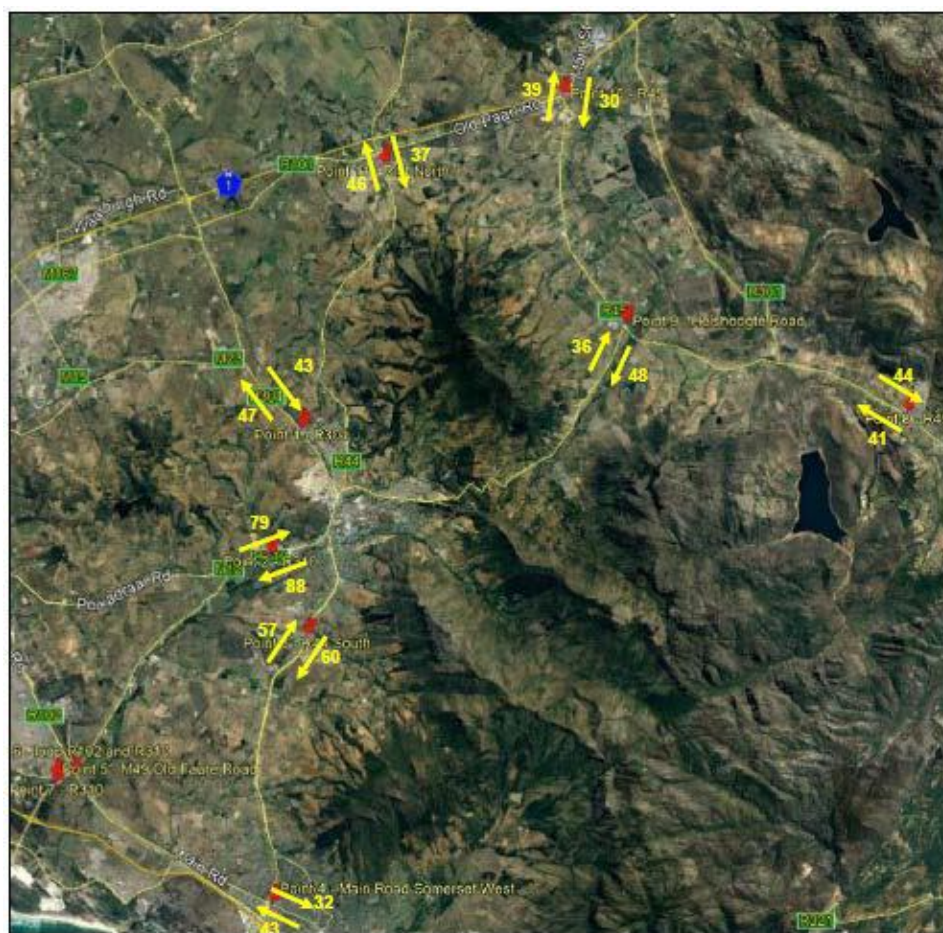


Figure 3-17: Heavy Vehicle Volumes Sourced from Number Plate Survey (2018)

Freight routes shown entering the Stellenbosch Municipal Area from Cape Town are Bottellary Road (the M23) and Polkadraai Road (the M12). The R44 from north and south of Stellenbosch, the R304 and the R310 west and east, the R101 and the R45 and the R301 in the Franschhoek Valley also carry significant volumes of freight to/from areas within Stellenbosch Municipality.

The Freight Strategy of the CWDM reported on the location of wine cellars and other agri-processing plants, as well as the location of industry in the Stellenbosch area, and has concluded that the main routes that connect Stellenbosch to Somerset West (the R44), Kuils River (R310), Klappmuts (R44), Brackenfell (R304) and Franschhoek (R310), as well as R45 between Franschhoek and Paarl, carry a

significant amount of freight. In addition, secondary routes that provide access to farming areas off these routes also carry freight in the form of inputs into agri-processing (e.g. delivery of bottles) and distribution of the finished product (e.g. delivery of wine to the Cape Town Harbour for export). These roads in particular are impacted by the heavy vehicles that use them i.e. the Stellenbosch link to Parow (where distribution centres are located) via M12 (Stellenbosch Arterial).

Heavy vehicles do impact the already congested access roads through Stellenbosch particularly to access local industrial areas. Deliveries to businesses in the Stellenbosch CBD have been noted as being particularly problematic during peak travel times.

There is only one weigh bridge in the immediate area, which is located just before the N1 on-ramp to Cape Town off the R304 north, in Joostenberg Vlakke – refer to Figure 3-18 for the location.



Figure 3-18: Location of Existing Weighbridge

There are currently no facilities to impound heavy vehicles and therefore law enforcement in respect of overloaded vehicles is limited. Typically, the vehicles are fined for overloading, but are then allowed to continue as there is no secure facility to impound them until the load can be off loaded onto another vehicle. The damage to the road network thus continues.

4 SPATIAL DEVELOPMENT FRAMEWORK

4.1 Introduction

This chapter provides an overview of the Spatial Development Framework (SDF) and related documentation which inform the spatial component of the CIP. The aim is to ensure alignment between transport planning and spatial planning. The documents that will be discussed in this chapter are the following:

- Western Cape Provincial Spatial Development Framework 2014;
- Stellenbosch Municipal Integrated Development Plan 2017 – 2022;
- Stellenbosch Municipal Spatial Development Framework, Nov 2019, and
- Adam Tas Local Spatial Development Framework, 2021.

4.2 Policy Directives

4.2.1 Western Cape Provincial Spatial Development Framework 2014

Growing the economy is the WCG's number one development priority. The PSDF's role is to open-up opportunities for inclusive economic growth in urban and rural areas. Mindful of the complexity of undoing an entrenched spatial legacy, the PSDF takes on the challenge of restructuring the Western Cape's urban and rural landscapes so that they offer socio-economic opportunities for all – especially those previously restricted in accessing these benefits.

The PSDF sets the precedent for all spatial planning and development in the Western Cape Province and is based on the following guiding principles:

- Spatial justice;
- Sustainability and resilience;
- Spatial efficiency;
- Accessibility, and
- Quality and liveability.

A provincial vision for spatial development is identified which is built on OneCape 2040's vision of a "highly-skilled, innovation driven, resource efficient, connected, high opportunity and collaborative society." This vision is formed around 6 themes namely; Educating Cape, Working Cape, Green Cape, Connecting Cape, Living Cape and Leading Cape.

To address the spatial challenges identified in the PSDF the following goals have been identified:

- Greater productivity, competitiveness and opportunities in the provincial space-economy;
- More inclusive development of its urban and rural areas;
- Strengthened resilience and sustainability of its natural and built environments, and
- Improved effectiveness in the governance of its urban and rural areas.

4.2.2 Stellenbosch Municipality's Spatial Development Framework

The Stellenbosch Spatial Development Framework is dated November 2019. The vision for the municipality as per the IDP and the SDP is centred around conservation, resilience, inclusive municipal area and compact urban settlements. The spatial proposals in the SDF are aimed at achieving these principles.

4.2.2.1 Broad Land Use

A large portion of the municipality is designated as public and private conservation areas and fertile agricultural land. The agricultural land within the Stellenbosch Municipality, constitute some of the country's highest yield agricultural land in terms of income and employment generation.

Over the last couple of years, the office development market has seen very little growth. The retail property has been sporadic with several spikes in building activity with short to medium term throughs.

The main settlements in the Stellenbosch Municipality are the historic towns of Stellenbosch, Franschhoek and Klipmuts. Several smaller villages exist throughout the municipality, including

Jamestown, Pniel, Johannesdal, Lanquedoc, Lynedoch and Raithby. New nodes are emerging agricultural service centres, for example, Koelenhof and Vlottenburg. Figure 4-1 provides an overview of the settlement hierarchy in the municipality and the linkage priorities.

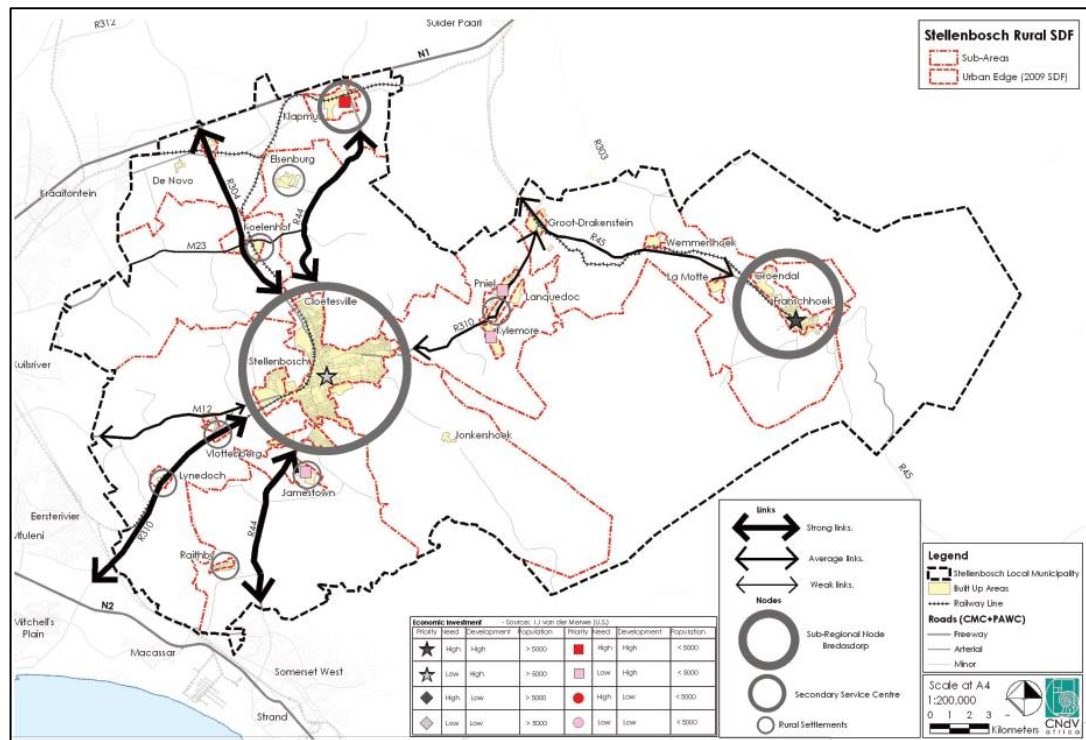


Figure 4-1: Stellenbosch Hierarchy of Settlements, Linkages and Investment Priorities

4.2.2.2 Built Environment

Residential densities in Stellenbosch town, Klappmuts, and Franschhoek are slightly higher than what they were in 2015. The average density for each of the aforementioned urban centres in 2015 were 8,17, 10,22 and 9,94 units per hectare, respectively. The targeted density for the urban centres is 25 units per hectare.

The relocation of large industrial land users from Stellenbosch town (to Klappmuts) presents a significant opportunity to restructure Stellenbosch town.

4.2.3 Stellenbosch Municipality SDF Principles

The SMSDF is based on the following seven principles:

1. Maintain and grow the assets of Stellenbosch Municipality's natural environment and farming areas;
2. Respect and grow our cultural heritage, the legacy of physical artefacts and intangible attributes of society inherited from past generations maintained in the present and preserved for the benefit of future generations;
3. Clarify and respect the different roles and potentials of existing settlements;
4. Address human needs – for housing, infrastructure, and facilities – clearly in terms of the constraints and opportunity related to natural assets, cultural assets, infrastructure, and the role of settlements;
5. Pursue balanced communities. All settlements should be balanced;
6. Focus energy on a few catalytic areas that offer extensive opportunity and address present risk, and
7. Focus energy on a few catalytic areas that offer extensive opportunity and address present risk.

Figure 4-2 shows the hierarchy of towns within the Municipality and where the nodes are located. This will influence where the transport proposal for the Municipality should be focused.

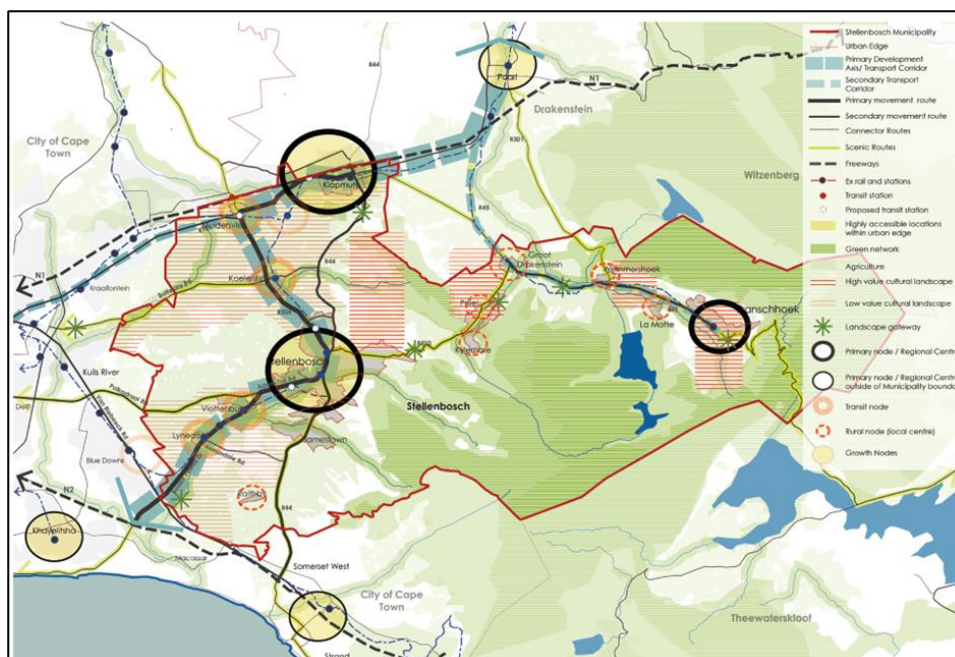


Figure 4-2: Consolidated Concept Capturing the 7 Principles Mentioned above

4.3 Transport Related Spatial Challenges

A number of transport related spatial challenges are identified in the SDF. It is highlighted that transport planning practices at the provincial level has maintained a regional mobility lens with the bulk of planning efforts and funding allocated to road infrastructure expansion and rehabilitation responding to demand-side growth, largely attributable to unconstrained low occupancy private vehicles at the cost of local mobility. Too little focus is on progressively improving the efficiency of existing road space usage through shifting modes and altering travel patterns. This approach has very high financial, economic, social and environmental cost, is unsustainable and exclusionary to most of the local population. This also has an adverse consequence for managing transport at the local level, where trips are generated.

The provision of public transport, non-motorised modes and travel demand management programmes are generally considered as municipal functions and not a core responsibility and competence of the Province. Given the extent of transport issues in the Municipality, it has limited institutional capacity and funding for the management of these transport issues. As a result, sustainable transport approached have been overlooked in favour of traditional engineering solutions.

4.4 Summary of Development Proposals and the Implications on Transport

According to the Implementation Framework, the Priority Areas are Stellenbosch and Klapmuts.

Stellenbosch Municipality's Spatial Proposals for both the Municipality as well as the Primary nodes are centred around the following:

- Residential densification and infill development within the urban areas;
- Support mixed land use in settlement centres;
- Promote Public NMT development, and
- Support the proposals of the Adam Tas Corridor Plan.

In terms of sectoral or thematic focus, the spatial development priority in all settlements should be to:

- Upgrade the servicing and transformation of informal settlements;
- Provide housing for lower-income groups in accessible locations (specifically through infill of vacant and underutilised land or redevelopment of existing building footprints);
- Expand and improve public and NMT routes. • Improve public and community facilities and places (e.g. through clustering, framing them with infill development to improve edges and surveillance, prioritisation for landscaping, and so on), and

- Expand the recognition, restoration, and exposure of historically and culturally significant precincts and places (both in the form and use of precincts and places).

The Spatial Development Framework outlines proposals for the Stellenbosch Municipality as a whole, moving down the hierarchy of urban settlements, starting with strategies for the higher-order settlements first and ending with the smaller urban settlements.

Figure 4-3 shows the structuring elements that will impact the growth of the Municipality, the agricultural west, and the conservation east. Urban growth in the east will be more difficult because of the surrounding conservation areas. The SDF further shows the settlement pattern of the Municipality.

4.5 Adam Tas Corridor

The Adam Tas project is a catalyst project in the approved Stellenbosch Municipality Spatial Development Framework and Integrated Development Plan.

4.5.1 Vision

The working vision for the Adam Tas Corridor is:

- “A proactive intervention to address needs in Stellenbosch, including fixing the mistakes of the past and enabling equitable access to urban opportunity for all citizens;
- An integrated, inclusive environment for living, work, and enjoyment;
- A pro-active partnership between the public, private, and community sectors in response to citizen needs and national, provincial, and municipal policy;
- A place which embodies and expands our best knowledge of what constitutes good, equitable, and efficient settlement, and
- A ‘new town in town’ in Stellenbosch; integrating currently fragmented parts of the town, exploiting underutilized resources, and based on non-motorized and public transport.”

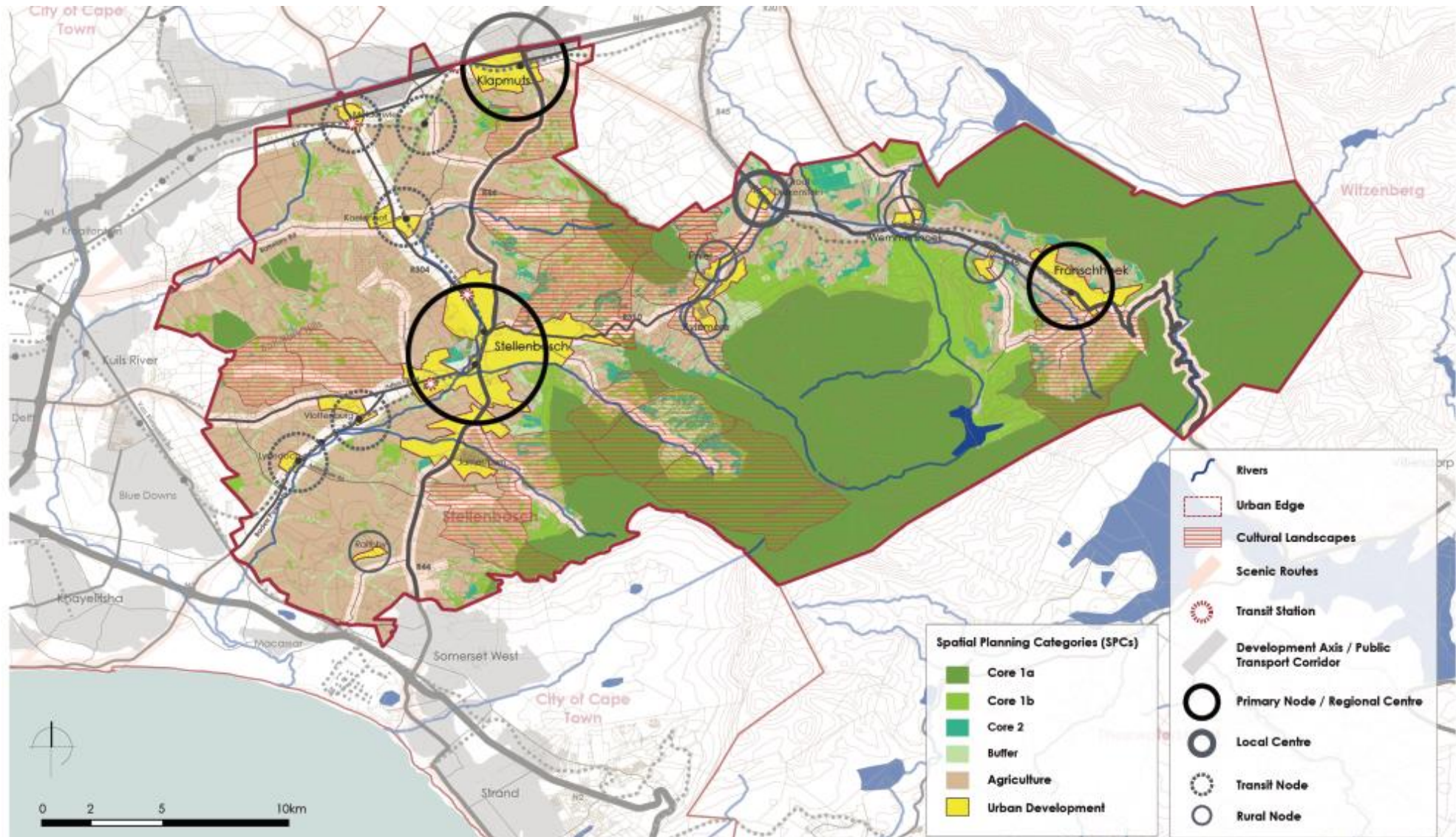


Figure 4-3: Stellenbosch Municipal Spatial Development Framework

4.5.2 Adam Tas Corridor Development Framework

The Adam Tas Corridor Local Spatial Development Framework divides the study area into eleven different precincts. Each precinct accommodates a mixed land use. The density and make-up of the land use is summarised in **Table 4.1**.

Table 4.1: Land Use Bulk Summary

Land Use	% Allocation	Minimum Bulk (m2)	Maximum Bulk (m2)
Residential	40	1 262 667	1 774 524
Commercial	29	903 938	1 232 070
Light Industry	16	500 076	669 315
Sports	3	104 551	143 809
Public Facilities	12	375 427	526 881
	TOTAL	3 146 659	4 346 599

The density applied is split into four different categories, namely:

- Very high density (160 units per hectare);
- High density (140 units per hectare);
- Medium (120 units per hectare), and
- Low (100 units per hectare).

It is important to note that Distell decided to relocate to and consolidate many of its operations in Klapmuts. Distell proposes to develop a beverage production, bottling, warehousing and distribution facility. Distell proposes to develop a beverage production, bottling, warehousing and distribution facility on Paarl Farm 736/RE, located north of the N1, consolidating certain existing cellars, processing plants, and distribution centres in the Greater Cape Town area. The farm measures some 200 ha in extent. The beverage production, bottling, warehousing and distribution facility will take up approximately 53 ha. Figure 4-4 shows Adam Tas Corridor Densification Proposals.

An Adam Tas Overlay Zone was developed and was submitted to the Municipal Mayoral Committee on 19 October 2022. The Committee noted the Overlay Zone and recommended to the Council that a public participation process on the Overlay Zone commences. After the conclusion of the public participation process, the Adam Tas Corridor Report should be resubmitted to Council together with comments received.

4.5.3 Transport Proposals for the Adam Tas Corridor

Transport proposals associated with the Adam Tas Corridor evolved over the past five years, either forming part of spatial development frameworks or mobility, road network and transport studies. These are summarised in the following sections.

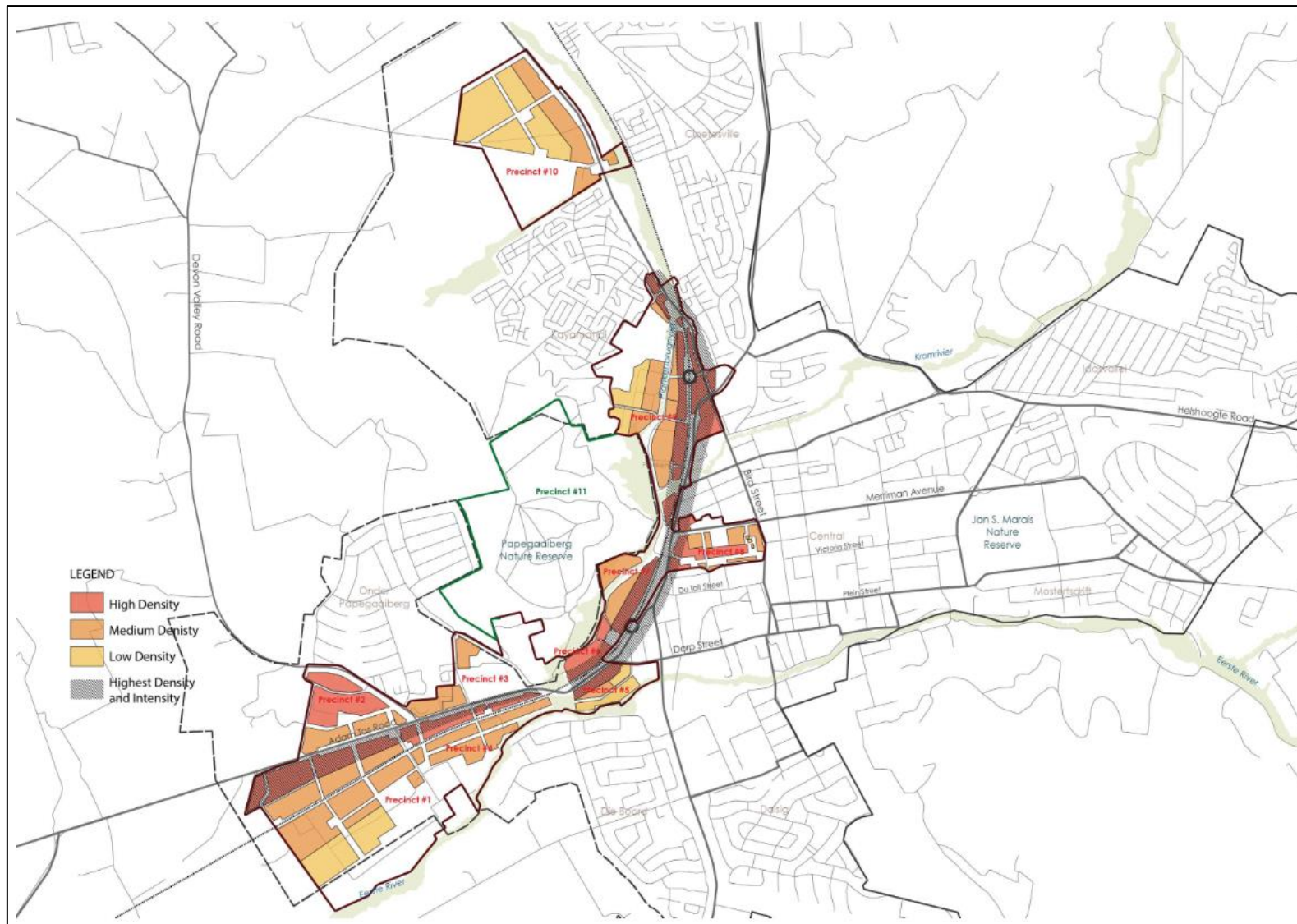


Figure 4-4: Adam Tas Development Corridor Density Proposals

4.5.3.1 New Gateway for Stellenbosch 2017

This spatial and mobility framework for the central section of the Adam Tas Road Corridor was developed for the Municipality and the Western Cape Government in 2017. The aim was to investigate the feasibility of a Transit Orientated Development (TOD) for the Adam Tas Road Corridor. The main components of the transport proposals are:

- A new station and public transport hub adjacent (just west) to the redeveloped Van Der Stel Sports Grounds, accessible at grade;
- Lowering of Adam Tas Road in a tunnel where it passes the redeveloped site on the western side - approximately 500 metres in length;
- Linking of Merriman Street with George Blake Street through an elevated interchange, thereby eliminating the present dangerous George Blake at grade rail crossing, just north of the existing station;
- The consolidation and upgrading of the Adam Tas/Alexander Street intersection, allowing a free flow underpass for the R44, and
- A new link from the extended Merriman Street is shown (southwards) parallel to the rail line, which could provide improved access to the Bosmans Crossing area from the north.

4.5.3.2 Stellenbosch Roads Master Plan Update 2018

An update of the Stellenbosch Roads Master Plan was completed in August 2019. The following points from the Master Plan are relevant to the Adam Tas Corridor:

- The section of Adam Tas Road between the intersection of the R44 and Merriman Street, as well as George Blake Street, is operating “beyond capacity” and should be investigated further for possible improvements;
- Traffic modelling for 2040, for this section of Adam Tas Road, indicates that it could become the busiest road section in Stellenbosch;
- To accommodate the expected future traffic, it was proposed that the section be widened to three lanes per direction, and
- The road improvement that may have the largest impact on the Adam Tas Corridor is the development of the Western Bypass.

It was confirmed that high priority planning was required with respect to:

- Reconfiguring Adam Tas Road intersections with the R44/Alexander and Merriman Streets;
- Reconfiguring and improving the Adam Tas/George Blake Street intersection, and
- Dualling of Lower Dorp Street between the R44 and Adam Tas Road.

4.5.3.3 Stellenbosch Spatial Development Framework (SDF) 2019

The Stellenbosch SDF was completed in July 2019. The SDF actively supports the Adam Tas Corridor and states that this is the most significant redevelopment opportunity within Stellenbosch Town, stretching from Droë Dyke and the Old Sawmill sites in the west along Adam Tas Road and the railway line, to Kayamandi, the R304, and Cloeteville in the north. It clearly identifies the Adam Tas Road and the Van Der Stel Sports Grounds as part of the potential corridor development. Conceptually, the Adam Tas Corridor is the focus of “building a new town”.

A general statement on transport is made in that a change in transport patterns should be pursued through “changes in the mode of travel” and “changes in transport demand in terms of the trip itself”. It is considered that, should there be no new public transport interventions and proceeding in the same fashion as in the past, it is unlikely to result in a different end state.

The Stellenbosch station is identified as a potential public transport node. The provision of more frequent and reliable rail service in the Adam Tas Corridor is stated to be critical. It is interesting to note that two proposed light rail stations (not discussed anywhere in detail) are shown in figures, one to the north, just east of Kayamandi and the other to the west in the vicinity of Devon Valley.

4.5.3.4 Adam Tas Corridor Local Spatial Development Framework (LSDF) 2021

The Adam Tas Corridor local Spatial development Framework (LSDF) was completed in 2021. It is stated in the LSDF that approaching the movement, access and parking should occur within a framework of emerging global transport trends, including:

- Significant shifts in policy to accommodate the transformation of the way transport is sourced;
- A significant shift to the use of public transport;
- Potential shift away from private vehicle ownership and a potential increase in car-pooling and rental pools;
- An increase dependency on electric/hydrogen vehicles and the increasing obsolescence of the petrol/internal combustion engines, and
- Inter-dependencies and collaboration between the public and private sector.

The approach to the transport servicing of the corridor strongly indicates that transportation has to be “transformed”. The movement network is shown in **Figure 4-5**.

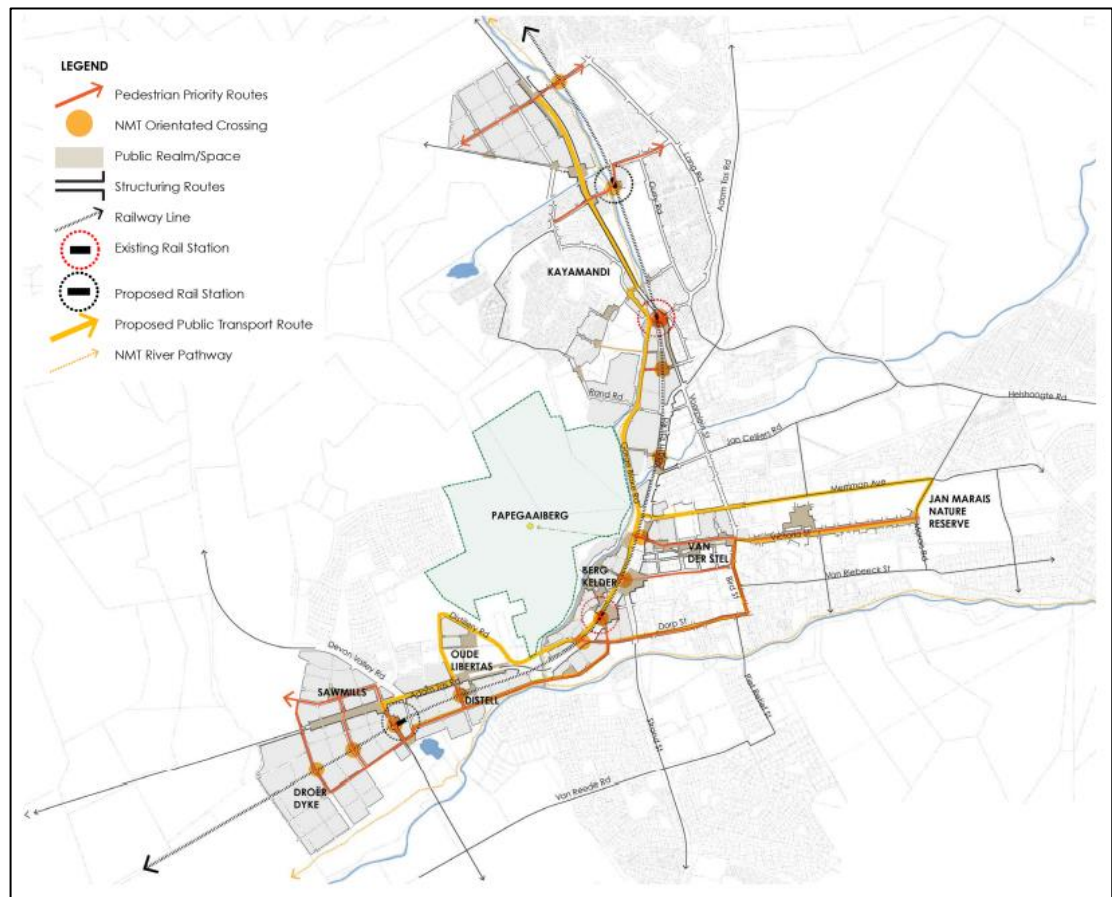


Figure 4-5: Adam Tas Corridor Movement Network Structure

The key aspects of the Adam Tas Corridor movement network are stated to be:

- A continuous central vehicular route between precincts, from the Sawmill via Oude Libertas, Bosman's Crossing, Bergkelder, Plankenbrug, to Kayamandi and incorporating elements of Distillery Road, George Blake Road and Rand Road. The road should accommodate NMT and public transport functions;
- Adam Tas Road/R44 maintaining its role as a “mobility” route;
- Vehicular intersections with Adam Tas Road/R44 (at grade and grade separated in the vicinity of Bergkelder/Van der Stel);
- A NMT route following the Plankenbrug and Eerste River Corridors and linking to the existing/proposed systems for Stellenbosch town;
- The existing rail, incorporating the two existing stations (Stellenbosch and Du Toit, both upgraded) and two new ones proposed at Droe Dyke/Sawmill and Kayamandi North, and
- Nine new pedestrian crossings along ATC with crossing intervals of between 400-600m (from an operating perspective, these crossings will need to be grade separated, preferably underpasses given the high clearances and ramp lengths required for overpasses).

The LSDF states that the reality of having to accommodate parking serving Stellenbosch Town and the ATC are while expecting to progress towards lower private vehicle dependence and use over time requires innovative transitional arrangements, including the provision of parking in a form enabling ready conversion in future to other uses. Centralised parking facilities, delinking the provision of parking from the specific entity served would be required.

The underlying objectives of the ATC project are to pursue an environment prioritising public transport and NMT. The LSDF assumes that PRASA will continue to reinstate operations of the railway corridor service with new rolling stock and the implementation of new rolling stock for increased demand, as well as the ultimate doubling of the railway line between Eerste Rivier and Muldersvlei Stations. The LSDF also envisages the development of subsidised public transport services linking the ATC precincts and railway stations with the University and the Stellenbosch CBD. (Such a system will have to be developed in an incremental manner until such time as it can be incorporated in a Stellenbosch Municipality IPTN. It is also foreseen that the transformation of the Stellenbosch minibus taxi industry into Association based Companies by means of contracted services.

The LSDF provides proposed phased transport infrastructure improvements per precinct. An estimate of the total bulk infrastructure costs (all services) has been made and it amounts to R1.368 billion. Similarly, the total development contributions have been estimated as R1.44 billion, which is considered a "good indication that the development could be feasible".

5 TRANSPORT NEEDS ASSESSMENT

The transport needs assessment refers to the following sources:

- The transport needs set out in the June 2020 Review of the CIP (still considered relevant);
- An assessment of the Transport Status Quo in the Stellenbosch municipal area;
- Taxi Association Stakeholder engagements;
- Other Sources, including recent work on commercially available floating car data, the Roads Master Plan (2019), the Traffic Surveys of 2022 and the Bulk Parking Study of 2021, and
- Stakeholder Consultation Process 2022.

5.1 Transport Needs Assessment from June 2020 CIP Review

The transport needs identified during the 2020 Review of the Stellenbosch CIP are described in the sections below.

5.1.1 A need for an improved public transport system

The vision for Stellenbosch Municipality as well as all five of the strategic focus areas (Valley of Possibility, Green and Sustainable Valley, Safe Valley, Dignified Living and Good Governance) on some level all need a good public transport system. In the public meetings issues around improved regional services between Paarl and Stellenbosch, security on public transport particularly at ranks was emphasised as well as increased job creation and training youth.

5.1.2 Better accommodate all people including those with disabilities

The existing transport system in Stellenbosch Municipality has made limited provision i.e. infrastructure or services for people with special needs. For example, public transport vehicles (road based MBTs, buses or rail) are not equipped to accommodate universal access. There is not a comprehensive network of pathways and sidewalks and not all intersections are treated to accommodate people with disabilities (dropped kerbs and tactile paving). Accesses into buildings are not ubiquitously equipped with ramps for wheelchairs and prams.

5.1.3 Provide walking/cycling paths and green spaces

Numerous requests were raised in the public meetings held in October 2019 during the previous update of the CIP, for the provision of more sidewalks (particularly in Raithby), running or cycle routes. Safe raised road crossings particularly in school precincts as well as and rail crossings (Vlottenburg, Old Paarl Road) were presented as needs. Suggestions for bollards and enforcement to prevent parking on pavements as well as the beautification of open spaces were made.

5.1.4 Upgrade roads infrastructure

Improvements and upgrades of the existing road networks was also a common theme in the public meetings. Specific areas of concern included:

- Resurfacing of roads, (The Municipality rolls out an annual resurfacing programme to address road repair requirements including those identified through public meetings));
- Increased visibility of street names
- Upgrade of intersections (Adam Tas/R44 / Alexander), and Adam Tas/R44/Merriman
- Street lighting (in the areas of Curry, Pine, Primrose, Eike, Jakaranda, North-End, Silvia and Vredelust Streets).

5.1.5 Additional parking and park/ride facilities

Another need identified at public meetings were additional parking or park and rides (Parking embayment opposite Community Market/ Flea market at the corner of Rustenburg Road and Sonneblom Street).

5.1.6 A need for better road safety, traffic calming and improved law enforcement

A request for a focus on road safety and traffic introducing more traffic calming mechanisms particularly around schools (R45, R310 traffic Calming – Meerlust, Wemmershoek, Maasdorp R45, speed humps in

Lanquedoc, Vredelust Street, c/o Crombie and Last Street, c/o Gone and Cornelius Street, Klapmuts) as well as the installation of road signs (Mostertsdraif) was made. Also required are increased levels of traffic law enforcement to improve road safety conditions.

5.1.7 A Need for More Jobs and Skills Training

High levels of unemployment and low skills levels was also another common theme of concern at the public meetings. A request that the municipality find ways to increase economic opportunities and job creation particularly for youth.

More detail on the problems and needs relevant to the various plans and strategies of the CIP are provided in the following chapters respectively.

5.2 Assessment of the Transport Status Quo

As part of the National Household Travel Survey (NHTS) 2020 respondents were asked to indicate the two main issues they face in relation to the transport system in Stellenbosch. The two most raised concerns were in relation to accessibility to transport and personal safety. Table 5.1 shows responses given most frequently:

Table 5.1: Transport problems identified by Households (NHTS, 2020)

Issue	Description
1.	Non-availability of buses
2.	Non-availability of minibus taxis at certain times of the day, such as late at night
3.	Traffic congestion during peak periods
4.	Reckless driving by taxi drivers
5.	Personal safety and crime
6.	Commuter rail services not available and/or reliable
7.	Overloading of vehicles
8.	Lack of parking
9.	Rude taxi drivers
10.	Transport is too expensive

As Table 5.1 provides an indication of transport user views, the more specific needs related to the various components of the transport system is described in the following paragraphs.

5.2.1 Public Transport Problems and Needs

The transport modal shares of minibus-taxis, buses and commuter rail were 63%, 0.5% and 4% respectively, according to the National Household Travel Survey of 2020. This implied that nearly 70% of all trips within the Municipal area is undertaken by means of public transport.

Passengers undertaking these trips are mostly "captive" to public transport and do not have any other travel option, except walking or cycling if the travel distances are not too long.

The challenges that public transport users face on a daily basis include having safe and convenient access to public transport services, the affordability of fares and the availability of services outside peak periods. Limited services are available outside the peaks, as the demands, which impacts on the viability of operations and operators are therefore hesitant to provide services outside peak periods. Virtually no services are available later in the evenings.

There are not enough laybys/dedicated stopping bays for minibus taxis in central parts of Stellenbosch. Limited public transport facilities at stops, such as shelter are available. Universal access of vehicles remains a challenge as well. The lack of amenities and facilities for example for informal traders at some ranks has been high-lighted as needs in a number of interactions with stakeholders.

To promote sustainable mobility, it is important that travellers start to make different mobility choices, where those are available to them. This *inter alia* implies shifts from private to public transport. The convenience and perceived quality of existing services are obstacles to attracting "choice" users to and travellers with other travel options to public transport. The informal nature and that fact that services are

not scheduled and predictable is also a deterrent for people with different travel options to use existing public transport.

Very little information is also available to non-regular users on service routes, fares and how to access services, which also provides barriers to access. Consideration needs to be given to incentivise public transport operators to improve and maintain the quality and safety of operations, as well as the user experience in general.

During peak traffic, congestion levels along arterial roads is high. This is problematic, as trips typically involve some waiting time and trips therefore are already longer in duration than private transport users' journeys.

During a stakeholder engagement with the local minibus-taxi associations it was mentioned that the industry had lost 40% of their income due to COVID-19 and as a result thereof, some operators had their vehicles repossessed due to not being able to meet repayments. The associations also shared that they have experienced an increase in passenger demand due to passengers choosing public transport over private vehicles due to an increase in petrol prices. More people are also receiving social grants due to job loss during the COVID-19 pandemic, also resulting in an increased patronage to reach grant collection points.

Minibus taxi association leaders have expressed strong desire for dedicated HOV (high occupancy vehicle) lanes to be added along key arterial roads to alleviate this issue. There are not sufficient laybys.

The minibus-taxi associations indicated that they are willing to work towards a more formalised service, as they acknowledge that passengers are more inclined to utilise their services if the service is predictable and offers a ticketing system which removes the existing cash-based fare system. The associations also propose that the industry be consulted when it comes to the planning in providing parking solutions, taxi ranking facilities and new developments such as malls and residential areas.

During the COVID-19 Lock-down period commuter rail services were suspended and have not been reintroduced due to infrastructure challenges. Given the significant number of people travelling across the Municipal borders on a daily basis, the current lack of commuter rail service to and from Stellenbosch is a challenge and these services need to be reinstated and if possible, even be extended.

Greater collaboration between key role-players and stakeholders is required to improve public transport and address the challenges and needs.

5.2.2 Road Infrastructure

Congestion on the road network during peak periods and often extending beyond normal peak hours poses a significant challenge to the mobility on many roads within the Stellenbosch municipal area and specifically the Stellenbosch CBD. The roads and road links where the service levels are significantly impacted by congestion have been identified and confirmed through the Roads Master Plan 2019, traffic surveys and observations done towards the latter end of 2022.

The 2019 Roads Master Plan indicated that the traffic demand in 2081 already exceeded the capacity on the following links in peak periods:

- The R304 between Bottelary Road and the R44;
- The R44 (south) between Paradyskloof and the Van Reede intersection;
- Bird Street between the R44 and Du Toit Street;
- Merriman and Cluver Streets between Bird Street and Helshoogte Road;
- Dorp Street between the R44 and Piet Retief Street;
- Adam Tas Road between its junction with the R44 and Merriman Street;
- Piet Retief Street;
- Van Reede and Vrede Streets between the R44 and Piet Retief Street;
- Alexander Street between the R44 and Bergzicht Street, and
- George Blake Street.

The following links were identified as also being under pressure in 2018:

- The Welgevonden access road;
- Lang Street into Cloeteville;

- La Colline access off the R310, and
- The Technopark access road.

The EMME/4 travel demand forecast modelling, used for the Roads Master Plan and that was based on land use projections for 2040, indicated that quite a number of further roads improvements may be required to maintain acceptable levels of service and mobility. This is further unpacked in Chapter 7. (It is a bit unclear to what extent alignment with sustainable transport prerogatives were considered in the modal split/choice inputs in the travel demand model.)

A paper based on work done by Bruwer for a doctoral thesis on commercially available floating car data in Stellenbosch, provides very good real time information on congestion in Stellenbosch for 2020, both before and after the COVID-19 pandemic started in March 2020. This analysis confirmed that all the major routes coming into Stellenbosch are under traffic pressure during peak periods, namely the R44 (north and south), R310 (west and around Cluver Street), R304, as well as most of the road sections identified in the Roads Master Plan. Whilst congestion was much better during the COVID-19 period (not shown here), it is concluded that by 2022 they have largely returned to February 2020 levels – refer to Section 3.3 and [Figure 5-1](#).



Figure 5-1: Indication of congestion in Stellenbosch in February 2020 (Bruwer, Andersen)

The results of the 2022 traffic surveys have been discussed in Section 3.3 above. Based on previous reports, observations during the surveys and also at other times, it can be stated that the traffic demand exceeds the capacity of the major network servicing central Stellenbosch for varying lengths of time during the morning and afternoon peak periods. The surveys basically confirm the findings of the work done by Bruwer/Andersen, as well as for the 2019 Roads Master Plan.

5.2.3 Parking

The Parking Study for Stellenbosch completed in 2021 and the outcome of this study is discussed in Section 3.3.4. The aim of the study was “to paint an exact picture of the existing parking situation within Stellenbosch Municipality and to focus on providing parking facilities for Techno Park and the CBD”.

Increasingly, students are also contributing to traffic congestion levels in Stellenbosch, since there have been relaxations of parking eligibility criteria by Stellenbosch University (previously first year students were not permitted to park on campus, however, this policy was withdrawn). Since Stellenbosch University does not have sufficient parking on campus to accommodate students' vehicles, most students park on-streets and at parking areas in and around Stellenbosch.

Considering the parking situation in Stellenbosch, there are at least two major issues which have not been addressed:

- Parking on the university campus – both students and personnel. It is known that a possible parking structure along Merriman Street was suggested by the University about two decades ago, and
- The feasibility of the park and ride facilities suggested in a number of recent studies, including in the current Stellenbosch SDF.

The parking needs identified for the CBD and Techno Park point to the feasibility of two facilities:

- It was concluded that depending on the scenario assessments, the CBD could require between 145 and 298 additional parking spaces after 2021. A facility of 120 to 300 parking spaces (in a multi-story structure) at the Eikestad Mall (p155) was identified as the optimum solution.
- Based on questionnaires sent to the approximately 90 companies having offices in Techno Park, it was concluded that there are 1 857 parking bays available and whereas there is a demand for 2 577, which implies a shortfall of 720 parking bays. A facility of 150 to 200 spaces (open at-grade parking) at a Location 5 in Techno Park were identified as the optimum solution for this shortfall.

The important conclusion that can be made from this is that whilst the previously proposed park and ride facilities for Stellenbosch appear to be a good solution for addressing congestion, there is no evidence to support the feasibility of the concept. There is no evidence of similar successful projects elsewhere, but it should remain an option for future consideration.

5.2.4 Non-motorised Transport

Stellenbosch has a very attractive environment for NMT, as it has a walkable CBD with short distances between residential areas. The demand for NMT transport is further increased due to the University of Stellenbosch being within the CBD where students primarily walk between venues.

Although the CBD is relatively pedestrian-friendly the ever-increasing traffic and parking in the CBD as well as old street infrastructure with no dropped kerbs pose a challenge to people with mobility impairments, persons using wheelchairs and with using trolleys, prams, skateboarders, and cyclists.

Around 30% of roads in the municipality have sidewalks, however, cycle infrastructure has shared facilities with pedestrians and in many cases, sidewalks are too narrow and lack continuity (i.e. condition and connectivity).

Whilst cycling in Stellenbosch is popular in terms of the South African context a significant proportion of cyclists are recreational/sports cyclists and those riding on roads prefer the higher order provincial roads. Sections of the cycling network have been implemented but these are not coherent. The main barriers to cycling are safety in traffic, the lack of suitable infrastructure, crime and, in the case of lower income communities, access to bicycles.

In summary, the key concerns and needs related to NMT are:

- Better integration between land use and transport planning, to reduce travel distances and enable greater use of NMT;
- Most choice-users opt to use private vehicles for trips, even if such trips are relatively short and walkable;
- The lack of proper, convenient and safe NMT infrastructure connect outlying communities with their local towns and CBDs;
- NMT needs to be considered an essential element and the foundation of any and all transport and development planning and it should be a requirement for all developments to fully integrate NMT;
- Significant pedestrian movements are across major roads / a rail line, often without adequate or safe crossings;

- Although there has been progress in developing NMT (and cycling) infrastructure routes are not coherent and continuous,
- Cycling is often deemed unsafe from traffic safety perspective and the lack of awareness of other road users, and
- Funding allocation for NMT is limited and NMT infrastructure is often provided as an afterthought.

5.2.5 Freight Transport

Freight movements within and through the Stellenbosch municipal area are significant and contribute to some of the negative externalities of the transport system. The prevailing general freight transport and logistics issues prevalent in the municipal area are:

- non-availability rail freight services, which means that all freight is transported by road;
- high volumes of road freight vehicles that contribute to congestion and impact on the extent of road maintenance, due to higher axle loads;
- effective law-enforcement due to manpower limitations;
- truck movements, off-loading and parking in the Stellenbosch CBD, and
- road safety concerns.

The following matters were identified during the previous CITP update that should be addressed to reduce the negative impact of freight movements and improve freight and logistics are:

- Identification of a Strategic Freight Network of routes (including routes for abnormal loads and hazardous freight);
- Infrastructure improvements, such as truck stops for truck holding and parking;
- Mechanisms for improved law-enforcement, to more efficiently regulate and control freight movements, and
- Movement of appropriate freight from road to rail in the longer term.

Consideration should also be given as to how technology and innovation can be deployed to better manage and control freight movements through and within the municipal area.

5.3 Transport Needs Identified during Stakeholder Consultation Process

A number of themes arose from the stakeholder consultation process, which adds to the understanding of the transport needs in the Stellenbosch Municipal area.

5.3.1 Climate change

Some stakeholders stated the importance that the CITP considers climate change to ensure sustainability of interventions proposed. Although there were no practical suggestions about this from stakeholders, it is agreed that this is a core principle, both in the immediate and longer term. The plan must provide guidance in terms of what is possible to ensure that proposed interventions are sustainable and responsive to the rapidly changing environment.

5.3.2 Integrated land use

The municipality and developers must follow the mixed land use approach to address traffic congestion issues, reduce the need for people to use cars to access services. One way to do this is to bring services closer to people to reduce their need to travel by vehicle. It is important that building plans are not centred on measures that accommodate increased private vehicle usage, but on designing spaces that are responsive to identified challenges and incentivise less use of cars.

5.3.3 Integrated public transport system theme

The development of an integrated public system by partnering with the taxi industry and other modes of public transport was raised. Suggestions such as a universal ticketing system must be explored further, including integrating such plans with Provincial stakeholders. Therefore, it is important that the different stakeholders continue to engage to establish and improve relationships and explore what is possible in this regard.

5.3.4 Congestion

Congestion was a feature of almost all inputs. Stakeholders all struggled with it, describing their journeys in and out of Stellenbosch as arduous and time-consuming, as well as having an impact on productivity. All measures to reduce dependency on private vehicles, must be included.

Adopting measures to move to NMT and integrated public transport will have a positive impact on congestion, but planning must support this, in particular as it relates to parking. Parking is inexpensive and this is seen as being responsive to the needs of private vehicles, whereas the opposite is needed.

Congestions is also exacerbated by tourist buses that clog narrow streets. The idea of park and walk or park and connect with public transport should be pursued (this in conjunction with taxi associations). Stakeholders also said that if they could easily move to and from Stellenbosch by train they would prefer to do that than to sit in traffic.

5.3.5 Behaviour Change Communications

This theme looks at the importance of shifting behaviour to reduce traffic congestion. This will entail having an effective communications plan to educate both internal and external stakeholders about the future impact of planning around the increase of motor vehicle usage as the main sources of transport.

It should also include communications to encourage significantly increased use of public and non-motorised transport and to reduce the use of cars to a minimum. Communication with specific stakeholders, such as the University – to assist in motivating students to adopt cycling and walking in Stellenbosch, and Taxi Associations – to innovate and improve services so as to encourage more people, including potentially, tourists, to use their services, must also be undertaken.

Communication should also be used to create greater awareness about safety of cyclists and pedestrians, emphasising their roles in reducing congestion.

5.3.6 Non-motorised Transport

Some stakeholders are quite keen to explore alternatives to motorised transport. The municipality must take the steps to support this through recommendations such as taking away side parking to widen sidewalks.

The plan must address concerns raised about the safety of cyclists, pedestrians, the elderly, and people living with disabilities. It is important that people living with disabilities can easily move in public spaces. Stakeholders have indicated that the installation of fibre lines have had some negatives impacts on people who use wheelchairs as the pavement was not properly fixed.

The plan must also look at addressing cycling lanes and ensuring that these are safe for cyclists. A significant challenge is that the lanes are not connected into a full route, meaning that cyclists are at risk at intersections and traffic circles. The “Fietsry Stellenbosch” cycling map is available to input into the plan. Enabling more people to walk by ensuring that they are safe and there is enough space for them to walk. There is a big tree near the zebra lines cross on Azaliahof street which makes it difficult to cross the road.

5.3.7 Personal Safety and Security

This was raised as a concern with regards to safety in public transport and public spaces. It was stated that the shift from private vehicles to public transport will only be achieved, if safety can be prioritised and achieved.

It is essential that engagements with the public transport sector continue to explore ways to improve services and safety of commuters. This will not only have an impact on the safety of commuters but will also enable more opportunities for public transport providers such as taxis.

The University indicated that safety is one of their biggest concerns for their students and it should be prioritised in transport plans. It is also important that the safety of pedestrians and cyclists is prioritised. Well-lit pedestrian routes, both in the town and in surrounding townships and settlements, would assist with this. Public toilets, designed and maintained to be safe and clean, would also assist in making pedestrians safer.

5.4 Future Travel Demand Estimation

The scope of this overhaul of the CITP did not include any projection or estimations of future travel demand by means of modelling. Based on existing trends however, “business as usual” with private vehicle trips continuously growing, congestion will also continue to increase together with the negative

externalities and impact of transport on the social and natural environment. This will also further aggravate the private vehicle parking problems.

The implementation of key interventions that will firstly curb the growth and secondly turn around the trend of private vehicle usage is essential. Such interventions should be aimed at changing travel habits and enabling shifts in modal choices from the use of private vehicles to public transport and from motorised transport travel to NMT.

6 PUBLIC TRANSPORT PLAN

This chapter of the report serves as a summary of the full Public Transport Plan (PTP) which is attached to the main body of the report as [Appendix A](#).

6.1 Introduction

The IDP provides Stellenbosch Municipality's vision for the Municipality and for it to be a "Valley of Opportunity and Innovation". In support of this and the Transport Vision articulated in Chapter 2, a well-functioning, accessible, convenient, and comprehensive public transport is integral to the realisation of this. The strategic focus areas, as well as their transport elements, gaps, and actions required, are presented in [Table 6.1](#).

Table 6.1: Strategic Focus Areas

Focus Area	Transport Elements needed to respond to Strategic Focus Areas	Gap	Actions Required
Valley of Possibility	Would require well functioning network of transport services and infrastructure.	Current road network hinders growth possibilities. Congestion will discourage economy and cause business to locate elsewhere.	Road network improvements. Identification of effective freight network and supporting infrastructure. Effective public transport and NMT systems for access to opportunities.
Green and Sustainable Valley	Would require sustainable transport modes and practices.	Not effective public transport or walking and cycling modes.	Public Transport, walking and cycling network and other improvements. Manage travel demand to improve air quality.
Safe Valley	Would require safe and secure transport system.	Currently safety and security a challenge within public transport and use of walking/cycling modes	Road safety projects to improve safety practices. Establish safe and secure public transport and NMT systems.
Dignified Living	Would require transport system which serves all including minority, poor and marginalised.	Public transport which services marginalised is limited.	Implement public transport systems that are accessible and affordable for all.
Good Governance and Compliance	Would require effective management structures and enforcement within transport.	Current governance and compliance not effective impacts delivery of transport.	Streamlined governmental processes with accountability for effective implementation of transport solutions.

6.2 Policies and Strategies

The following legislation and policy directives (as discussed in Section 2) are applicable to the CITP:

- National Land Transport Act, 2009 (and the updated Act, once the current proposed National Land Transport Bill, currently under consideration, is promulgated);
- National Land Transport Strategic Framework 2017;
- National Transport Policy 2017;
- Western Cape Government Strategic Goals;

- Western Cape Provincial Land Transport Framework 2011;
- Cape Winelands District Integrated Transport Plan 2016;
- Stellenbosch Roads Master Plan 2019;
- Stellenbosch Integrated Development Plan 2022;
- Stellenbosch Quo Vadis 2015, and
- LED Strategy and Action Plan 2014.

6.2.1 Summary of Key Policy Documents Relating to Public Transport

6.2.1.1 National Land Transport Act, 2009

Based on the 2009 NLTA Minimum Requirements for the Preparation of Integrated Transport Plans, 2016:

- An Intermodal Planning Committee must be established to focus on integrating public transport with a specific focus on integrating passenger rail services;
- A Public Transport Plan and Transport Register is required with each CITP;
- The Public Transport Plan replaces the requirement for a Rationalisation Plan and OLS, and
- The focus of the Public Transport Plan is to integrate the public transport network, services, and modes.

The NLTA Amendment Bill (2016) also presents amendments and additions to the 2009 NLTA, incorporating focus on integrated planning, universal accessibility, and OL review and rationalisation.

6.2.1.2 National Transport Policy, 2017

The key objectives of the revised National Transport Policy (NTP) of 2017 are listed in the first column of **Error! Reference source not found..** The current status quo of Stellenbosch Municipality measured against these objectives is presented in the second column.

Table 6.2: Policy Objectives Against Stellenbosch Municipality Context

Objective as per the National Transport Policy 2017	Objective Realisation in the Context of Stellenbosch Municipality
Accessibility	<ul style="list-style-type: none"> • Safe, reliable and affordable transport are not widely available. There is a lack of universal accessibility on public transport. • Transport Universal Access audits are now part of policy in developing ITPs.
Rural transport	<ul style="list-style-type: none"> • The farming community surrounding Stellenbosch. The policy requires that rural transport programmes need to be identified and assessed.
Integrated ticketing system	<ul style="list-style-type: none"> • Policy states that NDoT should continue to drive, facilitate and assist in funding. • Feasibility in Stellenbosch Municipality unknown.
Performance monitoring	<ul style="list-style-type: none"> • Developing information systems for monitoring and enforcing policy on PT services.
Planning and regulation	<ul style="list-style-type: none"> • Policy requires ITP to integrate all modes of public transport which in Stellenbosch includes: <ul style="list-style-type: none"> ○ Rail services ○ MBT operations ○ E-hailing operators ○ Non-motorised transport

The 2017 NTP also identifies that there is a lack of institutional capacity to prepare and implement transport plans, and that inadequate law enforcement contributes to the issues faced by the operating licensing system (unlicensed operators specifically in MBT).

For a detailed summary of the above-mentioned key policy directives, please refer to the full PTP.

6.2.2 Previously Updated Stellenbosch CITP Concept, Key Strategies, and Proposals

The 2016 and 2020 Comprehensive Integrated Transport Plans (CITP) for Stellenbosch Municipality focus on the development of an integrated public transport service network within the municipality. The 2016 CITP proposes the use of articulated and midi-buses to alleviate traffic congestion and infrastructure projects such as passenger shelters, vehicle flow improvements, and NMT infrastructure along the existing service network.

The 2020 revised CITP highlights the need for a Public Transport Plan to identify concrete projects and includes proposals for rail as a regional and local connector, intra-municipal services between main suburbs, and a high vehicle capacity bypass. It also proposes issuing additional operating licenses for minibus-taxi services and increasing enforcement against illegal operators. Both CITPs note the constraints of funding and lack of municipal staff capacity as challenges for implementing and monitoring projects.

6.2.3 Existing Issues and Concerns Based on Previous Plans

6.2.3.1 Summary of general concerns and issues on transport

Following on the issues and concerns that were raised during the 2020 update of the CITP, and the concerns and issues identified through the stakeholder consultation process for this update, the issues and concerns can be summarised as follows:

- Poor integration with other modes;
- Limited access to existing public transport services;
- Services concentrated during peak periods;
- No travel time advantage;
- Limited public transport infrastructure
- Rail service unreliable when operational (currently not operational at all);
- Current services are not universally accessible, and
- Passenger personal safety while accessing and traveling on public transport.

During the stakeholder engagements, the minibus-taxi associations mentioned that the industry had lost 40% of their income due to COVID-19 and had experienced an increase in passenger demand due to rising petrol prices and an increase in the number of people receiving social grants. They are willing to work towards a more formalised service with predictable schedules and a ticketing system. They also emphasised the need to be consulted when it comes to planning for parking solutions, taxi ranking facilities, and new developments such as malls and residential areas.

During engagements with larger stakeholders such as Western Cape Province, Cape Winelands, PRASA, and Stellenbosch University, the key discussion points related to public transport revolved around the need for behaviour change to shift passengers from private vehicles to more sustainable alternatives, improvements in taxi-rank facilities, the introduction of incentives to improve safety for operators and users, reinstating rail services, and the need to collaborate as stakeholders to address the challenges faced, as well as having access to reliable and save public transport services certain times of the day, especially “after hours”.

The details of each stakeholder engagement are presented under the Chapter 13: Stakeholder Consultation section of this report.

6.2.3.2 Spatial Development Framework

Chapter 4 of this report provides a summary of the Spatial Development Framework (SDF), approved by the Stellenbosch Municipality Council in 2012. The SDF focuses on high density development at strategic nodes such as the Adam Tas Corridor, Stellenbosch town centre and Klipmuts. Strengthening the role played by rail-based public transport is also identified as being critical to serve regional mobility needs, and local accessibility. The SDF also indicates that public transport and NMT infrastructure is to

be incorporated in all developments, shifting the focus towards providing infrastructure for sustainable transport modes.

The public transport proposals contained in the Adam Tas Corridor LSDF, which will be heavily reliant on public transport and NMT, were also noted.

6.2.3.3 Integrated Development Plan

The Stellenbosch Municipality IDP makes provision for a select few public transport planning projects, with allocated budget estimations between 2022 and 2025. These projects are listed in below (note that this is not the full list of projects presented in the IDP):

- Continued feasibility studies to establish a transport operating company;
- Development of business model for a Transport service for persons with disabilities in Stellenbosch;
- Park and Ride (Transport Interchange);
- Public Transport Infrastructure (Public Transport Shelters and Embayments);
- Re-design of Bergzicht Public Transport Facility, and
- Taxi Rank – Franschhoek.

Each project listed in the 2022 IDP has an allocated amount of proposed budget per financial year. These budgets are either provisional estimates for annual work, or provisional budgets for ongoing projects and studies that have already commenced and require further funding. The IDP also presents a table of projects under the *Implementation Plan: Comprehensive Integrated Transport Plan* (on page 126 of the IDP). These projects can therefore be considered as key projects since the municipality has already assigned budget through the IDP. The projects proposed as part of this revision of the CIP are presented in Table 6.4 at the end of this section of the report.

6.3 Overall Network Design

The overall network design presents the high-level vision of the proposed rail and road-based services, contracted and non-contracted for Stellenbosch Municipality. Therefore, summarising the potential interventions put forward under sections 6.4, 6.5, 6.6 and 6.8 hereafter. The overall network, presented in the sub-sections below, design also ties in with the future transport concept presented in section 2.6 of this report.

6.3.1 Corridors, routes and modes

The preferred modes for routes and corridors were identified through the assessment of the status quo of existing services and development of new interventions within Stellenbosch Municipality. The existing services and new interventions speak to the policies for rationalisation of existing and development of new contracted services and refocusing the of non-contracted such as minibus-taxis. **Figure 6-1** presents the preferred modes based on the interventions proposed in this public transport plan.

The main arterials, indicated in red, resent the existing road network on which road-based public transport (minibus-taxis), learner transport and tourism services operate, along with private vehicles. These routes present the road-based transport alternatives with origins and destinations from outside of the municipal boarder. The R310 (from Eersteriver) and the R304 (from Durbanville/Brackenfell) compete with the existing, although not yet operational, rail services indicated in blue. The three other main arterials namely, the R44 (both from Somerset West and Klapmuts) are not spatially aligned to compete with rail services.

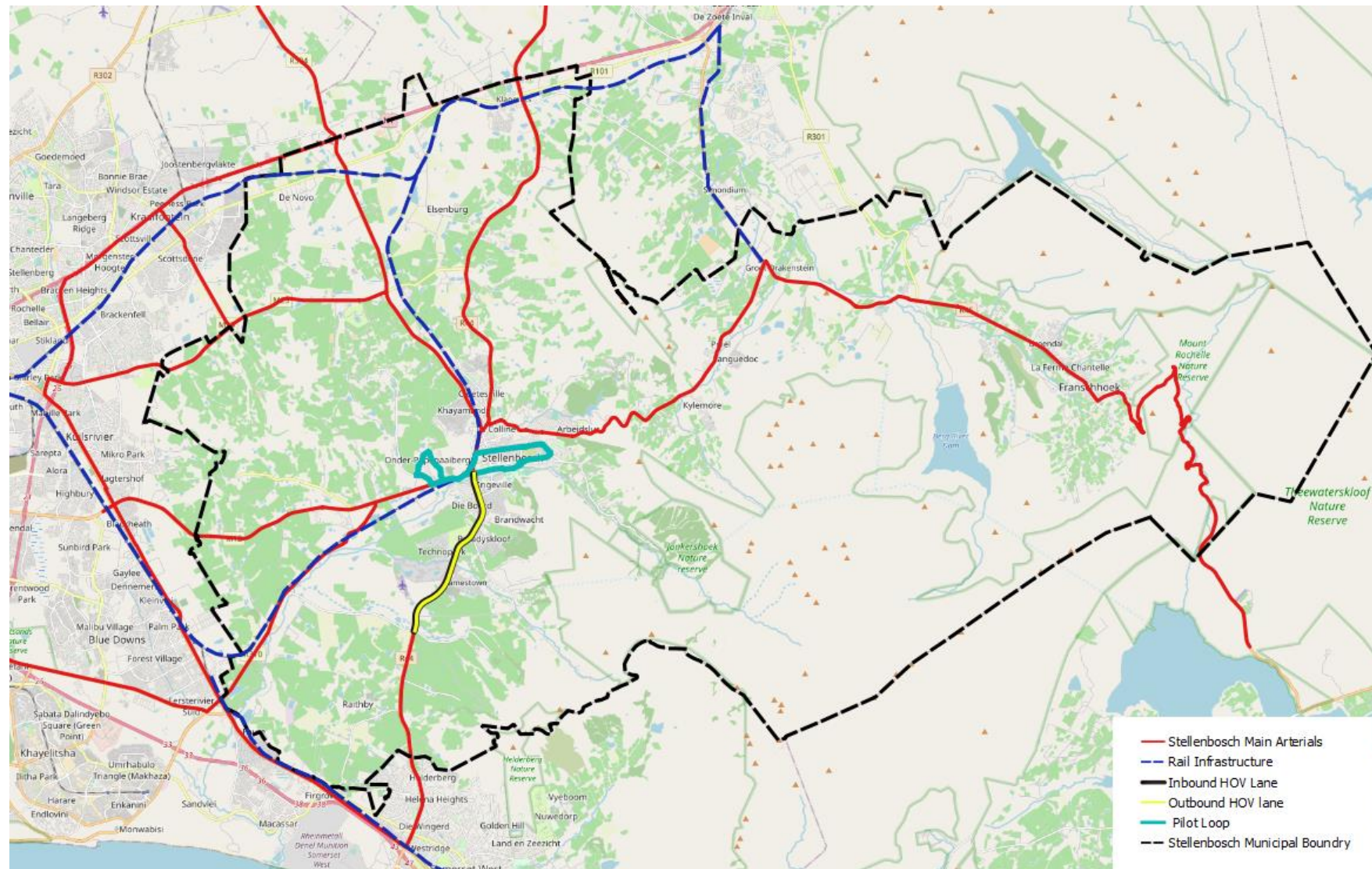


Figure 6-1: Overall network design

The provision of HOV lanes and public transport priority measures on arterials, specifically the R44, promotes the development of new contracted services by allowing minibus-taxi operators to formally provide contracted services between proposed park-and-ride facilities and Stellenbosch town center. The scheduled shuttle services will connect key nodes such as Kayamandi, University facilities, rail stations, proposed new ATC stops, and higher-density residential areas. A proposed central pilot loop that services the Devon Valley and Uniepark is another scheduled service that promotes contracted services.

The rollout of the shuttle services presents an opportunity to include technology such as online timetables, route information and e-hailing technology to attract new users and students who would previously only use their private vehicle. These proposed shuttle services provided by contract minibus-taxi operators are an incremental approach to establishing an IPTN service that ties into the current MyCiTi service provided in the Cape Metropole. Commuter rail services will also be reinstated to attract lost passenger demand that diminished due to the cessation of operations during the COVID-19 pandemic. Together with the ATC initiatives, there is an opportunity to fully integrate commuter rail with the proposed shuttle services and NMT route network within Stellenbosch town center.

In terms of the roll-out of the overall network design, **Table 6.4** presents initiatives that form the building blocks of developing an integrated network of transport services. Each initiative has an estimated timeline in years. These implementation timelines are however subject to further investigation and will need to be refined through the drafting of feasibility studies.

6.4 Commuter Rail Plan

In this section, rail transport will be briefly discussed.

6.4.1 Rail Infrastructure and Services Prior to COVID-19

The Western Cape has extensive rail infrastructure. 90% of the services originate or terminate at Cape Town station, while the other 10% originates or terminates at Bellville. However, the length of the railway line within Stellenbosch Municipality is only 18km, which includes seven stations namely (Innovative Transport Solutions, 2020):

- Klapmuts;
- Muldersvlei;
- Koelenhof;
- Du Toit;
- Stellenbosch;
- Vlottenburg, and
- Lynedoch.

6.4.2 Proposed Rail Improvements and Interventions from Previous CITP(s)

Table 6.3 summarises the proposed rail improvements and interventions from previous CITP(s).

Table 6.3: Proposed Rail Improvements and Interventions from Previous CITP(s)

Report	Improvement/Intervention	Proposed Timeline
CITP 2022 Review	Reinstatement of commuter rail services within Stellenbosch Municipality	Short term
CITP Review 2020	Regional and national access improved via rail	Longer term
	Inter-municipal rail services with improved access to Paarl, Somerset West, Bellville, and Cape Town	Longer term
	Intra-municipal rail movement for local access within SM i.e., between Klapmuts, Muldersvlei, Koelenhof, Du Toit, Stellenbosch, Vlottenburg and Lynedoch	Short term
	Rail services between Somerset West to Paarl or limited within Stellenbosch Stations	The feasibility of this needs to be determined.

Report	Improvement/Intervention	Proposed Timeline
CITP 2016-2020	Integration of rail, bus, and NMT	Longer term
	Stellenbosch and Du Toit Railway Stations: Facilities for Solo / Midi-bus services operating on public transport routes i.e., stops, signage shelters	Short term
	NMT facilities at terminals and railway stations	Longer term
	Relocate the Stellenbosch and Du Toit stations to new locations to facilitate the development of adjacent land. More detailed study is required to assess the implication of the relocation.	The feasibility of this needs to be determined.
	Blue Downs Line: Blue Downs is a densely populated area; this scheme incorporates it into the network while also linking Khayelitsha to Bellville. The proposal is for a new electrified double-track alignment which would integrate with the wider network	Longer term
	Chris Hani- Somerset West and Stellenbosch: There are existing proposals to extend the current line to Chris Hani but current footfalls appear suitable for Light Rail Transit (LRT) if the new journey opportunities boost usage. There is the potential for an extension beyond Christ Hani using alternative technology that would serve existing catchments	Longer term

6.4.3 The Way forward for Rail Transport in Stellenbosch Municipality Post COVID-19

Stellenbosch Municipality does not have any control over rail operations or investment. It is thus important for the municipality to have good relationships with stakeholders such as the PRASA to improve rail connectivity. It is proposed that the municipality engages with PRASA and utilise a phased approach (refer to [Figure 6-2](#)) by first re-instating the railway LOS in the municipality to pre-COVID-19 levels, and second assessing the rail interventions proposed in the previous CITPs.

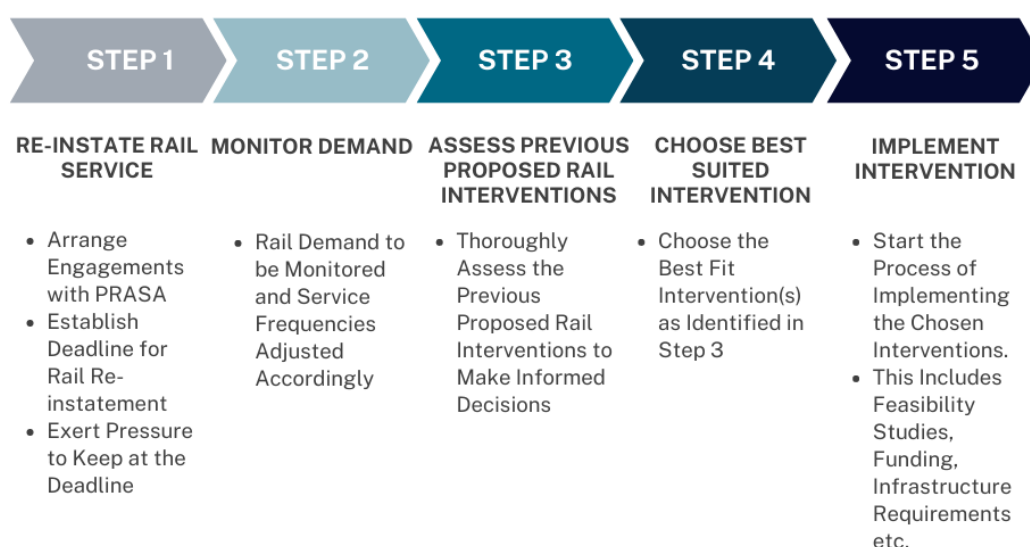


Figure 6-2: Proposed Rail Phased Approach

6.5 Contracted Services Plan

6.5.1 Proposed Uniepark/Onder Papegaaiberg loop

Contracted services refer to legally enforceable agreements for the provision of transport services. For this CTP, a pilot shuttle service loop running between Uniepark and Onder Papegaaiberg is proposed as a possibility for consideration, and discussion with minibus-taxi sector stakeholders. **Figure 6-3** illustrates the proposed loop.

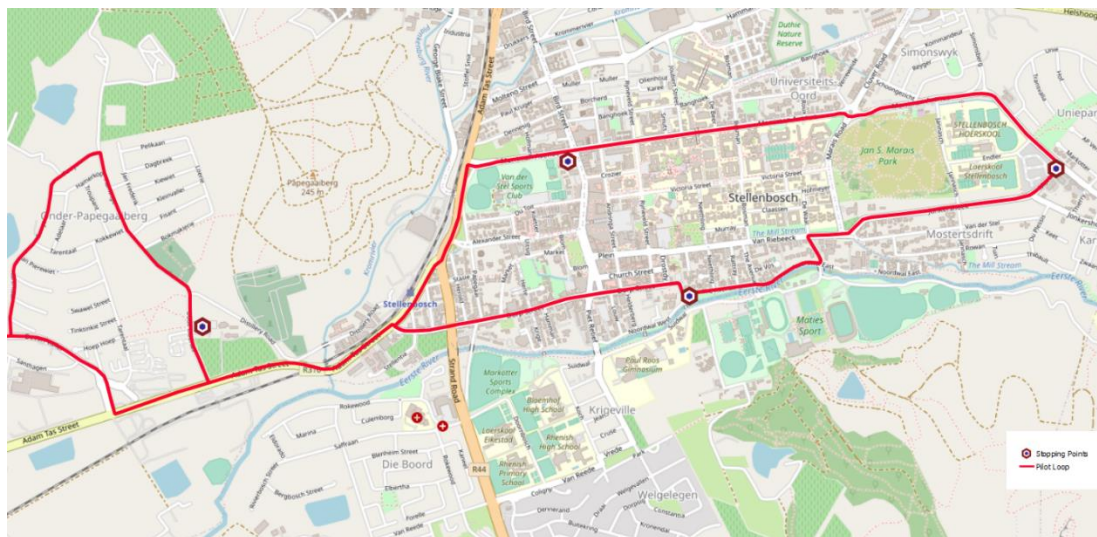


Figure 6-3: Uniepark/Onder Papegaaiberg Loop

The shuttle service loop starts at Oude Libertas parking area, adjacent to Onder Papegaaiberg. The route continues along the R304 eastbound, entering the town of Stellenbosch. The route proceeds along Dorp Street, Die Laan, Coetzenburg Street, Van Riebeeck Street, and Jonkershoek Road where it loops into Martinson Road, adjacent to Uniepark. The route continues down Merriman Avenue, past the Bergzicht taxi rank, and into the R310 (Adam Tass Road) westbound to Devon Valley Road, where it loops back to the Oude Libertas parking area. The proposed timetables and stops are presented in the full PTP.

6.5.2 Basis For Providing the Service

The proposed pilot loop running between is planned to run bi-directionally, to accommodate the desire lines of passengers based on their destinations and to prevent lengthy travel times.

6.5.2.1 Formalising the Minibus-taxi Industry

It is recommended that Stellenbosch Municipality aims to incorporate the existing minibus-taxi operators to provide this service through a commercial contract arrangement. To integrate the minibus-taxi operators into the proposed loop, extensive engagements with the minibus-taxi operators will be required and a process developed, together with the industry, to formalise and corporatise the industry as recommended in the key interventions of Stellenbosch Municipality 2022 IDP.

6.5.2.2 Corporate Identity

A differentiation in identity of the shuttle service and its vehicles is required for passengers to easily distinguish between the formalised service from the existing informal minibus-taxi operations. Vehicle branding and/or decals can be designed specifically for the Stellenbosch Municipality formalised public transport services. An example of this is the Blue Dot sticker used on existing minibus-taxi vehicles.

The appropriate vehicle size will depend on the passenger demand for the service which can be determined through surveys.

6.5.2.3 Fares

While a pre-boarding fare collection system will likely not be possible during the initial stages of the proposed service, it is recommended that automatic fare collection technology be explored, for future introduction. The implementation of a computer or cell phone application-based payment system could also be considered.

6.5.2.4 Passenger Information

The informal manner in which the minibus-taxi service are operated often limit the ability of the more occasional user to access such services because it is difficult to obtain information on services. It is proposed that service information be made available to passengers through various means, including the route, timetables and fares. Again digital technology could be a part of the solution through for example computer or cell phone applications.

6.5.2.5 Service Quality

In order to increase the viability of the shuttle service and for it to attract passengers that are not captive to public transport, for example choice users, the level and the quality of the service needs to be of an acceptable level, consistent and guaranteed. Service quality can be promoted through the implementation of principles and measures that had been proven successful during the Western Cape Government's Blue Dot pilot programme.

6.5.2.6 Universal Access

Various pieces of legislation dictate that public transport must be accessible to all people, regardless of physical or mental abilities. It is important that, if it is decided to implement and expand the loop system, the service must be planned with universal accessibility in mind.

6.5.3 Integration with Other Contracted Services

6.5.3.1 Stellenbosch University Shuttle Service

During weekdays, Stellenbosch University offers shuttle services for students and staff to and from various campus destinations to decentralised parking facilities (Innovative Transport Solutions, 2020)

It is proposed that, if the internal feeder system proves to be successful and feasible in the long run, the Stellenbosch University shuttle service be integrated into the system to further increase accessibility and reach. SU already provides this contracted service with financial assistance. In terms of a cost perspective, there are benefits for Stellenbosch Municipality to engage with SU to determine the terms of integration as there may be cost benefits for both entities.

6.5.3.2 Learner Transport

Currently, there are 13 transport operators providing learner transport within the municipality (RHDHV, 2016). Despite this service being available, most schools in the town of Stellenbosch are not served and learners are dropped off at school with private vehicles. This contributes greatly to congestion within the town, especially in the morning peak.

Again, there is an opportunity to integrate learner transport into the internal feeder system if it proves to be viable. The pilot route can easily be adjusted by adding a loop (see [Figure 6-4](#)) to incorporate the biggest schools in the town of Stellenbosch. Learners can be dropped off at or walk to any of the main or intermediate stops and use the system to get to school. The following can be possible incentives for learners to use the system:

- Discounted fares for learners from Monday to Friday;
- High-quality safety and security measures, and
- Loyalty rewards that can be used at their respective schools.

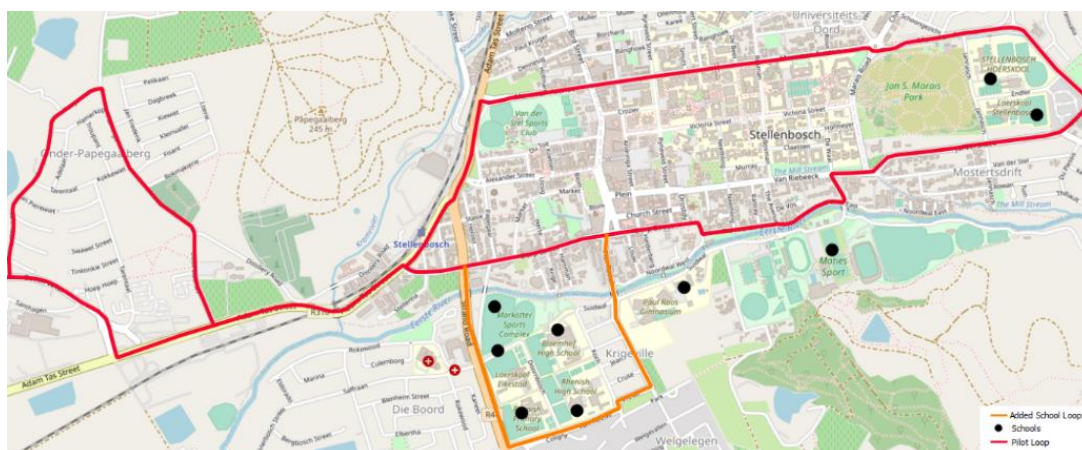


Figure 6-4: Added School Loop

6.6 Non-contracted Services Plan

The details regarding non-contracted services routes, operating licences, and capacity requirements can be found in the OLP written in 2019. Alternatively, please see Section 6.7. For this CIP, the non-contracted services plan will focus on driver customer care.

A driver customer care strategy is a framework to improve customer service quality and ultimately improve business overall. For this report, the concept of driver customer care aims to improve the success and sustainability of a business through improving driver service and vehicle operation standards of non-contracted services.

6.6.1 Driver Customer Care Framework

This section presents a proposed Driver Customer Care Programme to be adopted by non-contracted services, based on the three (3) phases of the credentialing process. The three (3) phases are: (1) Driver Training, (2) Vehicle Inspection, and (3) Driver Licensing and Vehicle Operating License.

The driver training component of the credentialing process for a vehicle operating license in Stellenbosch includes five sub-components: customer service standards, driver code of conduct, passenger safety, services for people with disabilities, and the permittance of service animals. Drivers must pass the training program provided by Stellenbosch Municipality or an identified company to qualify for the next phase of the credentialing process, which is the Vehicle Inspection phase. The fees for the training program are paid for by the driver or operator, and all costs incurred during the credentialing process are the responsibility of the applicant and are non-refundable.

The Vehicle Inspection phase requires the driver to take the vehicle in application to an approved testing facility for a vehicle inspection. Certificates are required for every new vehicle operating license application and for annual renewal applications. The driver or operator is responsible for addressing any faults identified during the inspection before the operating license application can be completed.

The final phase of the credentialing process is the Driver Licensing and Vehicle Operating License phase, which includes the final criteria and supporting documentation required for the driver or operator to receive an operating license. The detailed driver customer care framework can be found in the full PTP.

6.6.2 Possible Integration with Blue Dot

The blue dot pilot project ended in November 2022, and currently there are no plans for project extension. It could be beneficial for Stellenbosch Municipality to investigate the feasibility of a blue-dot-like project that incorporates the proposed driver customer care programme. Engagement with the Department of Transport and Public Works is required to identify the potential way forward on either reinstating the programme and including Stellenbosch Municipality. The challenge that will need to be addressed is the source of funding and how the continuation of the programme will roll out.

6.7 Operating License Plan (OLP)

The latest Operating Licence Plan (OLP) was written in 2019. It must be noted that the report mainly covers MBT and excludes other non-contracted services such as metered taxis and e-hailing services.

To assess the supply and demand for non-contracted services within the municipality, and to essentially balance the supply and demand, an operating licence analysis was conducted (Stellenbosch Municipality, 2019). To view a more detailed summary of the analysis, please refer to the full PTP.

6.8 Dedicated HOV Lanes

In the Stellenbosch 5th Generation IDP 2022-2027, under the CITP section (6.3.4.2), it is proposed that an assessment report be submitted to the Provincial Department of Transport on the potential implementation of public transport lanes on the R44, in both directions, between Stellenbosch and Somerset West.

6.8.1 HOV Lane Scenarios

To promote public transport, and prioritise high occupancy vehicles, as part of the revised CITP, it is proposed that an HOV lanes pilot be conducted between Somerset West and Stellenbosch town centre. Pilot studies allow the testing of interventions with reduced risk.

For the pilot study, it is proposed that the implementation of dedicated HOV lanes would be between Somerset West and Stellenbosch town centre, in both directions. The HOV lane from Somerset West towards Stellenbosch would start before the R44/Annandale Road intersection and terminate before the R44/Dorp Street intersection. The HOV lane in the opposite direction (Stellenbosch to Somerset West), would start at the R44/Van Rheeде Road intersection, and terminate at the R44/Annandale Road intersection (as illustrated in **Figure 6-5**).

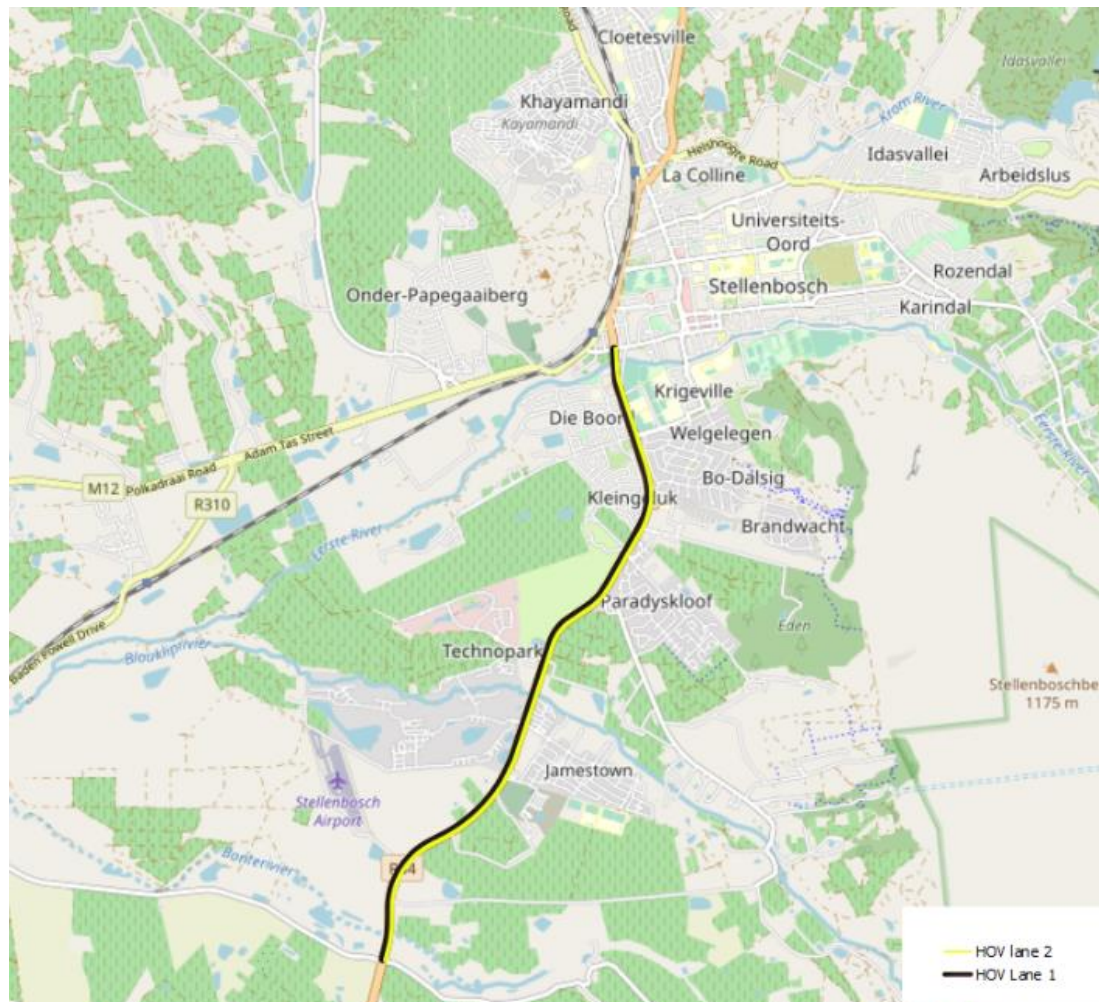


Figure 6-5: Dedicated HOV Lanes

Four potential R44 HOV lane scenarios could be investigated:

- Demarcating an existing lane for HOV vehicles during peak periods;
- Utilising a contraflow lane for HOVs during peak periods;

- Construction of additional lanes within the road reserve dedicated to HOVs, and
- Developing infrastructure for dedicated HOVs that can be used for bus rapid transit in the future.

The dedicated HOV lane pilot study could be conducted in conjunction with the piloting of a park and ride facility along the same corridor. The park and ride would include a shuttle service between the facility and the town centre, potentially using minibus-taxi operators. The shuttle service would also integrate with existing transport systems to encourage the use of sustainable modes of transportation and reduce congestion. The dedicated HOV lane would also need to integrate with the existing NMT network and planned improvements in the area.

6.8.2 Possible HOV Integration with Other Modes

The proposed HOV lanes can be integrated with other modes of transportation such as the internal feeder system which connects areas like Jamestown, Technopark, and Paradyskloof to the looped system – refer to **Figure 6-6**. Once rail services are reinstated, the internal feeder system can be linked to the rail by adding a stop at the train station or adjacent parking area. This will increase accessibility to and from other areas outside the town and be the first step in achieving an integrated public transport system for Stellenbosch.

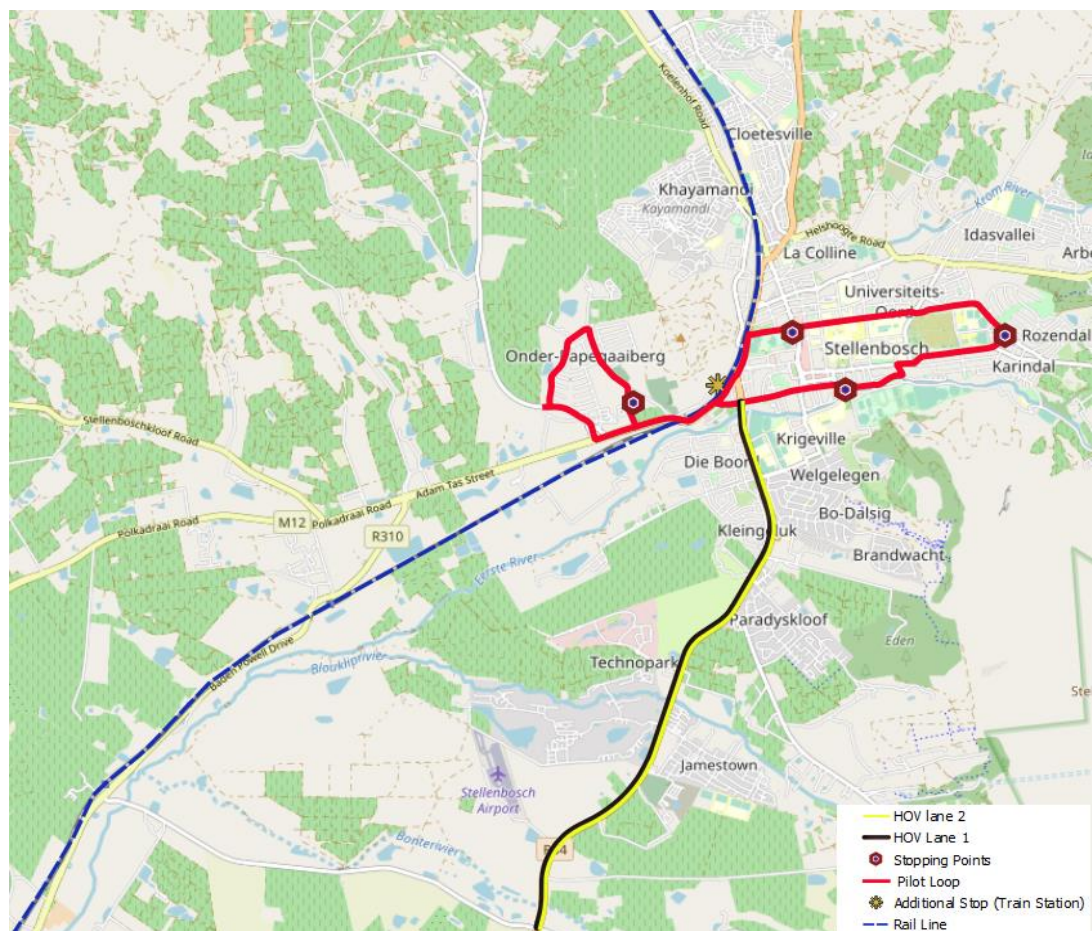


Figure 6-6: Possible Integration Opportunities

6.9 Summary of key public transport interventions and projects

Table 6.4 provides a summary of proposed the public transport-related interventions and projects for this CITP, which includes several projects outlined in the IDP as well.

Table 6.4: Proposed Public Transport Projects and Initiatives

Public Transport Plan: Key Intervention and Initiatives								
	Interventions/initiatives	Description	5-year target 2023-2028	Year 1 2023/24	Year 2 2024/25	Year 3 2025/26	Year 4 2026/27	Year 5 2027/28
1.	Transport Feeder System (IDP 2022)	Investigations and assessments reports for mechanism for the Internal Transport Feeder System from park and ride areas to the CBD	2	n/a	1	1	n/a	n/a
2.	Park and Ride Facilities (IDP 2022)	Submission of assessments reports for management of park and ride facilities to the Municipal Manager	2	n/a	1	1	n/a	n/a
3.	HOV lanes (R44) (IDP 2022)	Submission of an assessment report to the Provincial Department of Transport on the implementation of public transport lanes on the R44 (from both directions Stellenbosch – Somerset West)	1	1	n/a	n/a	n/a	n/a
4.	SU Shuttle Services (IDP 2022)	Engagements with the University to collaborate on the implementation and improvement of park and ride facilities and shuttle services for students	5	1	1	1	1	1
5.	Transport Operating Company (IDP 2022)	Continued feasibility studies to establish a transport operating company	4	n/a	1	1	1	1
6.	Universal Accessibility (IDP 2022)	Development of business model for a Transport service for persons with disabilities in Stellenbosch	4	n/a	1	1	1	1
7.	Bergzicht Taxi Rank (IDP 2022)	Re-design of Bergzicht Public Transport Facility	2	1	1	n/a	n/a	n/a
8.	OLS Review (Current CITP Revision)	Conducting an Operating License review	1	1	n/a	n/a	n/a	n/a
9.	Mobility Forum (Current CITP Revision)	The reinstatement of the Mobility Forum between large employers and public transport operators	1	1	n/a	n/a	n/a	n/a
10.	Driver Customer Care (Current CITP Revision)	Development of a Driver Customer Care Programme to improve minibus-taxi service provision	4	n/a	1	1	1	1

7 TRANSPORT INFRASTRUCTURE STRATEGY

7.1 Introduction

The *Transport Infrastructure Strategy* chapter summarises the strategy to improve transport infrastructure for the municipality. The transport infrastructure strategy considers the development, provision, implementation, and maintenance of the major road transport infrastructure. Other transport infrastructure such as public transport facilities, freight corridors, Non-Motorised Transport (NMT) and rail are described elsewhere.

The transport infrastructure strategy includes proposals for improvement of existing infrastructure and proposals for new infrastructure implementation.

Options for implementation within the five-year period from 2023 to 2028 were considered for this CITP. The following types of infrastructure projects are included:

- Infrastructure Maintenance: Maintenance and rehabilitation of roads, public transport facilities and traffic control equipment, and
- Road Infrastructure: The construction of all classes of roads, bridges and associated stormwater, non-motorised infrastructure such as sidewalks and cycle tracks and traffic control equipment.

Within this chapter the primary infrastructure projects investigated are related specifically to **roadways**, traffic control equipment and **parking**. The infrastructure projects related to public transport (bus services, shuttle services, rail and MBT) and non-motorised transport (walking and cycling) are investigated and presented in Chapters 6 and 9 respectively.

7.1.1 Legislation & Policy Directives

The following list contains the legislation applicable to the transport infrastructure:

- The National Land Transport Act 5 of 2009 (NLTA);
- The National Land Transport Act – Minimum Requirements of Integrated Transport Plans;
- The National Land Transport Amendment Bill, and
- The National White Paper on Transport 1996.

The relevance of the listed legislation to the Transport Infrastructure Strategy is described in the sections below.

7.1.1.1 The National Land Transport Act 5 of 2009 (NLTA)

As per Chapter 4, section 31 of the National Land Transport Act (NLTA), land transport planning must be integrated with the land development and land use planning (National Land Transport Act, 2009). To do so, the Act requires the following plans (section 32):

- A National Land Transport Strategic Framework (by the Minister for the provincial level);
- Provincial Land Transport Framework (by the MEC (Member of Executive Council) for the provincial level), and
- Integrated Transport Plans (by planning authorities for a municipal level).

For this project point c is of importance as any proposed road infrastructure will stem from the ITP documentation. Point c is supported by the additional legislation of The National Land Transport Act – Minimum Requirements of Integrated Transport Plans.

7.1.1.2 The National Land Transport Act – Minimum Requirements of Integrated Transport Plans

As per Chapter 7, Transport Infrastructure Strategy, of the minimum requirements the transport infrastructure strategy must deal with the development and maintenance of all types of transport infrastructure, including major roads, public transport facilities, BRT networks, dedicated lanes for public transport, depots, freight corridor measures, non-motorised transport infrastructure, and rail infrastructure.

The transport infrastructure strategy must include proposals for new facilities and for the improvement of existing public transport facilities and major roads. Only firm schemes on which work will commence within the five-year CITP planning period must be included in the strategy. The transport infrastructure strategy must include measures aimed at giving priority to public transport where such measures are

practical and economically justified. In the case of those municipalities participating in the DoT's IPTN strategy and receiving PTNG Grant funding for infrastructure development, the infrastructure strategy must include the plan for the progressive implementation of the rapid rail or BRT corridors over the next five-year period. This will also be reflected in the business plans submitted to the DoT annually in this regard.

The transport infrastructure strategy must describe the current rail network and system, and must:

- Indicate the desired future rail extensions and stations within the context of SDF growth projections;
- Indicate the relative importance or ranking of proposed rail extensions and stations in the municipal area;
- Indicate which railway proposals must be prioritised for conceptual planning, design and construction in the short, medium and long terms, and
- Include the action plans for rail projects for which funding has been secured;
- Indicate railway stations where intermodal facilities or activities exist;
- Specify the modes that are integrated at each station;
- Describe how the integration is taking place;
- Describe the modal split or share of both feeder and distribution services at the stations;
- Propose guidelines for modal integration at those stations;
- Identify railway stations that warrant consideration as integrated transport nodes;
- Indicate what modes will be integrated at the identified railway stations, and
- Indicate the desired modal split at the identified nodes.

7.1.1.3 The National Land Transport Amendment Bill

The purpose of the Amendment Bill is to bring about updates to the NLTA. The following amendments are applicable to Transport Infrastructure:

Insertion of new section 10A in Act 5 of 2009 6: "Accessible and non-motorised transport 10A. (1) The Minister, all MECs and planning authorities must take steps in performing their functions under this Act to promote accessible transport and non-motorised transport.

(2) For the purposes of this section, "accessible transport" means transport that is accessible to all persons in the area, including, but not limited to, targeted categories of passengers, pedestrians and cyclists to their intended destinations in a safe and convenient manner, and in relation to infrastructure means the design of facilities that are usable by all people to the greatest extent possible, with or without the need for adaptation or specialised design."

7.1.1.4 The National White Paper on Transport 1996

The National White Paper defines transport infrastructure as a significant portion of the Government's total financial investment and therefore it needs to be well managed. The White Paper provides a vision, mission, strategic objectives and policies for transport infrastructure in South Africa. The following policies, that tie in to the vision, mission and strategic objectives, should be adhered to:

- Maintain and develop the transportation infrastructure system and prioritise its development in terms of needs;
- Foster a sound financial base for transportation infrastructure;
- Current fiscal constraints are holding back the development of certain critical infrastructure;
- Promote a strong, diverse, effective and competitive industry;
- Promote environmental protection and resource conservation;
- Enhance the quality of life of all citizens of South Africa;
- Advance human resource development in the provision of transportation infrastructure, and
- Infrastructure policy for the various modes.

The following updated policies were added in the Revised White Paper:

- Road transport demand management;

- Road traffic safety regulation;
- Road traffic control;
- Adjudication of Traffic Offences;
- Improvement of road user knowledge, skills and attitudes;
- Funding of road traffic management;
- Incident management;
- The engineering discipline;
- International harmonisation of road traffic policy;
- Road infrastructure, and
- Non-motorised transport.

7.1.2 Summary Major Existing “External” Strategies, Proposals and Projects

External stakeholders such as the Western Cape Government and Cape Winelands District Municipality have a bearing on the Stellenbosch Municipal transportation system. In the below paragraphs the external impacts and strategies related to the road infrastructure are considered.

On a **National Level**, as taken from the National Transport Master Plan (NATMAP 2050), there are various objectives aimed at facilitating the vision (Department of Transport, 2016). The following of these objectives are aimed at transport infrastructure:

- A much-improved sustainable public transport system that is appropriately funded;
- Non-motorised transport network development;
- A transport system that promotes better integration between land use planning and transport planning to encourage densification and sustainable development in supporting high volumes of travel required for public transport, and
- Better infrastructure, better maintained road and rail networks, with proper management and operations practices that link and provide interchange opportunities for different modes of transport.

The objective on a **Provincial Level** as concluded from the Western Cape Provincial Land Transport Framework (WCPLTF), the OneCape 2040 strategy is that appropriate infrastructure is required to facilitate a positive transition in the province. Furthermore, it sets out the required changes and development agendas relating to infrastructure provision to achieve the OneCape 2040 transitions (Western Cape Government - Transport and Public Works, 2016).

The three key transitions proposed by the WCIF relating to transport are:

- Invest in public transport and NMT infrastructure, particularly in larger urban centres;
- Prioritise general freight rail over bulk freight, and
- Shift freight traffic from road to rail along major routes.

Stellenbosch forms part of the **Cape Winelands District**. The transport infrastructure objectives that are in accordance with the transport objectives of the Cape Winelands District Integrated Transport Plan (CWDITP) objectives are listed below (Royal Haskoning DHV, 2016):

- To maintain the health and safety of communities;
- To facilitate sustainable economic empowerment of all communities;
- To support and ensure the development and implementation of infrastructural services;
- To provide effective and efficient support services, and
- To ensure financial sustainability.

The objectives identified from previous studies for the Stellenbosch CIP and plans undertaken for the **Municipality of Stellenbosch** are listed below and should be considered with the transport infrastructure implementations in future (ITS Innovative Transport Solutions, 2020):

- Strive towards car-free living;

- Alleviate congestion;
- Safe learner transport;
- Stop of urban sprawl;
- Provide more NMT, and
- Promote Public Transport Implementation.

For Stellenbosch, a strategy is further proposed to improve transport mobility on major roads linking Klapmuts and Somerset West and passing through Stellenbosch. Several alternatives have been identified for further investigation and consultation:

- Construction of a by-pass road to the west of Stellenbosch. This is a long-term solution that has advantages and disadvantages;
- Travel Demand Management to reduce the reliance on cars and encourage the use of public transport, and
- Increase capacity.

By comparing the four levels of objectives it can be concluded that the way forward of transport infrastructure on these four levels are similar and that the primary focus public transport, non-motorised transport, improved mobility and integration, densification and healthy and safe communities. Stellenbosch Municipality is therefore not exempted from the broader vision for transport infrastructure and should strive to achieve the common good.

The overarching vision for the Transport Infrastructure Strategy over the broader external network is therefore summarised as:

Implementation of integrated movement corridors to improve mobility, sustainability, empowerment, and safety of all travellers.

7.1.2.1 Changes in the environment and transportation milieu

In addition to the impacts of external authoritative bodies, there are various external factors and the immediate environment of any town or city is directly linked to the transportation system. With the everchanging character of daily life and the advances of technology it is key to re-evaluate this immediate environment and determine how things changed to date and how things are anticipated to change in the future. By identifying and predicating these changes it can be ensured that the transportation system stays relevant.

Some recent and some predicted changes in external factors influencing the transportation system and the effect of these changes specifically on transportation infrastructure in Stellenbosch are summarised in **Table 7.1**.

Table 7.1: Environmental Challenges in transportation

Change	Impact on Transportation
COVID-19	A change in travel patterns such as a longer distributed peak period instead of a condensed peak hour can result in the existing capacity to be sufficient as the capacity requirements at a certain point in time are less. The "working-from-home" concept and virtual learning can also have an impact in the times when people commute. It should be confirmed (from Section 3.3.3) that the October 2022 traffic surveys indicated basically no change to traffic numbers on the major roads, when compared to before the COVID-19 pandemic (early 2020).
4 th Industrial Revolution	Increased economic growth and raised global income levels for the average population can indicate that earnings are spent differently – perhaps more people purchase private vehicles and therefore increased capacity will be required? On the other hand – should technology replace jobs by people it can also have the opposite effect.
Electric Cars	Charging stations will become a requirement of any parking facility.

Change	Impact on Transportation
Hike in Fuel Price	Hikes in fuel prices can discourage people to travel and reduce small/short trips. Almost no impact on commuting is evident from the steep fuel price hikes during 2022.
Navigation Tools	Making use of navigation tools and applications can influence route planning and the route choices commuters and travellers make i.e. increased Rat-Racing can become a trend reducing capacity requirements on the main routes and increasing capacity requirements on smaller roads.
University of Stellenbosch – virtual teaching	Depending on the decision of the University to continue with virtual/on-line teaching the required transportation infrastructure will be impacted. Should students not return to campus, increased parking facilities and roadways for the accommodation of students are most likely not a future priority.
Automated Vehicles	It is not foreseen that the majority of the privately owned vehicles in Stellenbosch will be replaced by automated vehicles in the near future but the integration of automated vehicles with the existing road users will be key.
Cycling Culture	The cycling culture in Stellenbosch is growing. Infrastructure for cyclist should therefore be prioritised.
E-Bikes	The popularity of e-bikes in Stellenbosch are growing. Consideration for e-bike infrastructure can be explored (charging stations).
Home Deliveries of Groceries	Grocery stores deliver throughout the town – infrastructure to advance delivery motorcycles etc. can be prioritised?
Growing Population	The anticipated population growth in Stellenbosch is 5% per year – the impact of this growth on all the transportation infrastructure will be severe, should it materialise.
Rail System Neglected	Infrastructure required to replace the dependence on rail. Incentives to revert rail passengers back to rail that transferred to different modes in the past years.

7.1.2.2 Roadway Infrastructure Objectives

The transportation objectives as determined by the study team in July 2022 are indicated in Section 2.4 above. Most if not all of these speak to roadway infrastructure, but the most important, directly influencing the road network is considered to be:

- Adequate mobility;
- Densification of public transport corridors;
- Diversification (mixed) types of land use at new nodes;
- Reduce congestion;
- Parking developments to promote public transport;
- Acceptable maintenance;
- Safe and convenient infrastructure for NMT, and
- Promote car free living.

The strategies related to the provision of transportation, divided into thirteen sub categories, are shown in Section 2.5 above. The ones specifically addressing the provision of transport infrastructure and parking are briefly:

- The road network should be developed so that some are providing for higher levels of mobility for private vehicles and others providing more for access, public transport and specifically NMT;

- Upgrades and development of roads should make adequate allowance for all modes of transport (cross-section, servitude boundary to boundary, urban design);
- Bypass road options for through traffic should be developed and evaluated through a strategic environmental assessment;
- Parking requirements related to new development should be scaled down in favour of public transport and NMT facilities;
- Park-&-ride facilities should be developed to serve the Stellenbosch Town and Franschhoek CBDs;
- On-street parking should be reduced and/or taken away on certain functionality type streets;
- Where possible, on-street parking should be made more expensive to encourage motorists to park-&-ride and/or use NMT, and
- Continued and improved road maintenance should always be provided.

7.1.3 Previously Updated Stellenbosch CITP Concepts, Key Strategies, Proposals

This chapter defines the context and current realities of the Transport Infrastructure Strategy for the towns in the Stellenbosch Municipal boundary in terms of **roadways** and **parking**. It looks into the concepts, key strategies and proposals (projects) as captured in previous and existing documentation which include the previous CITP, IDP and RMP.

7.1.3.1 Major Roadways

The overarching trend in the current realities and **experiences** of the roads network infrastructure indicated that congestion is the primary concern and that a number of sections of the current road network operates at capacity during peak times. The most important links have been identified in **Section 5.2**.

Whilst the **strategy** to address the concerns around congestion (at the present time) has to be based on the current congestion levels and the predicted traffic demand in the Stellenbosch Roads Master Plan, it also has to take into account the recent proposals for the redevelopment of the Adam Tas corridor (described in **Section 4.5**).

The Roads Masterplan completed for Stellenbosch in 2019 and approved by the Council in 2022, included the application of the existing Cape Town EMME/4 Metropolitan Transport model. A number of long-term land use scenarios (developed in cooperation with Stellenbosch municipal officials) were used to develop a 2040 Transport Demand Modelling Scenario for Stellenbosch. The 2018 base model includes the latest known residential, industrial and commercial development in the Stellenbosch municipal area. The 2040 scenario included all feasible developments extracted from information provided by Stellenbosch Municipality. The potential projects identified in the Roads Master Plan to address the predicted future demand, including the projects falling under provincial jurisdiction, are provided in **Appendix E**.

In view of all the above, it is concluded that there are at least five major road projects which are required in the medium term to service the expected developments. They are the following (brief description provided below):

- Portions of the Eastern Link Road;
- Portions of the Western Bypass;
- The R44 Upgrade – mostly provincial responsibility;
- The Jamestown Links, and
- Upgrading of the R304/Bird Street link.

Eastern Link Road - This route has a long history. It was proposed many years ago as the north/south link, with the main aim of providing a new link into Stellenbosch midtown as a supplement to the R44. It was originally planned to link to Marais Street west of the Jan Marais Park, and to eventually link with Helshoogte Road, just south of Idas Valley. The original route has been compromised and has two major constraints, namely, passing the Stellenbosch College (originally Denneoord) and crossing the Coetzenburg sports grounds. Although the route has very strong merits from a traffic and transport viewpoint, it was opposed in the past by many, which in effect led to it being excluded from further considerations. Possibly a special class one Non-Motorised Transport (NMT) facility linking suburbs along this route to the CDB would be beneficial.

Construction of portions of this link, i.e. Wilderbosch extension north to Trumali, and Wilderbosch extension south to Technoparl has been allowed for in the 10-year Infrastructure Services Budget of the municipality, refer to **Figure 7-1**.

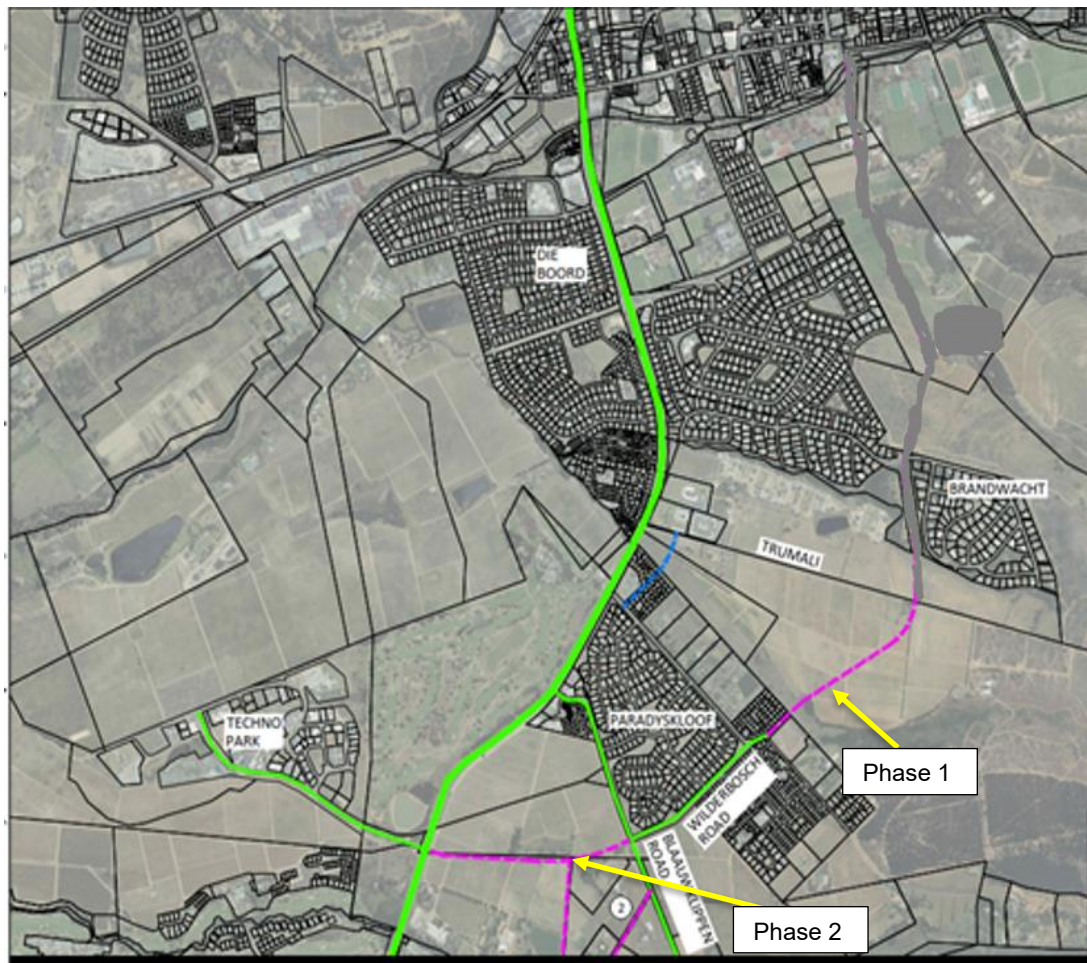


Figure 7-1: Portions of the Proposed Eastern Link Road allowed for in the 10 year budget

Western Bypass - The major function of the R44 is to serve as a north/south (regional mobility) route connecting Strand, Somerset West, Helderberg and Overstrand regions with areas to the north such as Paarl, Wellington and Malmesbury. In the Stellenbosch area, especially in the vicinity of Jamestown, it also has to serve as a commuter route bringing workers from the southern suburbs and Somerset West to employment opportunities in Stellenbosch and to regions in the north. This dual function leads to the R44 probably being the most congested road in the Stellenbosch area.

One of the solutions for this is to construct a parallel route on the western side past Stellenbosch which can then serve the longer distance traffic. Such a route will be highly sensitive to environmental concerns - investigations into this have been commissioned. The 2019 Stellenbosch Roads Master Plan referred to the 2012 RMP's description of the three preliminary road alignments for such a route:

- Option 1 - A Class 1 expressway, linking the R44 close to the Annandale intersection in the south, to the existing R44 between Stellenbosch and Paarl (SRMP003, SRMP001 and SRMP030), just north of Welgevonden;
- Option 2 A similar but shorter route which starts at a future grade separated R44/Technopark intersection (in the south) and terminates at the same location in the north (SRMP002, SRMP001 and SRMP030) – Class 2 arterial, and
- Options 3 An reduced proposal, starting at Technopark, and ending at Adam Tas Road (R310) – basically SRMP002.

To implement the Western Bypass (Option 1), expropriation and proclamation of the road reserve by the provincial government is required, as well as extensive public participation, funding requirements and approval processes. The possibility of implementing a lower order road, and utilizing existing roads should be investigated, especially since intersection improvements are being planned along the R44 by the Provincial Government. Option 1 should therefore be re-evaluated. The reduced bypass proposal (Options 2 and 3) as shown in **Figure 7-2**, is considered more feasible for implementation.

The implementation of Option 3 is currently underway, with the upgrading of the R44/Techno Park intersection complete and the planning of the link between Technopark and Adam Tas Road (R310) in progress. The latest preliminary design for the third option is shown in [Error! Reference source not found.](#) (source, Bergstedt R, Stellenbosch Municipality). In future the extension northwards (Option 2) partially following the Devon Valley Road and eventually linking with the R304 and the R44 may also be required, considering the proposed developments along the Adam Tas Corridor.

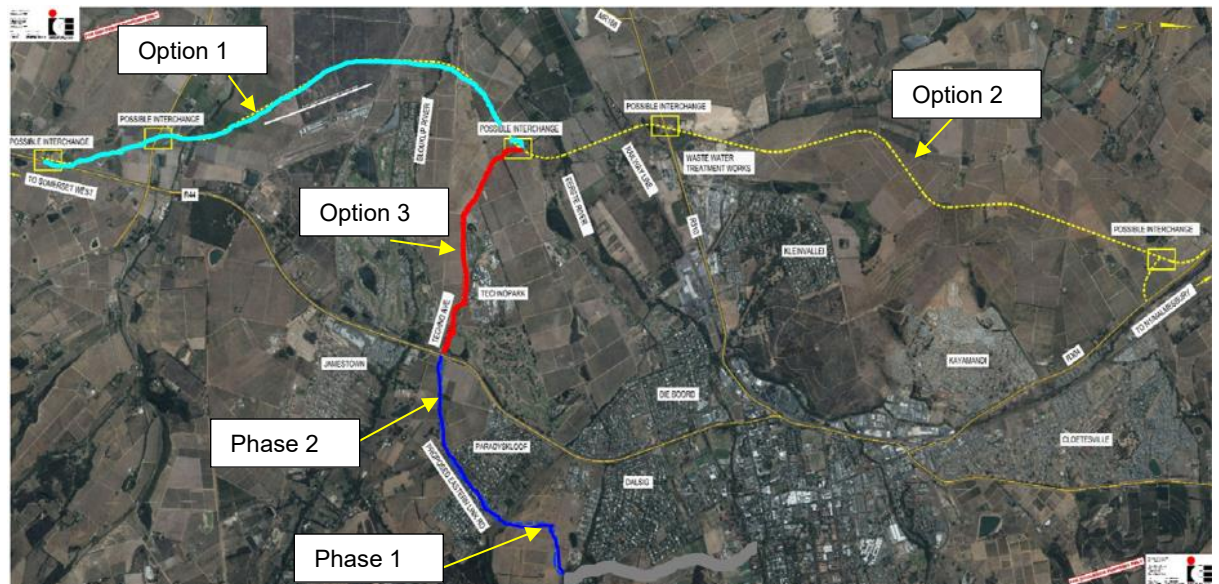


Figure 7-2: Alignment of Possible Future Western Bypass (yellow) and Eastern Link (blue)

(Source: Messrs ICE)

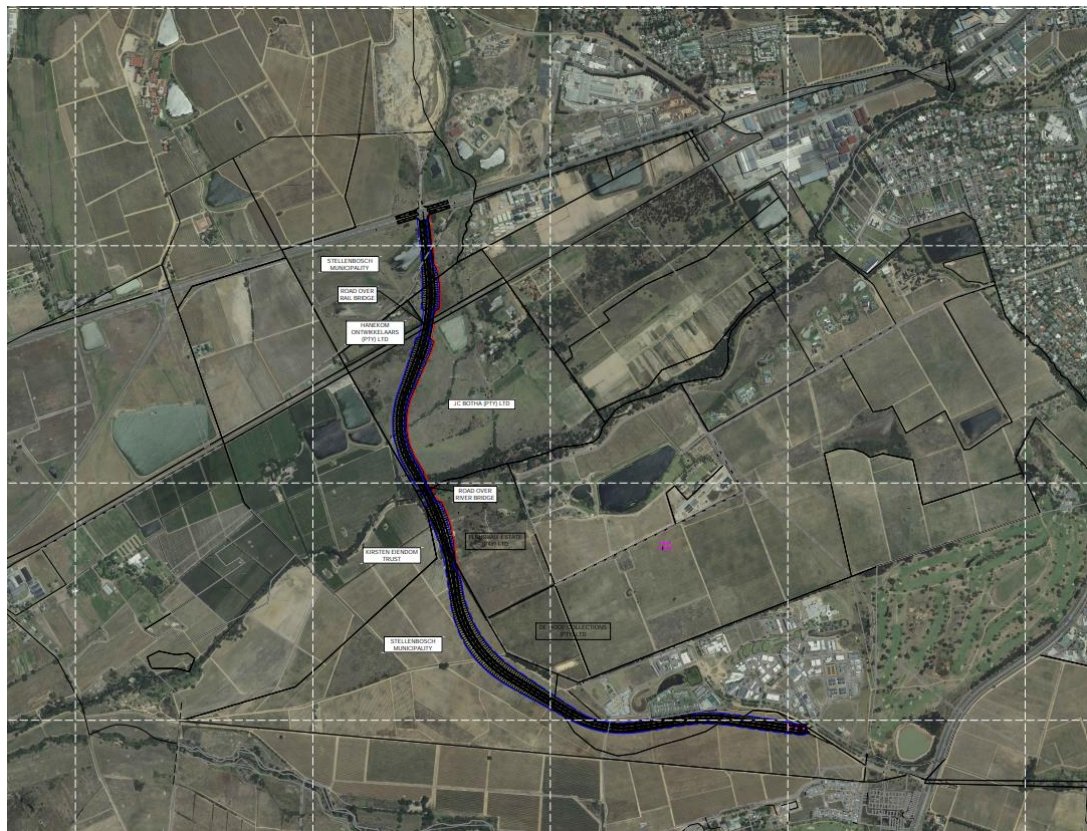


Figure 7-3: Alignment of link road currently being designed between R44 and R310 – basically the third option from the 2019 Stellenbosch RMP – SRMP002

The assignment results (from macroscopic modelling in 2019) shown in the Stellenbosch Roads Master Plan confirms the importance of the proposed Western Bypass to service longer distance traffic, as it is predicted to reduce the traffic on the central part of the R44 by 970 vehicles/hour/direction (which is

around 50% of the current capacity of the R44 through Stellenbosch). This is quite different to the results of the Gateway study done by Messrs RHDHV in 2017, which states that the proposed bypass will reduce traffic loads (on the present R44) slightly (10%).

It is unlikely that the 2019 modelling included the current (extensive) land use proposals for the Adam Tas Corridor. Should this now be included, then the results should even more point to the need for a western bypass to reduce through traffic on the R44 and Adam Tas Road.

It is considered crucial that the planning process with respect to a possible Western Bypass proceeds, also in co-operation with the provincial transport department, and that the environmental process is started.

Major Intersection Upgrades

Insert drawing as per email.

R44 Upgrade – The Western Cape Government: Department of Transport and Public Works (DTPW) initiated a process to upgrade the Safety and Level of Service of the R44 between Steynsrust Road (km 20.15) in Somerset West and Van Rhee de Street (km 33.00) in Stellenbosch. As part of the environmental process, the Basic Assessment Process commenced in 2012. Messrs Kantey & Templar completed an (unpublished) Conceptual Planning Report in 2012, describing the development of upgrading proposals for the R44.

The ensuing Environmental Impact Assessment (EIA) process, driven by Messrs CCA Environmental, culminated with a Final Basic Assessment Report (BAR), dated November 2017. The Final BAR resulted in Environmental Authorisation (EA) being granted by the Provincial Department of Local Government, Environmental Affairs and Development Planning on 29 March 2018. This was followed by several appeals being lodged against the EA. Finally, the appeals were considered, and the original EA was amended on 27 August 2019 by the Minister of Local Government, Environmental Affairs and Development Planning. The amendments basically contained two points:

- The proposed elevated Annandale narrow diamond interchange must change to a below ground facility, and
- Whilst the original EA approved the closure of all the existing 22 median openings on this section of the R44, the 2019 amendments required that two of them must remain open. Which of the median openings these have to be was left to the provincial transport department, and it has not been confirmed yet.

It is concluded that the main purpose of this exercise was to protect the integrity of the R44 as a regional mobility road. As such it has consequences on (for example) the Jamestown area, which would eventually lose some existing accesses. Even though the upgrading of this portion of the R44 is a provincial responsibility, it does have a profound impact on Stellenbosch Municipality.

Jamestown links – As described above, the upgrading proposals of the mobility function of the R44 will eventually result in the closing of numerous existing access points to the road. This impacts the accessibility of Jamestown. A Roads Master Plan for Jamestown was completed in March 2020 (B/SM 39/18 Jamestown: Development Roads Master Plan). In view of the substantial residential development proposed in Jamestown, largely to the south of the existing developed area, this plan proposed a number of possible links between Jamestown and Stellenbosch – refer to [Figure 7-4](#). It is important to note that these proposals have not been workshopped with any IAP's (as far as is known) at this stage, but it is expected that the matter will receive attention in due course. The proposals shown below therefore do not have any status at present.

Allowance has been made for the construction of portions of this network in the 10-year Infrastructure Services Budget of the municipality.

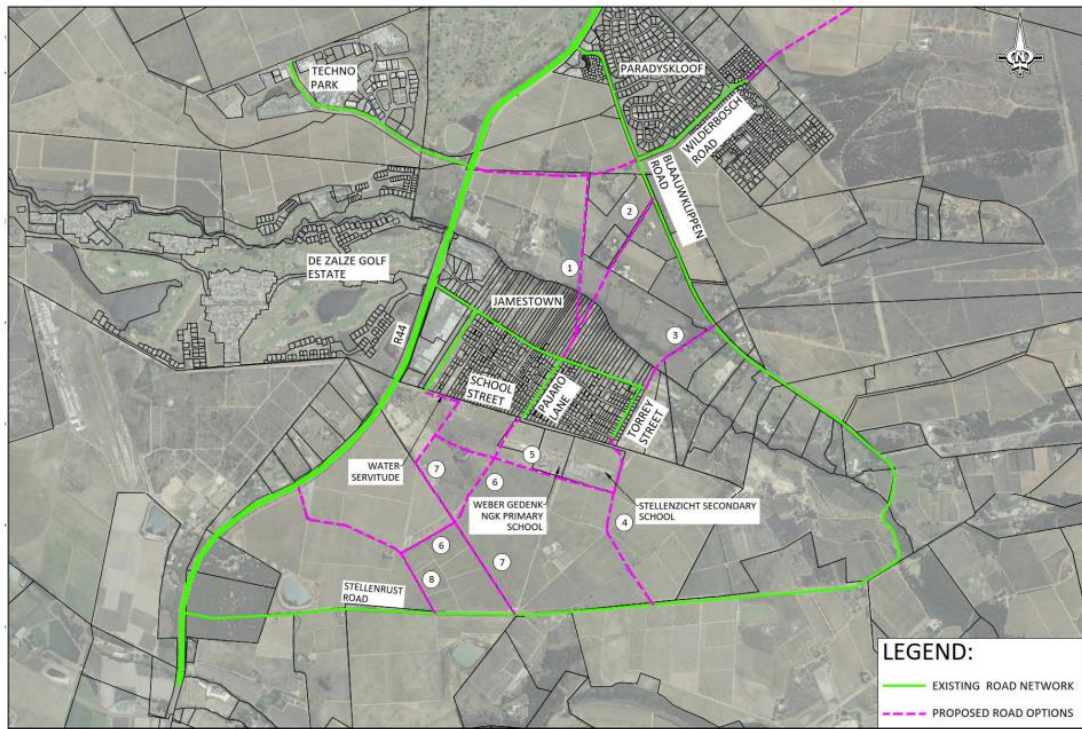


Figure 7-4: Possible roads master plan for Jamestown – status unknown

Upgrading R304/Bird Street Link – The link to Stellenbosch from the N1 through the R304 (provincial responsibility) is one of the five major road links into central Stellenbosch – see **Chapter 3**. The first development which is part of the proposed Adam Tas Corridor proposals (Precinct 10 – referred to as Newinbosch) is in fact starting at this time and a new access road from the R304 to the site, as well as partial dualling of the R304, is almost completed – refer to **Figure 7-5**. This development will put further pressure on the R304 leading into Stellenbosch from the west. It is being addressed through the planned doubling of the R304 between Kayamandi and the R44. Exactly how the current bottleneck of the R44/Bird intersection will be upgraded, is not known.

Substantial provision for the Bird Street dualling has been provided in the current Infrastructure Services 10-year budget.



Figure 7-5: Current access construction and dualling of the R304 to provide access to Newinbosch (Precinct 10 of proposed Adam Tas Corridor development – just west of the R304 and northwest of Kayamandi)

7.1.3.2 Other Road Upgrading

The 2019 Roads Master Plan included the development of a macroscopic traffic demand model. The base year modelling (done for 2018) found that the traffic demand exceeded the capacity in 2018 at the following links:

- The R304 between Bottelary Road and the R44;
- The R44 (south) between Paradyskloof and the Van Reede intersection;
- Bird Street between the R44 and Du Toit Street;
- Merriman and Cluver Streets between Bird Street and Helshoogte Road;
- Dorp Street between the R44 and Piet Retief Street;
- Adam Tas Road between its junction with the R44 and Merriman Street;
- Piet Retief Street;
- Van Reede and Vrede Streets between the R44 and Piet Retief Street;
- Alexander Street between the R44 and Bergzicht Street, and
- George Blake Street.

The following links were also identified as being “under severe pressure” in 2018:

- The Welgevonden access road;
- Lang Street into Cloeteville;
- La Colline access off the R310, and
- The Technopark access road.

The modelling also included land use projections for 2040 – done in co-operation with the Municipality and including the best projections of future residential, industrial and commercial developments. The following improvements were identified and included in the 2040 model to address projected needs:

- Polkadraai Road: It was assumed that the last remaining single carriageway sections will be dualled well before 2035, in accordance with the Provincial roads infrastructure programme;
- R44 North: This road requires a dual carriageway from Stellenbosch to Welgevonden. The R44 in the vicinity of Klapmuts also requires additional road capacity due to the proposed future residential and employment concentration in this area;
- Adam Tas Road: This could become the busiest section of road in Stellenbosch, requiring 3 lanes per direction between the R44 and Merriman. In addition, the R44, Alexander, George Blake and Merriman intersections also need to be improved or reconfigured to provide additional capacity;
- R304 (Koelenhof Road): The model results indicated that this road should be dualled between the R44 and Bottelary Road;
- Merriman and Cluver Street link: Upgrade to dual carriageway or minimum 2-lanes per direction required between Bosman Street and Banghoek Road;
- Dorp Street: Capacity improvements required between the R44 and Adam Tas Road. Conceptual planning has been undertaken for the dualling of this section;
- Van Reede / Vrede Streets: These roads required dualling between the R44 and Piet Retief Street, with further improvements at the R44 / Van Reede intersection;
- Van Reede Street westbound extension to Technopark: The extension of this road to provide a second access to Technopark linking into Electron road;
- Technopark, De Zalze, Brandwacht and Welgevonden access roads: Dualling and/or intersection improvements are required;
- Jamestown Road: Road Network development required due to major residential developments planned for this area, and
- Baden Powell Drive: Dualling of remaining sections between the N2 and Polkadraai Road.

For the purposes of this CIP, there is no motivation for not accepting these recommendations.

In view of the proposed development of the Adam Tas Corridor, some improvements related to the corridor, are already in a concept stage and the design is work in progress. These include the dualling

of Dorp Street between the R44 and the R310, the upgrading of the R44/Alexander Street intersection and the upgrading of the R44/Merriman intersection. These are illustrated in the three figures **Figure 7-6** to **Figure 7-8**.

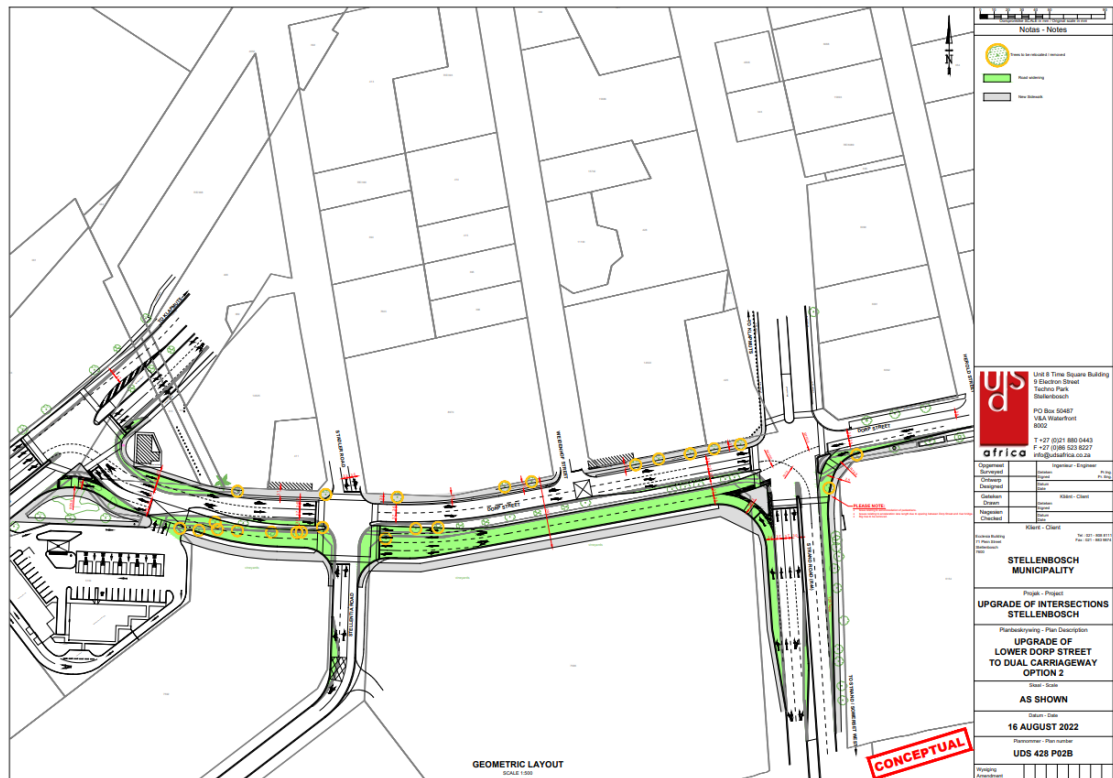


Figure 7-6: Planned Option 2 for dualling of Dorp Street between the R44 and the R310 (Adam Tas Road)



Figure 7-7: Planned upgrade of R310/Alexander Street intersection

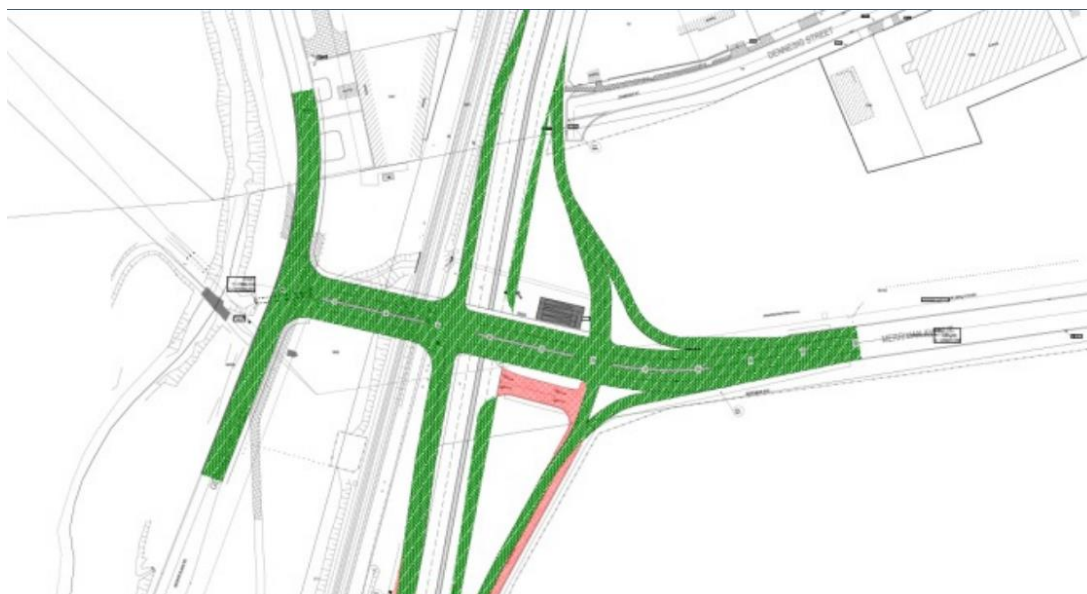


Figure 7-8: Planned upgrade of R44/Merriman Street intersection

Allowance has been made in the Infrastructure Services 10 year budget for some of these roads – refer to [Appendix C](#).

7.2 Parking

The municipality has embarked on a PPP process to address the need for parking in the CBD. This initiative proposes the development of a parking garage on the Eikestad Mall parking area site. The development of this parking area will also allow for the reduction of on-street parking areas making certain streets in the CBD more pedestrian pedestrian and parking friendly.

The creation of parking facilities outside Stellenbosch with accompanying shuttle services to central Stellenbosch has been proposed a number of times in the past, most recently in the Stellenbosch SDF. The recent parking study for Stellenbosch has been discussed above. It did not address the park and ride concept and focussed on the feasibility of two parking facilities in the Stellenbosch CBD and in Techno Park – the creation of these is included in the ten year Infrastructure Services budget.

The feasibility of park and ride facilities along the edge of Stellenbosch and the entrances to the town is questioned and it is considered that this concept should be further investigated. For example, a park and ride facility at the start of the ATC on Adam Tas Road and also near Koelenhof would be beneficial. The same is true of the proposal to pedestrianise some of the streets in the CBD. Allowance for both of these investigations is made in the ten year Infrastructure Services budget.

7.3 Maintenance

The Road Asset Management Plan (RAMP) for Stellenbosch Municipality, completed in June 2019, provides a complete inventory of all the road classes and their condition. It indicated that the condition of the road infrastructure at that time was reasonably good – only 7 kilometres or 2.5% of the municipal roads were indicated to be in a poor or very poor condition (Visual Condition Index - VCI).

Five major issues and risks were identified at that stage, with the most important that the available budgets for road maintenance were below the estimated maintenance needs. A road maintenance programme and strategy have been proposed.

Road maintenance is being done in accordance with the recommendations of this RAMP and various routine maintenance and rehabilitation/reconstruction projects are included in the ten year budget. Whether the correct sums of money (in relation to new projects) are currently allocated to road maintenance is difficult to say, but in view of the results of 2019, it has to be concluded that road maintenance is not a major issue.

7.4 Traffic Management

The municipality is continuously busy with efforts to upgrade, modernise and improve the effectiveness of the traffic signal system, also in cooperation with the Civil Engineering Faculty at the university. Various items allowing for this are included in the ten-year Infrastructure Services budget.

7.5 Design Standards (NMT & Public Transport orientated)

In view of the overall strategy to encourage higher use of public transport and NMT, it is recommended that all road planning and design should include maximum allowance for facilities to support these modes. The current road design cross sections should be interrogated and it should be ensured that optimal accommodation of NMT and public transport facilities is achieved.

7.6 Future Transport Solutions Development

In general the strategy for private travel and parking is to discourage the use of private vehicles and to improve opportunities and facilities for public transport usage. Even so, when the major planned (future) developments in Stellenbosch, such as the Adam Tas Corridor development, as well as further residential developments in Jamestown and the Kayamandi area are considered, it is clear that some continued improvement to the road system and parking facilities, will also be required. The main road and parking components have been discussed above and are summarised below – with special cognisance of the latest 10-year Infrastructure Services budget (January 2023 – refer to [Appendix C](#)).

7.6.1 Major Road Network Extension

The five major road projects have been described above and are summarised below (also refer to Table 7.2):

- **Portions of Eastern Link Road** – creation of links (such as Wilderbosch Road extension to the north and its extension south) in order to alleviate traffic at congested intersections, directing traffic to intersections on the R44 that have more capacity, such as the Technopark intersection and Trumali Road Intersection.
- **Portions of Western Bypass** – creation of links to systematically get this road in place in order to allow for development of the Adam Tas Corridor and to remove some of the through traffic component on Adam Tas Road (mostly provincial responsibility) and the R44. Link road between Techno Park (in effect R44) and Adam Tas Road is one of the first sections in this process.
- The following Intersection improvements along Adam Tas and the R44, namely Dorp Street, Alexander Street and Merriman Road
- **R44 Upgrade** – protect the integrity of the R44 as a regional mobility road (mostly provincial responsibility).
- **Jamestown links** – take the proposals for a road network to service Jamestown and improved linking to central Stellenbosch further. The Eastern Link Road plays an important role in this concept.
- **Upgrading R304/Bird Street Link** – to enable the envisioned Adam Tas Corridor development, upgrade the R304 between Kayamandi and the R44.

7.6.2 Other Road Related Projects

Other road related projects can be summarised as follows:

- Upgrading of sections of Adam Tas Road – Alexander and Merriman intersections, as well as Dorp Street (West) dualling;
- Ad hoc upgrading, rehabilitation, maintenance and safety improvement of roads – in Stellenbosch, Klapmuts, Pniel, Lanquedoc, Franschhoek;
- Upgrading of parking areas in Stellenbosch and Franschhoek, including the two major identified facilities in Eikestad Mall and Techno Park, as well as for tour buses;
- Upgrading of traffic signal system, including management system and all road furniture;
- Further investigation of pedestrianisation of streets, together with improvements of universal access, and
- Further investigation into the park and ride concept.

Table 7.2: Summary Transport Infrastructure Plan Key Intervention and Initiatives

Transport Infrastructure Plan: Key Intervention and Initiatives								
	Interventions/initiatives	Description	5-year target 2023-2028	Year 1 2023/24	Year 2 2024/25	Year 3 2025/26	Year 4 2026/27	Year 5 2027/28
1.	Portions of Eastern Link Road (Wilderbosch Extension to Trumali)	See above	5	1	1	1	1	1
2.	Portions of Western Bypass (Adam Tas – Techno Park Link Road)	See above	5	1	1	1	1	1
3.	Upgrade R44 and required intersections	See above	2		1	1		
4.	Jamestown Links	See above	5	1	1	1	1	1
5.	Upgrade R304 and required intersection	See above	3			1	1	1
6.	Upgrade Adam Tas and required intersections	See above	3		1	1	1	
7.	Ad hoc road maintenance and upgrading	See above	5	1	1	1	1	1
8.	Upgrading of parking	See above	5	1	1	1	1	1
9.	Upgrading of traffic signal system	See above	5	1	1	1	1	1
10.	Investigation pedestrianisation	See above	2	1	1			
11.	Investigation park and ride	See above	2	1	1			

8 TRANSPORT DEMAND MANAGEMENT (TDM) STRATEGY

8.1 Introduction

8.1.1 Legislation & Policy Directives

The management of transport demand can be defined as making the most efficient use of the available transport infrastructure, and as such is just the sensible action to take for any transport authority. It is especially applicable to South Africa where resources for infrastructure development are severely constrained. As traffic congestion has been identified as an issue in Stellenbosch, any action which can reduce congestion, should be implemented.

There is reference in the **National Land Transport Act (NLTA, Act 5 of 2009)** to TDM. The City of Cape Town TDM Strategy of 2017 states that the NLTA requires that municipal spheres of government formulate and apply TDM measures in their functional area (Section 2, c, xxii). This could not be found in the Act, but it is accepted to be correct.

8.1.2 Summary Major Existing “External” Strategies, Proposals and Projects

Numerous strategies, proposals and projects with relevance to TDM have been formulated in the past. These are all referred to in the literature review provided in the sections below.

8.1.2.1 PLTF 2016/17 to 2020/21 (Feb 2016)

The PLTF has no specific section referring to Transportation Demand Management. It does confirm that one of the NLTSP (2015 – 2020) goals is to “where appropriate, reduce the need to travel by motor vehicles, having achieved an integrated land use and transportation system”.

The PLTF, whilst an extensive document (almost 500 pages with annexures), contains the following (unfortunate) statement on p(xxi):

“The unavoidable conclusion is that the PLTF has hitherto been produced primarily for reasons such as statutory compliance and information provision and has not been proactively used to manage and coordinate all modes of transport across the Western Cape. There has been little or no joint strategic planning with parties such as Transnet, PRASA, ACSA and Metrorail at provincial level.”

8.1.2.2 Winelands DITP

There is no specific section on TDM.

As part of the sustainability vision it is stated (p12) that “an affordable public transport system with adequate schedules and levels of service needs to be instituted in each town”.

8.1.2.3 Stellenbosch SDF, July 2019

This framework contains three catalytic projects which are briefly summarised below. It is considered that all three fit into previous and current suggestions in terms of TDM.

1. **Redevelopment of Adam Tas Corridor** – considered to “launch the restructuring of Stellenbosch town” through the redevelopment of the Adam Tas corridor along the R310 and the R44 from the Cape Sawmills site in the west to Kayamandi and Cloetesville in the north. Overall, mixed high-density development, with access favouring NMT is foreseen. Curtailing the use of short private car trips in town was seen as one of the requirements for this, as was a more reliable and frequent rail service. In fact, a potential light rail service on the (now) dysfunctional rail line, with two new stations, has also been shown on the corridor drawings.

This proposed development is considered to fully fit into the TDM actions that were proposed in the past and which is also now favoured by participants in the stakeholder consultation process. As such it should be strongly supported. From the viewpoint of this intended planned project, the removal of longer distance traffic on the R44 (Adam Tas Road), through the proposed western bypass, makes strong sense.

2. **Development of Klapmuts** – The Klapmuts area has for some time been seen as a potential regional economic development node. The 2019 SDF stated as fact that Distell would relocate their operations there (just north of N1), but the status of this is unknown, especially in view of the current negotiations for the selling of Distell to Heineken – refer to **Figure 8-1** from SDF. Substantial residential development is occurring in Klapmuts, which is a good reason to encourage the creation of work opportunities in the area. This is considered to fit into the TDM strategies identified in the past. The re-instatement of the rail linkage between Stellenbosch and Klapmuts is also considered important in view of the growing developments there.



Figure 8-1: Potential Development of Distell at Klapmuts – 2019 SDF – Gapp Architects

3. **Alternative rail service along Baden Powell/Adam Tas/R304 corridor** – The 2019 SDF expressed the opinion that it was critical that a more frequent and reliable rail service on the Eerste River/Stellenbosch/Klapmuts rail line be provided. The possibility of lighter rolling stock was mentioned. Alternatively, the viability of a bus service should be explored. Whether any progress was made with this is unknown. This also fits in the TDM strategies proposed in the past.

Conclusion – In view of the emphasis three years ago on improved rail service through and past Stellenbosch, and the actual termination of these services, it has to be concluded that serious issues exist regarding planning proposals being made and the execution thereof. The co-operation between the different authorities involved has to be addressed – otherwise exercises of this nature could be considered a waste of time.

8.1.3 Previously Updated Stellenbosch CITP Concept, Key Strategies, Proposals

The previous (2016) Stellenbosch CITP did include TDM objectives, strategies and proposals. These are described in the sections below:

8.1.3.1 Previous Stellenbosch CITP (2016)

The TDM objectives in the 2016 CITP included:

- Using existing infrastructure as efficiently as possible;
- Reduce demand for car use;
- Reduce environmental impact of private transport;
- Support investment in public transport, and
- Support investment in NMT.

Three categories of TDM strategies have been identified:

1. **Improving travel options for residents and visitors** – Address safety of people walking and cycling and ensure that future growth and urban design support these modes;
2. **Reduce need for investment in large-scale public infrastructure** – create significant shifts in travel behaviour to reduce the need for new road capacity, and
3. **Increase revenue to finance infrastructure** – Consider tolls, congestion pricing, parking pricing and development charges as financing strategies available to manage demand.

Stated that TDM contributes directly to the seven key development principles of the 2013 SDF, namely:

- Provide public transport for all;
- Create walkable neighbourhoods;
- Grow economy to create jobs;
- Make wise use of land;
- Conserve, restore and regenerate resources;
- Grow more food for ourselves, and
- Care for our heritage.

Three types of interventions have been identified:

1. **Small-scale Interventions**

Large employers and public buildings – bicycle facilities and flexible working hours

Campaigns to increase awareness of existing options, e.g. bicycle hire

Peer pressure campaigns – enforcement and education

Car-share options – e.g. car hire on hourly basis

Pedestrian only phases at signals

Improved pedestrian routing

Parking pricing

Freight transport management

2. **Large-scale Interventions**

Parking location – some outside congestion bottlenecks

Public transport – existing services not adequate – need dramatic improvements

Finer grain network suitable for NMT – more permeable urban fabric

Encourage route changes through adjustments to infrastructure – bypasses

Spatial planning enabling trip chaining – TOD

HOV priority for buses and taxis – prohibiting cars on some routes

3. **Policy and Urban Management**

Update and enforce by-laws regarding occupation of public space by businesses – café's not obstructing sidewalks

Update regulations governing building design – promote activity on ground floor

Enforce traffic regulations – motorists driving or parking illegally hinders NMT

Allocate TDM responsibility to specific municipal official to roll out TDM programme and liaise with all stakeholders and potential partners. The Large Employer Programme recommended establishment of a Stellenbosch Employer Transport Forum.

Further Work Required – Considered high priority as it forms the basis of subsequent activities and projects:

- Identify stakeholders and potential partners;
- Literature survey for street audits to assess obstacles to NMT;
- Build on previous cycling survey – ongoing monitoring exercise;
- Undertake street audit;
- Review building design regulations that impact on walkability;
- Survey parking demand, supply and pricing. Investigate institutional and regulatory requirements, and

- Investigate most appropriate routes for addressing congestion bottlenecks.

Summary

Pedestrian improvements and parking strategies were considered the most effective in the short term to encourage a shift among discretionary car users. Strategies related to cycling and public transport were also considered beneficial for this group, but a significant change in municipal commitment and funding was required to achieve this.

Refer to **Table 8.1** for the summarised recommendations under three headings namely (i) Studies, (ii) Programmes and Policies and (iii) Infrastructure as follows (directly from 2016 CITP):

Table 8.1: Summary of Recommendations

Key Focus Area	Interventions	Priority
	STUDIES:	
Urban management, personal security	Undertake a comprehensive audit of streets with a view to understanding the interaction between street design and movement patterns and map key routes for designation and attention; include literature review; develop policy and design standards to improve walkability; key routes to receive particular attention regarding design elements	High
Urban management, promoting alternative modes	Map and review parking supply and demand and pricing, and assess opportunities in short term to influence spatial distribution of demand through supply and pricing; liaise with businesses to explore options for reducing free employee parking	High
Urban management	Investigate and prioritise congestion bottlenecks based on their contribution to TDM objectives rather than conventional level of service analysis; assess how route changes can be induced for more efficient use of road infrastructure, through strategically located adjustments to road capacity and intersection controls	High
Safety	Identify areas suitable for designation as speed reduction zones to improve safety for vulnerable street users	Medium
Promoting NMT	In future spatial planning exercises, include assessment of how density, mix and location of land development can improve viability of alternative forms of transport	Low
Promoting public transport	In future transport planning exercises, always consider how road improvements can enhance conditions for public transport and other modes as alternatives to car travel	Low
	PROGRAMMES AND POLICY:	
Promoting public transport and NMT	Implement recommendations of the Large Employer Programme	High – low
Programme development and coordination	Designate a TDM official and commence engagement with stakeholders who can assist in developing and running campaigns	High
Urban management, Awareness	Enforce traffic laws that impact NMT activity, and by-laws governing use of public space	High
Promoting NMT	Identify opportunities for creating a finer grained pedestrian and cyclist network by opening up semi-private space, and develop policies to ensure that future development does not eliminate existing or future routes	High
Promoting NMT	Review building design regulations and street design standards that impact on walkability	High - Medium
Awareness	Develop campaigns to raise awareness of travel options, and to encourage a shift in behaviour; include improved enforcement as part of this	Medium

Supplementary modes	Pursue possibility of establishing a carshare service in Stellenbosch (e.g. with Locomute)	Medium
Urban management	Update rules and by-laws governing the use of public space, particularly on key NMT routes	Low
Safety, promoting NMT	Review freight management practices and their impact on pedestrians and cyclists; identify strategies and policies to mitigate impact on key NMT routes	Low
	INFRASTRUCTURE:	
Promoting public transport	Begin planning in more detail the public transport services proposed in this CIP, and develop an implementation plan	High
Promoting NMT	Pursue options for long-term development of share parking structures to reduce impact of traffic on the historic town core	Medium
Promoting NMT	Undertake localised improvements for pedestrians, such as pedestrian-only signals, bulb-outs and street lighting along key routes identified through the street audit	Medium

No specific (spatially defined) projects were identified under the TDM heading in 2016. The closest to this was the recommendation to develop an implementation plan for the public transport services which were proposed. These are briefly:

With respect to **rail**, PRASA has indicated in 2016 that there were no “plans to upgrade existing facilities in the Stellenbosch area. In reality the rail service on the line running through Stellenbosch has been terminated since then. In view of the overhead wires being broken, it is concluded that physical repairs will be required before the service can be restored again. Recent discussions with PRASA indicated that the previous service is planned to be in operation before the end of 2022.

With respect to **contracted bus services**, the 2016 CIP proposed the implementation of a new Public Transport Service Network (PTSN) operating from a central terminal in the Stellenbosch CBD or along the Adam Tas corridor. It was mentioned that the five year CIP budget is allowing for this since 2018. A further proposal was that the provision of a public transport lane/facilities on the R44 between Stellenbosch and Somerset West had to be investigated.

With respect to **minibus taxis**, no specific proposals could be found in the 2016 CIP, but a number of improvements to minibus taxi facilities has been included in the five year budget proposed for 2015/16 to 2019/2020.

8.1.3.2 CIP Update, June 2020

The TDM Strategy still needs to be prepared. Components could be:

- Parking management;
- Alternative work from home schemes, and
- Incident management systems.

Only way to get travellers in more sustainable modes is considered to be:

- Improved public transport options;
- Network improvements to cycling and walking, and
- Provide for different travel markets.

Projects proposed:

- Prepare a TDM Strategy;
- Prepare Public Transport Plan;
- Improve walking and cycling network;
- TOD Plan;
- Include TOD principles in future developments;

- Parking Strategy, and
- Plan for remote parking locations (in process).

8.1.4 Stakeholder Engagement

The Stellenbosch Ratepayers Association provided eleven comments in February 2016 on the previous CITP. These can be summarised as follows:

- Lack of clear strategy on how real transport improvements will be achieved;
- Too much emphasis on road network improvements versus sustainable TDM approaches;
- There is a lack of integration of spatial development and transport – location of future development;
- The public transport development aims are not clear;
- Stellenbosch, the town, should be preserved;
- The successes with traffic management and NMT that have been achieved, should be extended;
- NMT and the promotion of Utility Cycling should be more prominent;
- Less parking should be provided in central Stellenbosch;
- The impact of the university (students) on traffic and parking problems are not controlled adequately;
- The impact of heavy vehicles in Main Street in Franschhoek, but also in Stellenbosch is not addressed adequately, and
- Roundabouts should be favoured above traffic signals.

A summary of the feedback received during the recent stakeholder engagement (April and May 2022), is provided in Chapter 13. The key themes from the engagement are all related to TDM – the following four have been identified:

- Develop an effective communications program which will aim to shift personal behaviour away from car usage to the other modes – NMT, public transport, etc;
- Implement improvements for NMT users – sidewalks, etc;
- Develop an integrated public transport system, and
- Reduce the need for travel by creating mixed land use developments.

It is believed that the correct approach should be to develop a balanced and sustainable transportation system which opens the question of what such a system would have to consist of.

8.1.5 Issues and Concerns

The major issues and concerns are considered to be:

- Is enough emphasis being put on the enhancement of TDM by the municipality?
- Why has nothing happened to previous TDM proposals?;
- How does a balanced transportation system for Stellenbosch look like?
- What can be afforded by Stellenbosch in terms of the transportation system?

8.2 TDM Categories

In summary it is considered that the actions that can be implemented as part of TDM can be categorised into three groupings, namely (i) Behaviour, (ii) Infrastructure and (iii) Operations. Whilst action on each of these fronts is desirable, some **prioritisation** could be done in cooperation with all stakeholders.

A: Behaviour

- Reduce the demand for travel
 - Work from home, variable working hours, staggered school starting times
- Discourage car use

- Parking management and pricing
- Congestion charges
- Marketing and Communication

B: Infrastructure

- Land use changes – transform to mixed use development – residential areas closer to work opportunities
- Improve public transport
- Improve NMT facilities
- Park and Ride Facilities
- Upgrade road bottlenecks

C: Operations

- Improved traffic management
 - Traffic signal operation
 - Incident management
 - Preferential treatment of HOV's
 - Reversible or contra flow lanes
 - Carpooling

8.3 TDM Objectives

The main TDM aim should be to move to a balanced transportation system where the most effective use is made of available facilities. Specific objectives have to focus on the categories listed above, i.e.:

- Change behaviour to reduce the demand for travel;
- Influence land use to form mixed use clusters;
- Improve NMT and public transport facilities, and
- Improve all operations (private and public) to operate as effectively as possible.

8.4 Future Solutions Developments/Proposed Interventions

The proposed interventions with regards to Transport Demand Management have been identified in the past in the documentation referred to above. As many of them involve NMT improvements, public transport, parking initiatives, traffic signals, road pricing, etc allowance has been made in the ten-year budget of the Transport Division for taking a number of these forward. The most relevant at this point in time have been included in the sections above and are summarised below. Note that the only items not specifically mentioned in the current ten-year budget, are an investigation into congestion pricing and the development of a marketing program for TDM. If TDM is considered important, then the municipality should consider the appointment of an official dedicated to this subject, whose only focus should be driving this concept. Refer to Table 8.2 for a summary.

Table 8.2 Transport Demand Management Plan Key Intervention and Initiatives

Transport Demand Management Plan: Key Intervention and Initiatives								
	Interventions/initiatives	Description	5-year target 2023-2028	Year 1 2023/24	Year 2 2024/25	Year 3 2025/26	Year 4 2026/27	Year 5 2027/28
1.	Upgrading of traffic signals and control system	Chapter 7	5	1	1	1	1	1
2.	Upgrading of NMT facilities including cycle plan, universal access improvements	Chapter 7	5	1	1	1	1	1
3.	Continued investigation of transport operating company	See above	2	1	1			
4.	Investigation into pedestrianisation of certain streets	Chapter 7	2	1	1			
5.	Further investigation into feasibility of park and ride facilities	Chapter 7	2	1	1			
6.	Investigation of congestion pricing	See above	2	1	1			
7.	Develop marketing and communication strategy to further TDM	See above	2	1	1			
8.	Appointment of a TDM official	See above	1	1				

9 NON-MOTORISED TRANSPORT PLAN

9.1 Introduction

In support of being a “Valley of Opportunity and Innovation” Stellenbosch aspires towards car-free living and Non-motorised transport forms a key enabler in doing so. In order to achieve this and realise the objectives of becoming a Valley of Possibility, a Green and Sustainable Valley and a Safe Valley, and ensuring Dignified Living encouraging walking, cycling and public transport as key modes of travel over private motor vehicles is essential.

In support of the overarching vision the vision for pedestrians and cycling in Stellenbosch is:

“Stellenbosch Municipality will strive to develop walkable and cycle-able environments that are safe for all to use and contribute to the mobility needs, economic vibrancy and social health of communities.”

9.1.1.1 Legislation & Policy Directives

The legislative and policy framework for the planning and implementation of NMT is extensive and includes the following:

- National Land Transport Act (5/2009);
- Draft Revised White Paper on National Transport Policy (2021);
- National Road Traffic Act (93/1996);
- The National Land Transport Strategic Framework (2017-2022);
- Western Cape Provincial Road Traffic Administration Act (6/2012);
- Stellenbosch Municipality: Roads and Streets By-law (2021), and
- NMT Facilities Guideline(2016).

The following are of particular relevance to NMT in SM

9.1.1.1.1 Green Transport Strategy (2018-2050)

The Green Transport Strategy sets out a long term vision for the “use of resources and supporting the ecosystem” which includes:

- Instituting “no-car zones”, within most of the central business districts being closed off for car use, and emphasising eco-mobility mode of transport like walking and cycling as the preferred mode of transport, allowing significant areas of urban real estate currently used for parking to be repurposed for use in affordable inner-city housing and businesses: and
- An extensive network of cycle lanes and pedestrian walkways to re-orient South Africa’s towns and cities away from cars towards people. The investment in non-motorised transport infrastructure will yield a double dividend in terms of human health, by both reducing harmful air pollution and promoting healthy exercise.

9.1.1.1.2 Western Cape PLTF 2016/2017 – 2020/2021

The overall objective of NMT is to increase mobility and access to opportunities, and in so doing, to improve the quality of life in a sustainable manner throughout the province with the defined goal of establishing “NMT as a pivotal part of all forms of transport planning in urban and rural areas” through:

- Development of NMT standards;
- Integration of NMT into all transport plans;
- Provision of NMT infrastructure in transport projects;
- Incorporation of Universal Access principles;
- Implementation of a transversal plan to promote transport safety, and
- Coordination forum to coordinate NMT across municipalities.

9.1.1.1.3 Cape Winelands DITP (2016 – 2021)

The DITP has a very brief section on NMT which recognises the challenges of low income residents living on the periphery of towns and the implications for walking distances. It further recognises the context specific requirements for developing walking, cycling and public transport in towns. There is also a brief summary of the Stellenbosch 2016 CITP.

9.1.1.1.4 Stellenbosch MSDF (2109)

The MSDF identifies NMT as a key mode of travel especially for low income groups which constitute 95% of all NMT trips. In addition local peak period passenger trips (<5km in length) total twice the number of longer (>5km) trips.

Under the change action of improved access and mobility Public Transport and NMT are promoted through densification, redesign of existing routes and the development of new routes. In support of this it is also proposed that the design of all roads provides for appropriate NMT movement and that TDM measures favouring NMT and Public Transport be introduced in partnership with key organisations.

9.1.1.1.5 Stellenbosch Non-Motorised Transport Policy (2022)

The NMT policy was adopted by Council in October 2002. Recognising that achieving the vision of walkable and cycle-able environments requires a move away from the “business as usual” approach in transport planning and engineering a set of clear principles, policies and strategies to guide officials and politicians of Stellenbosch Municipality was established.

Principles

The policy principles guiding the development of transport systems and infrastructure to achieve SM's vision and enable pedestrian and cycling friendly environments which are universally accessible are:

- Integration between land use and transport towards developing pedestrian friendly environments to reduce the demand for travel and the need for motorised transport;
- Prioritization of vulnerable road users especially at conflict points to improve road safety for pedestrians and cyclists and encourage people to walk and cycle more;
- Prioritization of improvement of the environments for pedestrians and cyclists in outlying communities to encourage and support these modes;
- Development of a partnership between the private and public sector focussed towards furthering car-free living including Stellenbosch University to enable sustainable transport solutions and pedestrian/ cycle friendly environments as these cannot solely be undertaken by the public sector, and
- Application of the principles of Universal Design ensuring that roads and streets are for all. This requires the re-prioritisation of road space to ensure that all the needs of all users are adequately provided for. Where the needs of the various users are in conflict, the needs of the more vulnerable road user must receive priority.

Objectives

The overarching objectives of the NMT Policy are to:

- Provide the officials of Stellenbosch Municipality with a framework to enable NMT implementation;
- Guide officials in making strategic decisions with respect to transport management and roads implementation and maintenance, and
- Create a framework for prioritizing more vulnerable road users and create streets for all.

These are then expanded upon as a set of strategic objectives which are derived directly from the Consolidated NMT and Cycling Masterplan:

- Connect the outlying communities with the CBD in a safe and attractive manner and improve safety, access to opportunities and the dignity of these communities;
- Strive towards car-free living in Stellenbosch CBD;
- Achieve a modal shift in the Stellenbosch CBD towards public transport, walkability and cycle-ability, and
- Creating dignified living spaces in previously disadvantaged areas.

9.2 External themes and approaches

From the international through to the national and provincial levels there are key common themes that come through in a review of the current statuses of planning and developing NMT. The key themes and approaches are those of:

- Reducing reliance on the private motor vehicle;

- Reducing transport's contribution towards GHG emissions and environmental degradation and its reliance on fossil fuels;
- Providing accessible and affordable mobility for all;

In proposing solutions towards these the proposals of:

- Ensuring an integrated planning approach to land use and mobility, and
- Moving towards a paradigm of Sustainable Transport.

NMT is thus central to addressing the issues facing transport in both the immediate and longer term. This is as it provides an easily accessible and affordable means of mobility whilst addressing environmental issues and contributing towards a healthier society.

The focus on NMT in SM directly supports this.

9.3 Previously Updated Stellenbosch CIP Concept, Key Strategies, Proposals

This is a brief summary of the Update of the CIP for Stellenbosch Municipality (June 2020) and the Review, Update and Consolidation of the Stellenbosch NMT Masterplan & Cycle Plan.

SM supports a shift towards public transport, walking and cycling and Stellenbosch CBD particularly has a culture of walking and cycling. However, the increasing pressure of private vehicle usage is affecting the safety of pedestrians and cyclists and thus the nature and vibrancy of these areas. A further issue is that of street furniture and the lack of dropped kerbs on many of the sidewalks. Where street improvements have been done (e.g. Andringa and Victoria Streets) the usage by pedestrians is strong evidence of how shifts can be encouraged.

The previously disadvantaged settlements of Kayamandi, Cloetesville and Idas Valley are within walking distance of the CBD and significant numbers do walk. However, major roads separate these settlements from Stellenbosch requiring that pedestrians have to walk alongside and cross them with vehicle movements having priority. In the case of Kayamandi the informal crossing of the railway line provides an additional safety threat on the walking desire line. Jamestown lies beyond comfortable walking distance from Stellenbosch and the route is along the R44. In the other towns (Franschhoek, Klapmuts, Pniel) within SM residents of the outlying settlements have to walk along provincial roads.

The University of Stellenbosch is a significant trip generator and encourages students to walk and is planning to improve cycling infrastructure on campus and integrate its NMT network with SM's plans.

The CBDs of Stellenbosch and Franschhoek are relatively pedestrian friendly and attract high numbers of tourists. Within Stellenbosch the residential areas, university, offices and amenities are well positioned for walking.

Whilst cycling in Stellenbosch is popular in terms of the South African context a significant proportion of cyclists are recreational/sports cyclists and those riding on roads prefer the higher order provincial roads. Sections of the cycling network have been implemented but these are not coherent. The main barriers to cycling are safety in traffic, the lack of suitable infrastructure, crime and, in the case of lower income communities, access to bicycles.

Both the CIP Update and the Consolidated NMT Masterplan & Cycle Plan describe the proposed NMT Network and provide summaries of the extent of the proposed NMT Network and, based on budgetary constraints, a set of priority projects which are categorized as Short Term with sub categories of essential and desirable.

The proposed network was developed on the basis of understanding desire lines, reviewing the existing NMT network facilities, proposing a higher order network around Stellenbosch whilst creating local networks within neighbourhoods, and upgrading of certain existing facilities.

9.4 Stakeholder Engagement

A key concern of various stakeholder groups / representatives is that, whilst cycling and indeed NMT, have been identified as key modes for Stellenbosch the policies and plans developed have not been given the support in terms of funding and implementation required to give effect to them. Specifically mentioned were the Cycle Plan and the NMT Masterplan.

Specific suggestions / concerns raised include:

- Include cycling and walking as part of the behaviour change approach including the role of the University in enabling walking and cycling;

- Exploring alternatives to motorised transport and strengthening the opportunities for walking and cycling through making streets more walkable/universally accessible and cyclable through removing parking / reducing sidewalk usage by restaurants;
- Creating continuity of routes for cycling, and
- Improving safety of routes for both pedestrians and cyclists with a particular focus on intersections with higher order roads and adequate street lighting along routes.

From engagements regarding the ATC development proposals it is recognised that the current NMT and Cycling Masterplan has not considered in any depth the requirements and opportunities arising from the development.

9.5 Key Issues, concerns

The key issues and concerns for NMT are:

- The lack of integration between land use and transport planning;
- NMT is not considered an essential element and the foundation of any and all transport and development planning;
- Captive users are limited in the travel choices they have;
- Significant pedestrian movements are crossing major roads / a rail line;
- Many choice users covering shorter distances travel by private motor vehicle in preference to walking or cycling;
- Although there has been progress in developing NMT (and cycling) infrastructure routes are not coherent, and
- Funding allocation for NMT is extremely limited.

In addition, a key concern is that the evolving ATC development and its impact on the broader transport systems and travel patterns of SM have not been incorporated into current NMT planning processes at any level of detail.

9.6 Strategic Objectives

Arising from the foregoing an initial set of Strategic Objectives is proposed as:

- Reinforce the integration of land use and transport planning – this requires a full assessment of the ATC development and its implications for SM in both the short and long term;
- Connect outlying communities with their local towns / CBDs;
- Require all developments to fully integrate NMT and Universal Design principles in their planning and implementation;
- Achieve a modal shift from PV to walking and cycling;
- Improve the living spaces and NMT routes in previously disadvantaged communities, and
- Reconsider funding mechanisms.

9.7 Future Solutions Developments / Proposed Interventions

Within the consolidated NMT Masterplan and Cycle Plan short term projects were then identified through reviewing the priority projects previously identified in the NMT and Cycleplans (2015) and the PSTP (2018), addressing pedestrian safety hotspots, identifying locations for pedestrian and safe crossings of major roads and rail lines, upgrades / new infrastructure of existing NMT desire lines, upgrading existing informal links and addressing future NMT desire lines based on the overall principle of achieving a safe environment for pedestrians and cyclists.

Table 9.1 indicates the extent of the proposed NMT network for Stellenbosch Municipality. **Table 9.2** summarizes the short-term projects proposed for the NMT network in Stellenbosch which are graphically depicted in **Appendix D**.

Table 9.1: Extent of Proposed NMT Network

	Whole Stellenbosch Municipality Length (km)	Stellenbosch Town (incl. Kayamandi, Jamestown) Length (km)
Proposed Sidewalk	31	11
Proposed NMT Only Class 1	26	17
Proposed NMT Facilities with Partial Separation Class 2	172	103
Proposed Bicycle Lanes (Partial or Marked Separation) Class 3	14	14
Proposed Cycling in Local Street (Mixed Shoulder) Class 4)	32	28
Proposed Pedestrian Priority Street	4.2	3.8
Total (km)	279	176

Note:

- Cycling in the shoulder is excluded from this list.
- All lengths refer to centreline length, except for Sidewalks.
- Intersection upgrades are excluded from the length summary.

Table 9.2 summarizes the short term projects proposed for the NMT network in Stellenbosch which are graphically depicted in **Appendix D**.

Table 9.2: Details of Short Term NMT Projects for SM

Project No.	Projects
1	Pedestrianisation of Church St and Andringa St
2	De-cluttering of street furniture in Stellenbosch CBD and dropped kerb standardisation
3	Roll-out of bicycle network in Stellenbosch CBD (continuity of cycle routes, road markings, bi-directional cycling in one-way streets, bicycle parking)
4	Pedestrian bridge across R304 & rail line linking Kayamandi and Cloeteville
5	Kayamandi / Rand Rd: Pedestrian priority, restrict heavy vehicle access, narrow road to 6.5 m (from 9 m wide black top), raised ped crossing; Brick pave 4 m wide NMT route up to railway crossing
6	Kayamandi: Safe ped link across railway line at Du Toit Station (grade separated crossing; either pedestrian bridge or crossing as part of Kayamandi mall upgrade)
7	Kayamandi: Staircases parallel to Rand Rd north-east of stadium
8	Kayamandi: Staircases west of stadium and 3m wide footpath up to Rand Rd (market area)

Project No.	Projects
9	Pedestrian bridge across Helshoogte Rd (R310) at Simonsberg St to provide safe crossing for scholars
10	Bosman St: Extend effective sidewalk width and provide bi-directional cycle lane (Phase 1 between Banhoek and Merriman, Phase 2 Merriman and Van Riebeeck)
11	Soeteweide St: Restrict access to local traffic only and provide safe pedestrian space
12	Merriman Ave: Investigation into ped crossing to mitigate current safety concerns
13	Merriman Ave: Extension of existing cycle lane up to Adam Tas
14	Die Laan: Extend effective sidewalk width and provide bi-directional cycle lane
15	R44: Provide 3m wide footpath on western side of the R44 (from Lang Rd to Welegevonden)
16	R44: Provide footpath (Extension of Ortell Rd in Cloeteville to the east) and bridge over R44
17	Curry Rd: Extend sidewalk space on eastern side by 1) widening existing sidewalk and by 2) reducing drop-off area by installing delineated kerb
18	Bloekom St: Improved traffic calming in front of school and extend existing sidewalk
19	Extend Bicycle Lane from Cluver Rd along Rustenberg Rd and extend sidewalk where space allows
20	Cluver Rd: Provide smooth transition of bicycle lane onto sidewalk space on both sides of the road, widen sidewalk to convert into Bicycle Class 2
21	Upgrade NMT route through Eikestad Mall outside parking area; investigate re-arrangement of parking
22	Aan die Wagenweg: Upgrade of bicycle path and sidewalk space
23	Van Rheeде/ R44 Intersection: Improve pedestrian safety
24	R44: Provide footpath on eastern side of the R44 (from Doornbosch to Dorp) incl. ped bridge over Eerste River
25	R44: Upgrade footpath on eastern side of the R44 (from Paradyskloof to Doornbosch)
26	Merriman Ave: Proposed shared footpath on southern side of the road (from Cluver to Simonsberg)
27	Simonsberg Rd: Provide shared facility & Implementation of traffic calming measures
28	Martinson Rd: Narrowing of road with a separate two-way bicycle facility (4m wide Class 3) on southern side between Omega Rd and Simonsberg Rd; incl. gateways and sidewalk on northern side
29	Jonkershoek Rd: Upgrade of shared footpath (widen and resurface southside path where space allows) and provide lighting
30	Bird St/ Adam Tas (R44) Intersection: Improve pedestrian safety

Project No.	Projects
31	Strand St. R44/ Dorp St Intersection: Improve pedestrian safety
32	Adam Tas (R301)/ Dorp St Intersection: Improve pedestrian safety and bridge over railway line
33	Jamestown Webbersvallei Rd: Provide 3m wide shared facility on northern side
34	Jamestown Drakensberg Rd: Provide shared NMT Facility
35	Koelenhof: Investigation into safe ped crossing at railway line
36	Kylemore Swart Rd: Extend existing sidewalk up to Helshoogte Road
37	Kylemore Gousblom St: Widen pedestrian space at school entrance
38	Kylemore Petunia St: Widen existing sidewalk on southern side, potentially convert into oneway street
39	Lanquedoc: Provide shared NMT facility as part of Class 2 as part of the Upgrading of the Lanquedoc Access Road (SRMP078)
40	Klapmuts: Shared NMT path along Klapmuts River (off-road)
41	Klapmuts Adams St: Widen existing sidewalk on western side
42	Klapmuts Alexander St: Widen existing sidewalk and traffic calming measures
43	Klapmuts Merchant St: Widen existing sidewalk on eastern side (use full effective width) and convert into shared NMT facility
44	Groendal Upper Lea Smit Rd: Upgrade sidewalks and introduce traffic calming
45	Groendal Stiebeuel River: Provide shared NMT facility along river on western side from existing NMT path to Dalubuhle school
46	Groendal Jafthas St: Sidewalk along Jafthas St from Boonzaaier to Groendal High School (including ped crossing)
47	Groendal Davids St: Extend sidewalk by means of delineated kerb
48	Groendal: Provide staircase and NMT route from higher lying informal area down to Dalubuhle Primary School
49	La Motte Robertsvlei Rd: Provide 3m wide shared facility on western side of Robertsvlei Rd (to be included in SRMP033)
50	La Motte Main Rd: Provide pedestrian crossing
51	Franschhoek Main Road (R45): Upgrade existing pedestrian crossing points
52	Wemmershoek: Rail crossing - Formalise path to PT stop on R45

Project No.	Projects
53	Wemmershoek: Formalise footpath on the western side of the R301 up to Wemmershoek access and pedestrian crossing at school access road
54	Wemmershoek: Formalise footpath on southern end of Wemmershoek up to school

9.8 Future Solutions Developments / Proposed Interventions

In addition to the previously identified projects additional key NMT interventions are reflected in Table 9.3.

Table 9.3: Key NMT Interventions

Non-Motorised Transport: Key Intervention and Initiatives								
	Intervention / Initiative	Description	5-year target 2023-2028	Year 1 2023/24	Year 2 2024/25	Year 3 2025/26	Year 4 2026/27	Year 5 2027/28
1.	Update consolidated NMT and Cycling Masterplan	Review of the consolidated NMT and Cycling Masterplan to incorporate ACT development and impacts	1	1	n/a	n/a	n/a	n/a
2.	Upgrade NMT facilities including cycle plan, universal access improvements	Improvements to the NMT network in rural and semi-rural residential settlements located within the Stellenbosch Municipal area. This includes construction of sidewalks and NMT facilities in rural and semi-rural residential settlements located within the Stellenbosch Municipal area.	5	1	1	1	1	1
3.	NMT link over the N1 between Klappmuts North and South	Investigation of NMT linkages enabling access between	2	1	1	n/a	n/a	n/a

		Klapmuts north and south, specifically along Groenfontein Road and a possible NMT crossing over the N1 linking residential areas south of the N1 directly with Farm 736/RE. to enable residents to the south of the N1 to benefit from the opportunities north of the N1						
4.	Amending existing by laws	In light of the changes proposed in the National Road Traffic Act Amendment Bill existing bylaws will require updating.	1	n/a	1	n/a	n/a	n/a
5.	NMT working group	Establish the NMT working group as proposed proposed in the NMT Policy with the aim to advise Council on Identification of NMT needs and shortcomings, Promotion of NMT in the Municipal area, NMT best practices worldwide and NMT trends worldwide.	5	1	1	1	1	1

10 FREIGHT TRANSPORT STRATEGY

This section (Freight Transport Strategy) of the report sets out to review the transportation of goods to, from, and through Stellenbosch Municipality. Firstly, an introduction and background are presented. Secondly, the objectives of the freight transport strategy are briefly outlined on national, provincial, and municipal levels. This is followed by a review of existing legislation that informs freight transport. The current realities and freight issues are discussed which includes the short-, medium-, and long-term initiatives for Stellenbosch Municipality. The initiatives summarised in section 10.4 are discussed in more detail under section 10.5. Lastly, in section 10.6, some environmental challenges are presented.

10.1 Introduction and Background

According to traffic count data sourced from the 2016 CITP, around 1% of inbound traffic between 06:00 to 09:00 into Stellenbosch comprises of heavy vehicles during this period. This equates to roughly 270 heavy vehicles that travel within Stellenbosch Municipality during the morning peak periods. Freight is predominantly transported via road transport, due to the absence of a freight rail network within Stellenbosch. This means that any freight trips that are generated or attracted within Stellenbosch can only be transported via road (Stellenbosch CITP 2016-2020, 2016), therefore contributing heavily to the wear and tear of the road network infrastructure.

Currently, there is only one weighbridge in the Stellenbosch Municipal area. The Western Cape, as well as Stellenbosch Municipality law enforcement, is responsible for its operation. (Stellenbosch CITP 2016-2020, 2016). **Figure 10-1** illustrates the major freight routes through Stellenbosch. These include connections between Stellenbosch and Somerset West (R44), Stellenbosch and Kuils River (R310), Stellenbosch and Klipmuts (R44 north), Stellenbosch and Brackenfell (R304), and Stellenbosch and Franschhoek (R310). Secondary routes were also identified which provide access to farming areas, supporting the transportation of agri-processing supplies (such as the delivery of bottles, and distribution of processed goods such as wine) to the Port of Cape Town for export (Stellenbosch Municipality Roads Master Plan, 2018).

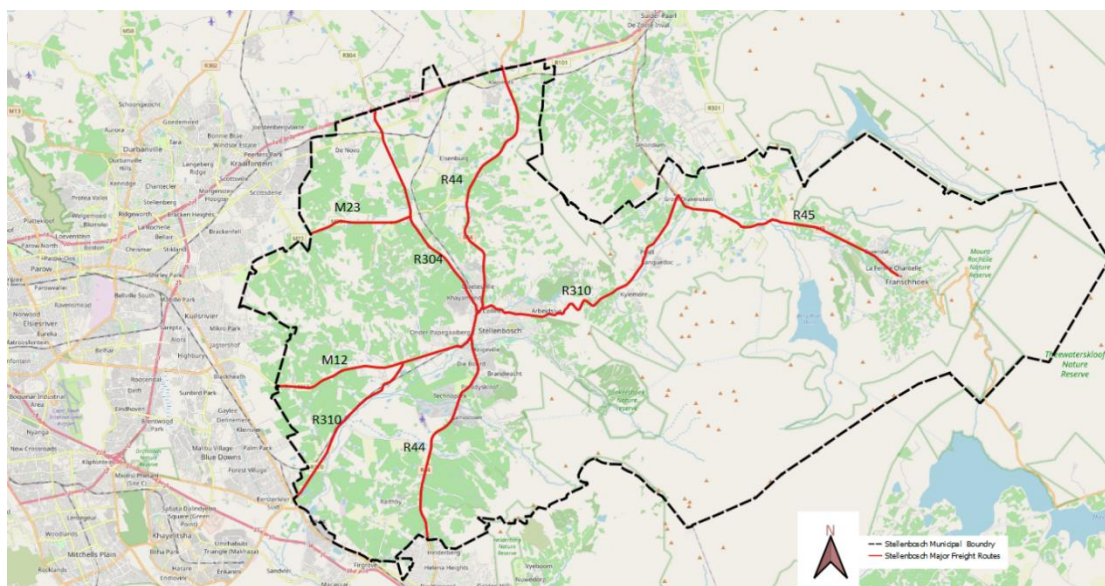


Figure 10-1: Stellenbosch Major Freight Routes

Stellenbosch Municipality is forecast to experience higher economic growth than other municipalities within the Cape Wine District, due to the manufacturing of high-value goods such as wine. Future industrial development is planned for underutilised industrial areas of Koelenhof and Klipmuts along the R101 (Stellenbosch CITP 2016-2020, 2016). The existing and future industrial areas can be seen in **Figure 10-2**.

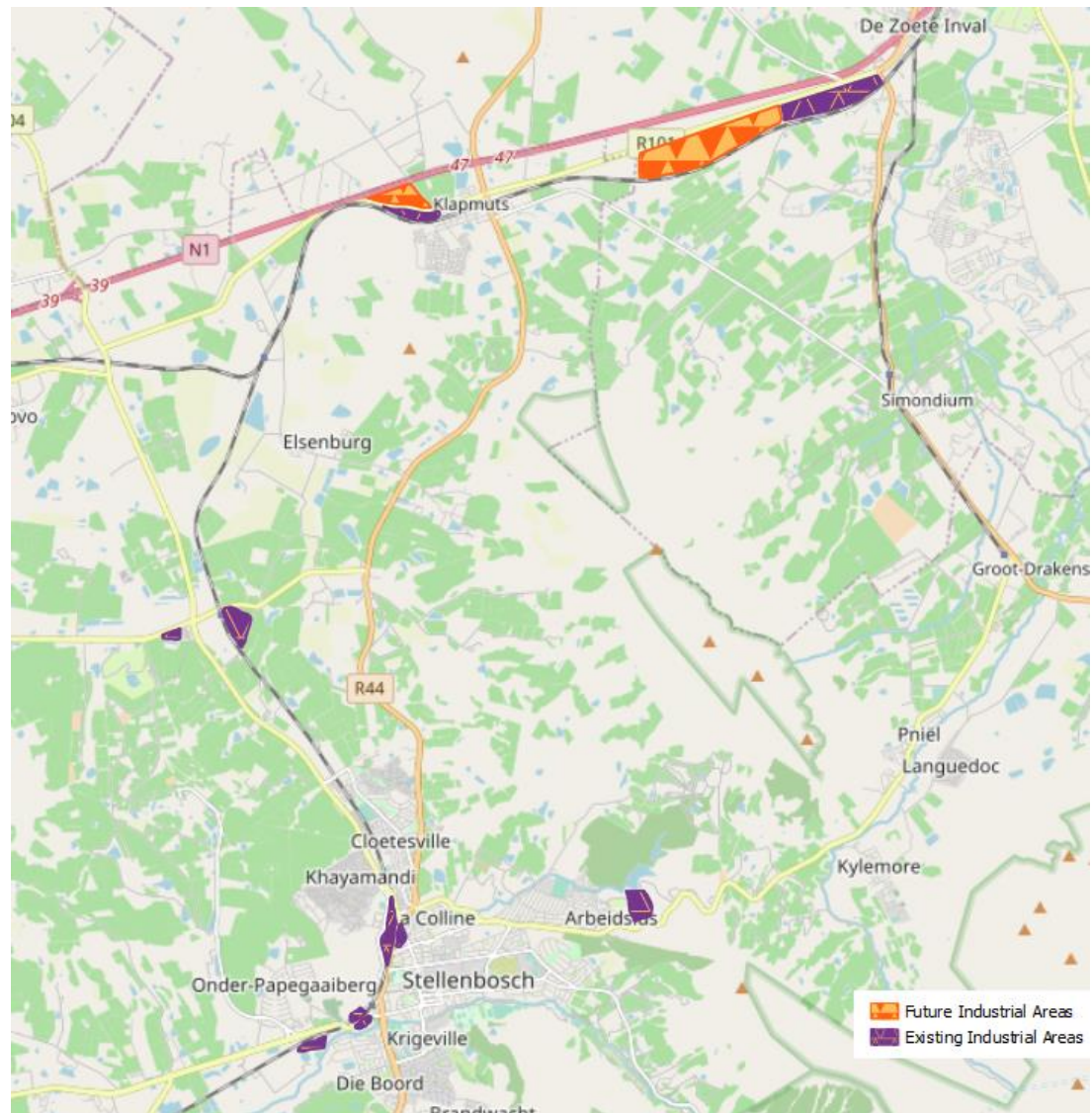


Figure 10-2: Existing and Future Industrial Areas

(Source: Stellenbosch CIP 2016-2020, 2016)

The production of wine grapes dominates the agricultural industry in Stellenbosch. This results in the generation of freight, which is a vital input for cultivation, wine production, and the transporting of the final produce (Stellenbosch CIP 2016-2020, 2016). **Figure 10-3** illustrates a large concentration of agri-processing within Stellenbosch Municipality.

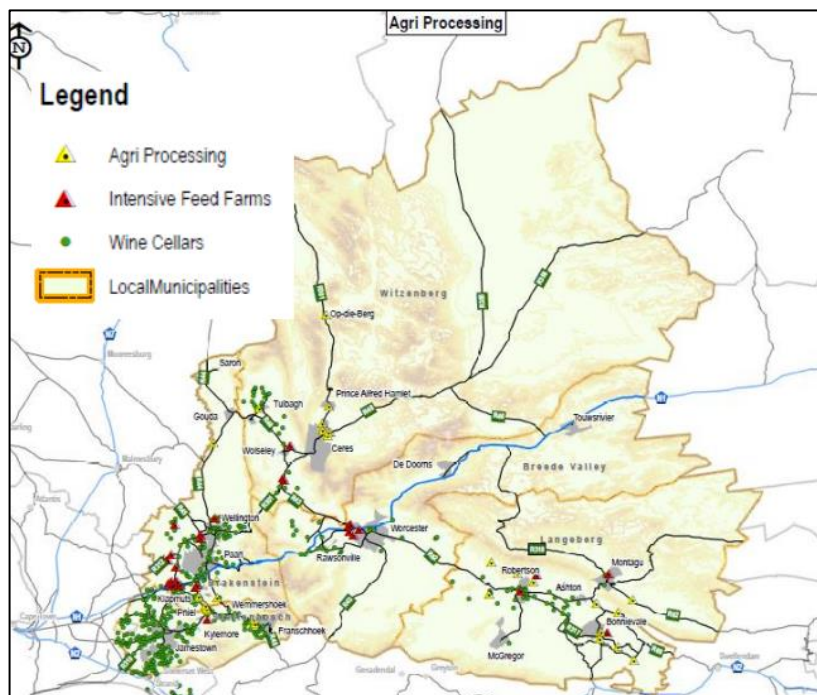


Figure 10-3: Agri-Processing within Stellenbosch Municipality

(Source: Stellenbosch CITP 2016-2020, 2016)

Most of the road-based freight within the Cape Winelands is transported on the N1. As a result, a large number of freight vehicles move from, or through Stellenbosch (Stellenbosch CITP 2016-2020, 2016).

10.2 Objectives

The development of a freight transport strategy requires the consideration of national, provincial, and municipal objectives. The following subsections present the objectives presented at different levels of government.

10.2.1 National Objectives: The National Freight Logistics Strategy (NFLS): (Department of Transport, 2015)

The objectives of the National Freight Logistics Strategy (NFLS) include the following:

- Meet demands of industry and the economy;
- Optimise total cost-effectiveness;
- Obviate cost distortions and optimise competition;
- Reduce negative externalities, safety, pollution, congestion, and infrastructure damage;
- Promote national global industrial competitiveness;
- Attract international investment;
- Actively build skills and capacity at all levels;
- Optimise use of resources – land, facilities, and infrastructure, and
- Develop sustainable systems and operations.

10.2.2 Provincial Objectives: Western Cape Government Provincial Freight Strategy (Western Cape Government, 2019)

The Western Cape Government identified five principles for the development of a freight strategy namely; 1) Freight Transport Network Efficiency, 2) Inclusive Economic Development, 3) Freight Transport Network Safety, 4) Environmental Sustainability, and 5) Cost Optimisation.

The Western Cape Government further identified seven key focus areas, where continued progress is anticipated to improve freight transport delivery. These areas include 1) planning, coordination, and institutional arrangements, 2) demand management, 3) modal rebalancing 4) infrastructure capacity

and condition, 5) traffic management, 6) technology and innovation, and 7) data and information management.

Considering the above, the main strategic objectives of the freight strategy are to:

- Strengthen coordination of freight planning and delivery within the Department of Transport and Public Works (DTPW);
- Strengthen coordination of freight planning and delivery between the DTPW, other Western Cape Government Departments, Local Municipalities, and other external stakeholders, and
- Improve the capacity of provincial and local governments to plan, implement and coordinate freight.

10.2.3 Municipal Objectives: Cape Winelands District Integrated Transport Plan (Cape Winelands District, 2016).

Stellenbosch forms part of the Cape Winelands District. The freight needs are aligned with the transport objectives of the district. These objectives are listed below.

- To maintain the health and safety of communities;
- To facilitate sustainable economic empowerment of all communities;
- To support and ensure the development and implementation of infrastructural services;
- To provide effective and efficient support services, and
- To ensure financial sustainability.

10.3 Review of Legislation

This section discusses the various legislation and legal instruments that inform freight transport.

10.3.1 The National Land Transport Act (NLTA)

As per section 36(2) of the National Land Transport Act (NLTA), planning authorities are obligated to develop a freight transport strategy, paying heed to national and provincial policies concerning the transportation of goods to, from, and through an area. The freight transport strategy must include and regulate the following:

- The identification of routes for moving goods to promote their seamless movement and to avoid conflict with road traffic;
- A plan for the movement of dangerous/hazardous cargo as per section 2(1) of the Hazardous Substances Act, 1973 (Act No. 15 of 1973), by designating specific routes per the general strategy or plan which is provided for in the relevant Provincial Land Transport Framework;
- Dangerous substances are not to be transported on any other route or area except on a route so designated and indicated in an integrated transport plan;
- The failure to comply with the above-mentioned makes the relevant person(s) guilty of an offence, and
- Under the deregulation of the road freight industry effected by the Transport Deregulation Act, 1988 (Act No. 80 of 1988), planning authorities must join forces with the MEC and registering authorities mentioned in the National Road Traffic Act, to ensure the effective regulation of freight operations by implementing the operator card system stated in Chapter VI of the National Road Traffic Act, to prevent damage to the road system and to achieve the other objects of this Act.

10.3.2 The National White Paper on Transport 1996

The aim of the white paper is to provide safe, reliable, effective, efficient, and fully integrated transport operations and infrastructure. It further aims to improve the level of service in such a way that will best meet the needs of freight and passenger customers as well as support government strategies for economic and social development whilst being environmentally and economically sustainable (Stellenbosch CIP 2016-2020, 2016).

10.3.3 Draft National Land Transport Strategic Framework (13 August 2015)

Freight transport has a significant impact on the national transport network. High transport costs translate to increased logistical costs. The main objective of the framework is to reduce the cost of freight

logistics, influence industry behaviour while maintaining profitability. In addition, the framework aims to reduce road transport congestion, improve road safety, and reduce logistics costs by distributing freight amongst other modes (Stellenbosch CITP 2016-2020, 2016).

10.3.4 National Freight Logistics Strategy, 2005

The strategy was developed to increase the efficiency and reliability of logistical services by reducing system, and inland freight costs, thus offering the client viable modal choices (Stellenbosch CITP 2016-2020, 2016).

10.3.5 The Provincial Strategic Goals

The Provincial Strategic Goals established that the government must encourage interventions that will assist in shifting freight haulage from road to rail modes (Stellenbosch CITP 2016-2020, 2016).

10.3.5.1 The Provincial Government of the Western Cape Strategic Goal 1

The goal includes various catalytic infrastructure projects such as small harbours strategy, road network strategy, and rail network facilitation that will create more jobs and economic growth and therefore an increase in the movement of freight (Stellenbosch CITP 2016-2020, 2016).

10.4 Current Freight Challenges

Globally, there are various challenges regarding freight transport management. The main issues are listed below (Open Learning Campus: Future trends and Challenges, 2021).

- Inadequate maintenance of roads and rail infrastructure leads to expensive rehabilitation.
- Speed restrictions on poorly maintained infrastructure also leads to reduced competitiveness, especially for rail transport.
- Regulations often hinder new entrants to the transport market and limit competition. Regulations to operate and manage a fleet should be harmonised.
- Developing countries are reluctant or unable to modernise the transport sector.

There are general freight and logistics issues that are prevalent within Stellenbosch Municipality such as lack of rail freight movement, high volumes of freight vehicles that impact road maintenance budgets, and road safety issues. There are also challenges that Stellenbosch Municipality can positively address during the next 5 years to improve and optimise freight movements. **Table 10.1** indicates the municipality's short-, medium-, and long-term initiatives, as sourced from previous CITP(s).

Table 10.1: Short-, Medium-, and Long-Term Initiatives

	Short term	Medium Term	Long Term
Plans and Studies	Freight Strategy	1. Strategic Freight Network 2. Hazardous Goods Network	
Infrastructure			<ul style="list-style-type: none"> • Infrastructure Improvement Programme • Klapmuts truck-stop development
Service Provision		Technology Innovation	A shift from road to rail transport
Law Enforcement	Mechanisms for better law enforcement and overloading control	Mechanisms for supporting self-regulation	

The key initiatives, sourced from Table 1, are discussed in further detail in the following section. The key initiatives identified from this table are:

- Mechanisms for better law enforcement and overloading control;
- A shift from road to rail transport;

- Hazardous Goods Network, and
- Technology Innovation.

10.5 Strategic Freight Network

10.5.1 Mechanisms for Better Law Enforcement and Overloading Control

Developments in technology allow authorities to manage traffic, including freight vehicles, with a lot more ease and less disruption to drivers (thereby lessening the impact on time and the economy). An example of a system that improves law enforcement by means of innovative technology is a virtual weigh station concept.

A virtual weigh station concept can be regarded as “Open Road Weighing” (similar to the Open Road Tolling, e-Toll being the local example) and is therefore almost a natural alternative to the conventional overload control options. A Virtual Weigh Station (VWS) is a Weigh-In-Motion (WIM) system that provides vehicle records for enforcement, traffic surveillance, and/or data collection in real-time and provides a way to unobtrusively monitor heavy vehicle traffic. The system automatically weighs vehicles as they travel at normal speeds along a roadway, classifies them based on weight and axle spacing, determines when vehicles violate regulations, produces records of heavy vehicles, and provides a display of these records on a computer with a network connection to the system. The system is made up of Weigh-in-Motion (WIM) sensors, image cameras, and automatic number plate recognition (ANPR) equipment as reflected in **Figure 10-4**.



Figure 10-4: Typical VWS site

Commercially available VWS systems can provide the following data:

- Vehicle class;
- Vehicle image;
- Time and date of record;
- Vehicle speed;
- Axle mass and spacing;
- GVM and legal GVM for that vehicle class;
- Equivalent single axle load (E80s) per axle;
- The overall length of the vehicle, and
- A schematic diagram of the vehicle showing loaded and overloaded axles.

When utilising VWS, two apprehension methods can be applied namely visual apprehension and silent apprehension.

When a vehicle is suspected of being overloaded, the vehicle will be requested to pull over at the next safe location and be weighed on a mobile scale. If found that the vehicle is possibly overloaded, the vehicle will be directed to the next static weighbridge. In Stellenbosch Municipality it may not be practical to pull over vehicles, as there is only one static weighbridge within the Municipality.

Silent apprehension entails vehicles being monitored over a pre-set period of time. If found that certain vehicles are consistently overloaded, the operating company of these vehicles will be given two weeks to inform Stellenbosch Municipality of measures on how to stop the overloading trend. If the trends continue, the operator will be subject to vigorous and stringent law enforcement exercises. Every vehicle

of the operator will be inspected and fines for every violation that is found can then be issued. If overloading still occurs, the licences of such vehicles can be suspended.

The actual enforcement may be an issue, as the Western Cape Government is responsible for the control of overloaded freight vehicles (Western Cape Government, 2019).

Stellenbosch Municipality will need to have further engagements with the Western Cape Provincial Government on how Stellenbosch can enforce the apprehension methods. One possibility is to develop a municipal bylaw that gives the municipality authority to apprehend those operators responsible for overloading.

10.5.2 A Shift from Road to Rail Transport

Modal shift could play a significant role in reducing CO₂ emissions. However, it should be noted that different transportation modes serve different markets. **Figure 10-5** shows the carbon intensity of freight transport modes (Open Learning Campus: Decarbonization and the Green Agenda, 2021).

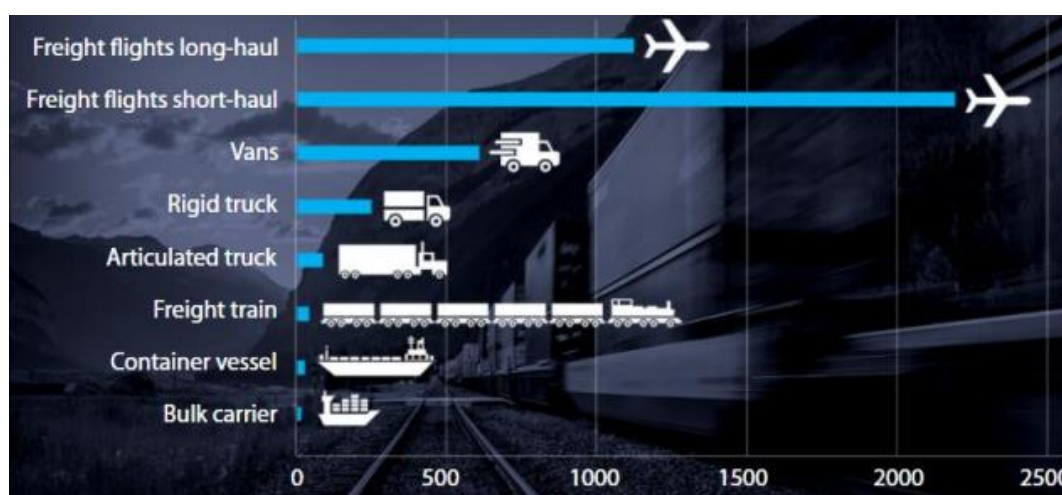


Figure 10-5: Carbon Intensity of Transport Modes

(Source: Open Learning Campus: Decarbonization and the Green Agenda, 2021)

Currently, there is no heavy haul rail line within the Stellenbosch Municipality, however, as stated earlier, one of the main focuses of the Draft National Land Transport Strategic Framework is to distribute freight between modes, where the Provincial Strategic Goals aim to shift freight haulage from road to rail modes.

Although rail transport is significantly less carbon intense than road transport, a shift from road to rail transport is not always possible due to different market characteristics such as distance, the value of cargo, flexibility, and inefficiencies.

Railway performance can be improved by firstly, exploring the revival of railway through concessions. Secondly by modernising management concepts by making rail a customer-orientated business. Focus should be placed on core offerings with specialisation and standardisation that lead to seamless logistics. The development of strategies that would encourage one-stop-shop logistics by offering full-service packages or collaborations could prove vital in achieving the goal of distributing freight between modes. Lastly, special planning and land use measures should be used to congregate logistics activities close to rail lines (Open Learning Campus: Economic, Transport, and Trade Corridors, 2021).

Rail transport is already very efficient. However, some potential energy savings are to improve efficiency through technological enhancements in locomotive engines, improved driving techniques, optimised position of containers/cargo on the train, and the introduction of anti-idling devices logistics (Open Learning Campus: Decarbonization and the Green Agenda, 2021).

Figure 10-6 shows the existing rail infrastructure in Stellenbosch Municipality.

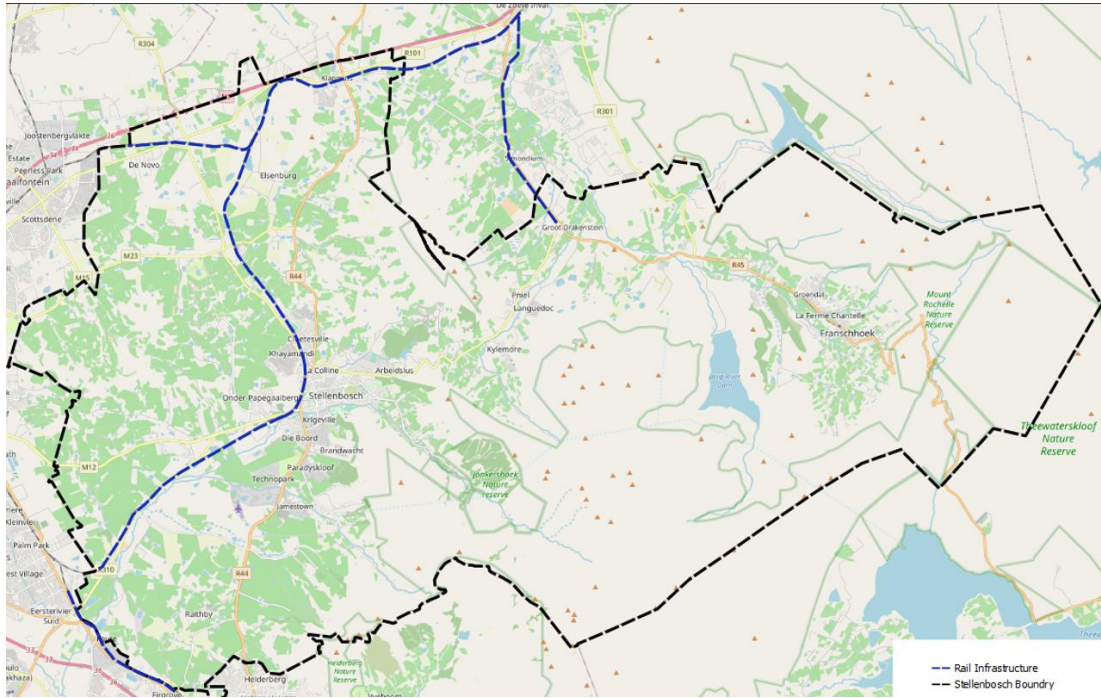


Figure 10-6: Stellenbosch Rail Infrastructure

Freight trips between 0 and 150 km are almost always cheaper when using road transport compared to rail transport (Pienaar & Vogt, 2014). This is mainly due to the high capital investment or fixed costs of rail infrastructure (roughly 75% of rail transport cost is fixed).

Stellenbosch already has existing, underutilised rail infrastructure. When comparing the major freight routes in Stellenbosch Municipality with that of the rail infrastructure (refer to [Figure 10-7](#)), it shows that the routes and the rail infrastructure intercept at 6 different locations. This creates an opportunity for intermodal transport.

By adding the existing and future industrial areas within Stellenbosch Municipality to the map (refer to **Figure 10-7**) this adds a layer to further illustrate where the opportunities for road and rail transport integration are located spatially.

Rail transport offers economies of fleet size and economies of infrastructure extension (Pienaar & Vogt, 2014). Rail capacity can be increased by operating longer trains, or capacity can be quadrupled when moving from a single to a double track due to the elimination of directional conflict. However, it must be noted that it would not make sense to build more infrastructure if the capacity is not warranted.

The integration of road and rail transport can possibly lead to the following benefits:

- Reduced emissions caused by the transport industry;
- Fewer heavy vehicles moving through the town of Stellenbosch;
- Reduced congestion;
- Reduced wear of road infrastructure, and
- Reduced port congestion (for exports moving from Stellenbosch to the port of Cape Town).

It must be noted that further investigation and data collection is needed to fully understand where the major freight generators are and determine the feasibility of intermodal transport within the Municipality.

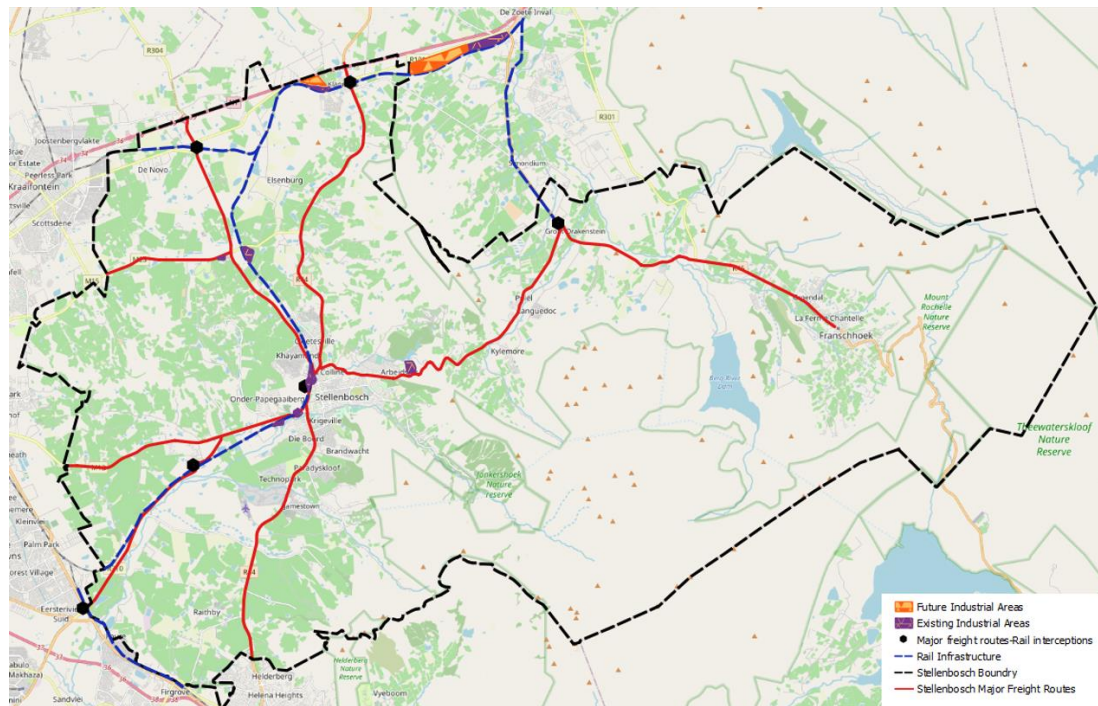


Figure 10-7: Stellenbosch Major Freight Routes/Rail Interceptions/Industrial Areas

10.5.3 Hazardous Goods Network

The transportation of dangerous goods is a specialised form of freight transport. Regulation requires that the type and classification of the hazardous cargo be displayed on the vehicle. The driver of such a vehicle is required to undergo specialised driver training. The proposed route of the vehicle must be communicated to authorities to ensure sufficient levels of safety (Stellenbosch CITP 2016-2020, 2016).

The safety of transporting dangerous/ hazardous goods can be improved by ensuring clear and comprehensive road transport legislation. The legislation should include aspects such as competitive quality licensing, which includes the financial, legal, and ethical status of the companies, the quality of the trucks, and the skills and training of the drivers. A fleet renewal financing scheme could also be implemented to ensure overall quality (Open Learning Campus: Economic, Transport, and Trade Corridors, 2021).

The movement of dangerous/hazardous goods should be contained to routes with minimal contact with residential areas or areas where environmental awareness must be upheld such as rivers, wetlands, or nature reserves. The only exception should be vehicles such as fuel tankers, which in some cases need to move through residential areas to offload fuel.

Taking all the above into consideration, an example of a possible hazardous/abnormal goods network is presented in Figure 10-8.

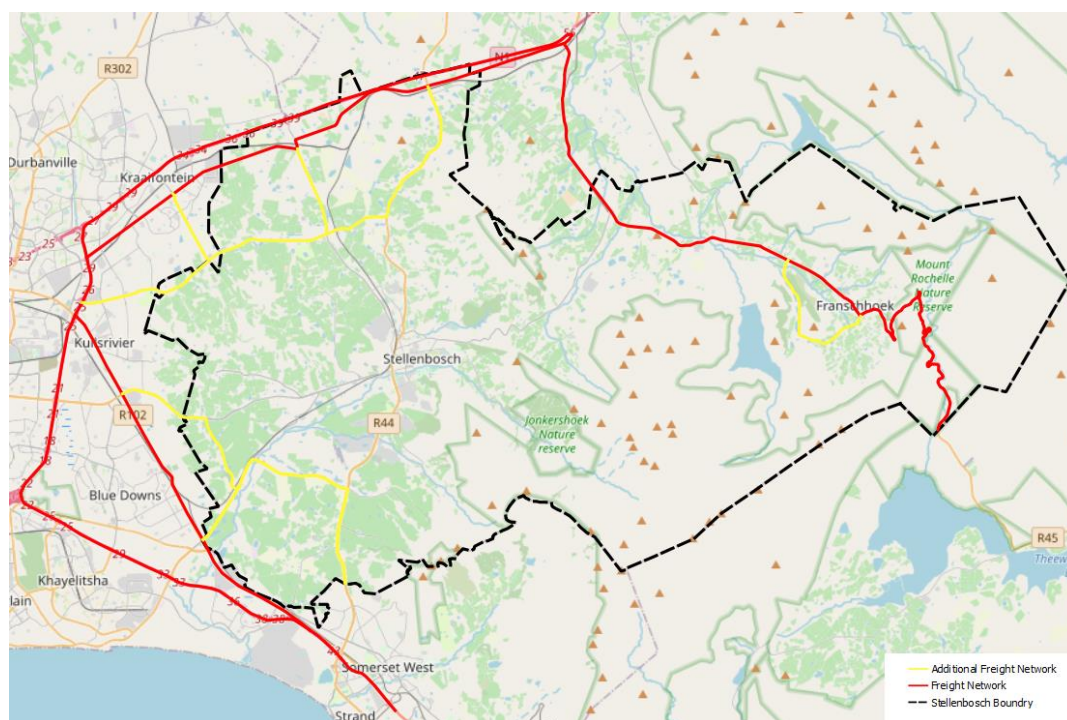


Figure 10-8: Possible Hazardous/Abnormal Goods Network

The red routes allow hazardous/abnormal loads to be moved without moving through the town of Stellenbosch. It also avoids much of the sensitive environment(s) such as farmlands, rivers, and nature reserves. The yellow routes are possible routes that can be added to the network to increase the flexibility and accessibility of the network with minimal contact with sensitive areas. The following could be possible bylaws to consider:

- No vehicles moving hazardous/abnormal goods may use the main freight routes and drive through the town of Stellenbosch (refer to [Figure 10-8](#)) between 06:00-19:00. Only vehicles (like fuel tankers) that need to offload these goods in the town will be allowed to do so, with prior consent from Stellenbosch Municipality.
- Vehicles moving hazardous/abnormal goods may use the main freight routes between the hours of 19:00-06:00.

It must be noted that further investigation will be required to assess the feasibility of a hazardous/abnormal goods network.

10.5.4 Technology Innovation

Technology can be used as a tool to improve the efficiency of freight operations. Technology enhancements now offer capabilities that can assist in operational capacity assessments, strategic planning, and environmental monitoring. By having sensors along main freight routes that continuously stream data performance can more easily be measured. Having accurate and reliable data available to all relevant parties will reduce the need for human inspection and paperwork (Open Learning Campus: Economic, Transport, and Trade Corridors, 2021).

Due to changing market circumstances, transport systems must be flexible and adaptable. Technological innovations, together with their positive results are at times hindered by regulations, especially if the new technology competes with a nationalised transport system with strong political influence. Often, when deregulation takes place, technological innovation increases. It is critical to only regulate when needed (Open Learning Campus: Future trends and Challenges, 2021).

New technologies are complex, and governments cannot always implement them. Future transport systems will most likely be private initiatives or public-private partnership schemes (Open Learning Campus: Future trends and Challenges, 2021).

It may be warranted for Stellenbosch Municipality to further investigate how technology could possibly assist in the efficient and effective integration of freight modes. For example, the use of technology could assist in determining the correct and most efficient balance between the different freight modes.

One such technological innovation, which may be utilised in the future is drone technology. Stellenbosch Municipality should consider a policy for such drone deliveries.

The South African Civil Aviation Authority (SACAA) has already introduced rules, regulations, and safety precautions around Remotely Piloted Aircraft System (RPAS) (Western Cape Government, 2019). The laws cover where the drones can and cannot be operated as well as licencing requirements.

10.6 Environmental Challenges

Transport emissions account for between 12-25% of CO₂ emissions. It is expected that the transport sector will grow more than any other sector leading to increased CO₂ emissions. **Figure 10-9** shows the environmental impact of transport and logistics (Open Learning Campus: Decarbonization and the Green Agenda, 2021).

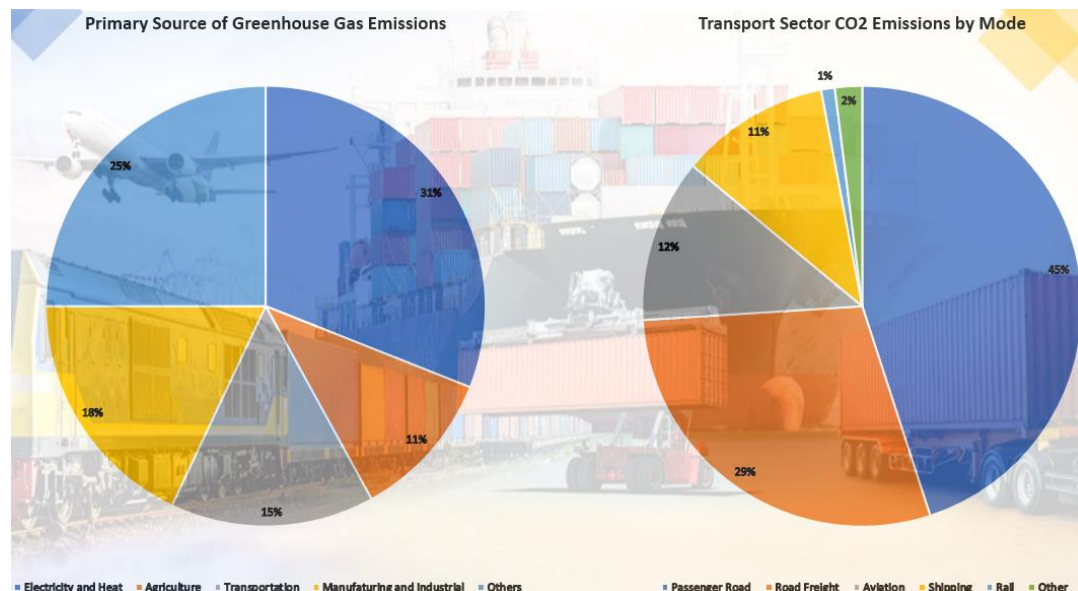


Figure 10-9: Environmental Impact of Transport and Logistics

(Open Learning Campus: Decarbonization and the Green Agenda, 2021)

Freight transport and logistics have numerous externalities, which include atmospheric pollution, noise pollution, vibration, congestion, accidents, land use and biodiversity, waste, and visual intrusion. To make logistics more sustainable in the long run, decarbonisation of the transport sector is needed. There are various ways to reduce logistical movements by avoiding the extra mile or extra-weight being transported (Open Learning Campus: Decarbonization and the Green Agenda, 2021).

- Waste minimisation – reduce waste in logistics activities (logistic waste include aspects such as incomplete loads, badly routed deliveries, and the misuse of resources).
- Recycling – Move from a linear to a circular economy, which will reduce logistical activity.
- Digitisation and digital transformation – Reduce the amount of waste by shifting to e-books and digital documents within the sector
- Miniaturisation – Increased functionality leads to a reduction in the weight and volume of products.
- Material substitution – The development of lighter materials can lighten the loads carried and thus reduce the weight of vehicles, fuel consumption, and emission.
- Postponement – Reduce product mass by delaying the final packaging and customisations of products until they are near their final point of consumption can reduce product mass.

It is key to note that the above-mentioned processes are universal and should be adopted if possible.

Vehicle routing and scheduling can have a significant impact on emissions and cost. Vehicle routing and scheduling can assist in managing unexpected changes in customer demands, the time window for deliveries, and pick-up and congestion. The use of technology can assist in optimising time, cost, or distance. Some models can adapt to fuel use and emissions logistics (Open Learning Campus: Decarbonization and the Green Agenda, 2021).

Increasing vehicle utilisation increases economic and environmental benefits. Globally, around 25% of trucks run empty while around 40% are only half loaded. Some studies found that bigger operators with bigger fleets run closer to optimal capacity. Large Asset Based Carriers had 9% empty running while

Independent Carriers/Owner Operators ran up to 50% empty logistics (Open Learning Campus: Decarbonization and the Green Agenda, 2021).

Table 10.2: Key Freight Intervention and Initiatives

Key Freight Intervention and Initiatives								
	Interventions/initiatives	Description	5-year target 2023-2028	Year 1 2023/24	Year 2 2024/25	Year 1 2025/26	Year 1 2026/27	Year 1 2027/28
1.	Mechanisms for Better Law Enforcement and Overloading Control.	The Virtual Weigh Station (VWS) is an innovative technology for traffic management, specifically for freight vehicles. It operates as an "Open Road Weighing" system and acts as an alternative traditional overload control methods. The VWS weighs vehicles in motion, classifies them based on weight and axle spacing, detects violations, records heavy vehicles, and displays the information on a computer through a network connection. The system consists of WIM sensors, image cameras, and ANPR equipment. This technology provides real-time data for enforcement, surveillance, and data collection, making it easier for authorities to manage traffic with less disruption to drivers and less impact on time and the economy.	2	n/a	1	1	n/a	n/a
2.	A shift from Road to Rail Transport.	The modal shift from road to rail transport can play a crucial role in reducing CO2 emissions. However, different transport modes cater to different markets and there is no heavy haul rail line in the Stellenbosch Municipality at present. The Draft National Land Transport Strategic Framework focuses on distributing freight between modes, with the goal of shifting freight haulage from road to rail. Stellenbosch already has underutilised rail infrastructure that intersects with major freight routes at 6 different locations, creating opportunities for intermodal transport. The addition of existing and future industrial areas within the municipality to the map further highlights the potential for road and rail transport integration (see Figure 10-7 in the section).	5	1	1	1	1	1
3.	Hazardous Goods Network.	Transporting dangerous/hazardous goods is a specialised form of freight transport that requires clear and comprehensive	2	n/a	1	1	n/a	n/a

Key Freight Intervention and Initiatives								
	Interventions/initiatives	Description	5-year target 2023-2028	Year 1 2023/24	Year 2 2024/25	Year 1 2025/26	Year 1 2026/27	Year 1 2027/28
		road transport legislation for improved safety. The legislation should include competitive quality licensing, fleet renewal financing, and driver training. The movement of these goods should be contained to routes with minimal contact with residential areas or sensitive environments such as rivers, wetlands, and nature reserves. An example of a hazardous/abnormal goods network is presented in Figure 8 of the section, where red routes allow for transportation without moving through the town of Stellenbosch, while yellow routes increase the network's flexibility and accessibility with minimal contact with sensitive areas.						
4.	Technology Innovation.	To enhance the effectiveness of freight operations, technology can be leveraged as a tool. Advancements in technology now provide the ability to evaluate operational capacity, plan strategically, and monitor the environment. Therefore, the Stellenbosch Municipality should consider investigating how technology can assist in the efficient integration of freight modes. For instance, technology can help determine the optimal balance between different freight modes. Drone technology is one such innovation that may be utilised in the future, and the municipality should consider a policy for drone deliveries.	1	1	n/a	n/a	n/a	n/a

11 OTHER TRANSPORT RELATED STRATEGIES

11.1 Introduction

This Chapter deals with other transport strategies which relates to Law Enforcement, Safety & Security which includes Traffic Safety, Tourism, Fire services and Disaster Management, and finally an additional section which specifically highlights the need for a Communication Strategy which deals with Transportation to enable the move to NMT and also to improve transportation safety and security.

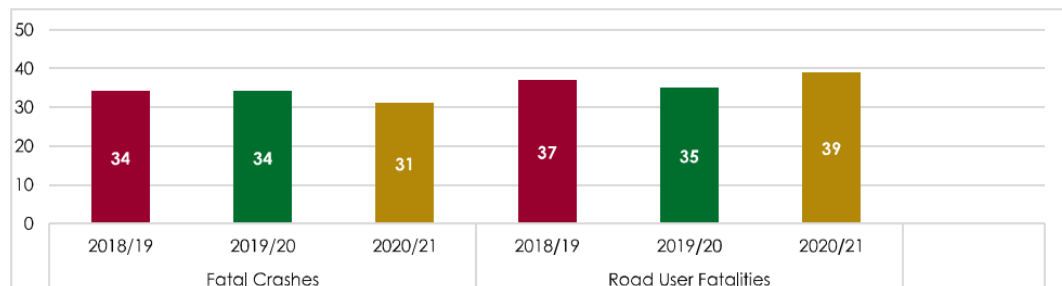
Whereas Transport leads this CITP, it is critical to understand that most municipal stakeholders have a vested interest in safe and secure mobility and public spaces; and that most will benefit from increased use of public transport and reduced congestion in Stellenbosch.

For this to be successful, continued stakeholder engagement is key. It is therefore important to explore within the Municipality the contribution that each department can make to these shared objectives, and to include Community Development; Spatial Planning and Land Use Management, Fire Services, Traffic Services; Traffic Administration; Law Enforcement and Security Services; By-Law Enforcement; Sport and Parks and Recreation; and Environmental Management in the further revision of this CITP in future.

Roads and Storm water, solid waste management and Electricity Services are also important. Waste management plays an important role in keeping public spaces, sidewalks and road reserves clean and free of litter. Neighbourhood revitalisation should have safety and security at the core of its plans. Local Economic Development and Tourism is co-dependent with Transport in this endeavour, as neither can achieve its objectives without providing safe and secure facilities and public spaces.

11.2 Law Enforcement

According to the WCG Socio-economic profile for Stellenbosch the number of road fatalities decreased from 34 in 2019/20 to 31 in 2020/21. The number of fatal crashes decreased from, 35 to 39 for the same reference period - refer to **Figure 11-1**. Restrictions on the sale of alcohol and limited personal movement due to COVID lockdowns resulted on a decline in cases from 236 in 2019/20 to 164 in 2020/21.



Source: Western Cape, Social – Economic Profile 2021

Figure 11-1: Fatal Crashes and Road User Fatalities

Stellenbosch Municipality has built a reputation for relatively strict traffic law enforcement. The fixed speed cameras and diligent enforcement of speeding are inter alia important contributors to this situation. As the law enforcement department is key to the enforcement of traffic by-laws, it is important that proper engagement with them be undertaken to define their issues and to develop strategies to address them.

The Safety Strategy of the Stellenbosch Municipality has been reviewed to adapt to the changing environment of crime in its area of jurisdiction. The action plan which follows the Safety Strategy, has 3 phases which were all implemented. This included the installation of License Plate Recognition cameras (LPR) at all main entrances and exits to Stellenbosch and Franschhoek towns. These are also supplemented in residential areas. The Municipality also continuously invest in CCTV and the CCTV Masterplan is continuously updated to accommodate new needs and investments.

These strategies and projects relate to general crime prevention, and it is proposed that these strategies be supplemented with specific focus to public transport interchanges, Public Transport routes, NMT routes and cycling routes, also with respect to lighting, CCTV and crime reporting.

11.3 Safety and Security

11.3.1 Introduction

Unsafety and fear of crime are important barriers to the use of public transport and public spaces. Perceptions of safety are an essential lever for individuals and groups to embrace public transport and non-motorised transport, by choice rather than of necessity. It is not possible to address unsafety without responding to perceptions of unsafety; users of public space often think they are unsafe when they are relatively safe, and vice versa.

Safety and security should be seen as a transversal issue that aims to enable accessible, safe and affordable transport for all. Safety and security objectives are identified to strengthen interventions in the CITP aimed at both:

- Security, being protection against known and perceived risks and threats to people and property, and
- Safety, being the achievement of a state in which there is less need for security, with reduced perceptions of vulnerability and fear.

Thus, they must both be safe and feel safe to let go of their sense of unsafety. It is therefore important to provide security cover where necessary, in the form of visible policing and rapid response to incidents, but equally so to manage transport hubs and public spaces to be most conducive to safe navigation.

The inclusion of safety and security in the CITP aligns with the sustainable transport approach and the promotion of public transport. Safe and secure transport will also facilitate equitable and safe access to opportunities for study, work and leisure. It should be seen as contributing to the general wellbeing of a flourishing town.

11.3.2 Objectives

Objectives of a collaborative and sustainable Safety and Security approach:

- Reflect and respond to the status of safety and security in the municipality;
- Align actions to mandates of diverse municipal and external stakeholders;
- Apply a gendered lens to the use of public space and public transport;
- Spotlight special needs, for instance people with disabilities and elderly people, families;
- Respond transparently to barriers to effective intervention to achieve safety and security;
- Ensure that municipal officials understand what makes public space and public transport safe;
- Support integrative safety and security operations;
- Create feedback loops that solicit information from users and are responsive to that information, providing updates on safety interventions, in the process creating and sustaining a trusting relationship between the municipality and users, and
- Explore technology-based interventions (other than CCTV), for instance reporting tools that capture lived experience, safety audits.

11.3.3 Traffic Safety and Security

In the formulation of a safety and security strategy within the CITP, many cities take their lead from law enforcement and regard CCTV systems as the go-to intervention. This is arguably the most expensive way of addressing problems of insecurity and it does not necessarily deliver value against cost. In many instances, the cost of the system cripples the ability of the municipality to address issues such as lighting and visibility, safe and clean sanitation (particularly for women), access control, walkability of sidewalks and pathways, signage, reporting systems and in-person responses. These should be considered as the essentials of a safety and security plan. Analysis of the findings or existing surveillance systems can provide insights into where best planning, design, infrastructure, management and maintenance budgets should be applied, for the greatest safety returns.

Law enforcement and traffic safety and security, as well as by-law enforcement are obviously at the centre of delivery of day-to-day safety and security services.

As in most urban areas, traffic safety and security are a huge concern. With many students and commuters moving on foot and bicycle, the conflict between them and road vehicles is high. Pedestrians

are also often involved in road accidents on the rural road sections linking the different nodes of Stellenbosch. Reducing this conflict and making all roads safer for NMT is a challenge that requires better co-ordination with the provincial road authority who manages large sections of these roads. The maintenance of lighting on some provincial routes has been mentioned as an issue warranting attention and the creation of an MOU between the municipality and the province should be pursued.

The second major concern is the safety and security of (especially) women and children who are using public transport. Whilst upgrades are being undertaken at taxi ranks to improve lighting, CCTV, visibility of law enforcement, higher quality and gender segregated bathrooms, much can still be done. Upgrades to the accommodation of informal trading are also generally considered necessary.

There is a perception that taxis are not safe; they are used by those who have no alternative, rather than those who can choose. To improve public transport, there should be a system in place to encourage taxi drivers and owners to improve their services. A system such as the blue dot and red dot system enforces compliance. A reward system will incentivise taxi drivers who are compliant and also give incentive to those who use taxis to encourage more people to use public transport. From a stakeholder engagement perspective minibus-taxis do not have a good reputation, both within the municipality and with external stakeholders, users and potential users. There is suspected taxi extortion taking place at ranks, where rival associations hold taxis with passenger's hostage until a release fine is paid. This is a criminal violation rather than breach of by-law and must be addressed by SAPS, who must also be engaged in this plan.

This safety and security approach requires sustained multi-disciplinary engagement, both within municipality and beyond, including civil society organisations and networks who either impact safety and security or are negatively impacted by unsafety. It is premised on the notion that everyone is and should be useful in achieving safety, with each stakeholder bringing different skills, experiences and knowledge to bear. The approach enables stakeholders to cast a safety lens on their area of work.

While a diverse group of stakeholders have been engaged through this process, it is not exhaustive. Consultation process should continue, recruiting participation in all stages of planning and implementation. Safety must be woven into the system that aims to transform the Municipality over time while protecting existing and new assets through activation of public space in a prosocial way, preventing vandalism, littering, illegal dumping, stimulating greater compliance with by-laws and reducing criminal activity overall.

Safety and Security: Key Intervention and Initiatives								
	Interventions/ initiatives	Description	5-year target 2023- 2028	Year 1 2023/24	Year 2 2024/25	Year 3 2025/26	Year 4 2026/27	Year 5 2027/28
1.	CCTV	Implementation of safety initiative to reduce crime in the area. The community members identified the need for LPR cameras and has indicated where the cameras should be placed: <ul style="list-style-type: none"> On the c/o Vlaeberg /R310 Baden Powell Road, On the c/o Vlaeberg Road/Polkadraai Road on the M12 	5	1	1	1	1	1

Safety and Security: Key Intervention and Initiatives								
	Interventions/ initiatives	Description	5-year target 2023- 2028	Year 1 2023/24	Year 2 2024/25	Year 3 2025/26	Year 4 2026/27	Year 5 2027/28
		<ul style="list-style-type: none"> c/o R44 and Winery Road c/o Winery Road and M9 c/o Watson Road close to to Winery Road 						
2.	Neighbourhood Watch Equipment	<p>To provide assistance to all registered neighbourhood watches in the Greater WC024, to issue them with safety equipment to combat crime in neighbourhoods.</p> <p>Support and finance purchase of neighbourhood watch equipment.</p>	5	1	1	1	1	1

11.4 Tourism

Both CBD areas of Stellenbosch town and Franschhoek are tourist hubs for local and international visitors. In Stellenbosch, tourists are attracted to the central area of the town (primarily around Dorp Street) due to the Cape Dutch buildings, heritage museums, and restaurants overspilling into the streets. The same can be said for Franschhoek Main Road. The road infrastructure of Stellenbosch town centre is narrow and in some places lei water channels limits the mobility of large vehicles. Coach (tour) buses can often be found transporting groups of tourists to and from Stellenbosch town.

Operations often include bringing large groups into town from outlying areas such as Cape Town to tour Stellenbosch for the day. This leaves the tour buses idle for most of the day and with limited to no parking facilities for these large vehicles, which contributes negatively to the movement of general traffic within the town.

In 2018, SMEC South Africa conducted the Stellenbosch and Franschhoek CBD Tour Bus Study for the Stellenbosch Municipality. The study found that since the CBD of Stellenbosch town is already well developed, tour bus parking facilities will have to be accommodated at existing properties. The following two potential areas were identified:

- The existing parking facility at Stellenbosch rail station, and
- Parking adjacent to Bloemhof High School.

For Franschhoek, one vacant areas (zoned as commons) was identified as a potential parking facility for tour buses, namely:

- An open area opposite the Huguenot Monument

The Tour Bus Study also recommends that funding should be set aside for the planning, detail design and implementation of the four proposed facilities (the study does provide a costing of each intervention). Upgrading of existing facilities is also required as well as the retention of the existing on-street parking bay which is used as a drop-off and loading facility for tour buses at the Village Museum in Stellenbosch.

The Stellenbosch municipal area is one of the most scenic areas in South Africa and tourism is (and should) be a very important industry. It can have huge economic benefits for everyone, the challenge, however, is to optimise facilities, such as pedestrian accommodation, wherever required for tourism. It is therefore important to have adequate co-operation between the Tourism organisations and the Municipality in this respect. The concept of feedback loops between stakeholders has been mentioned, also in reference to the tourist needs of Franschhoek.

For this revision of the Stellenbosch Municipality CIP, the project team proposes that the four listed interventions for both Stellenbosch and Franschhoek be investigated further to determine the feasibility thereof.

Tourism: Key Intervention and Initiatives								
	Interventions/ initiatives	Description	5-year target 2023- 2028	Year 1 2023/24	Year 2 2024/25	Year 3 2025/26	Year 4 2026/27	Year 5 2027/28
1.	Stellenbosch - Tour Bus Parking Facility 1	Upgrading the existing parking facility at Stellenbosch rail station						
2.	Stellenbosch - Tour Bus Parking Facility 2	Formalising the parking facility adjacent to Bloemhof High School						
3.	Franschhoek - Tour Bus Parking Facility	Formalising the open area opposite the Huguenot Monument						

11.5 Universal Access

There can be little doubt that everything possible should be done to provide universal access in Stellenbosch. It was considered that the Stellenbosch Disability Network should be included in the process as they can help to understand the types of disability, challenges that people living with disability have in terms of transport and how they would like to participate in the process.

Special needs passengers are generally not well catered for in South Africa's the public transport systems. Public transport infrastructure provision, including non-motorised transport, has until recently not been designed and constructed in such a way that the needs of people with disabilities have been catered for.

Lack of physical access, both to and within the built environment, is a major factor contributing to the ongoing exclusion of people with disabilities from mainstream society and using public transport. The accessibility of the built environment concerns how easily, safely and equally people with special needs or impairments can use buildings, facilities and public spaces. Physical and other barriers discriminate against some people by not allowing them to move freely and independently within their built surroundings (SAHRC, 2002).

11.6 Fire Services and Disaster Management

The provision of fire services and adequate response to disaster situations should not be neglected. The fire services indicated that there are informal settlements in Kayamandi where it is difficult for them to access and to respond timeously and effectively. Azania informal settlement is one of these settlements where the road system must be reviewed as it cannot be accessed by fire trucks.

It is considered that there is a lack of planning in these informal settlements, and even after there has been a severe fire, the dwellings have been reconstructed at the same density, without demarcated routes for vehicles, nor fire breaks. It was stated that in 2013, around 1000 shacks burnt down resulting in the municipality giving each owner a fire kit worth R9000. There are allegations that some residents

start fires intentionally to receive the fire kit (this pattern is mostly observed during the festive season, which does coincide with the fire season).

11.7 Transport Communication Strategy

11.7.1 Motivation

Communication underpins the ability of the municipality to be a good partner to achieve the objectives it shares with those who live in, travel through, visit and use it. Being a good partner is essential to mutual trust. Throughout South Africa and indeed in many municipalities across the globe, there is a deficit of trust, and this makes it harder for the municipality to make decisions, deliver services, and offer new services. Communication mechanisms should promote integration across diverse municipal departments. This will allow the municipality to unite in communications that bring back hope in communities by leading a shift in attitudes and behaviour in the community to encourage active citizenry in support of CIP objectives. Many community members are frustrated and feel hopeless because of poverty, inequality, crime, violence and latterly of the impact of COVID-19. Communities live with high levels of trauma and uncertainty, often looking for interventions that have an individual rather than a generalized impact. This is a challenge for resource-strapped municipalities, where demand often exceeds capacity to deliver.

The CIP should be supported by a communication strategy that aims to shift attitudes and behaviour of (municipal officials and) community members who:

- Believe themselves to be dependent on their private vehicles to move around Stellenbosch, and those who regard private vehicles as the aspirational mode of transport in Stellenbosch;
- Believe that public transport cannot be safe and that they have no agency in making it safer;
- Have never used public transport (in Stellenbosch) including public officials;
- Don't understand the links between infrastructure, maintenance, reliability, predictability, and safety (particularly of women);
- Vandalize infrastructure without understanding the impact of their actions on their safety and the safety of their communities;
- Do not come forward with information about those who vandalize infrastructure (because they don't believe it will make any difference/are frightened of reprisals);
- Who do not know their way around Stellenbosch and are easily lost in the city, and
- Who can help by understanding the importance of making spaces safer for women.

11.7.2 Communication Actions/interventions

The following transport communications actions / interventions are proposed:

- Establish feedback loops with community members, particularly targeting women, who are both more vulnerable because they are women and because they are more likely to be traveling with children, the elderly, people with disabilities. They are also more likely to have routines and use routes that place them at greater risk than men. Women are also more likely to be aware of risk factors, and to have information that will be useful to the municipality. Hypothesis: If the city is safe for women, it will be safe for everyone.
- Promote the convenience of public transport routes, cycle lanes, pedestrian precincts.
- Engage taxi associations, drivers and marshals to understand how their own behaviour can assist in increasing the user base of taxis. Develop a campaign with the associations for expansion of their user base; negotiate rules of engagement. Implement a rapid reporting and response for issues at taxi ranks and taxis. Introduce gender sensitive principles and behaviour (#notinmytaxi) and an understanding of vulnerabilities of women in the city.
- Disseminate materials (for instance in taxis, at transport hubs, in municipal offices and service points) about the benefits of public transport and NMT
- Engage senior municipal officials to use and communicate about public transport and NMT (lead by example)
- Publish principles, findings, recommendations, and responses generated by communications processes in municipal media
- Insinuate issues of women's dignity, safety and freedom of movement into municipal messaging

- Use social media to promote interpersonal safety on public transport in Stellenbosch
- Convene discussions focused on ways in which increased demand for public transport will improve public transport.

The municipality will only achieve sustainable behaviour change by collaborating (rather than just consulting) with service providers and communities and enabling them to take on the responsibility of making their spaces safer as key partners. When communities do not understand the complexity of safety, they will continue to allow their spaces to be used for unsafe activities. Only when communities are equipped and empowered, they will understand their role in ensuring their environments are safe for all.

Transport Communication Strategy: Key Intervention and Initiatives								
	Interventions/ initiatives	Description	5-year target 2023- 2028	Year 1 2023/24	Year 2 2024/25	Year 3 2025/26	Year 4 2026/27	Year 5 2027/28
1.	Transport Communication Strategy	Section 11.7.2	5	1	1	1	1	1

12 FUNDING

12.1 Current Funding Sources

12.1.1 National Allocations

Public-, Private-, Freight- and NMT in all its facets (planning, construction, implementation, monitoring, upgrading, operations and maintenance) is the responsibility of the Stellenbosch Municipality and is enshrined in the Constitution. In a country where public funds are limited, transport has to compete with other basic amenities that government should be able to provide to its citizens. This includes, amongst others, housing, water, sanitation, education and health facilities.

The Division of Revenue Act (DoRA) allows funds to flow from National Government to Provincial Government, Metropolitan and District Municipalities and even Local Municipalities.

The flow of funds is broadly categorised as follows:

- Equitable share;
- Expanded Public Works Programme Integrated Grant for Municipalities;
- Integrated National Electrification Programme (Municipal) Grant;
- Local Government Financial Management Grant, and
- Integrated Urban Development Grant.

The allocation from National Government for the Stellenbosch Municipality for the MTEF period is indicated in **Error! Reference source not found.**

Table 12.1: National allocations to Stellenbosch Municipality

National Allocations				
National Allocations ('000)	2022/2023	2023/2024	2024/2025	Total
Equitable share	R179 634	R196 720	R215 547	R591 901
Expanded Public Works Programme Integrated Grant for Municipalities	R4 928	-	-	R4 928
Integrated National Electrification Programme (Municipal) Grant	R28 350	R6 000	R6 269	R40 619
Local Government Financial Management Grant	R1 550	R1 550	R1 550	R4 650
Integrated Urban Development Grant	R65 747	R42 114	R43 821	R151 682
Total	R280 209	R246 384	R267 187	R793 780

Over the MTEF period, the majority of the allocations is received from the equitable share (75%) and the Integrated Urban Development Grant (19%). In total SM will be receiving almost R 800 million from National Government over the MTEF period. The Integrated Urban Development Grant is most likely a combination of the Urban Settlement Development Grant and the Integrated City Development Grant. The total for the Integrated Urban Development Grant for the MTEF is R 151 million, or 19% - within these allocated funds, public transport still needs to compete with roads, water, energy, housing and land acquisition and development.

The Public Transport Network Grant, which is specifically earmarked for the planning, implementation and operations of the approved Integrated Public Transport Network in a Planning Authority, is currently not allocated to SM as it is not one of the Cities that is eligible for this grant. Cities of similar size as Stellenbosch that is currently receiving a share of the PTNG includes George and Mutsunduzi.

The Public Transport Network Grant (PTNG) grant has been in place for a number of years, and within this time, it has changed its name a few times. Originally it was called the Public Transport Infrastructure and Systems Grant (PTISG) and intended only for supporting capital expenditure to establish new transport systems in line with national Department of Transport (NDoT)'s Public Transport Strategy and Action Plan.

It was initially thought that the new Bus Rapid Transit (BRT) systems would not have big operating deficits. However, as projects have been implemented, it has become apparent that there are significant

operating deficits to be expected. The conditions of the PTISG were then relaxed to allow the grant to be used to cover some of the operating deficits.

To reflect this change, the grant was split into two, namely:

- Public Transport Infrastructure Grant (PTIG) – for capital items, and
- Public Transport Network Operating Grant (PTNOG) – for certain operating items.

However, this made it difficult to switch money between the two and so the two grants were amalgamated again into one grant – called the Public Transport Network Grant (PTNG) – but with two ‘components’ – a ‘Network Operations Component’ and a ‘Network Infrastructure Component’. This is the current shape of the grant in the latest version of the Division of Revenue Act.

The Department of Transport can consider a city for the PTNG, but the City must apply in accordance with the guidelines as contained in the DoRA, Grant Schedule 5, Part B.

12.1.2 Provincial Allocations

The Western Cape Government provides allocations to local authorities in the Province per line function which is indicated in Table 12.2.

Table 12.2: Provincial allocations to Stellenbosch Municipality

Provincial Allocations					
WCG Departments and funding ('000)	2022/23	2023/24	2024/25	Total	Percentage
Cultural Affairs and Sport	R14 112	R11 629	R12 151	R37 892	22,3%
Community Library Services Grant	R14 112	R11 629	R12 151	R37 892	
Development of sport and recreational facilities					
Environmental Affairs and Development Planning	-	-	-	-	
RSEP/VPUU municipal projects					
Department of Local Government	R38	R38	R38	R114	0,1%
Community Development Workers Operational Support Grant	R38	R38	R38	R114	
Human Settlements	R35 890	R58 003	R33 900	R127 793	75,3%
Human Settlements Development grant (Beneficiaries)	R15 040	R30 823	R27 900	R73 763	
Informal Settlements Upgrading Partnership Grant: Provinces (Beneficiaries)	R20 850	R27 180	R6 000	R54 030	
Provincial Treasury	R256	R245	R249	R750	0,4%
Capital Building Grant	R256	R245	R249	R750	
Western Cape Financial Management					
Transport and Public Works	R495	R495	R1 122	R2 112	1,2%
Financial assistance to municipalities for maintenance and construction of transport infrastructure	R495	R495	R495	R1 485	
Integrated transport planning			R627	R627	
District Municipality	R1 020	R0	R0	R1 020	0,6%
Safety Initiative Implementation-whole of society (WOSA)	R1 020			R1 020	

Provincial Allocations					
WCG Departments and funding ('000)	2022/23	2023/24	2024/25	Total	Percentage
Total	R51 811	R70 410	R47 460	R169 681	100,0%

The majority of the funds is allocated by the Human Settlements Department (75%), followed by the Cultural Affairs and Sport (22.3%). The provincial department of Transport and Public Works contributes about R1.5 million for maintenance and construction of transport infrastructure and R0.6 million for integrated transport planning.

In addition to the allocations indicated in Table ???, there are Provincial Departments that are directly involved in projects in the SM. The budgets, per department, are indicated in Table 12.3.

Table 12.3: Provincial Infrastructure Projects and Programmes – MTEF Period 2022/23 - 2024/25

Provincial Infrastructure Projects and Programmes												
Provincial Department	Number of Projects	Value (all amounts rounded to R'000)					MTEF Totals	Progress Rating				
		Infrastructure Transfers - Capital	New or Replaced Infrastructure	Non - Infrastructure	Rehabilitation, Renovations and Refurbishment	Upgrading and Additions		2022/23	2023/24	2024/25	2025/26	2026/27
Education	2	R0	R90 000	R0	R0	R0	R90 000	n/a	n/a	n/a	n/a	n/a
Health	10	R0	R0	R9 826	R27 647	R2 662	R40 135	n/a	n/a	n/a	n/a	n/a
Human Settlements	14	R189 883	R0	R0	R0	R0	R189 883	n/a	n/a	n/a	n/a	n/a
Transport and Public Works	12	R0	R0	R0	R1 127 553	R0	R1 127 553	n/a	n/a	n/a	n/a	n/a
Total	38	R189 883	R90 000	R9 826	R1 155 200	R2 662	R1 447 571	n/a	n/a	n/a	n/a	n/a

Of the 38 projects that the Western Cape Government is involved with in SM, 12 are the responsibility of the Transport and Public Works Department. The infrastructure and capital projects listed in Table 12.4 (above) are in various stages of implementation, with certain projects in the planning phase, some in implementation (construction in progress) phase and some in close-out phase of the project.

The Provincial Department of Transport and Public Works will provide in the order of R 1.1 billion over the MTEF period for rehabilitation, renovations and refurbishment projects.

The detail of the Provincial Department of Transport and Public Works expenditure can be found in Table 12.4.

Table 12.4: Provincial Department of Transport and Public Works Investment Projects and Programmes

Provincial Department of Transport and Public Works - Infrastructure Investment				
Department	Nature of Investment	Project ID	Project Name	MTEF TOTALS ('000)
Transport and Public Works	Rehabilitation, Renovations & Refurbishment	206038	C1092 Somerset West - Stellenbosch	R1 000
		198138	C1151 Kuilsriver-Stellenbosch	R1 000
		3914	CW DM Reseal	R14 200
		206160	C1217 Reseal Stellenbosch - Pniël (Helshoogte Pass)	R22 000
		187000	Modernisation Elsenburg - Main Building Phase 2 (Labs)	R45 422
		196759	C1151 PRMG Kuilsriver-Stellenbosch	R64 000
		3926	CW DM regravell	R84 400
		3929	CW DM regravell	R97 960
		180626	CYCC - Lindelani	R125 571
		196758	C1150 PRMG Helshoogte Rd - Franschoek	R142 000
		24950	C914 Spier Road Phase 3	R245 000
		196018	C7492 Reconstruct Road - Franschoek	R285 000
TOTAL		12		R1 127 553

With the exception of the modernisation of the Elsenburg main building (R 45 million) and the Lindelani Child Youth Care Centre (R 125 million), the majority (85%) of the projects and programmes of the Provincial Department of Transport and Public Works is allocated to transport related projects over the MTEF period. These funds are allocated to road infrastructure improvement projects.

12.2 Funding objectives

The Municipal Finance Management Act (2003) (MFMA), together with the Municipal Systems Act (2000) (MSA) ensure that municipalities' priorities, plans, budgets, implementation actions and reports are properly aligned. The Acts identify the main components of the financial management and accountability cycle and how they ought to be aligned. In this regard, the following are applicable:

- The Integrated Development Plan (IDP) sets out the municipality's goals and development plans, which need to be aligned with the municipality's available resources. Council adopts the IDP and undertakes an annual review and assessment of performance based on the annual report.
- The three-year budget sets out the revenue raising and expenditure plan of the municipality for approval by council. The allocation of funds needs to be aligned with the priorities in the IDP.

It is therefore a legal requirement that financial implications for the IDP (and thus its sector plan the CIP) are reported over a three-year period, summarising the capital projects along with their respective budgets. These are planned to be executed over the three-year MTEF period. Projects over the

remaining term of the CIP are considered on their merits annually and reported on in subsequent reviews.

Operating budgets for the Stellenbosch Municipality should be reported on an annual basis per directorate.

As the quality of the public transport system increases the recurrent funding needs will grow. Stellenbosch Municipality will require additional funding to address backlogs in the maintenance, upgrade and preservation of the road network and provide for effective freight movement.

Funding is becoming increasingly problematic in the current environment where the economy has contracted substantially mainly due to sluggish growth due to Government Policies, state capture and more recently the impact of the COVID-19 pandemic. During the height of the pandemic (2020, hard lockdown) government had to re-prioritise and re-allocate funds to cover for the costs of fighting the pandemic. This has led to major cuts in all budgets, and the transport sector, and specifically the public transport sector was not spared. All indications are that the South African economy will take years to recover to pre-pandemic levels.

Authorities are required to improve their public transport offering, despite the funding challenges that is brought about by the economy. This is a tough ask, and additional funding sources will have to be sourced, in addition to the diminishing available resources (mainly obtained from national grants).

The objective is for the Stellenbosch Municipality to actively explore and participate in efforts to access additional sources of funding. The following funding sources should be explored:

1. Revenue from Local Sources

Various studies have been done in City of Cape Town and the City of Johannesburg on alternative sources of local revenue. Sources such as bulk development contributions, increased vehicle licencing fees, increased parking fees, as well as smaller sources such as traffic fines and advertising revenue have been explored.

Much has been written about the allocation of a part of the fuel levy to the authority where the fuel is sold as an additional source of funds to specifically invest in roads and transport. It is unlikely to happen for reasons mentioned in Section 12.2.3.1.

It is understood that a new Local Business Tax and an expanded share of the fuel levy continuous to be pursued through the South African Local Government Association (SALGA).

Congestion charging is another potential source, and also serves as a TDM measure. The most recent example of congestion charging is in London. This can be an effective tool to change traveling patterns and modal choices. However, crucially a viable alternative has to be in place. It works in London because of the availability of one of the best public transport systems in the world.

A city-wide tax on non-residential parking bays should also be explored, including an additional tax on full time students that owns a car. The Stellenbosch Municipality should engage with Local Chamber of Business as well as the US to explore this income source further. It would constitute a tax on owning a vehicle.

2. Grant Funding

Significant grant funding through the Public Transport Network Grant is made available to Cities that are planning and/or implementing an Integrated Public Transport Network (IPTN).

Originally the fund had a different name and was used to improve the transport system for the FIFA soccer World Cup in 2010. The majority of the funds were allocated to the major metropolitan areas, that was also host cities. Since then, the IPTN Grant has been expanded to include Msunduzi and George. This provides an opportunity for Stellenbosch participate in the available funding from this grant.

3. Improving Transport Operational Efficiencies

A Transit-Oriented Development strategy will over the long term contribute a great deal.

4. Land Value Capture

Another potential source is 'land value capture', a term used to describe the recouping of some of the additional value that accrues to property owners as a result of the creation of a new public facility, generally in order to contribute towards payment of that facility.

If the provision of public transport leads to urban regeneration on a corridor, there will be an increase in property taxes which accrues to Stellenbosch Municipality. This is a form of land value capture.

5. Third Party Cost Recovery

Developers are required to pay developer contributions for new developments. The reason is that new developments generate additional traffic, which is to their benefit and which, if upgrading is not done, can lead to the deterioration of the road network and increased congestion for all users.

The Policy on Development Contributions for Bulk Engineering Infrastructure is dated 2014/15. The Stellenbosch Development Report and the Klapmuts Development Report refer to in this policy should be revisited for relevance and effectiveness of cost recovery.

6. Higher priority in City Budgeting

Finding alternative sources of funding is complicated. However, since the benefits of investment in public transport are significant, it can be expected that future expenditure in respect of quality of the road network and public transport services will increase.

Better transport systems improve the economic competitiveness of the city, attract investment and development, are part of the social wage for the poor, and make the city liveable, resilient and sustainable.

Table 12.5 indicates the capital (and planning) budget for infrastructure services, as contained in the most recent IDP for the 2022 – 2027 period.

Table 12.5: Capital (and planning) Budget: Infrastructure Services

Department	Nr of Projects	Proposed budget 2022/23 ('000)	Proposed budget 2023/24 ('000)	Proposed budget 2024/25 ('000)	Total
Roads and Stormwater	22	R27 411	R30 450	R29 677	R87 538
Traffic Engineering	20	R17 100	R19 500	R12 880	R49 480
Transport Planning	21	R18 950	R25 350	R12 300	R56 600
Project Management Unit (PMU)	1	R3 500	-	-	R3 500
TOTAL	64	R66 961	R75 300	R54 857	R197 182

Table 12.1 indicates that the majority of the budget for the MTEF is allocated to the Roads and Stormwater Department, with a total expected budget of R 87.5 million. The allocation is evenly distributed over the 3-year period. This department will oversee 22 projects over this period.

In total 64 projects to the value of R 197 million is budgeted for. The majority of these projects (R 106 million) will be funded through CRR (own funds) with the remaining being funded from the IUDG and DC-roads contributions.

A list, indicating the detail of the projects can be found in [Appendix C](#).

A high-level summary of the sources of funding for transport and the allocated budget per source is indicated in Table 12.6.

Table 12.6: Sources of funding and budget per source for the MTEF

Funding Source	2022/23	2023/24	2024/25	Total
National Government	-	-	-	-
Provincial Government				
<i>Allocations</i>	R495	R495	R1 122	R2 112
<i>Projects and Programmes</i>				R1 127 553
Stellenbosch Municipality	R66 961	R75 300	R54 857	R197 118
Total	R67 456	R75 795	R55 979	R1 326 783

The available funding for the MTEF is R 1.3 billion, with 85% being made available from the Provincial Government.

Table 12.7 is a summary of the projects and programmes envisaged in the MTEF period.

Table 12.7: Summary of projects and programmes and for the MTEF period

Projects and Programmes	2022/23	2023/24	2024/25	Total
National Government	-	-	-	-
Provincial Government				
<i>Allocations</i>	R495	R495	R1 122	R2 112
<i>Projects and Programmes</i>	R375 851	R375 851	R375 851	R1 127 553
Stellenbosch Municipality	R66 961	R75 300	R54 857	R197 118
<i>Roads and Stormwater</i>	R27 411	R30 450	R29 677	R87 538
<i>Traffic Engineering</i>	R17 100	R19 500	R12 880	R49 480
<i>Transport Planning</i>	R18 950	R25 350	R12 300	R56 600
<i>Project Management Unit (PMU)</i>	R3 500			R3 500
Total	R443 307	R451 646	R431 830	R1 326 783

12.3 Context setting and current Realities

The key objective of projects, proposals and budgets of the CIP is to enable and contribute to economic growth, improved accessibility, equitable transport for all and a safe environment while ensuring environmental sustainability and good governance.

The projects and proposals contained in this CIP comprise the following project types:

- Roads and Stormwater: Maintenance, road construction and upgrading, street lighting and construction projects
- Traffic Engineering: Traffic calming, signage, traffic signals, intersection improvements, road marking, road safety improvements,
- Transport Planning:
 - Non-motorised Transport: Sidewalks, lock-up facilities for bicycles, pedestrianisation projects;
 - Public Transport: Public transport facilities (ranks, shelters), services
- Planning: Preparation of integrated transport plans and strategies, feasibility studies, masterplans.

12.3.1 Budget 2022/23 – 2027/27

Investment in transport, including road infrastructure, NMT, public transport (facilities, routes, shelters etc), road safety, intersection upgrades etc. is crucial for any city to develop.

The five-year budget (2016/17 – 2020/2021) as provided for in the CIP 2016 -2020 is reviewed in Table 12.8.

Table 12.8: Five-Year Budget (from CIP 2016-2020)

BUDGETED PROJECTS ('000)								
Department	Proposed budget 2022/23	Proposed budget 2023/24 (1)	Proposed budget 2024/25 (2)	Proposed budget 2025/26 (3)	Proposed budget 2026/27 (4)	Proposed budget 2027/28 (5)	Proposed budget 2028 to 2033	Budget 10 years from 2023 to 2033
Roads and Stormwater	R30 675	R28 250	R31 900	R35 400	R27 100	R27 900	R126 100	R276 650
Traffic Engineering	R13 965	R20 450	R17 380	R21 650	R27 350	R31 250	R89 650	R207 730
Transport Planning	R15 117	R28 850	R19 800	R40 900	R37 400	R35 500	R199 300	R361 750

BUDGETED PROJECTS ('000)								
Department	Proposed budget 2022/23	Proposed budget 2023/24 (1)	Proposed budget 2024/25 (2)	Proposed budget 2025/26 (3)	Proposed budget 2026/27 (4)	Proposed budget 2027/28 (5)	Proposed budget 2028 to 2033	Budget 10 years from 2023 to 2033
Total	R59 757	R77 550	R69 080	R97 950	R91 850	R94 650	R415 050	R846 130

The total budget for the CIP period (2023/24 – 2027/28) for the 3 Departments is R 431 million, and is allocated per department as follows:

- Roads and Stormwater : R 151 million (34,9%)
- Traffic Engineering : R 118 million (27,4%)
- Transport Planning : R 162 million (37,7%)

The projects per department and their allocated budget is indicated in **Appendix C**.

12.3.2 Review Applicable Legislation and Policy Changes

12.3.2.1 Division of Revenue Act

The DoRA is annually enacted to comply with section 214 of the Constitution that provides for national legislation to ensure an equitable division of nationally raised revenue between the three spheres of government. The annual DORA provides allocations to be made to local government over the medium term. The funds are transferred to municipalities in the form of unconditional and conditional grants.

It is important to note that the life-span, size and conditions to the grant can be amended according to physical policy developments. Amendments to grants for municipalities will be clearly communicated in the annual budget documentation, including the Division of Revenue Bill.

Unconditional grants are allocated to municipalities in compliance with the constitutional provisions for an equitable share on nationally raised revenue annually and to provide additional general revenue sources for local government. The largest is the Local Government Equitable Share (LGES). The second unconditional grant is the RSC Levy Replacement Grant that district municipalities receive as a replacement for RSC levies.

Metros receive an allocation for the sharing of the General Fuel Levy that is exclusively allocated to them as a replacement for the RSC levies. Allocations does not form part of DoRA, and are made in terms on the annual Taxation Laws Amendment Act.

12.3.2.2 National Land Transport Act

The National Land Transport Act (Chapter 3) provides for funding options to implement the CIP as follows:

- The establishment of a Municipal Land Transport Fund;
- Public Transport User Charges;
- The provision of funds for transport by the national Minister of Transport, and
- The provision of funds for land transport by the MEC.

To date the national Minister of Transport has made substantial funding available to some Municipalities for the implementation of Integrated Public Transport Networks. The Western Cape Government has funded the preparation of Integrated Transport Plans - in addition to the funding of the provincial road network in the Stellenbosch Municipal area. Other government grants are available to Municipalities e.g. the Municipal Infrastructure Grant (MIG). Although some funding has been allocated to the Stellenbosch Municipality from the MIG, additional funding should be sourced for eligible projects e.g. sidewalks and cycle tracks and public transport facilities (basic services).

The primary responsibility for the implementation of the CIP rests with the Stellenbosch Municipality. However, projects that are the responsibility of other agencies or bodies and who are the implementation agency for projects that fall within the Stellenbosch Municipality, are also included in the CIP.

12.3.2.3 Frameworks for Additional Grants to Municipalities

Detailed frameworks on Schedule 4, Part B, Schedule 5, Part B, Schedule 6, Part B and Schedule 7, Part B of the 2020 Divisions of Revenue Bill was Gazetted on 2 July 2020 (Gazette No.43495).

The frameworks pertaining to transport in general and public transport specifically is summarised in **Table 12.9**.

Table 12.9: General and Public Transport Frameworks

Name	Output	Project Life
Integrated urban Development Grant	<ul style="list-style-type: none"> Percentage of unsurfaced roads graded within the financial year Percentage of surfaced municipal road lanes which has been resurfaced and resealed Length of non-motorised transport paths built over the financial year 	<ol style="list-style-type: none"> Introduced in 2019/20 Continue up to 2022/23, subject to review
Municipal Infrastructure Grant	<ul style="list-style-type: none"> Number of poor households impacted through the construction of new infrastructure and the upgrading and renewal of existing infrastructure for: <ul style="list-style-type: none"> street and community lighting public facilities Number of kilometres of municipal roads developed, upgraded and maintained servicing the poor 	<ol style="list-style-type: none"> Continue until 2022/23, subject to review
Urban Settlements Development Grant	<p>The following outputs should be funded by the grant to support the improvement of the overall built environment:</p> <ul style="list-style-type: none"> increase in land provision for informal settlement upgrading, subsidised housing, or mixed-use developments in support of approved human settlements and other urban developments increase in access to public and socio-economic amenities 	<ol style="list-style-type: none"> The USDG will continue until 2022/23, subject to review The UISP component is intended to become a separate conditional grant in 2021/22, subject to review
Integrated City Development Grant	<ul style="list-style-type: none"> Number of infrastructure projects including public transport, roads, water, energy, housing, land acquisition and development in implementation within identified integration zones 	<ol style="list-style-type: none"> Continue over the 2020 MTEF, subject to review
Neighbourhood Development Partnership Grant	<ul style="list-style-type: none"> Targeted locations with catalytic projects, defined as urban hub precincts with secondary linkages and rural regional service centres; <ul style="list-style-type: none"> catalytic programmes within integration zones; or built environment upgrade projects in urban townships and rural towns 	<ol style="list-style-type: none"> Continue over the medium term
Public Transport Network Grant	<p><u>Network Operations Component</u></p> <ul style="list-style-type: none"> Number of average weekday passenger trips carried on Public Transport Network Grant (PTNG) funded networks Number and percentage of municipal households within a 500m walk to an integrated public transport network (IPTN) station or stop that has a minimum peak period frequency of 15 minutes or better 	<ol style="list-style-type: none"> Continue until 2022/23, subject to review

Name	Output	Project Life
	<ul style="list-style-type: none"> Percentage uptime for network operating systems as a proportion of the network's public operating hours Passengers per network vehicle per average weekday <u>Network Infrastructure Component</u> <ul style="list-style-type: none"> Public transport network infrastructure including dedicated lanes, routes and stops/shelters, stations, depots, signage and information displays, control centres and related information technology, fare systems and vehicles (if the national Department of Transport (DoT) in consultation with National Treasury approves use of grant funds to purchase vehicles), non-motorised transport (NMT) infrastructure that supports network integration (e.g. sidewalks, cycleways, cycle storage at stations, etc.) Plans and detailed design related to IPTN infrastructure and operation 	

There is a number of grants available that specifically addresses public transport, improvement of roads, Non-Motorised Transport provision and mixed land use and integrating communities.

Public transport and Non-Motorised Transport is a major catalyst in all the efforts to improve the life of the poor in municipalities.

The Public Transport Network Grant was specifically established to improve the public transport offering in municipalities through the development of Integrated Public Transport Networks, with its associated business plans and operational plans.

12.4 Future Solution Developments/Proposed Interventions

The South African economy has been stagnating for over a decade, and with the sharp contraction experienced in 2020, the immediate future growth prospects (next 10 years) is looking increasingly unlikely.

The poor economic outlook, coupled with the international ratings agencies downgrade of the Country to junk status (April 2020) means that there is less tax money available for Government to spend on infrastructure and social services, and also that the money borrowed on the international market carries a higher interest rate (more tax money must be used to pay interest on the loans).

Coupled with this reality, investment in public transport systems is expensive and takes a long time to realise a positive return.

The future solution is a funding approach, that is focussed on the following pillars:

- Improve allocation from own funds to a sustained increase over a period of time;
- Pursue all grant funding through the DoRA, established for improving public transport, NMT etc;
- Pursue international donor agencies and Non-Government Organisations (NGO's) that focus on sustainability, community integration, clean energy, etc;
- Pursue possibility of Public Private Partnerships, and
- Improve access to state owned land by providing opportunities for developers to develop TOD on this land in areas where it is feasible.

The 2016-2020 CITP, recommended the following:

- That the IPTN be funded from the Public Transport Network Grant and that applications in the standard format be submitted to the Department of Transport;

- To ensure that additional funding is provided to implement high priority projects;
- A Committee be established from the relevant Municipal Departments, the Western Cape Government and other relevant agencies to formulate firm proposals for the funding of the projects listed in the 5 year budget, and
- Stellenbosch Municipality establish a Municipal Land Transport Fund into which the funds must be paid for use in implementing the CITP.

13 STAKEHOLDER CONSULTATION

13.1 Introduction

This chapter provides an overview of the stakeholder engagement process undertaken thus far. Internal and external stakeholders were consulted to ensure that the process is inclusive and all voices are heard. The process commenced with a workshop with internal Stellenbosch municipal official and the session is referred to as a What's Negotiable/ What's Not workshop. This was followed by external workshops with key stakeholders and a broader public participation process in a form of an open day both in Stellenbosch and Franschhoek.

13.2 Legislative Framework

13.2.1 1998 White Paper on Local Government

Local government should take a developmental approach, which requires commitment from local government to working with citizens and groups within the community to find sustainable ways to meet their social, economic and material needs and improve the quality of their lives. This should be driven by a shared vision and leadership must be provided for all role players in achieving local prosperity. Spatial integration is central to addressing wrongs from the past and to building an integrated society.

13.2.2 Batho Pele Principles

The Batho Pele principles highlight the importance of prioritising citizens through:

- Consultation with all citizens using different platforms to better understand their needs;
- Ensuring that citizens are aware of the level of service they are going to receive in order to manage expectations;
- At all times citizens must be treated with courtesy and consideration;
- Enabling and ensuring that all citizens have equal access to the services to which they are entitled;
- Citizens should have access to accurate information about services they are entitled to receive;
- Promoting openness and transparency in all processes;
- Establishing mechanisms for recording and to redress any dissatisfaction brought forward, and
- Making sure that public services are provided economically and efficiently in order to give citizens the best possible value for money.

13.2.3 Integrated Urban development Framework

The Integrated Urban Development Framework (IUDF) is government's policy position to guide the future growth and management of urban areas. Policy lever 7 looks at Empowered active communities and this is achieved through:

- Municipalities and cities acknowledging that their success depends on the buy-in of their citizens;
- Communities must be empowered to contribute to the development of spaces and will transform the quality of urban life;
- Municipalities must be inclusive, stable, safe, respect, embrace diversity, offer equal access to opportunities and promote participation of all people, and
- The power of a city is demonstrated through its ability to bring together a critical mass of social and cultural diversity.

13.3 Identified Gaps and Recommendations

Community engagement is difficult. It has become more and more difficult in South Africa, as communities have become increasingly frustrated over service delivery. Municipalities in South Africa attract large numbers of inhabitants seeking opportunity, improved livelihoods, higher average incomes and the municipalities have limited capacities and resources to meet these needs.

To ensure that the stakeholder engagement process is inclusive the process planners should consider aspects as the location, day and time of the engagement. The consultation process should ensure that

all those who participate are safe and that all voices are heard, this should not be seen as a tick box exercise.

13.4 Vision

A draft vision of What It Looks Like When It's Fixed was prepared as part of the consultation process. The vision is articulated as a model of 48 outcomes, making space for complex, systemic and sustainable transformation, and for all the mandates and objectives of all process participants. Stakeholder had the opportunity to share their inputs, and these have been used to update the vision. The vision provides a long-term destination for the process, a motivator for the collective work and a tool to be used to enable the work. The vision is made up of 48 outcomes because the plans we plan we work with are complex.

13.5 Process

13.5.1 Workshop One: What's Negotiable/ What's Not

This was an internal workshop attended by Stellenbosch municipality officials and the project team. In this workshop the scope of work, parameters and scope of work to be conducted were discussed and agreed. The officials had an opportunity to input on the draft vision. The turnout at the workshop was not good, it was then agreed that stakeholders who could not make it to the session will be invited to workshop three. As a result of excellent discussion the following were drawn out:

- Key stakeholders: stakeholders were identified to ensure that the process is inclusive. The need for an open day to enable broader public participation and ensure that the process is accessible to all. Stakeholders to be consulted to ensure that there is buy-in from the different interest groups and politicians.
- Reduce relevance of vehicles: offering alternatives that are reliable, safe, comfortable and convenient. In order for people to use public transport the system needs to be efficient and effective.
- Behaviour change communications: the need to shift attitudes towards car dependency by helping people understand the impact of 'one person: one car'. Share messaging to encourage people especially young people to use public transport to relieve traffic congestion. Messaging that will start conversations about climate change, alternatives that people can use and solutions that are sustainable.

Key recommendations

- The project team must be put together a timeline to help identified processes taking place and how the CIP can benefit and fit into each of these consultations in terms of data gathering. Consultation processes include the IDP process, Environmental process, and SDF.
- Consult the Stellenbosch Disability Network to understand types of disability and challenges that people living with disability have in terms of transport.
- Broaden the consultation process by not only relying on an online survey to reach the public.
- Consult with women who travel alone and mothers who travel with their children to understand their transport concern and needs.
- Have an open day to enable inclusive participation.
- Engage the Development Forum, the forum consists of property development stakeholders and business community with a focus on development. The forum is scheduled to meet on the 4th of May.
- Engage politicians and interest groups to get buy-in, stakeholders indicated that they can influence the process.
- Address safety issues to get people to buy-into the car-free living approach.
- Encourage walking by improving sidewalks, currently sidewalks do not have continuity.
- Arrange a meeting with the media to present the CIP prior to engaging the Council.
- Create pilot project to get the feel of how the community would react, one example was to close some streets on Sundays to encourage people to walk.
- Explore the option of centralized accommodation to reduce vehicle dependency. Mixed land used is essential to ensure that people can access services and opportunities closer to where they reside.

- Develop communication messaging to shift attitudes, “Living your better life is a better life for all”.
- Privatize some of the projects in the CITP to ensure that they can be implemented by entities that can sustain them.
- There are capacity needs within the municipality, currently 80% vacancies. Transport will need capacity support to achieve and deliver against the CITP.
- Reduce speed limit and increase petrol price to encourage more people to use public transport.

13.5.2 Workshop Two: Taxi Industry

On the 3rd of May a workshop with the taxi associations representatives was held. The session was with the Stellenbosch Taxi Association and Kayamandi Taxi Association, the Franschhoek Taxi Association representatives could not make it to the workshop. The associations indicated that they have not fully recovered from the impact of COVID-19. They have lost 40% of their income since COVID-19 as some people have lost their jobs, others are working from home and people opt for lift clubs or e-hailing services to minimise the risk of contracting COVID-19. Many operators have had vehicles repossessed as could not keep up with repayments. The representatives indicated that they are experiencing an increase in the number of people who are using their services as a result of an increase in petrol prices. They have also shared that there are more people using public transport around social grant collection dates. Farmers transporting employee using bakkies /vans have been identified as a problem as this mode of transport is not safe and comfortable for passengers. Students and workers are currently their biggest client base. The taxi associations raised that they would like to retain and attract more users and below are some of the proposed solutions:

- **Predictability:** people are using e-hailing services and lift clubs because they collect at drop them at their destination. These services are reliable and convenient, users perceive them as safe. The taxi associations indicated that they have a schedule that taxis follow and it would be beneficial to the public if this information can be made accessible. Stellenbosch Taxi Association taxis leave every half an hour from ranks between 9am and 5pm, even if they are not full while Kayamandi Association indicated that from 6am their taxis depart every 15 minutes from ranks even if not full.
- **Dedicated lanes:** like buses, taxis would like to have a dedicated lane so that they can efficient. Currently taxi drivers use the yellow lane during peak hours to ensure that they get customers to their destinations timeously. An example is the Jamestown route, it takes 30 minutes during peak but only 10 minutes during off-peak. This makes trips longer in a taxi compared to private vehicles as drivers have in a taxi to pick up and drop off passengers along the way. The longest route that drivers take is the one Cape Town. Stellenbosch Municipality indicated that road reserve in many places is wide enough to accommodate dedicated lanes on the R44, this is a challenge because a portion of the R44 is managed at a provincial level.
- **Parking:** approximately 90% of students have cars, students are permitted to own cars from matric and this has contributed to the traffic. Students park their cars on public parking as the University does not have sufficient parking to accommodate all students. Taxi association representatives also indicated that taxis do not have sufficient parking in town.
- **Taxi ranks:** the geographical location of a taxi rank is essential, taxi ranks must be located in the centre to ensure that they are easily accessible. One example is the move of the Braak taxi rank due to complaints to Bergzicht, which is approximately 1km from the original location. The location is not ideal for passengers resulting in more passengers disembarking at Braak. This is a conflicting challenge because taxi drivers do not have a permit to enter the town centre whereas this is the destination of some of their passengers. The infrastructure at the taxi rank needs to be improved to ensure inclusivity.
- **Ticketing system:** develop a ticketing system to encourage the use of public transport and to attract more customers. Users will have an option to buy a monthly or weekly ticket. This will help formalise the industry and help owners monitor their revenue as drivers often do not handover all revenue generated. The municipality in collaboration with the industry can broaden the partnership with other public transport service providers to develop an integrated ticketing system. The system can be managed at provincial level as province is responsible for issuing operating licences. Have a smart mobile application to track taxis location and to connect taxis to commuters.
- **Developments:** when a new mall or residential area is built, it is important that in the design transport is included. Taxi ranks must be put in the centre of a residential area. Plans for malls must include space for a taxi rank and drop off bays to enable taxis to operate effectively.
- **Relationship with the University:** the taxi industry would like to improve their relationship with the university to get more students to use public transport. Currently there are three taxis from the Stellenbosch taxi association that have been contracted to provide services for the night shuttle.

This service provides transport for students between 6pm to 2am. Students have to book the service in advance and produce their student card at boarding. Currently the night shuttle is utilized by 50 -250 students. The shuttle departs once per hour from campus taking students to their residences. The industry is looking into improving their relationship with the University so that such services can be expanded. It was also proposed that first year students can be given maps as part of their registration package. These maps will indicate taxi routes to encourage more students to use taxis.

The representatives indicated that they did not increase their taxi fares to encourage more people to use taxis. The Kayamandi association shared that they have identified two new routes; Kayamandi to Fir Grove and Kayamandi to Malmesbury. Taxis also provide group transportation for workers who knock off late and for students who go out at night.

13.5.3 Workshop Three: Provincial Stakeholders, Cape Winelands, PRASA and the University

The workshop had a good turn-out consisting of stakeholders from provincial government, Stellenbosch municipality, officials from Cape Winelands, Stellenbosch University and PRASA. Stakeholders indicated that there should be change in legislation to enable them to be innovative. Currently, legislation requires plans to have parking. It is essential that we design towns or cities where there is less need to travel. It is the responsibility of the University to ensure that any transport services provided to students by the institution is safe. The University transport system operates every 15 minutes to create a system that is convenient and reliable for students. The University transport system does not operate on taxi routes. The shuttle service from Stellenbosch to Tygerberg was discontinued due to taxi threats. Taxi drivers protested the University shuttle services crossing public roads to access remote campus, as claimed this encroached on their routes. The extent of disruption caused by protests resulted in affected properties being sold.

PRASA indicated they have only been able to recover 10 out of the 15 sections across their 3 corridors due to the impact of COVID-19, vandalism and cable theft. PRASA also indicated that the National Rail Plan will be released by the transport minister mid-May, and it is expected that freight links which are currently under-utilised could be released for private operations. This will respond to the University's interest to operate a train service between Klapmuts and Stellenbosch to link campuses. PRASA is in discussion with Durbanville about the proposed airport to establish how it can be linked to Stellenbosch and Cape Town central through rail.

Key discussions points:

- Behaviour change communications: have less students using private vehicles. Messaging and campaigns that change the status and shift perceptions on safety to get more students to use public transport. The Maties cycling campaign is a good initiative that the University can expand one to shift attitudes and reduce vehicle dependency.
- Elevate voices of the future;
- Encourage student to use the University shuttle as it is free;
- Identify sites for drop off in the spatial plan;
- Help students understand the impact of using vehicles on social and ecological environmental;
- Repurpose parking in the University for sporting activities, outdoor gym or outdoor study areas – students do not want to go to the library.
- The importance of by-laws, many students use skateboards and push scooters to travel between residences and campus buildings. Law enforcement indicated that the use of skateboards and push-scooters on public roads is prohibited.
- NMT infrastructure: the University has NMT plan, however, has found that implementation of this plan has been resisted by residents in the area due to "heritage" concerns. COVID-19, there has been an increase in cafes using sidewalks for tables which has resulted in no space for pedestrians to walk.
- Roads Management/Jurisdiction: the rate of pedestrian accidents is high on rural roads. Many roads have portions which are managed by the municipality, and portions managed by the province. This means if there is poor lighting on provincial portions of the roads, the municipality has not authority to implement upgrades, or even replace faulty bulbs (also municipality has upgraded their lighting to LED, while provincial roads still use sodium lights, meaning municipality does not have bulbs for provincial lamps even if they were permitted to replace) It is suggested that an MoU be signed between province and municipality so that maintenance authority and budget can be transferred to the municipality.

- Taxi ranks: there are upgrades underway at taxi ranks to improve elements such lighting, security through CCTV, access, improved visibility of law enforcement, upgraded and gender segregated bathrooms. It was agreed that informal trading at taxi ranks contributes to visibility and it is natural oversight. Upgrades must include plans to accommodate informal trading.
- Waste management: there is a problem of littering on the side of the road and taxi ranks. It is essential that Parks is engaged to discuss a waste management programme. This will help the municipality explore the potential of transport becoming a net for biodiversity.
- Road safety: there is a perception that public transport is not safe. To improve public transport, there should be a system in place to encourage taxi drivers and owners to improve their services. A system such as the blue dot and red dot system enforces compliance. Have a reward system in place to incentives taxi drivers who are compliant and also incentive those who use taxis to encourage more people to use public transport.
- Property prices and accommodation: rental and property prices in Stellenbosch are too high for most people who work in Stellenbosch, and therefore there is little choice but to commute. Majority of students must commute from Somerset West due to rental prices in Stellenbosch. The University intends to construct mixed-use developments in Stellenbosch (although this will target affluent students).
- Rail system: the need for an effective rail system was emphasised. PRASA indicated that they are in the recovery phase and hope to meet the 2015 service level. This will result in a reduction in cancellations and an increase in the number of users. Aims to improve quality of service and look for opportunities to expand.

Stakeholders indicated that having an in-person workshop was essential and has resulted in excellent discussion and rich insights. They have also highlighted that all stakeholders are faced with challenges and to intervene collaboration is essential. The relationship between the municipality and the University was commended. It was agreed that the CIP needs to be aligned to municipal and provincial plans and vision.

13.5.4 Public Participation: Open Day

13.5.4.1 Open Day: Stellenbosch

- Public transport: stakeholders indicated that they would use public transport if it were reliable, safe, comfortable and affordable. They would park their vehicles at home and use public transport as this would help to reduce the traffic congestion in Stellenbosch and Somerset West. This would also supplement the University shuttle service for students.
- Cycling: cycling must be explored as a mode of transport as it can reduce traffic congestion. There is a comprehensive master cycle plan written by experts. The cycling approach must be supported by a review of speed limits, reduce the speed limit to 40 km/h as a start for built up areas, 60 km/h for through routes and 20 km/h for some streets in the central core. Cycling routes need to be properly connected at intersections to ensure the safety of cyclists. Merriman and Cluver, Cluver cycling road ends are too narrow – students cannot cross the road to use the road in the right direction or get to the supermarket. Traffic lights must be synchronized as cycling cycle and pedestrian cycle is too short to cross safely. Part of the cycle plan covers the northern side of town, and it indicates that people cannot cross into town or interconnect specifically those who walk and cycle. The cross at Hellshoogte is very difficult for cyclists and pedestrians.
- Sidewalks: to enable more people to walk in town, restaurants tables and chairs on sidewalks need to be removed. The pavements are not safe for old people as there are so many holes and broken bricks. In front of the mother church, it's impossible to walk with a walking frame or chair. In Church Street, restaurants make the pavements unpassable with their chairs and tables and this makes it dangerous for people who walk and for people who have disabilities.
- Traffic calming mechanisms: traffic calming in the whole centre is essential, there are currently no speed humps, and this is a problem. A traffic light is needed at the four ways stop at Neetling & van Riebeeck street; by Azaliahof, motorists do not adhere to the intersection rules. A traffic light would reduce the traffic congestion however, it would still be impossible to get past the tree on the four ways stop. The municipality must put traffic circles on the R44 and reduce the number of traffic circles between Annadale road to Welgevonden. There are about 15 traffic circles on this road, and this results in traffic getting held up.
- Alternative routes: to enable access from Jamestown into Paradyskloof, unused pockets of land that are not used must be identified as they could make it easier to access Paradyskloof instead of going through R44. The Blauwklippen nodes are also strung along the R44. The road going behind the mountain at the eastern link road is recommended. It is suggested that the municipal road run adjacent to the R44, to connect and incorporate public transport system from Jamestown into town without the congestion of the town. Parcels of land next to Coligny road

towards Die Boord, have restrictions on the traffic lights allow pedestrians to cross and this interrupts the traffic flow. There is a need for a more integrated system.

- Accommodating the elderly: there must be special parking for the elderly at parking facilities.
- Development: the Adam Tas development is seen as a wonderful development project that will improve lives of many. Stakeholders envisage that the development will create jobs, however this type of development has the potential to increase traffic and the demand for parking.

13.5.4.2 Open Day: Franschhoek

The turnout to the open day was poor however this did not stop the ten stakeholders who came to the open day from making excellent contribution. Below are key discussion points from the inputs made by stakeholders.

- Taxis: there is a general perception that taxis are not safe, convenient and reliable. Stakeholders indicated that taxi drivers do not comply with transport rules and regulations.
- Signage: there is a need for more signage in Franschhoek to enforce compliance and ensure safety for all. Have signs to make motorists aware of schools, sharp curves on the road, cyclists and pedestrian crossings.
- Reduction of speed limit: Five stakeholders indicated that it would be helpful if the speed limit on the R45 into Franschhoek could be reduced to 80km/h and down to 40km/h in the town because it is a residential area. Speed humps in the town were also mentioned as a mechanism to reduce speed.
- Traffic: traffic is a problem during peak hours which is from 6 am – 8 am in the morning and 4 pm – 6 pm in the evening. Stakeholders indicated that a traffic circle at one of the entrances of Le Roux would reduce traffic. They further stated that having a traffic light would have a negative impact.
- Pedestrianised town: stakeholders suggested that the municipality must remove parking on the side of the road to allow for wider pavements which will enable more people to walk. Pavements should be properly fixed after fibre installations to ensure the safety of those living with disabilities. Stakeholders stated that wider pavements will encourage tourists to walk and get an amazing opportunity to experience the town. Using side parking to expand pavements will make the road narrower making the road not ideal for trucks. An alternative road through Robertsvlei road have been suggested. This will be an expensive exercise as it will require the municipality to upgrade the road and to widen the bridge to improve safety. Trucks currently cause infrastructure damage on the R45 through the town resulting in frequent repair of the road.
- Integrated public transport: there are numerous shuttle services in the Franschhoek including scholar transport. It is important that the public transport system is not only viewed as taxis, buses or e-hailing services but private shuttle services are integrated into the CITP.
- Parking: stakeholders indicated that the municipality must increase parking tariff to encourage more people to use public transport and reduce congestion.
- Youth development: enable young people to access skills development and economic opportunities. This should be a sustainable process where young people receive skills that are linked to economic opportunities. The municipality must develop support programmes for entrepreneurs.
- By-laws: there should be a programme to educate communities about by-laws to increase adherence. There is a problem of illegal dumping in areas such as Le Roux. There is illegal dumping that has closed half of the road resulting in motorists using one lane. This is a result of a system that is not reliable, the municipality must create a system that is reliable by producing a schedule for rubbish collection.
- Inclusive public participation process: stakeholder who came to the open day indicated that the poor turnout can be a result of advertising approach followed. For future engagements, the municipality must use social media (Facebook), the local newspaper and platforms such as the Rates Payers Association to put out notices for consultations. Stakeholders further stated that the venue might have been a problem, some stakeholders do not have transport to access the venue.

Stakeholders emphasised that Franschhoek is a tourist town, therefore it should be pedestrianised to offer locals and tourists an opportunity to walk and enjoy the town. The Master Plan for Franschhoek must be reviewed to provide an understanding of the needs in Franschhoek. The process should have feedback loops, stakeholders are tired of participating in processes where they do not receive feedback.

13.5.5 Interviews

Municipal officials who could not attend the internal and the provincial workshops were interviewed.

13.5.5.1 Property Management - Stellenbosch Municipality

Stellenbosch municipality would like to remove street parking in parts of the old town centre to allow restaurants to take up more space on sidewalks and ensure adequate provision for NMT. To compensate for the loss in parking bays, the municipality is investigating the construction of multi-storey parking lots, integrated into mixed-use building, in several peripheral locations, and one in a central location. While developers would like to redevelop low density non-heritage buildings into mixed-use higher density buildings without parking, the municipality is not willing to relax parking requirements.

Stellenbosch municipality is planning two main bypasses on existing freeways: one to direct traffic to the west of Stellenbosch, and the other to direct traffic to the east of Stellenbosch. It is understood that much of the congestion in Stellenbosch is caused by traffic passing through Stellenbosch, and therefore the bypasses would alleviate congestion levels.

13.5.5.2 Housing Development - Stellenbosch Municipality

The Stellenbosch municipality currently has a backlog of 80000 houses. It has been identified that people living far from opportunities, and they must commute to access these opportunities. It is important that housing plans are integrative, they include transport and other key services. Services such as transport must not be an afterthought – they must be placed at the centre of a housing development.

A housing pipeline which is aligned with the SDF is currently being reviewed by council. There numerous housing projects that have been proposed:

- The Botmaskop project, this is a mixed-use high-density development planned to address housing gap and flisp housing. It was indicated that there are heritage and environmental concerns delaying the project;
- Kayamandi project, which would comprise 250 affordable units;
- The Northern extension which will accommodate between 5000 to 6000 units (mixed use: residential, light industrial, schools), and
- Jamestown project, phase one has been completed, two and three are in planning phase. This project will have a total of 2000 dwelling units.

There are 10 identified sites for infield developments and only four or five of these are likely to proceed to planning. There is a lot of resistance from residents, including the mayor, as these sites are near affluent residential areas and there is a concern that having affordable housing close by will result in reduce property values. The target price range for units in these developments is half a million to R1.2 million.

Klapmuts is likely going to be a major node in future as many developers have bought up land in the area. This has resulted in a dramatically increase in land prices as there is speculation that the University intends to have a satellite campus in the area. The rising land prices are making it challenging for the municipality to develop affordable housing in the area.

13.5.5.3 Fire Services & Disaster Management - Stellenbosch Municipality

The fire services indicated that there are informal settlements in Kayamandi where it is difficult for taxis to access and for them to respond timeously and effectively. Azania informal settlement is one of these settlements that needs to be re-blocked with a road network as it cannot be accessed by fire trucks. There is a lack of planning in these informal settlements, and even after there has been a severe fire, the dwellings are reconstructed at the same density, without demarcated routes for vehicles, nor fire breaks. In 2013, around 1000 shacks burnt down and the municipality had to give each owner a fire kit worth R9000. There are allegations that some residents start fires intentionally to receive the fire kit (this pattern is mostly observed during the festive season, which does coincide with the fire season). The budget for the current financial year allocated to fire and rescue in informal settlements is R2.7 million and this was consumed within just a few months.

13.5.5.4 Safety and Security - Stellenbosch Municipality

It is important that we address both realities and perceptions of safety and security on public transport in Stellenbosch. There is suspected taxi extortion taking place at ranks, where rival associations hold taxis with passenger's hostage until a release fine is paid. This is seen as a criminal violation rather than breach of by-law. Therefore, law enforcement officials cannot take any direct action and instead can only report such activities to SAPS as they are responsible for addressing criminal violations.

13.6 Conclusion

There are several themes that have been identified through the stakeholder engagement process. Through discussions, the data indicates that the municipality needs to help the people of Stellenbosch understand the impact of accommodating the increase of vehicles in developmental plans. This will require a shift in behaviour to get people to move from having several vehicles to one vehicle and ultimately a non-motorised town. Behaviour change programmes must be addressed at both internal and external stakeholders. The approach must start with enabling a municipal official to understand that building more parking will result in an increase in the number of vehicles. Find a balance to accommodate different views while addressing environmental challenges. The parking issue is one recommendation with conflicting views, there are stakeholders that have suggested that legislation needs to be amended to remove the requirement of parking in development plans. Some stakeholders have argued that it would be unrealistic not to include parking in development plans as this will only have a negative impact on those using the space. The public have gone as far as recommending that side parking on the roads must be removed to expand sidewalks and create a pedestrianised town.

Several stakeholders have indicated that a NMT approach only looks good on paper, and it would be a challenge for the municipality to achieve such an approach. Some have gone as far as asking what will happen to all the cars? Creating a pedestrianised town will only mean that the traffic is displaced from the inner town to elsewhere. Interventions such as the park and ride will require the municipality to build parking bays outside of the town. This will not achieve a NMT town, there will still be a vehicle dependency, but people will not be allowed to bring their cars to the town centre.

All these proposed interventions are inter-dependent. Prohibiting vehicles in centre parts of the municipality would mean that the municipality must develop precincts where people can access services and opportunities closer to their place of residence. This might not be feasible in areas where the development must be housing developments to address gaps. Participants have indicated that there are interest groups that can influence where and when developments take place and without the buy-in of those groups it would be impossible to achieve such interventions.

How do you convince a young person that they do not need a vehicle or a person who has never used public transport that it is safe to use taxi? The University indicated that 90% of students have vehicles. This is a challenge because the university does not have sufficient parking to accommodate all these vehicles, and this has resulted in students using public parking. It is important that perceptions towards public transport especially taxis are changed. Some of the concerns are not just perceptions but reality. We need to offer people alternatives that are reliable, reliable, comfortable, predictable, and safe if we want them to leave their vehicles at home and use public transport. Public transport service providers must understand the needs and concerns of people to effectively address them.

13.6.1 Key themes drawn from the data

- **Behaviour Change Communications theme:** this theme looks at the importance of shifting behaviour to reduce traffic congestion. This will entail having an effective communications plan to educate both internal and external stakeholders about the future impact of planning around the increase of motor vehicle usage as the main sources of transport. It should also include communications to encourage significantly increased use of public and non-motorised transport and to reduce the use of cars to a minimum. Communication with specific stakeholders; such as the University – to assist in motivating students to adopt cycling and walking in Stellenbosch, and Taxi Associations – to innovate and improve services so as to encourage more people, including potentially, tourists, to use their services, must also be undertaken. Communication should also be used to create greater awareness about safety of cyclists and pedestrians, emphasising their roles in reducing congestion.
- **NMT theme:** stakeholders are keen to explore alternatives to motorised transport. The municipality must take the steps to support this through recommendations such as taking away side parking to widen sidewalks. The plan must address concerns raised about the safety of cyclists, pedestrians, the elderly, and people living with disabilities. It is important that people living with disabilities can easily move in public spaces. Stakeholders have indicated that the installation of fibre lines have had some negatives impacts on people who use wheelchairs as the pavement was not properly fixed. The plan must also look at addressing cycling lanes and ensuring that these are safe for cyclists. A significant challenge is that the lanes are not connected into a full route, meaning that cyclists are at risk at intersections and traffic circles. The Fietsry Stellenbosch cycling map is available to input into the plan. Enabling more people to walk by ensuring that they are safe and there is enough space for them to walk. There is a big tree near the zebra lines cross on Azaliahof street which makes it difficult to cross the road.
- **Integrated public transport system theme:** develop an integrated public system by partnering with the taxi industry and other modes of public transport. Suggestions such as a universal ticketing system must be explored further, including integrating such plans with Provincial stakeholders. Therefore, it is important that the different stakeholders continue to engage to establish and improve relationships and explore what is possible in this regard.

- **Integrated land use:** the municipality and developers must follow the mixed land use approach to address the traffic congestion issues, reduce the need for people to use cars to access services. One way to do this is to bring services closer to people to reduce their need to travel by vehicle. It is important that building plans are not centred on measures that accommodate increased private vehicle usage but on designing spaces that are responsive to identified challenges and incentivise less use of cars.
- **Safety:** stakeholders have raised concerns with regards to safety in public transport and public spaces. They have stated that the shift from private vehicles to public transport will be achieved if safety can be prioritised and achieved. It is essential that engagements with the public transport sector continue to explore ways to improve services and safety of commuters. This will not only have an impact on the safety of commuters but will also enable more opportunities for public transport providers such as taxis. The University indicated that safety is one of their biggest concerns for their students and it should be prioritised in transport plans. It is also important that the safety of pedestrians and cyclists is prioritised. Well-lit pedestrian routes, both in the town and in surrounding townships and settlements, would assist with this. Public toilets, designed and maintained to be safe and clean, would also assist in making pedestrians safer.
- **Climate change:** it is important that the plan considers climate change to ensure sustainability of interventions proposed. Although there were no practical suggestions about this from stakeholders, it is agreed that this is a core principle, both in the immediate and longer term. The plan must provide guidance in terms of what is possible to ensure that proposed interventions are sustainable and responsive to the rapidly changing environment.
- **Congestion:** congestion is a feature of almost all inputs; stakeholders all struggle with it, while many contribute to it, describing their journeys in and out of Stellenbosch as arduous and time-consuming, as well as having an impact on productivity. All measures to reduce dependency on private vehicles, must be included. Adopting measures to move to NMT and integrated public transport will have a positive impact on congestion, but planning must support this, in particular as relates to parking. Parking is inexpensive and this is seen as being responsive to the needs of private vehicles, whereas the opposite is needed. Congestions is also exacerbated by tourist buses that clog narrow streets. The idea of park and walk or park and connect with public transport should be pursued (this in conjunction with taxi associations). Stakeholders also said that if they could easily move to and from Stellenbosch by train they would prefer to do that than to sit in traffic.

13.6.2 Concluding Comment

Stakeholder 'interest groups' such as the cycling community came into the Open Day in Stellenbosch with a lot of anger and aggression. Some were very rude, also to visiting municipal officials. This made them hard to hear, but also seemed on reflection to be misplaced as they didn't express the need for anything beyond what was already contemplated. Their assumptions were that the CIP would favour developers and be biased against (in particular) cyclists. One claimed that another didn't need to participate in public consultation because he had the 'ear of the mayor direct'. These encounters prompt us to recommend that there should be better communications between the municipality and its public, focused on building a relationship grounded in shared intentions and vision, rather than on differences. Such a campaign will be necessary before there is real cooperation across the board.

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Latest

APPENDIX A: PUBLIC TRANSPORT PLAN

1 Public Transport Plan

1.1 Introduction

Stellenbosch Municipality's vision for the region is for it to be a "Valley of Opportunity and Innovation". Well-functioning, accessible, convenient, and comprehensive public transport is integral to the realisation of this vision. This Public Transport Plan therefore intends to support the realisation of the following goals:

- to support the development of an effective and well-functioning public transport system;
- to facilitate the investment in a supportive infrastructure network that prioritises walking, cycling, and public transport.

To set broad goals and defined objectives of the public transport plan, Stellenbosch Municipality must determine what future appearance and character the public transport system needs to have. Once the goals and objectives are determined, strategies must be developed to achieve the goals and objectives.

The strategic focus areas, as well as their transport elements, gaps, and actions required, are presented in Table 6.1.

Table 1.1: Strategic Focus Areas

Focus Area	Transport Elements needed to respond to Strategic Focus Areas	Gap	Actions Required
Valley of Possibility	Would require well functioning network of transport services and infrastructure.	Current road network hinders growth possibilities. Congestion will discourage economy and cause business to locate elsewhere.	Road network improvements. Identification of effective freight network and supporting infrastructure. Effective public transport and NMT systems for access to opportunities.
Green and Sustainable Valley	Would require sustainable transport modes and practices.	Not effective public transport or walking and cycling modes.	Public Transport, walking and cycling network and other improvements. Manage travel demand to improve air quality.
Safe Valley	Would require safe and secure transport system.	Currently safety and security a challenge within public transport and use of walking/cycling modes.	Road safety projects to improve safety practices. Establish safe and secure public transport and NMT systems.
Dignified Living	Would require transport system which serves all including minority, poor and marginalised.	Public transport which services marginalised is limited.	Implement public transport systems that are accessible and affordable for all.
Good Governance and Compliance	Would require effective management structures and enforcement within transport.	Current governance and compliance not effective impacts delivery of transport.	Streamlined governmental processes with accountability for effective implementation of transport solutions.

1.2 Policies and Strategies

The following legislation and policy directives (as discussed in Section 2) are applicable to the CITP:

- National Land Transport Act, 2009 (and the updated Act, once the current proposed National Land Transport Bill, currently under consideration, is promulgated)
- National Land Transport Strategic Framework 2017
- National Transport Policy 2017
- Western Cape Government Strategic Goals
- Western Cape Provincial Land Transport Framework 2011
- Cape Winelands District Integrated Transport Plan 2016
- Stellenbosch Roads Master Plan 2019
- Stellenbosch Integrated Development Plan 2022
- Stellenbosch Quo Vadis 2015
- LED Strategy and Action Plan 2014

1.2.1 Summary of Key Policy Documents Relating to Public Transport

1.2.1.1 National Land Transport Act, 2009

Based on the 2009 NLTA Minimum Requirements for the Preparation of Integrated Transport Plans, 2016:

- An Intermodal Planning Committee must be established to focus on integrating public transport with a specific focus on integrating passenger rail services
- A Public Transport Plan and Transport Register is required with each CITP
- The Public Transport Plan replaces the requirement for a Rationalisation Plan and OLS
- The focus of the Public Transport Plan is to integrate the public transport network, services, and modes

The NLTA Amendment Bill (2016) also presents amendments and additions to the 2009 NLTA, incorporating focus on integrated planning, universal accessibility, and OL review and rationalisation.

1.2.1.2 National Transport Policy, 2017

The key objectives of the revised National Transport Policy (NTP) of 2017 are listed in the first column of **Table 1.2**. The current status quo of Stellenbosch Municipality measured against these objectives is presented in the second column.

Table 1.2: Policy Objectives Against Stellenbosch Municipality Context

Objective as per the National Transport Policy 2017	Objective Realisation in the Context of Stellenbosch Municipality
1. Accessibility	<ul style="list-style-type: none"> • Safe, reliable, and affordable transport are not widely available. There is a lack of universal accessibility on public transport. • Transport Universal Access audits are now part of policy in developing ITPs.
2. Rural transport	<ul style="list-style-type: none"> • The farming community surrounding Stellenbosch. The policy requires that rural transport programmes need to be identified and assessed.
3. Integrated ticketing system	<ul style="list-style-type: none"> • Policy states that NDoT should continue to drive, facilitate, and assist in funding. • Feasibility in Stellenbosch Municipality unknown
4. Performance monitoring	<ul style="list-style-type: none"> • Developing information systems for monitoring and enforcing policy on PT services.

Objective as per the National Transport Policy 2017	Objective Realisation in the Context of Stellenbosch Municipality
5. Planning and regulation	<ul style="list-style-type: none"> • Policy requires ITPs to integrate all modes of public transport which in Stellenbosch includes: <ul style="list-style-type: none"> ○ Rail services ○ MBT operations ○ e-hailing operators ○ Non-motorised transport

The NTP 2017 also identifies that there is a lack of institutional capacity to prepare and implement transport plans, and that inadequate law enforcement contributes to the issues faced by the operating licensing system (unlicensed operators specifically in MBT).

1.2.2 Summary Major Existing “External” Strategies, Proposals and Projects

1.2.2.1 Cape Winelands DITP concepts, key strategies & projects

In terms of public transport (PT), the Cape Winelands (CW) District Integrated Transport Plan (DITP) 2016-2021 presents the following proposals for implementation throughout the district:

- Rationalisation of operating licenses (OLs) to reduce oversupply
- No data on the Stellenbosch context was provided
- Law enforcement is key to the successful implementation of an OLS
- Establish an electronic database for monitoring and regulation
- Establish a Communication Forum where local government and operators can communicate on matters regarding PT

The DITP does not present PT improvements for the Stellenbosch Local Municipality but highlights the findings of the 2016 CIP review of applicable legislation and policy changes.

1.2.2.2 Western Cape PLTF concepts, proposals & major strategies

The Western Cape Provincial Government has the following strategic objectives that relate to public transport in general:

- PSG 1: Create Opportunities for Growth and Jobs - Improve the efficiency of the region's transport system.
- PSG 2: Improve Education Outcomes and Opportunities for Youth Development – access to education through transport.
- PSG 3: Increase Wellness and Safety, and Tackle Social ills - Inclusive, safe, and healthy communities – reduction in road fatalities.
- PSG 4: Enable a Resilient, Sustainable, Quality, and Inclusive Living Environment – energy consumption and emissions.
- PSG 5: Embed Good Governance and Integrated Service Delivery through Partnerships and Spatial Alignment – improved coordination between spheres of government.

The Western Cape (WC) Provincial Land Transport Framework (PLTF) in terms of public transport focuses on integrated transport systems, the improvement of passenger rail, NMT, and universal accessibility needs to be considered in each initiative. The WC PLTF presents the following strategic interventions relating to PT that tie into the Department of Transport and Public Works (DTPW) Programmes:

- The establishment of a draft Provincial Public Transport Institutional Framework (PPTIF) for the delivery of integrated public transport
- Develop a funding strategy for public transport in terms of both addressing capital requirements and operational subsidisation
- Coordination, implementation, and management of Integrated Public Transport Networks in high priority non-metro areas of the Western Cape

- Ensure the establishment of an appropriately regulated transport environment to address regulatory and compliance challenges

1.2.3 Previously Updated Stellenbosch CITP Concept, Key Strategies, and Proposals

The 2016 CITP focuses on the development of an integrated public transport service network within Stellenbosch Municipality and presents a framework for a public transport service network that integrates with the City of Cape Town's Bus Rapid Transit system. This integrated service network introduces the viability of utilising articulated- and midi-buses to alleviate traffic congestion along main arterials that run through Stellenbosch town. In terms of infrastructure projects related to public transport, the 2016 CITP proposes passenger shelters located at key roadside stops, vehicle flow improvements in terminal facilities, and providing roadside stops with embayments, as well as NMT infrastructure along the existing service network (Royal Haskoning DHV, 2016).

The 2020 revised CITP focuses on the need for the development of a Public Transport Plan and presents the findings of the revised Operating License Plan (OLP) of 2019. The proposed interventions listed under public transport improvements are not clearly defined and highlight that further investigation through a Public Transport Plan is required to identify concrete projects. Some of the elements listed in the recommended improvements table include rail as a regional and local connector, intra-municipal services between main suburbs of the municipality, and regional road connections, such as a high vehicle capacity bypass.

The 2020 revised CITP also proposed that additional operating licenses be issued, due to the high demand for minibus-taxi services, and the high prevalence of illegal operators within Stellenbosch Municipality (Innovative Transport Solutions, 2020). The OLP identified that there is a need to increase the number of operating licenses issued along specific routes and to service areas of planned development, ensure greater enforcement of operations focusing on illegal operators, correct route descriptions that reflect current operations, and through the Provincial Regulating Entity (PRE), remove operating licenses of deceased owners.

Both CITP documents highlight the constraints with regards to public transport project interventions, of which the main constraints are funding at a municipal level (large projects will require Provincial Government budget), and the lack of municipal staff capacity to support the implementation and monitoring of projects.

The most pressing public transport concerns, and the recommended public transport improvements reflected in the 2020 Stellenbosch CITP, are shown in [Table 1.3](#) and [Table 1.4](#).

Table 1.3: Key Public Transport Concerns in Stellenbosch (ITS Global, 2020, p. 78)

Issue	Description
Poor integration with other modes	Various public transport modes are not well integrated i.e., services, payment methods, infrastructure, transfers, timetables, etc.
Limited access of existing PT services	Particularly limited for national (long distance) and regional (intermunicipal) connections. <ul style="list-style-type: none"> • Access at local levels is provided by MBTs and serve mainly specific lower income neighbourhoods. • MBT routes typically end at Bergzicht rank or Stations, no or limited circulation into towns • No airport services
Services concentrated during peak periods	<ul style="list-style-type: none"> • Higher service levels during peak periods • Longer waiting times during off-peak periods • No night services – start operating after 06:00 and end before 19:00 • Limited PT transport services to access medical assistance in an emergency after-hours. Usually comes at a higher cost if needed.
No travel time advantage	<ul style="list-style-type: none"> • There is no dedicated PT infrastructure, thus MBTs (which are the main PT service providers) are subject to general traffic congestion • PT offers no travel time advantage, and thus there is little incentive to shift from private vehicles. They serve mainly low-income population who are captive riders
Limited PT infrastructure	<ul style="list-style-type: none"> • Ranks are not used during peak periods, which are the busiest times • Passengers collected in neighbourhoods where no public transport facilities or shelters • No lighting and poorly designed urban spaces are unsafe and uncomfortable • No formal long-distance facility.
Rail is currently not operating	<ul style="list-style-type: none"> • Rail services have been stopped • The timeline for service returning is uncertain • PRASA has no strategy to regain passengers lost • Stellenbosch and Du Toit Stations are not ideally located - there have been proposals to relocate them, although it is unclear whether this would be feasible (funding/space).
Not universally accessible	Vehicles and infrastructure do not accommodate people with special needs

As indicated in **Table 1.3**, the municipality lacks formal public transport services. At present, only informal minibus-taxis operate intra- and inter-municipal services. There are no larger capacity bus operators (previously, Golden Arrow Bus Service operated a service between Somerset West and Stellenbosch Town, however this no longer operates) or rail services providing viable alternatives for passengers travelling from outside of Stellenbosch Town (again, Metrorail previously operated passenger rail services across the municipality, however these have not been in service for several years).

Since there are no dedicated lanes for public transport services, minibus-taxis run in mixed traffic. Consequently, their users are at travel time disadvantage, relative to private transport users. As a result, most minibus taxi users are captive, rather than choice users. Ranking facilities are underutilised during peak periods, due to the nature of minibus-taxi operations, where trip generators and attractors are not from or to the ranking facilities, but rather from surrounding suburbs, where passengers are typically dropped/picked up enroute.

Table 1.4, extracted from the 2020 Stellenbosch CIP, provides a summary of recommended public transport improvements.

Table 1.4: Summary of Recommended Public Transport Improvements (ITS Global, 2020, p. 83)

Elements	Improvements/Upgrades	Possible Project/Actions
Regional Road Connections	<ul style="list-style-type: none"> • Strong regional road connections to existing or planned higher order urban settlements (Stellenbosch, Franschhoek, Klapmuts) 	<ul style="list-style-type: none"> • New roads or road upgrades to include a

Elements	Improvements/Upgrades	Possible Project/Actions
		<ul style="list-style-type: none"> bypass with access to national routes High capacity arterial which accommodates dedicated road-based public transport north and south of CBD
Rail as a regional and local connector	<ul style="list-style-type: none"> Regional and national access improved via rail Inter-municipal rail services with improved access Paarl, Somerset West, Bellville, and Cape Town Intra-municipal rail movement for local access in Stellenbosch Municipality i.e., between Klappmuts, Muldersvlei, Koelenhof, Du Toit, Stellenbosch, Vloffenburg and Lynedoch Rail services between Somerset West to Paarl or limited within Stellenbosch Stations 	<ul style="list-style-type: none"> Lobby PRASA to improve rail services Prepare feasibility of private rail services
Short-term	<ul style="list-style-type: none"> Quality of vehicles Quality of drivers Public transport stops (seating, lighting, shelter) for high demand locations 	<ul style="list-style-type: none"> Driver training programmes Prepare a Public Transport Plan Shelters and stop upgrades TOD developments around stations and stops
Operational	<ul style="list-style-type: none"> Use of technology to improve customer experience, ticket purchasing, system monitoring Scheduling during peak periods and on-demand Booking system for off-peak periods, night, or emergency needs Integration between modes and services New services to expand to unserved neighbourhoods and new developments Expanding hours of operation outside peaks Public transport stops (seating, lighting, shelter) for high demand locations 	<ul style="list-style-type: none"> Prepare a Public Transport Plan Prepare Operations Plan
Regional Road Based Services	<ul style="list-style-type: none"> High demand inter-municipal O-Ds (Somerset West, Bellville, Cape Town, Airport, Paarl) Scheduled with on-demand outside core hours Access to stations and town MBT ranks Booking and payment system using an app; also flagging delays Park and rides available with affordable secure parking (must be worthwhile to use service) Infrastructure for comfortable and safe waiting areas 	<ul style="list-style-type: none"> Next OLP: Investigate need for new services and OLs required Prepare Public Transport Plan and investigate elements for improving regional road-based services
Intra-Municipal or Neighbourhood Services (Idas Valley, Cloetesville, Kayamandi, Franschoek, Klappmuts, Vloffenberg, etc.)	<ul style="list-style-type: none"> Existing restructured routes Neighbourhood circulation for collection New routes based on new housing proposals Core operation time within peak periods Alternative booking and system for services outside peak periods perhaps more flexible or on-demand system 	<ul style="list-style-type: none"> Public Transport Plan and investigate new or supplemental routes and alternative booking systems during off-peak
Local CBD Circulation Service (Stellenbosch,	<ul style="list-style-type: none"> Funded by business, university, and development Contributions operated by existing MBT operators and vehicles, but with branding, driver training, 	<ul style="list-style-type: none"> Local CBD Circulation Plan

Elements	Improvements/Upgrades	Possible Project/Actions
Franschhoek, Klapmuts)	vehicle cleanliness, safety, and quality specifications <ul style="list-style-type: none"> • Stellenbosch access from stations and parking garages to CBD and University • Klapmuts – planned with proposed industrial growth 	

Table 1.4 provides a brief list of potential interventions intended to improve public transport within the municipality. It should however be noted that the first intervention under “Regional Road Connections” is not a public transport intervention (despite being categorised as such). The construction of new roads and increasing road capacity for all road users does not promote sustainable mobility, rather, it encourages increased private vehicle use. The construction of a high-capacity arterial route, which would accommodate dedicated road-based public transport north and south of Stellenbosch town centre, would however be highly beneficial to public transport users. Dedicated infrastructure for public transport could potentially attract choice users, especially if service quality and standards of minibus-taxi operations and vehicles were to be improved.

1.2.4 Existing Issues and Concerns Based on Previous Plans

In this section the main transport problems and issues are presented, as identified by households during the NHTS (2020) (see 3.3.9.1) and identified during the first set of stakeholder engagements (April and early May 2022, presented in section 3.3.9.2).

1.2.4.1 Transport problems identified by Households

Households were asked to indicate the two main issues they have with transportation. In **Table 1.5**, the available response options are listed, and ranked in order from most to least frequent. The top concerns were found to be related to accessibility and levels of service, as well as safety concerns.

Table 1.5: Transport problems identified by Households (NHTS, 2020)

Issue	Description	Value
1	No buses available	1,609
2	No taxis at specific times e.g., late at night	1,758
3	Congestion	1,773
4	Reckless driving by taxi drivers	1,795
5	Crime	1,827
6	Trains are not reliable	1,830
7	No trains available	1,863
8	Overload	1,879
9	Parking	1,920
10	Trains too far	1,947
11	Rude drivers	1,960
12	Taxis too expensive	1,970

1.2.4.2 Summary of general concerns and issues on transport

Following on the issues and concerns that were raised during the 2020 update of the CITP, and the concerns and issues identified through the stakeholder consultation process for this update the issues and concerns can be summarised as follows:

- Poor integration with other modes
- Limited access to existing public transport services
- Services concentrated during peak periods
- No travel time advantage

- Limited public transport infrastructure
- Rail service unreliable when operational (currently not operational at all)
- Current services are not universally accessible

Based on the stakeholder engagements conducted as part of this revision of the CITP

As part of this revision of the CITP, the project team conducted a series of stakeholder engagements. The following paragraphs provide an overview of the outcomes of the public transport aspects discussed during these engagements.

During an engagement with the minibus-taxi associations it was mentioned that the industry had lost 40% of their income due to COVID-19 and as a result thereof, some operators had their vehicles repossessed due to not being able to meet repayments. The associations also shared that they have experienced an increase in passenger demand due to passengers choosing public transport over private vehicles due to an increase in petrol prices, and more people are receiving social grants due to job loss during the COVID-19 pandemic, also resulting in an increased patronage to reach grant collection points.

The minibus-taxi associations communicated that they are willing to work towards a more formalised service as they acknowledge that passengers are more inclined to utilise their services if the service is predictable and offers a ticketing system which removes the existing cash-based fare system. The associations also propose that the industry be consulted when it comes to the planning in providing parking solutions, taxi ranking facilities and new developments such as malls and residential areas.

During an engagement with larger stakeholders such as Western Cape Province, Cape Winelands, PRASA and Stellenbosch University, each stakeholder expressed their major challenges relating to transport service provision within Stellenbosch Municipality. The key discussion points related to public transport revolved around communicating behaviour change focusing on shifting passengers from private vehicles to more sustainable alternatives such as the University Shuttle service; taxi-rank facility improvements planned and the importance of including the provision of infrastructure for informal trading at these facilities; introduce incentive programmes in minibus-taxi service provision to improve safety for operators and users; and the importance of reinstating rail services and improving service provision to attract new passenger demand. The engagement was concluded by highlighting the need to collaborate as stakeholders to address challenges faced by stakeholders.

The details of each stakeholder engagement are presented under the Section 13: Stakeholder Consultation section of this report.

1.2.4.3 Spatial Development Framework

Chapter 4 of this report provides a summary of the Spatial Development Framework (SDF), approved by the Stellenbosch Municipality Council in 2012. The SDF focuses on high density development at strategic nodes such as the Adam Tas Corridor, Stellenbosch town centre and Klappmuts. These nodes are connected by rail (although currently not operational) and road. When identifying public transport interventions, it is critical that solutions be proposed that will enable improved accessibility to and along the corridors that connect these nodes.

The SDF presents eight strategies and specific spatial policies to support the SDF concept and settlement plans. Public transport, along with NMT, and shared vehicle travel are identified as levers to support the realisation of three of the eight strategies, namely:

- (4) Clarify and respect the different roles and potentials of settlements in SM and maintain the identity of each;
- (5) Ensure a balance approach to transport in SM, that appropriately serves regional mobility needs and local level accessibility improvements; and
- (6) Develop all settlements as balanced, inclusive, appropriately serviced, communities, negotiable through NMT and exhibiting a positive relationship with surrounding nature and agricultural land.

Strengthening the role played by rail-based public transport is also identified as being critical to serve regional mobility needs, and local accessibility. The SDF also indicates that public transport and NMT infrastructure is to be incorporated in all developments, shifting the focus towards providing infrastructure for sustainable transport modes.

1.2.4.4 Integrated Development Plan

The Stellenbosch Municipality IDP makes provision for a select few public transport planning projects, with allocated budget estimations between 2022 and 2025. These projects are listed in below (note that this is not the full list of projects presented in the IDP):

- Continued feasibility studies to establish a transport operating company
- Development of business model for a Transport service for persons with disabilities in Stellenbosch
- Park and Ride (Transport Interchange)
- Public Transport Infrastructure (Public Transport Shelters and Embayments)
- Re-design of Bergzicht Public Transport Facility
- Taxi Rank - Franschhoek

The 2022 IDP also identifies the need for an alternative rail service along the Baden Powell Drive-Adam Tas (R304) corridor. The IDP highlights the requirement of a feasibility study to introduce a more frequent passenger service along the corridor potentially including lighter rail stock in the form of a “tram” system. Another alternative proposed in the 2022 IDP is to explore the viability of a regular bus service along this corridor.

Each project listed in the 2022 IDP has an allocated amount of proposed budget per financial year. These budgets are either provisional estimates for annual work, or provisional budgets for ongoing projects and studies that have already commenced and require further funding. The IDP also presents a table of projects under the *Implementation Plan: Comprehensive Integrated Transport Plan* (on page 126 of the IDP).

The following list of projects are presented as public transport projects included in the 2020 CITP (5 of which are also present in the IDP).

- Investigations and assessments reports for mechanism for the Internal Transport Feeder System from park and ride areas to the CBD.
- Facilitating the implementation and optimisation engagements of the Public Transport System
- Submission of assessments reports for management of park and ride facilities to the Municipal Manager.
- Submission of an assessment report to the Provincial Department of Transport on the implementation of public transport lanes on the R44 (from both directions Stellenbosch – Somerset West).
- Engagements with the University to collaborate on the implementation and improvement of park and ride facilities and shuttle services for students.

These projects can therefore be considered as key projects since the municipality has already assigned budget through the IDP. The projects proposed as part of this revision of the CITP are presented in [Table 1.12](#) at the end of this section of the report.

1.3 Overall Network Design

The overall network design presents the high-level vision of the proposed rail and road-based services, contracted and non-contracted for Stellenbosch Municipality. Therefore, summarising the potential interventions put forward under sections 1.4, 1.5, 1.6 and 1.8 hereafter. The overall network, presented in the sub-sections below, design also ties in with the future transport concept presented in section 2.6 of this report.

1.3.1 Preferred modes for routes and corridors

The preferred modes for routes and corridors were identified through the assessment of the status quo of existing services and development of new interventions within Stellenbosch Municipality. The existing services and new interventions speak to the policies for rationalisation of existing and development of new contracted services and refocusing the of non-contracted such as minibus-taxis.

Figure 1.1 presents the preferred modes based on the interventions proposed in this public transport plan.

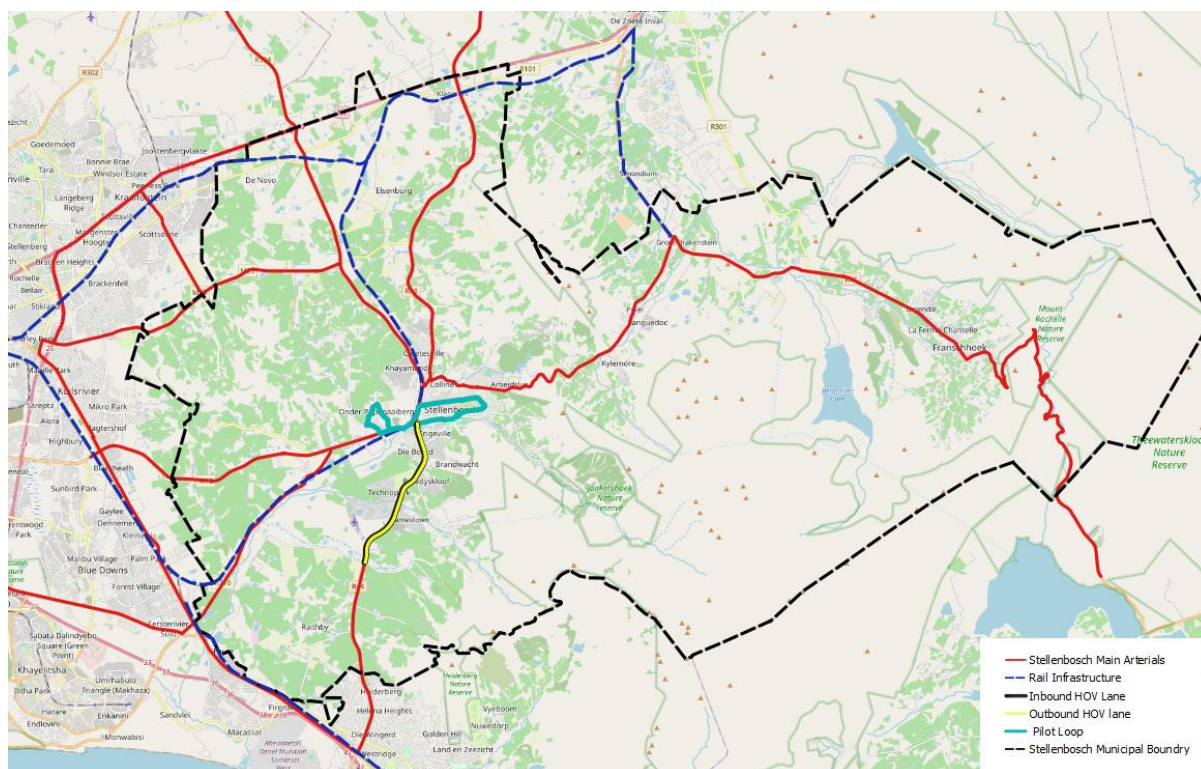


Figure 1.1: Overall network design

The main arterials, indicated in red, represent the existing road network on which road-based public transport (minibus-taxis), learner transport and tourism services operate, along with private vehicles. These routes present the road-based transport alternatives with origins and destinations from outside of the municipal boarder. The R310 (from Eersteriver) and the R304 (from Durbanville/Brackenfell) compete with the existing, although not yet operational, rail services indicated in blue. The three other main arterials namely, the R44 (both from Somerset West and Klapmuts) are not spatially aligned to compete with rail services.

The provision of HOV lane infrastructure and public transport priority measures on arterials (highlighted in yellow), more specifically piloting these concepts along the R44, promotes the development of new contracted services by allowing minibus-taxi operators to formally provide contracted services between the proposed park-and-ride facilities and Stellenbosch town centre.

The scheduled shuttle services is not limited to servicing the park-and-ride facilities but will also link key nodes such as Kayamandi, University facilities, rail stations, proposed new ATC stops, and higher-density residential areas. A proposed central pilot loop (in light blue) that services the Devon Valley and Uniepark (through the ATC and Bergzicht Taxi Rank) is another scheduled service that promotes contracted services.

Due to the current lack of route and timetable transparency for new users to utilise the minibus-taxi services, the rolling out of the various shuttle services presents the ideal opportunity to include technology as a source of information. Technology not only can provide for online timetables and route O-Ds but also can allow for ticketing, fare collection systems, and even e-hailing technology. By incorporating technology as an integral mechanism for these proposed shuttle services, the

opportunity arises for new passenger demand to utilise these services. Potentially attracting students who would previously only use their private vehicle as preferred mode of choice.

These proposed shuttle services provided by contract minibus-taxi operators is one of the incremental approaches (a hybrid approach) to establishing an IPTN service that ties into the current MyCiTi service provided in the Cape Metropole. Minibus-taxis are demand-responsive and can potentially be even more popular if technology is implemented to attract new demand. The IPTN Business Plan (2017) unpacks the concept of a more flexible approach when incorporating the minibus-taxi industry in to formal services (City of Cape Town, 2021).

Commuter rail services are to be reinstated to attract the lost passenger demand which diminished due to the ceased operations during the Covid 19 pandemic. Together with the ATC initiatives, there is an opportunity to fully integrate commuter rail with the proposed shuttle services and NMT route network within Stellenbosch town centre.

In terms of the roll-out of the overall network design, **Table 1.12** presents initiatives that form the building blocks of developing an integrated network of transport services. Each initiative has an estimated timeline in years. These implementation timelines are however subject to further investigation and will need to be refined through the drafting of feasibility studies.

1.4 Commuter Rail Plan

In this section, rail transport will be briefly discussed. Firstly, the national rail policy is briefly noted. Secondly, rail infrastructure and services prior to covid 19 are presented. It must be noted that due to the covid 19 pandemic, rail services across the country ceased to operate. This is still the case in Stellenbosch Municipality at the time of writing this section. Thirdly, the proposed rail improvements and interventions from previous CITP(s) are discussed. This is followed by the fourth sub-section, which discusses the way forward for rail and Stellenbosch Municipality.

1.4.1 National Rail Legislation

The national rail policy highlights the following key components of commuter rail (Western Cape Government, 2016):

- Maximising the competitive and environmental advantages of rail transport for moving high volumes of people,
- Encourage appropriate use of rail transport through promoting effective intermodal planning, efficiency, regulation, facilities, and collaboration,
- Enable private sector participation on mutually agreed terms where latent capacity exists,
- Subsidies (where provided) must be transparent, targeted, and monitored,
- Safety and security for railway passengers are of prime importance,
- Adequately protect and secure railway assets and those of passengers.

1.4.2 Rail Infrastructure and Services Prior to Covid 19

The Western Cape has extensive rail infrastructure (see **Figure 1.2**). 90% of the services originate or terminate at Cape Town station, while the other 10% originates or terminates at Bellville. However, the length of the railway line within Stellenbosch Municipality is only 18km, which includes seven stations namely (Innovative Transport Solutions, 2020):

- Klapmuts
- Muldersvlei
- Koelenhof
- Du Toit
- Stellenbosch
- Vlottenburg

- Lynedoch

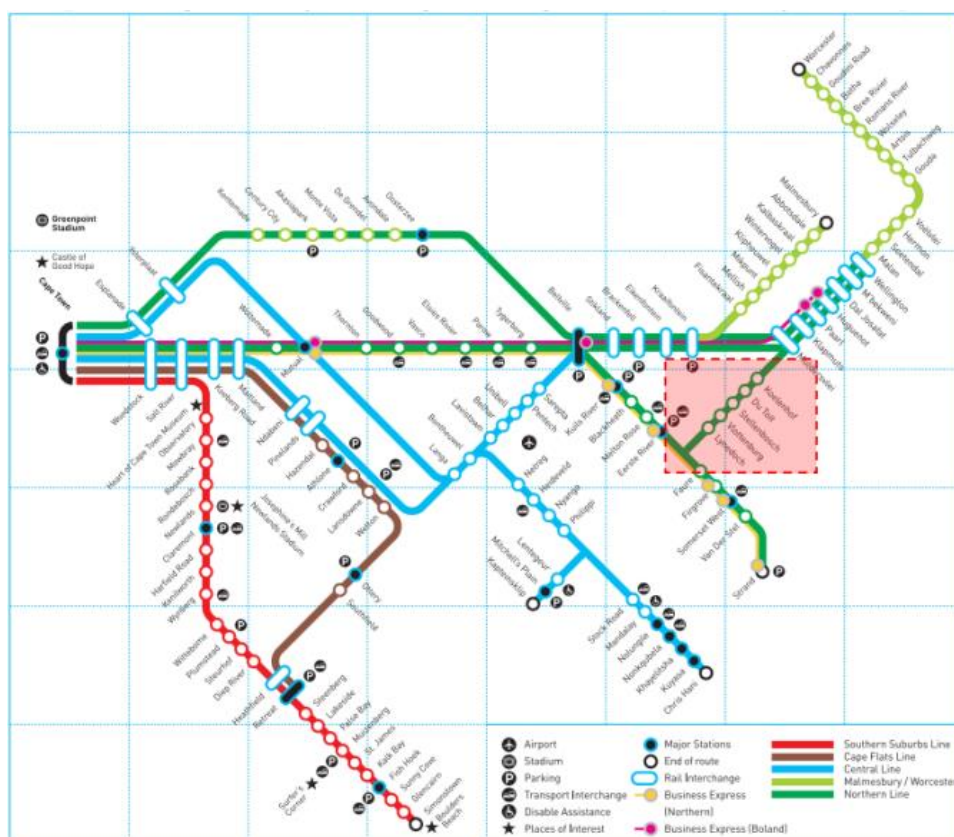


Figure 1.2: Western Cape Rail Infrastructure (Innovative Transport Solutions, 2020).

The blue and brown lines are considered the southern corridor, the blue lines represent the central corridor, the dark green the northern corridor, and the light green regional services, which offered one service a day to assist the rural areas.

The Stellenbosch-line service comprised a frequency of two trains per peak hour running through the municipality (Innovative Transport Solutions, 2020). A total of 25 trains operated in each direction between Monday and Friday, 15 trains on Saturday, and 13 trains on Sunday.

The tariff structure (see [Table 1.6](#)) was based on km zone pricing (distances between 136 km and 200 km).

Table 1.6: Tariff Structure (Prior to Covid-19) (Innovative Transport Solutions, 2020).

Station	KM Zone	Single		Week		Month	
		Metro Plus	Metro	Metro Plus	Metro	Metro Plus	Metro
Vlottenburg	30/40	R15.50	R9.50	R127	R61	R394	R184
Lynedoch	41-135	R18.50	R12	R152	R78	R394	R239
Stellenbosch	41-135	R18.50	R12	R152	R78	R394	R239
Du Toit	41-135	R18.50	R12	R152	R78	R394	R239
Koelenhof	41-135	R18.50	R12	R152	R78	R394	R239
Muldersvlei	41-135	R18.50	R12	R152	R78	R394	R239
Klapmuts	41-135	R18.50	R12	R152	R78	R394	R239

As per the stakeholder engagement with PRASA on 08/04/2022, the tariffs will remain the same when the service resumes. Passenger volume data is outdated. The most recent passenger volume figures can be seen in [Table 1.7](#).

Table 1.7: Rail Passenger Volume between 2007 and 2012 (Innovative Transport Solutions, 2020).

Station	Boarding		Alighting	
	2007	2012	2007	2012
Klapmuts	1692	1468	1646	1426
Muldersvlei	3919	3713	3213	3722
Koelenhof	651	686	576	614
Du Toit	2808	2863	2589	2695
Stellenbosch	2209	2471	2553	2286
Vlottenburg	448	482	505	544
Lynedoch	653	624	793	811

There was a substantial decline in ridership between 2007 and 2012 at Klapmuts station, but increases in ridership at Vlottenburg, Koelenhoff, Muldersvlei, and Du Toit stations. At this stage, it is not possible to estimate passenger demand. Data collection campaigns will be required to determine accurate passenger volume once the service(s) are reinstated in the Municipality (see section 0 for rail deadlines).

1.4.3 Proposed Rail Improvements and Interventions from Previous CITP(s)

Table 1.8 summarises the proposed rail improvements and interventions from previous CITP(s) and includes in the final column whether these interventions are aligned with the proposed interventions of this revision (2022 CITP).

Table 1.8: Proposed Rail Improvements and Interventions (Innovative Transport Solutions, 2020), (RHDHV, 2016).

Report	Improvement/Intervention	Proposed Timeline
CITP 2022 Review	Reinstatement of commuter rail services within Stellenbosch Municipality	Short term
CITP Review 2020	Regional and national access improved via rail	Longer term
	Inter-municipal rail services with improved access to Paarl, Somerset West, Bellville, and Cape Town	Longer term
	Intra-municipal rail movement for local access within SM i.e. between Klapmuts, Muldersvlei, Koelenhof, Du Toit, Stellenbosch, Vlottenburg and Lynedoch	Short term
	Rail services between Somerset West to Paarl or limited within Stellenbosch Stations	The feasibility of this needs to be determined.
CITP 2016-2020	Integration of rail, bus, and NMT	Longer term
	Stellenbosch and Du Toit Railway Stations: Facilities for Solo / Midi-bus services operating on public transport routes i.e. stops, signage shelters	Short term
	NMT facilities at terminals and railway stations	Longer term
	Relocate the Stellenbosch and Du Toit stations to new locations to facilitate the development of adjacent land. More detailed study is required to assess the implication of the relocation.	The feasibility of this needs to be determined.
	Blue Downs Line: Blue Downs is a densely populated area; this scheme incorporates it into the network while also linking Khayelitsha to Bellville. The proposal is for a new electrified double-track alignment which would integrate with the wider network	Longer term
	Chris Hani- Somerset West and Stellenbosch: There are existing proposals to extend the current line to Chris Hani but current footfalls appear suitable for Light Rail Transit	Longer term

Report	Improvement/Intervention	Proposed Timeline
	(LRT) if the new journey opportunities boost usage. There is the potential for an extension beyond Christ Hani using alternative technology that would serve existing catchments	

1.4.4 The Way forward for Rail Transport in Stellenbosch Municipality Post Covid 19

The following section provides information obtained from an engagement with PRASA on 08/04/2022.

As mentioned at the beginning of section 1.4, due to the Covid-19 pandemic, rail services across the Western Cape (including Stellenbosch) ceased. **Table 1.9** below gives a brief summary of the lines that have been reinstated and the future deadlines for the Stellenbosch line.

Table 1.9: Rail services and Deadlines

Service/line	Planned Deadline	Current Status
Southern Corridor (red/brown line)	Reinstated	Reinstated
Northern Corridor (CPT to Bellville via Tygerberg)	Reinstated	Reinstated
Northern Corridor (CPT to Bellville via Monte Vista)	Reinstated	Reinstated
Bellville to Eerste Rivier	June 2022	Not yet reinstated
Bellville to Strand	End of September 2022	Not yet reinstated
Bellville to Muldersvlei (via Stellenbosch)	January 2023	Not yet reinstated

Further to **Table 1.9** PRASA advised that they are working with the city of CPT to improve services in the Northern Corridor (which includes the Stellenbosch line). CPT is the owner of a draft document called the Northern Corridor Modernisation: Rail Corridor Operational plan and Passenger Rail Modernisation Plan. The plans include all information on future improvements. At the time of writing this report, it was not available.

PRASA advised that the timetables and the fare structure will remain the same as it was prior to Covid 19. However, services will be introduced at three trains per hour. Demand will be monitored and frequencies adjusted accordingly.

Stellenbosch Municipality does not have any control over rail operations or investment. It is thus important for the municipality to have good relationships with stakeholders such as the SARCC to improve rail connectivity. It is proposed that the municipality engages with PRASA and utilise a phased approach (see **Figure 1.3**) by first re-instating the railway LOS in the municipality to pre-covid levels, and second assessing the rail interventions proposed in the previous CITPs.

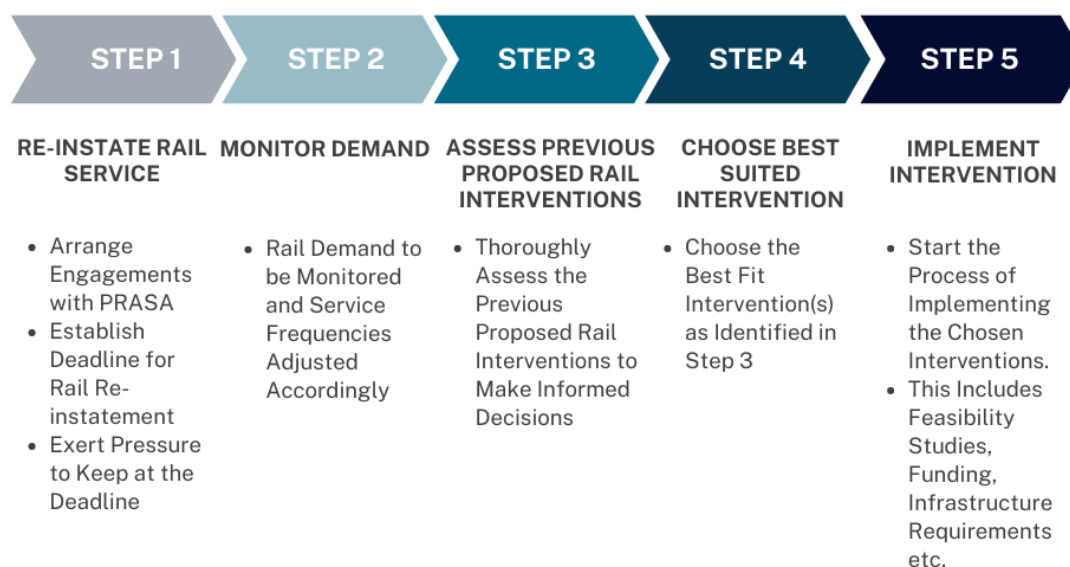


Figure 1.3: Proposed Rail Phased Approach

1.5 Contracted Services Plan

1.5.1 Proposed in the 2016 CITP

Contracted services refer to legally enforceable agreements for the provision of transport services. The 2016 CITP presented a formalised Public Transport Service that was first proposed in the 2011 Stellenbosch CITP. This service was to be a road-based scheduled public transport service, operating on six routes within Stellenbosch town. For the revision of this CITP, it is proposed that one route be selected as a pilot study to help determine the viability of a scheduled public transport service. This service is envisaged to be a contracted service plan with some operational support from Stellenbosch Municipality.

If the pilot study is successful the roll-out of the remaining five routes could also be implemented in a phased approach. **Figure 1.4** presents all the proposed public transport routes dating initially from the 2011 CITP and supported in the 2016 revision and included in this current revision (2022).

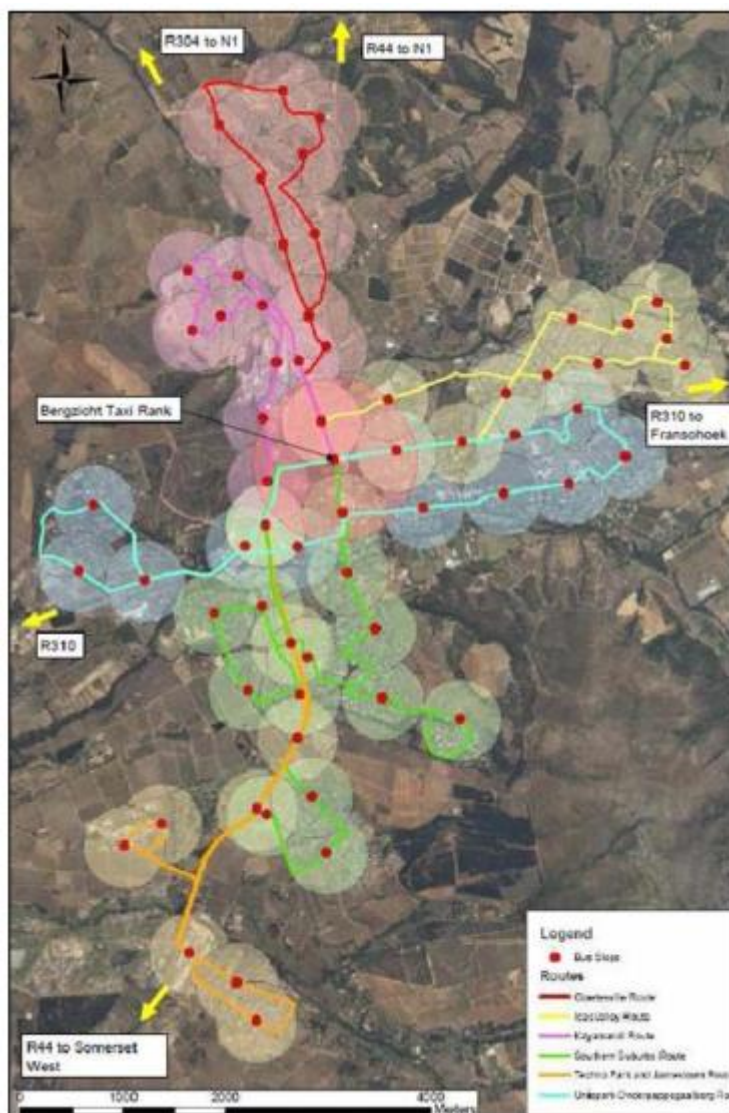


Figure 1.4: Proposed Public Transport Routes, CITP 2016

The Bergzicht taxi ranking facilities could function as the central interchange, where vehicles are required to stop in both directions when completing a single loop of the proposed pilot route. The key to the successful implementation of the pilot study would require engagements with the existing minibus-taxi sector stakeholders. Their buy-in and insights into operations would be of great value in

terms of supporting the determining of an appropriate pilot route, testing this proposed route, and supporting the potential expansion of the service network.

1.5.2 Proposed Uniepark/Onder Papegaaiberg loop

For this CITP, a pilot loop running between Uniepark and Onder Papegaaiberg is proposed as a possibility for consideration, and discussion with minibus-taxi sector stakeholders. **Figure 1.5** illustrates the potential loop.

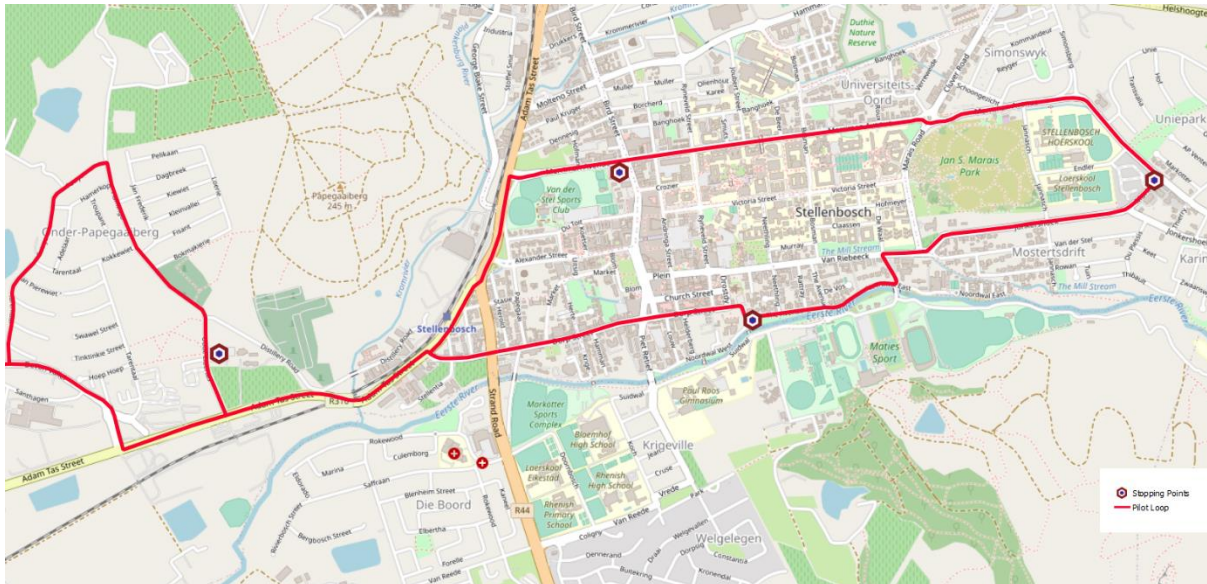


Figure 1.5: Uniepark/Onder Papegaaiberg Loop

The loop originates at Oude Libertas parking area, adjacent to Onder Papegaaiberg. The route continues along the R304 eastbound, entering the town of Stellenbosch. The route proceeds along Dorp Street, Die Laan, Coetzenburg Street, Van Riebeeck Street, and Jonkershoek Road where it loops into Martinson Road, adjacent to Uniepark. The route continues down Merriman Avenue, past the Bergzicht taxi rank, and into the R310 (Adam Tass Road) westbound to Devon Valley Road, where it loops back to the Oude Libertas parking area.

1.5.3 Proposed Timetable and Stops

The proposed timetable and stops for loop 1 are presented in [Table 1.10](#) for various service frequencies). Excluding stops and under low traffic conditions, this route would take approximately 30 minutes to complete. With stops, it is expected that the route would take 60 minutes. There are a total of 4 proposed park and ride stops for the loop.

Stop 1: Oude Libertas Parking Area.

The loop originates at the Oude Libertas parking area. As illustrated in [Figure 1.6](#)**Error! Reference source not found.**, there is ample space to accommodate a pick-up point.



Figure 1.6: Proposed Stop at the Oude Libertas Parking Area

Stop 2: Die Laan

The second stop on the route is at Die Laan, which has ample space to accommodate a stopping point.



Figure 1.7: Proposed Stop at Coetzenburg

Stop 3: Morkel Road

Morkel Road has ample space to accommodate a stopping point, as seen in **Figure 1.8**



Figure 1.8: Proposed Stop on Morkel Road

Stop 4: Bergzicht Taxi Rank

The last stopping point on the route is the Bergzicht taxi rank.



Figure 1.9: Proposed Stop at Bergzicht Taxi Rank

Intermediate Stops

It is good practice to have intermediate stops every +/- 500m. Passengers will not be getting off at every stop each time, and there may not be passengers waiting at every stop, so the minibus will likely pass many stops without stopping. The 4 identified stops will be the main stops where the minibus always stops and wait regardless of whether there is anyone wanting to get on or off, so that the service users can rely on the minibus being at the stop according to the schedule. The proposed intermediate stops for the Pilot Loop are listed below. The main routes are highlighted in Bold text.

- Oude Libertas Parking Area
- R301 Opposite Nedbank
- 3 Dorp Street
- 1 Herold Street
- Stelkor Parking Area

- Die Laan Stop
- 42 Noordwal-East Street
- 6 Jonkershoek Road
- 51 Jonkershoek Road
- Morkel Road Stop
- 136 Merriman Avenue
- 110 Merriman Avenue
- Provincial hospital
- Neelsie Centre
- Bergzicht Taxi Rank Stop
- 3 Du Toit street
- Stellenbosch Train Station Stop
- Adam Tas Road(Adjacent to Distell)
- 1 Devon Valley Road
- 28 Devon Valley Road
- 4 Patrys Road
- 32 Patrys Road
- Flamingo Street

It must be noted that not all intermediate stops are 500m apart. For example, part of the route runs up and down the R304 (Adam Tas Road) which has limited stopping space. It is proposed that these intermediate stops are promoted and displayed clearly along the route. There should also be a clear distinction between the intermediate stops and the four main stops. For example, intermediate stops can be displayed with a red pole (see [Figure 1.10](#)), while the main stops are displayed with a red pole and temporary shelter (see [Figure 1.11](#)).



Figure 1.10 : MyCiTi Intermediate/Temporary Stop (MyCiTi, 2022)



Figure 1.11: MyCiTi Shelter (Shelflife, 2014)

Each vehicle will take roughly 60 min to complete a single loop. It is proposed that the pilot loop runs at a service frequency of 3 vehicles per hour during off-peak periods, and 4 vehicles per hour during peak periods (see Table 1.10). The duration between stops is between 2 and 3 minutes. Drivers will be required to adhere to a fixed schedule, regardless of the number of passengers or traffic conditions (to ensure the reliability of service).

Once the pilot study has started, it will give a clearer indication of whether the proposed timetable can be accurately adhered to in all traffic conditions (peak and non-peak periods). It will also give a clearer indication of other operational aspects. For example, after the pilot study, the municipality could consider running the loop in both directions (clockwise and anti-clockwise).

Table 1.10: Proposed Timetable

Stops																							
Vehicle ID	Oude Libertas Parking Area	R301 Opposite Nedbank	3 Dorp Street	1 Herold Street	Stelkor Parking Area	Die Laan Stop	42 Noordwal-East Street	6 Jonkershoek Road	51 Jonkershoek Road	Morkel Road Stop	136 Merriman Avenue	110 Merriman Avenue	Provincial hospital	Neelsie Centre	Bergzicht Taxi Rank Stop	3 Du Toit street	Stellenbosch Train Station Stop	Adam Tas Road (Adjacent to Distell)	1 Devon Valley Road	28 Devon Valley Road	4 Patrys Road	32 Patrys Road	Flamingo Street
1	06:00	06:03	06:05	06:07	06:10	06:12	06:14	06:14	06:16	06:18	06:21	06:24	06:27	06:30	06:33	06:36	06:39	06:42	06:44	06:46	06:48	06:50	06:52
2	06:20	06:23	06:25	06:27	06:30	06:32	06:34	06:36	06:38	06:40	06:43	06:46	06:49	06:52	06:55	06:58	07:01	07:04	07:06	07:08	07:10	07:12	07:14
3	06:40	06:43	06:45	06:47	06:50	06:52	06:54	06:56	06:58	07:00	07:03	07:06	07:09	07:12	07:15	07:18	07:21	07:24	07:26	07:28	07:30	07:32	07:34
1	07:00	07:03	07:05	07:07	07:10	07:12	07:14	07:16	07:18	07:20	07:23	07:26	07:29	07:32	07:35	07:38	07:41	07:44	07:46	07:48	07:50	07:52	07:54
4	07:15	07:18	07:20	07:22	07:25	07:27	07:29	07:31	07:33	07:35	07:38	07:41	07:44	07:47	07:50	07:53	07:56	07:59	08:01	08:03	08:05	08:07	08:09
2	07:30	07:33	07:35	07:37	07:40	07:42	07:44	07:46	07:48	07:50	07:53	07:56	07:59	08:02	08:05	08:08	08:11	08:14	08:16	08:18	08:20	08:22	08:24
3	07:45	07:48	07:50	07:52	07:55	07:57	07:59	08:01	08:03	08:05	08:08	08:11	08:14	08:17	08:20	08:23	08:26	08:29	08:31	08:33	08:35	08:37	08:39
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	Stops																						
Vehicle ID	Oude Libertas Parking Area	R301 Opposite Nedbank	3 Dorp Street	1 Herold Street	Stelkor Parking Area	Die Laan Stop	42 Noordwal-East Street	6 Jonkershoek Road	51 Jonkershoek Road	Morkel Road Stop	136 Merriman Avenue	110 Merriman Avenue	Provincial hospital	Neelsie Centre	Bergzicht Taxi Rank Stop	3 Du Toit street	Stellenbosch Train Station Stop	Adam Tas Road (Adjacent to Distell)	1 Devon Valley Road	28 Devon Valley Road	4 Patrys Road	32 Patrys Road	Flamingo Street
3	14:20	14:23	14:25	14:27	14:30	14:32	14:34	14:36	14:38	14:40	14:43	14:46	14:49	14:52	14:55	14:58	15:01	15:04	15:06	15:08	15:10	15:12	15:14
2	14:40	14:43	14:45	14:47	14:50	14:52	14:54	14:56	14:58	15:00	15:03	15:06	15:09	15:12	15:15	15:18	15:21	15:24	15:26	15:28	15:30	15:32	15:34
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2	18:40	18:43	18:45	18:47	18:50	18:52	18:54	18:56	18:58	19:00	19:03	19:06	19:09	19:12	19:15	19:18	19:21	19:24	19:26	19:28	19:30	19:32	19:34
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3	19:20	19:23	19:25	19:27	19:30	19:32	19:34	19:36	19:38	19:40	19:43	19:46	19:49	19:52	19:55	19:58	20:01	20:04	20:06	20:08	20:10	20:12	20:14
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1	20:00	20:03	20:05	20:07	20:10	20:12	20:14	20:16	20:18	20:20	20:23	20:26	20:29	20:32	20:35	20:38	20:41	20:44	20:46	20:48	20:50	20:52	20:54

1.5.4 Basis For Providing the Service

The proposed pilot loop running between Uniepark and Onder Papegaaiberg is planned to run bi-directionally in order to accommodate the desire lines of passengers based on their destinations and to prevent lengthy travel times.

1.5.4.1 Formalising the Minibus-taxi Industry

It is recommended that Stellenbosch Municipality aims to incorporate the existing minibus taxi operators to provide this service. This would reduce potential for resistance from the sector towards the new service, as they would see it as an opportunity, rather than a threat. To integrate the minibus taxi operators into the proposed loop, extensive engagements with the minibus-taxi operators will be required and a process developed, together with the industry, to formalise the industry as recommended in the key interventions of Stellenbosch Municipality 2022 IDP.

To ensure strong lines of communication between the minibus taxi sector and the municipality, it is recommended that regular meetings (coordinated by the municipality) be held among all affected stakeholders. The piloting of a central town loop could also be the platform from which possible Transport Operating Company (TOC) could be established, and additional operating licences (OL) being released.

1.5.4.2 Corporate Identity

A differentiation in identifying the loop service vehicles is required in order for passengers to distinguish between the formalised service and existing informal minibus-taxi operations. Vehicle decals can be designed specifically for the Stellenbosch Municipality formalised public transport services. An example of this is the Blue Dot sticker used on existing minibus-taxi vehicles.

The appropriate vehicle size will depend on the passenger demand for the service which can be determined through surveys. Should 14-seater vehicles be required, utilising current minibus-taxi vehicles should be determined. However, existing minibus-taxi vehicles will also be required to undergo a fitness assessment to determine whether the vehicles are roadworthy and fit for providing the formal service. More information on this is provided under the Driver Customer Care proposed initiative.

1.5.4.3 Fares

While a pre-boarding fare collection system will likely not be possible during the initial stages of the proposed service, it is recommended that automatic fare collection technology be explored, for future introduction. A thorough investigation is also needed to determine what an appropriate fare structure would be. For the sake of simplicity, it is however recommended that the existing cash-based fare system, which the minibus-taxi operators currently implement, be applied during the pilot study.

1.5.4.4 Universal Access

Various pieces of legislation dictate that public transport must be accessible to all people, regardless of physical or mental abilities. The objective of The White Paper on National Transport Policy, 1996 is to: "ensure that passenger transport services address user needs, including those of commuters, pensioners, the aged, scholars, the disabled, tourists, and long-distance passengers" (Department of Transport: Republic of South Africa, 2009, p. i). The NLTA states that the municipal sphere has a responsibility to ensure "there is provision for the needs of special categories of passengers in planning and providing public transport infrastructure, facilities, and services to meet their needs, in so far as possible by the system provided for mainstream public transport" (Department of Transport: Republic of South Africa, 2009).

It is important that, if it is decided to implement and expand the loop system, it be planned with universal accessibility in mind.

1.5.4.5 Pilot Phase

To establish the feasibility of the loop system, as well as if there is sufficient passenger demand, it is recommended that loop 1, with a frequency of 3-4 vehicles per hour be operated for 12-18 months (with an option to renew for a further extended period). This will provide sufficient time for the pilot

project to gain exposure to stakeholders and potential users, and also provide the coordinating team of the pilot to address any challenges originating during the pilot period.

It is critical that during the pilot phase, information regarding the loop service is disseminated to the community and potential passengers. This includes the University students and employees of large employers residing outside of the municipal boundary, travelling into Stellenbosch Town for work.

1.5.5 Integration with Other Contracted Services

1.5.5.1 Stellenbosch University Shuttle Service

During weekdays, Stellenbosch University offers shuttle services for students and staff to and from various campus destinations to decentralised parking facilities (Innovative Transport Solutions, 2020). Tygerberg students can book the services between the campus collection point and a nearby shopping centre, currently Tyger Valley between Monday and Wednesday, and to Parow Centre on Thursdays.

There is a daily central campus service between 07:00 -17:30 and a booked evening service (18:00 – 02:00) (Innovative Transport Solutions, 2020). The service focuses on transport from parking areas to campus, transport from departments to and from the central campus, and the transport of congress attendees to and from the general parking areas.

It is proposed that, if the internal feeder system proves to be successful and feasible in the long run, the SU shuttle service be integrated into the system to further increase accessibility and reach. SU already provides this contracted service with financial assistance. In terms of a cost perspective, there are benefits for Stellenbosch Municipality to engage with SU to determine the terms of integration as there may be cost benefits for both entities.

1.5.5.2 Learner Transport

Currently, there are 13 transport operators providing learner transport within the municipality (RHDHV, 2016). Despite this service being available, most schools in the town of Stellenbosch are not served and learners are dropped off at school with private vehicles. This contributes greatly to congestion within the town, especially in the morning peak.

Again, there is an opportunity to integrate learner transport into the internal feeder system if it proves to be viable. The pilot route can easily be adjusted by adding a loop (see **Figure 1.12**) to incorporate the biggest schools in the town of Stellenbosch. Learners can be dropped off at or walk to any of the main or intermediate stops, and use the system to get to school. The following can be possible incentives for learners to use the system.

- Discounted fares for learners from Monday to Friday.
- High-quality safety and security measures.
- Loyalty rewards that can be used at their respective schools.

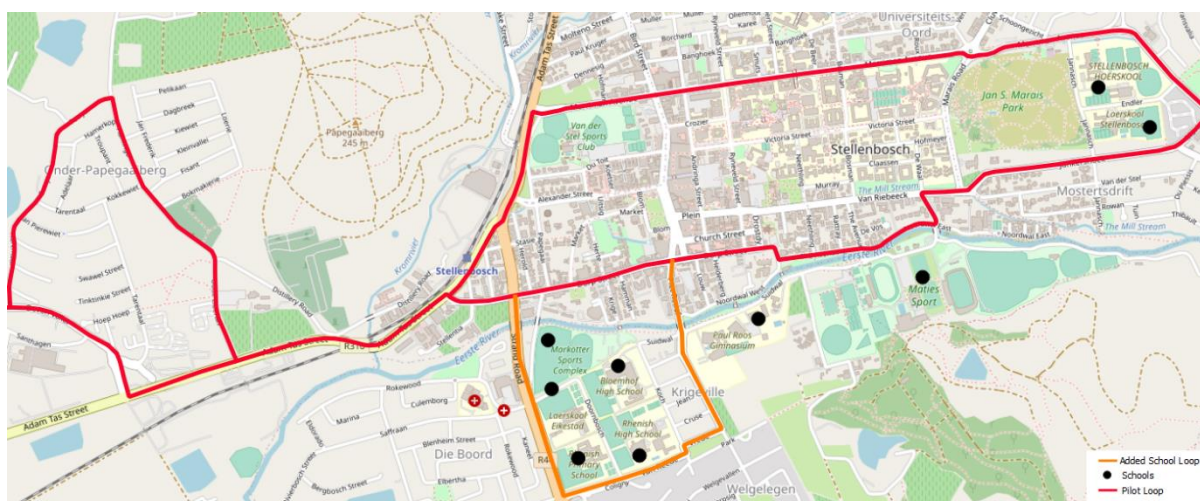


Figure 1.12: Added School Loop

1.5.6 Proposed Process for the Pilot Study(s) for the Proposed Public Transport Interventions

The purpose of the pilot studies is to not only provide viable public transport options for choice users but to improve the existing service provision for captive users. The pilot will also start the conversations to provide infrastructure for the future implementation of Integrated Public Transport Networks. In the following sections, the proposed pilot study process is discussed. The process is illustrated in Figure 1.13 which acts as a guideline to developing the pilot studies and can be altered according to each scenario.

1.5.6.1 Stakeholder Engagements Round 1

The first step of the process is to conduct engagements with the various stakeholders that will be affected by the pilot studies. These include representatives from the minibus taxi associations, law enforcement, municipality, bus operators and the public. The engagements should present the proposed pilot studies and collect feedback on the perceived feasibility, and the needs and desires of the stakeholders.

1.5.6.2 Planning

The planning phase aims to determine the timeline of the pilot studies, what activities are needed to conduct the pilot studies as well as who will be the responsible parties. It is also important to determine the criteria for a successful pilot study. The order in which the pilot studies will commence must also be determined.

1.5.6.3 Promoting to the General Public

Before the pilot studies are conducted, the proposed pilot(s) should be promoted through public facing campaigns. Campaign materials could include pamphlets (available hardcopy and digital), social media advertising, and announcements through other media formats. A promotional video could also be of value. The following information should be included in the campaign material.

- Brief background on the benefits of using the system
- Route(s)
- Timetable(s)
- Fare(s)
- Stops

1.5.6.4 Conduct the Pilot Study

During the pilot study(s), it is important to have an instrument to measure levels of demand and satisfaction with the service. It is proposed that passengers be given a short questionnaire that assesses the pilot study. Transport mapping could also be conducted, to establish the number of passengers boarding and alighting from each stop, as well as trip characteristics such as the duration of the trips under various circumstances.

1.5.6.5 Stakeholder Engagements Round 2

The round 2 stakeholder engagements will commence after the pilot study is completed. During these engagements, the role-players will be allowed to give their feedback. The data that was collected through the questionnaires and the transport mapping will also be presented.

1.5.6.6 Write-up of the Findings and Way Forward

The last step of the process is to prepare a full write-up of the findings. The write-up should include the collected and analysed data, and recommendations on the way forward.

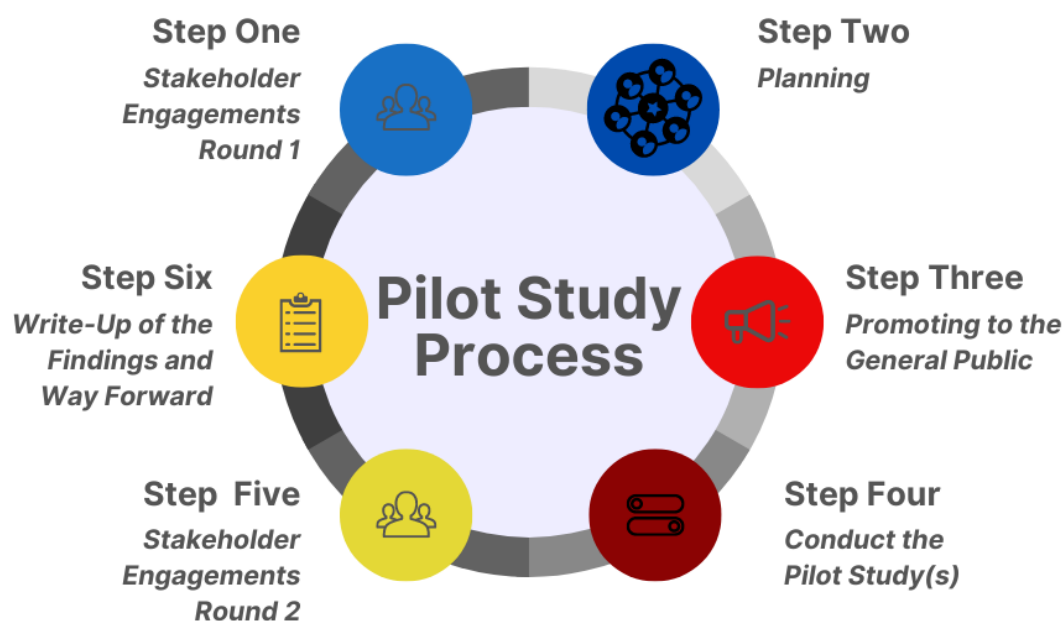


Figure 1.13: Pilot Study Process

1.6 Non-contracted Services Plan

The details regarding non-contracted services routes, operating licences, and capacity requirements can be found in the OLP written in 2019. Alternatively, please see Section 1.7.

For this CITP, the non-contracted services plan will focus on driver customer care. Customer care is described as how well customers are taken care of while the customer is interacting with the service. The interaction includes how a customer experiences the company and its employees before, during, and after a service is completed. Customer care promotes the building of an emotional relationship with customers and, by doing so, creates a long-term relationship with customers (Fontanella, 2021).

The success and sustainability of any business rely on customer care as it is directly linked to customer satisfaction. In a study conducted by Mokonyama *et al.*, public transport customer satisfaction is unpacked by evaluating the gap between perceived- and expected performance based on 10 different criteria (factors) that influence a passenger's satisfaction towards a transport service (Mokonyama, *et al.*, 2010). The different factors considered are:

- Reliability – consistency of performance.
- Responsiveness – the ability of service provider employees to provide timely feedback.
- Competence – possession of required skills by service provider employees.
- Access – ease of contact with the service.
- Courtesy – aspects such as friendliness, politeness, and respect experienced by the customer.
- Communication – informing and listening to the customer.
- Credibility – includes aspects such as trustworthiness, honesty, and believability.
- Security – the need to minimise risks and dangers for the customer.
- Understanding and knowing the customer – making the effort to understand the customer.
- Tangibles – entails the physical appearance of the service presented to the customer such as vehicle cleanliness, driver appearance, etc.

Specifically, transport vehicle drivers directly impact the reliability, competence, courtesy, security, and tangibles factors listed above. Based on these factors relating to customer satisfaction, one can conclude that a driver operating a transport vehicle is key to the perceived passenger service quality and ultimately the success of a transport service.

A driver customer care strategy is a framework to improve customer service quality and ultimately improve business overall. For this report, the concept of driver customer care aims to improve the success and sustainability of a business through improving driver service and vehicle operation standards of non-contracted services. Driver service standards can be improved by, for example, imposing a training programme and setting standards to which non-contracted transport drivers are required to adhere if they wish to obtain an operating license. Driver training enables a driver to fully understand what driver customer care entails, to know where the permitted operating areas are based on operating licenses, and to become aware of the safety of customers and drivers themselves with regard to working long consecutive hours.

The standards of operating vehicles are improved through imposing vehicle inspections as part of the operating license application and more critically through the vigilant enforcement of regulations by local authorities such as valid driver-, vehicle- and operating licenses.

A driver customer care strategy looks at different factors in which the driver plays a direct role in customer satisfaction with the transport service provided. In the non-contracted services industry, specifically, some factors could potentially be improved should a single framework, and therefore a guideline, for the industry exist.

1.6.1 Driver Customer Care Framework

This section presents a proposed Driver Customer Care Programme to be adopted by non-contracted services. **Table 1.11** provides a breakdown of the criteria and requirements for both the driver and the permitted vehicle based on the three (3) phases of the credentialing process. The three (3) phases are: (1) Driver Training, (2) Vehicle Inspection, and (3) Driver Licensing and Vehicle Operating License.

Driver Training is divided into five (5) sub-components which are (1) customer service standards, (2) driver code of conduct, (3) passenger safety, (4) services for people with disabilities, and (5) the permittance of service animals. All drivers are required to pass the training programme to qualify for the next phase of the credentialing process, which is the Vehicle Inspection phase. The training programme will be provided by Stellenbosch Municipality or an identified company that is able to provide the training programme. The fees of the training programme are paid for by the driver or operator applying for the vehicle operating license. All costs incurred to complete the credentialing process are the responsibility of the applicant and are non-refundable.

The **Vehicle Inspection** phase of the credentialing process requires a driver to take the vehicle in application to their nearest approved testing facility for a vehicle inspection. Vehicle inspection certificates are required for every new vehicle operating license application. For every vehicle operating license renewal application, the vehicle needs to undergo a vehicle inspection each year the operating license is issued. In other words, for every renewal application, the vehicle needs to be inspected and a certificate needs to be provided as supporting documentation for the application. The driver or operator is responsible for addressing any faults identified by the vehicle inspection facility at their own cost before the operating license application may be completed.

The final phase of the credentialing process is the **Driver Licensing and Vehicle Operating License** phase. This phase of the credentialing includes the final criteria to be met and supporting documentation required in the application for a driver or operator to receive an operating license.

Table 1.11: Driver Customer Care Programme

Phase	Driver	Vehicle
1. Driver Training	The Training Programme should cover the following: <ul style="list-style-type: none"> • Rules and regulations for providing non-contracted transport operations including operating license areas. • Customer service standards. • Driver code of conduct. • Passenger safety: safe driving skills and traffic rules. • Services for people with disabilities. • And the permittance of service animals. 	N/A
1.1 Customer service standards	Driver customer service includes the following: <ul style="list-style-type: none"> • Drivers shall always communicate with passengers professionally and appropriately. • Drivers shall offer assistance to passengers in boarding and alighting the vehicle. • Drivers shall never make use of cell phones and/or headphones while driving. 	Standards relating to the vehicle regarding customer service are as follows: <ul style="list-style-type: none"> • Driver identification shall be displayed in the form of a card which will be placed at an easy-to-read location for the passenger(s). • The interior of the vehicle is to be kept neat and clean with a temperature that is comfortable for the passenger.
1.2 Driver Code of Conduct	The code of conduct a driver must adhere to is as follows: <ul style="list-style-type: none"> • Drugs and alcohol are forbidden for both the driver and the passenger(s). • Smoking in the vehicle is forbidden for both the driver and the passenger(s). • Food and beverages in the vehicle are forbidden for both the driver and the passenger(s). 	N/A
1.3 Passenger safety	Drivers to confirm that passenger(s) are safely in the vehicle and have fastened their seatbelts before departing the pick-up location.	All vehicles should have a safety belt for each seated passenger in the vehicle.
1.4 Services for people with disabilities	The definition of “person with a disability”: is individuals with physical/ mental impairments that substantially limit one or more major life activities. <ul style="list-style-type: none"> • Drivers shall never deny service to a passenger(s) with a disability. • Drivers shall never impose special charges based on disability, gender, religion, national origin, race, or age. • Drivers may not refuse service solely because the passenger’s disability results in behaviour that may offend, annoy, or be inconvenient to him/her. • It is not discrimination to refuse service if the passenger engages in violent, seriously disruptive, or illegal conduct. 	Vehicles can be modified to accommodate passengers that utilise wheelchairs. The modification certificate is required to be submitted upon renewal or new application of the vehicle operating license.
1.5 Service animals	All drivers are to permit passengers (only if the passenger provides proof of the requirement) to bring their service animals within the vehicle for example for passengers who have sight impairment and require a guide dog.	Drivers can opt to have pet seat covers fitted to the rear passenger seat for the permittance of service animals or opt to use a pet hair removal stick. The interior of the vehicle must be kept clean of pet hair after such service is rendered.
2 Vehicle Inspection	A driver’s responsibility regarding vehicle inspection entails: <ul style="list-style-type: none"> • Drivers are to take the permitted vehicle in for inspection prior to a vehicle operating license application and prior to every application. • Drivers are responsible to address any inspection faults identified through the inspection facility before a vehicle operating license shall be issued. 	Vehicle inspection requirements: <ul style="list-style-type: none"> • Inspection of the vehicle is to take place every year as part of the operating license renewal process. • The inspection facilities available in Stellenbosch Municipality are to be listed and provided by the municipality. The inspection facility is to perform tests on the vehicle components such as brakes, seatbelts, lights, suspension components, and emissions systems.
3 Driver Licensing and Vehicle Operating License	Driver licensing requirements: <ul style="list-style-type: none"> • To qualify for a license, the driver needs to meet the following criteria: <ul style="list-style-type: none"> ○ Minimum age: 21 ○ Have a valid SA driver’s license. ○ Have a valid PrDP license. ○ No fines or fees owed to the PRE and law enforcement (traffic department). • The following supporting documentation is to be supplied upon renewal and new application of drivers: <ul style="list-style-type: none"> ○ Medical health assessment conducted by a local clinic (blood pressure, BMI, glucose, and cholesterol). ○ Certificate of completed first aid course. ○ Certificate of a completed training programme. • Drivers renewing their license must undergo the medical health assessment each year the license is being renewed for the license to be approved by the PRE and Stellenbsoch Municipality. 	Vehicle operating license requirements: <ul style="list-style-type: none"> • Vehicles must either be owned or leased by the driver applying for the license. • The following supporting documentation of the vehicle in application must be provided in the licensing application: <ul style="list-style-type: none"> ○ Vehicle registration certificate. ○ Roadworthy certificate. ○ Insurance certificate. ○ Existing operating license (if applicable). ○ Vehicle modification letter (if the vehicle is, for example, wheelchair accessible). • A placard is to be displayed on the interior of the front view window of the passenger side of the vehicle. Passengers (inside the vehicle) will be able to view the content of the placard which includes: <ul style="list-style-type: none"> ○ Driver and operator details (name of the driver and operator, PrDP number, photo of the driver, contact details of the operator). ○ Emergency contact details. ○ Report incident/poor driver behaviour contact details. ○ Log universal access requests. ○ Sexual harassment reporting contact details.

1.6.2 Possible Integration with Blue Dot

The blue dot taxi pilot project had 4 main objectives (Western Cape Government, 2022):

- Improve service quality & safety
- Leverage technology to drive change
- Address taxi violence and illegal operations
- Support industry formalisation & empowerment

Operators could earn a blue dot by achieving a green status (Western Cape Government, 2022). Once operators received a green status, they earned daily payments based on how they performed. Performance was based on star ratings, ranging from 1 to 5. The higher the star rating, the higher the incentive. Operator performance was measured by 4 indicators:

- Speeding
- Harsh driving
- Route adherence
- User feedback

The blue dot pilot project ended in November 2022, and currently there are no plans for project extension. It could be beneficial for Stellenbosch Municipality to investigate the feasibility of a blue-dot-like project that incorporates the proposed driver customer care programme. Engagement with the Department of Transport and Public Works is required to identify the potential way forward on either reinstating the programme and including Stellenbosch Municipality. The challenge that will need to be addressed is the source of funding and how the continuation of the programme will roll out.

1.7 Operating License Plan (OLP)

The latest Operating Licence Plan (OLP) was written in 2019. This section gives a summary on what the plan presents. It must be noted that the report mainly covers MBT and excludes other non-contracted services such as metered taxis and e-hailing services.

1.7.1 Background

According to the OLP, there are 144 MBT operating licences, 717 route authorities and 3 taxi associations in Stellenbosch (Stellenbosch Municipality, 2019). However, the actual number of taxis are difficult to calculate due to the lack of OL database accuracy.

Surveys conducted in 2019 throughout the municipality indicated a large number of illegal vehicles (Stellenbosch Municipality, 2019). The local routes with the highest number of illegal vehicles were Koelenhof (route 662), Kayamandi (route 676) and Klapmuts/Muldersvlei (route G60), while the inter municipal routes with the highest number of illegal vehicles were Stellenbosch/Bellville (route N12), Stellenbosch/Somerset (route 669) and Franschhoek Paarl (route 755). For actual numbers and counts, please refer to the full operating licence plan.

1.7.2 Operating Licence Analysis

To assess the supply of and demand for non-contracted services within the municipality, and to essentially balance the supply and demand, an operating licence analysis were conducted (Stellenbosch Municipality, 2019). The analysis included the following information:

- Rank Information
 - Rank number
 - Rank name
 - Destination (names of areas where routes operate from that specific rank)

- Route numbers serving the particular rank
- No of routes where multiple route numbers serve the same O-D
- Supply
 - Distinct OLs or vehicles with PRE
 - Service capacity which assumes on average a 15 seater vehicle i.e. vehicle capacity x
 - number of OLs
 - The number of surveyed vehicles
 - Legal vehicles which have an OL and have the right route authority for the rank
- Demand
 - Peak day
 - Peak hour
 - No. of Pax (peak hr)
 - Average waiting time (mins)
- Operating Licence Evaluation
 - 1-way route distance [km]
 - Turn-around Time [hh:mm:ss]
 - OLs required based on pax demand
 - Comparison of capacity from existing OLs registered vs the number of OLs required based on passenger demand
 - Status of illegal vehicles i.e. no OLs with route authorities for that rank
- Recommendation
 - If demand is higher than existing supply, recommend additional OLs
 - If demand is significantly lower than existing supply, recommend no additional OLs

1.7.3 Conclusions from the Operating Licence Analysis

From the analysis done, the following were concluded.

1.7.3.1 Additional OLs Required

The analysis indicated that some additional OLs are required for the following routes. High levels of illegal vehicles were observed servicing these routes (Stellenbosch Municipality, 2019).

- Route 665 (Stellenbosch to Cloeteville)
- Route 676 (Stellenbosch to Kayamandi)
- Route 755 (Franschhoek to Paarl)
- Route G15 (Klapmuts to Paarl)

1.7.3.2 Reduce the Number of Route Authorities

Some routes showed low passenger demand (Stellenbosch Municipality, 2019). As a result, the routes had more OLs than what was required to meet the passenger demand. However, it is estimated that future development and population growth will balance out supply and demand on these routes.

1.7.3.3 Greater Enforcement of Legal Vehicles

A greater level of enforcement is required as most routes showed high levels of illegal vehicles (Stellenbosch Municipality, 2019). Vehicles that are classified as illegal are those that do not have route authority or have OLs for Stellenbosch but operate on the incorrect route(s).

1.7.3.4 Additional OLs in Growth Areas

Additional OLs will be required in areas with high expected growth during the next 5 years. These areas include (Stellenbosch Municipality, 2019):

- Stellenbosch CBD
- Klapmuts
- Pniel
- Idasvalley
- Cloetesville
- Raithby
- Jamestown

1.7.3.5 Modify and Correct Route Descriptions

In some cases, route descriptions were incorrect due to them being incorrectly recorded or no longer viable due to road improvements/changes (Stellenbosch Municipality, 2019). As part of the OLP process, the modified routes were submitted to the PRE in order for them to communicate the modifications to the taxi associations.

1.7.3.6 Deceased OLs

It was found that the owners of numerous OLs were deceased (Stellenbosch Municipality, 2019). Currently, it is unclear to the operators how these OLs should be cancelled or transferred. Taxi associations need to communicate with the PRE regarding deceased members.

1.8 Dedicated HOV Lanes

In the Stellenbosch 5th Generation IDP 2022-2027, under the CITP section (6.3.4.2), it is proposed that an assessment report be submitted to the Provincial Department of Transport on the potential implementation of public transport lanes on the R44, in both directions, between Stellenbosch and Somerset West. Dedicated high occupancy vehicle (HOV) lanes encourage motorists to either participate in ridesharing or to shift to public transport modes. Dedicated HOV lanes help prioritise public transport traffic, thereby enabling those travelling via public transport to potentially have shorter travel times than single occupancy private vehicles. HOVs can be defined to include public transport vehicles, such as minibuses, as well as private vehicles, with three or more passengers per vehicle.

The Revised National Transport Policy 2021 states that “the establishment of priority lanes on the road network for buses and taxis will be investigated to reduce travel times and encourage the use of public transport” (Department of Transport, 2021, p. 50). The establishment of priority lanes falls under the policy of implementing integrated rapid public transport networks, across all appropriate districts and municipalities. The policy also indicates that the implementation of such networks can be slow, and therefore integrating public transport by employing a systematic approach and promoting the establishment of priority lanes where feasible could potentially be one phase of developing the integrated public transport system.

1.8.1 HOV Lane Scenarios

To promote public transport, and prioritise high occupancy vehicles, as part of the revised CITP, it is proposed that an HOV lanes pilot be conducted between Somerset West and Stellenbosch town centre. Pilot studies allow the testing of interventions with reduced risk.

For the pilot study, it is proposed that the implementation of dedicated HOV lanes would be between Somerset West and Stellenbosch town centre, in both directions. The HOV lane from Somerset West towards Stellenbosch would start before the R44/Annandale Road intersection and terminate before the R44/Dorp Street intersection. The HOV lane in the opposite direction (Stellenbosch to Somerset West), would start at the R44/Van Rheeke Road intersection, and terminate at the R44/Annandale Road intersection (as illustrated in [Figure 1.14](#)).

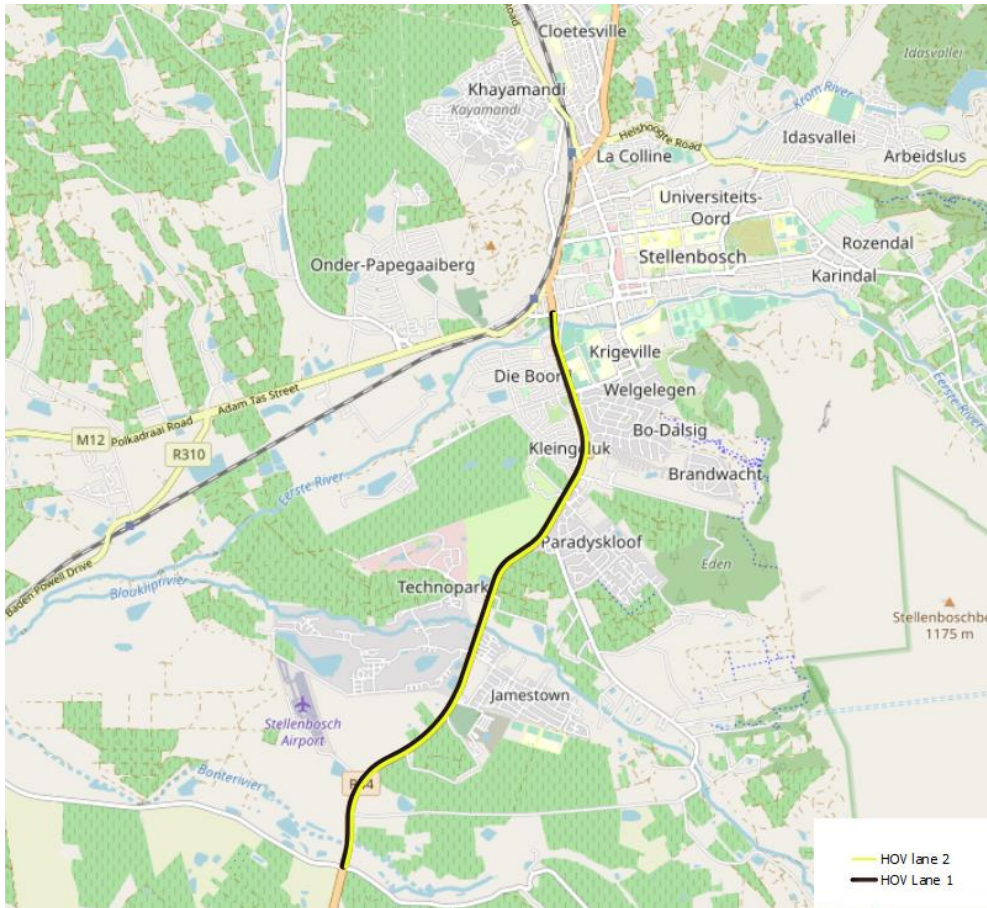


Figure 1.14: Dedicated HOV Lanes

Four potential R44 HOV lane scenarios could be investigated:

- Demarcating an existing lane for HOV vehicles during peak periods (where different road markings are used to differentiate the HOV lane from the open lane, as seen on the N2 inbound public transport lane). This option would require active law enforcement, to ensure compliance.
- Utilising a contraflow lane for HOVs during peak periods. Under a contra flow HOV lane scheme, during peak periods, the inner lane on the contraflow side of the road (i.e.: the side of the road running in the opposite direction to peak traffic flow), is utilised by HOV vehicles traveling in the peak traffic flow direction. The main issue with a contra flow-based scheme is that it can pose a major safety risk to all road users, especially at intersections, where there are many potential points of conflict.
- Construction of additional lanes within the road reserve dedicated to HOVs. This option would require substantial investment in infrastructure and is therefore not suitable for a pilot (but could be considered for implementation should a scenario 1 pilot be successful). In addition, this option would also require active law enforcement to ensure compliance.
- Developing infrastructure for dedicated HOVs that can be used for bus rapid transit in the future. This option will, however, require significant planning and funding from the Provincial Government.

The photos in **Figure 1.15** show the current configuration of portions of the R44, from Somerset West, towards Stellenbosch.



Figure 1.15: Road capacity for dedicated HOV lane pilot study

The dedicated HOV lane pilot study could be conducted in conjunction with the piloting of a park and ride facility along the same corridor. There are ongoing studies investigating the potential of the park and ride solutions, to alleviate congestion, and provide sustainable transport solutions to and from Stellenbosch town centre. The park and ride pilot would require a shuttle service between the proposed facility and the Stellenbosch town centre. The contracting of minibus-taxi operators to run this service is one potential option that could help to make more efficient use of existing public transport vehicles. This would also encourage private vehicle owners to use public transport services more broadly, thereby potentially shifting mindsets in favour of sustainable transport modes.

The public transport shuttle service operating on the dedicated HOV lanes could integrate with an internal transport feeder system, the anticipated TOD-style Development along the Adam Tas Corridor, the parking garage facility proposed at Technopark, and the development of a formalised taxi operating company with the support of the Municipality. It is critical that the dedicated HOV lanes integrate with the existing NMT network, and planned improvements along this proposed corridor. The process for the pilot study is presented in Section 1.5.6.

1.8.2 Possible HOV Integration with Other Modes

The minimum requirements for the preparation of integrated transport plans document states that the focus of the public transport plan must be to integrate the public transport network, services, and modes. There is an opportunity to integrate other modes with the proposed HOV lanes (see [Figure 1.16](#)). Firstly, the HOV lanes can be integrated with the internal feeder system (see section 1.5). This will connect areas such as Jamestown, Technopark, and Paradyskloof with the looped system. Secondly, once the rail services are re-instated (see section 1.4 for more information), the internal feeder system can be linked to rail by adding an additional stop at the train station or adjacent parking area (see [Figure 1.17](#)). This will further increase accessibility to and from other areas outside the town and be the first step in achieving an integrated public transport system for Stellenbosch.

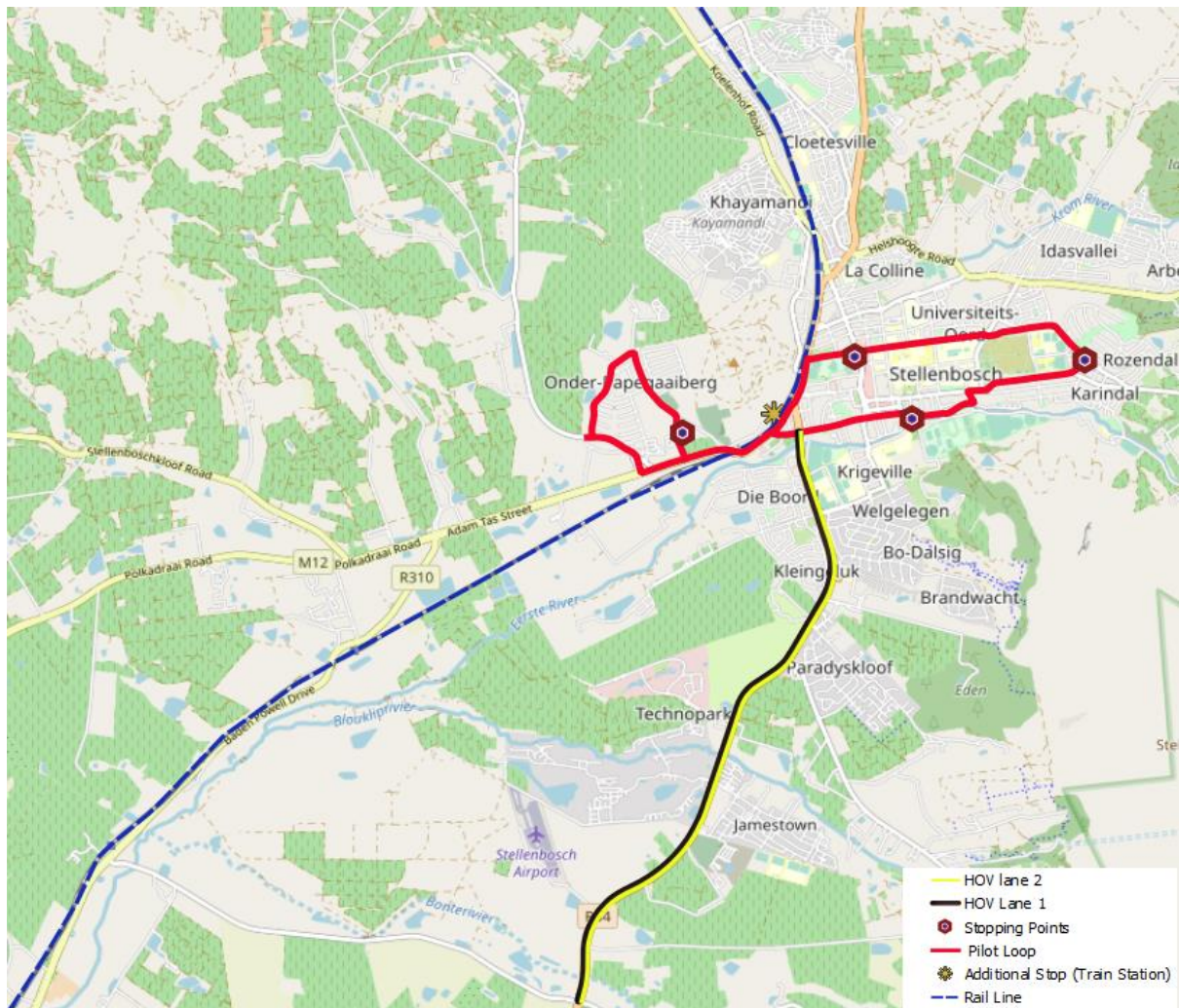


Figure 1.16: Possible Integration Opportunities



Figure 1.17: Stellenbosch Train Station and Adjacent Parking Area

Table 1.12: Proposed Public Transport Projects and Initiatives

Table 1.12 provides a set of proposed public transport-related interventions and projects for this CITP, which includes several projects included in the IDP.

Public Transport Plan: Key Intervention and Initiatives								
	Interventions/initiatives	Description	5-year target 2022-2027	Year 1 2022/23	Year 2 2023/24	Year 1 2022/23	Year 1 2022/23	Year 1 2022/23
1.	Transport Feeder System (IDP 2022)	Investigations and assessments reports for mechanism for the Internal Transport Feeder System from park and ride areas to the CBD	2	n/a	1	1	n/a	n/a
2.	Park and Ride Facilities (IDP 2022)	Submission of assessments reports for management of park and ride facilities to the Municipal Manager	2	n/a	1	1	n/a	n/a
3.	HOV lanes (R44) (IDP 2022)	Submission of an assessment report to the Provincial Department of Transport on the implementation of public transport lanes on the R44 (from both directions Stellenbosch – Somerset West)	1	1	n/a	n/a	n/a	n/a
4.	SU Shuttle Services (IDP 2022)	Engagements with the University to collaborate on the implementation and improvement of park and ride facilities and shuttle	5	1	1	1	1	1

		services for students						
5.	Transport Operating Company (IDP 2022)	Continued feasibility studies to establish a transport operating company	4	n/a	1	1	1	1
6.	Universal Accessibility (IDP 2022)	Development of business model for a Transport service for persons with disabilities in Stellenbosch	4	n/a	1	1	1	1
7.	Bergzicht Taxi Rank (IDP 2022)	Re-design of Bergzicht Public Transport Facility	2	1	1	n/a	n/a	n/a
8.	OLS Review (Current CITP Revision)	Conducting an Operating License review	1	1	n/a	n/a	n/a	n/a
9.	Mobility Forum (Current CITP Revision)	The reinstatement of the Mobility Forum between large employers and public transport operators	1	1	n/a	n/a	n/a	n/a
10.	Driver Customer Care (Current CITP Revision)	Development of a Driver Customer Care Programme to improve minibus-taxi service provision	4	n/a	1	1	1	1

**APPENDIX B: DETAILED TRAFFIC SURVEYS OCT-NOV
2022**

APPENDIX B1: SUPPORTING FIGURES FOR THE R44 & TECHNO PARK ROAD INTERSECTION

Appendix A1 contains the following supporting information for the R44 & Techno Park Rd Intersection in the following figures:

- **Figure 1-1: Location of intersection in proximity to the Stellenbosch CBD**
- **Figure 1-2: Variation in traffic over a twelve-hour period (from 06:00 to 18:00)**
- **Figure 1-3: Directional traffic volumes for the AM and PM Peak Hour**



Figure 1- 1: Intersection Location

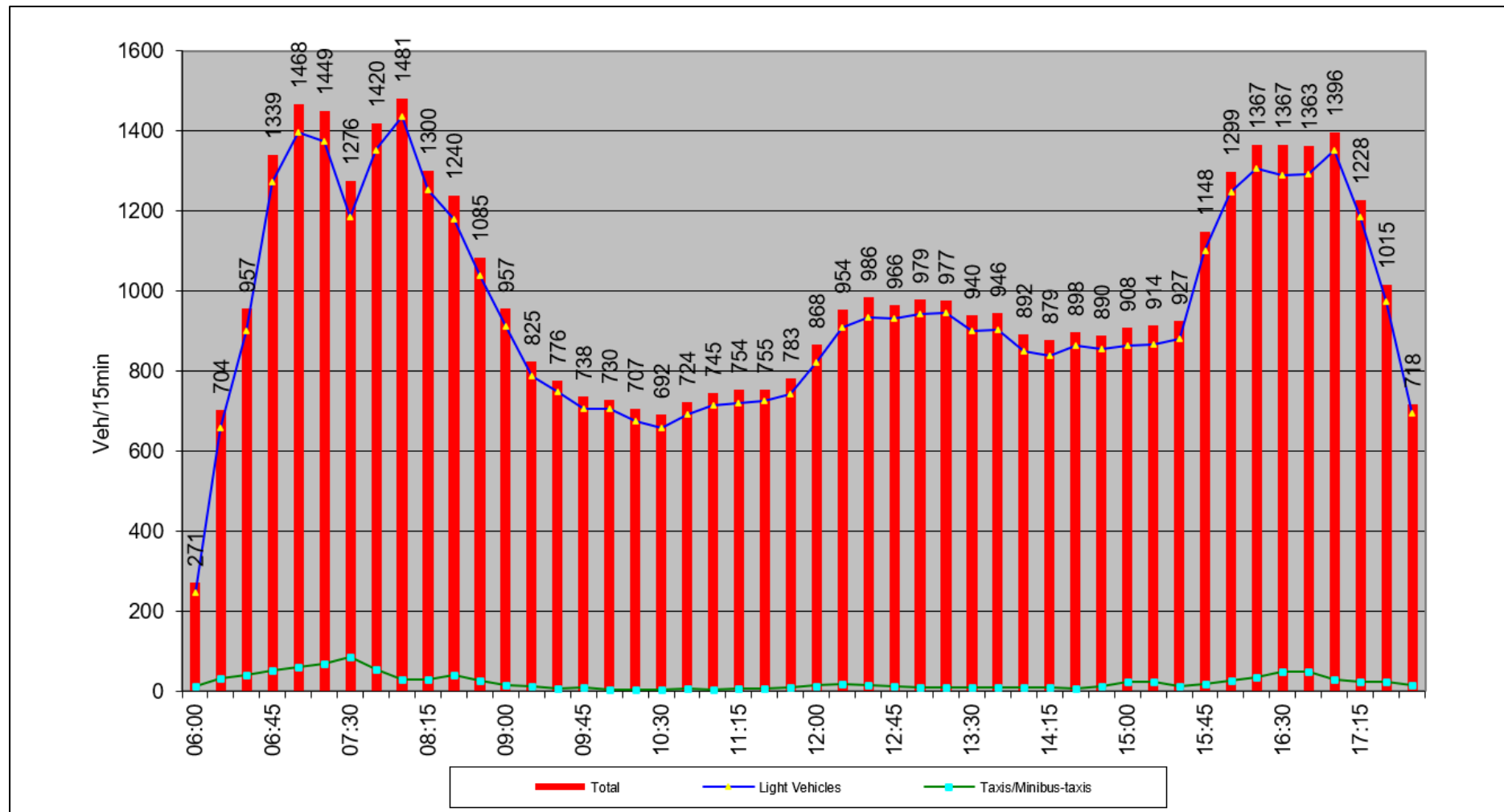


Figure 1- 2: Variation Over 12 Hours (total vehicles entering intersection per 15 minutes) – 2 Nov 2022

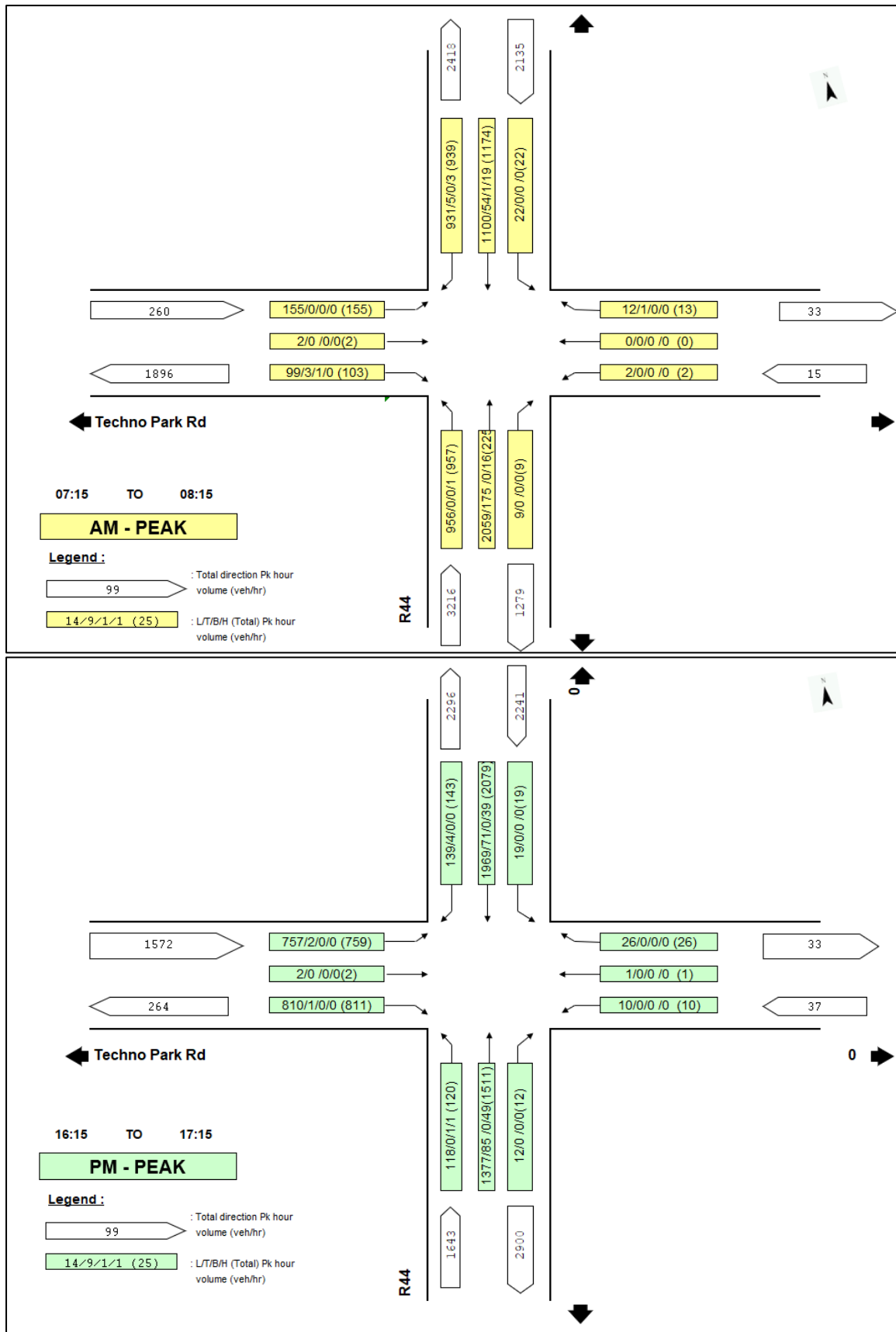


Figure 1- 3: Peak Hour Volumes as on 2 November 2022

APPENDIX B2: SUPPORTING FIGURES FOR THE DORP STREET & R310 INTERSECTION

Appendix A2 contains the following supporting information for the Dorp Street and R310 Intersection in the following figures:

- **Figure 2-1: Location of intersection in proximity to the Stellenbosch CBD**
- **Figure 2-2: Variation in traffic over a twelve-hour period (from 06:00 to 18:00)**
- **Figure 2-3: Directional traffic volumes for the AM and PM Peak Hour**

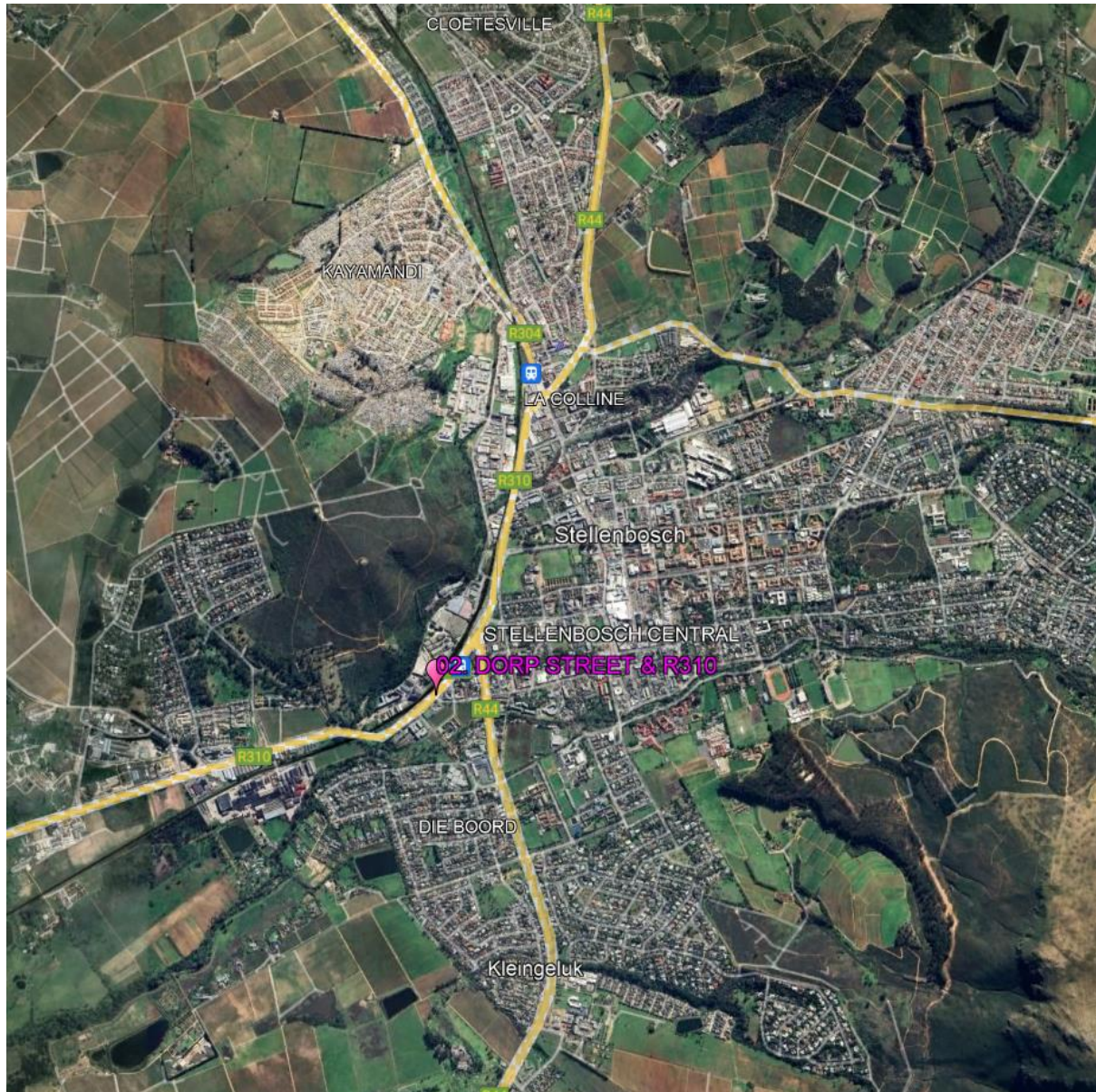


Figure 2- 4: Intersection Location

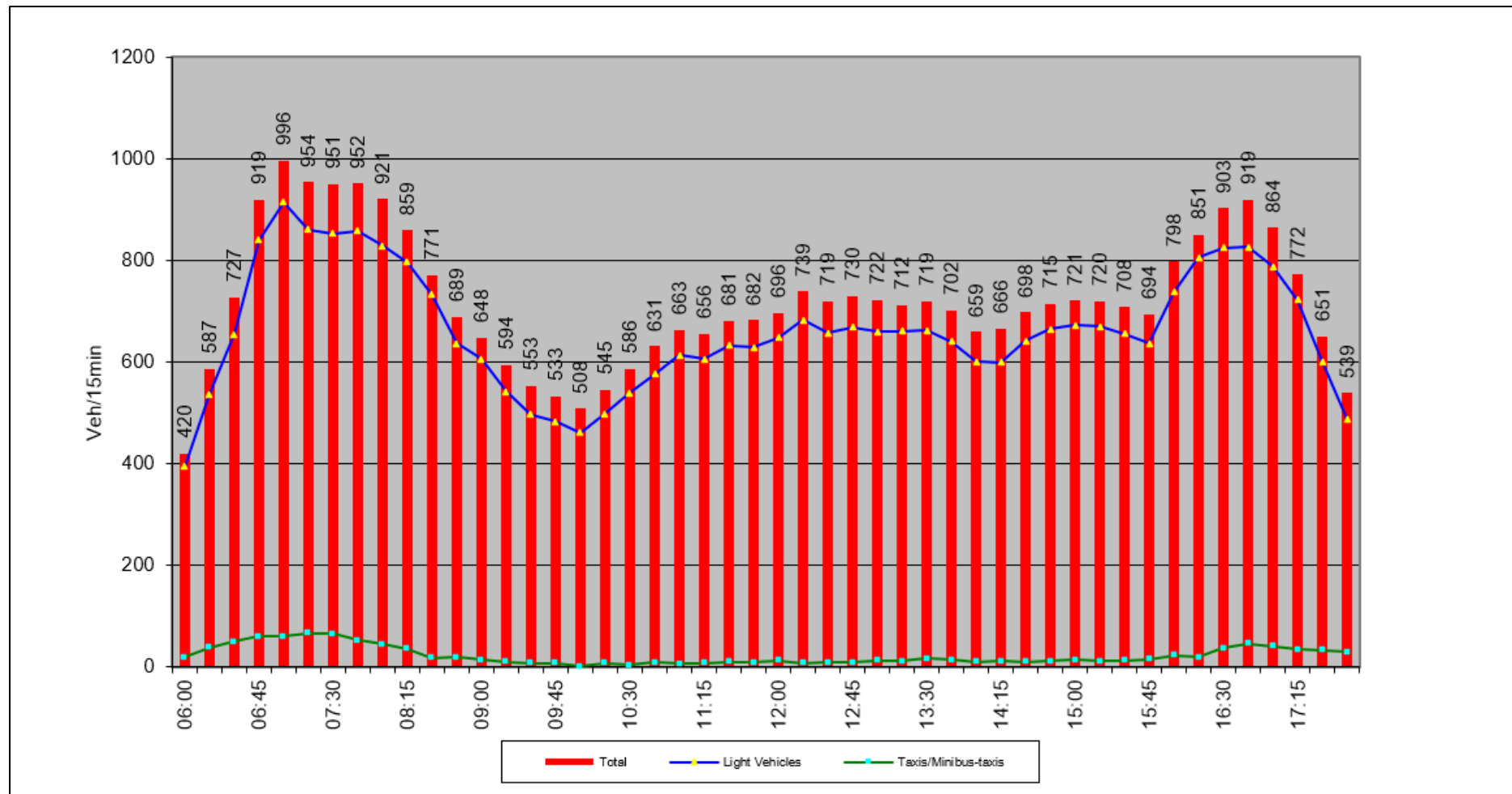


Figure 2- 5: Variation Over 12 Hours (total vehicles entering intersection per 15 minutes) – 26 Oct 2022

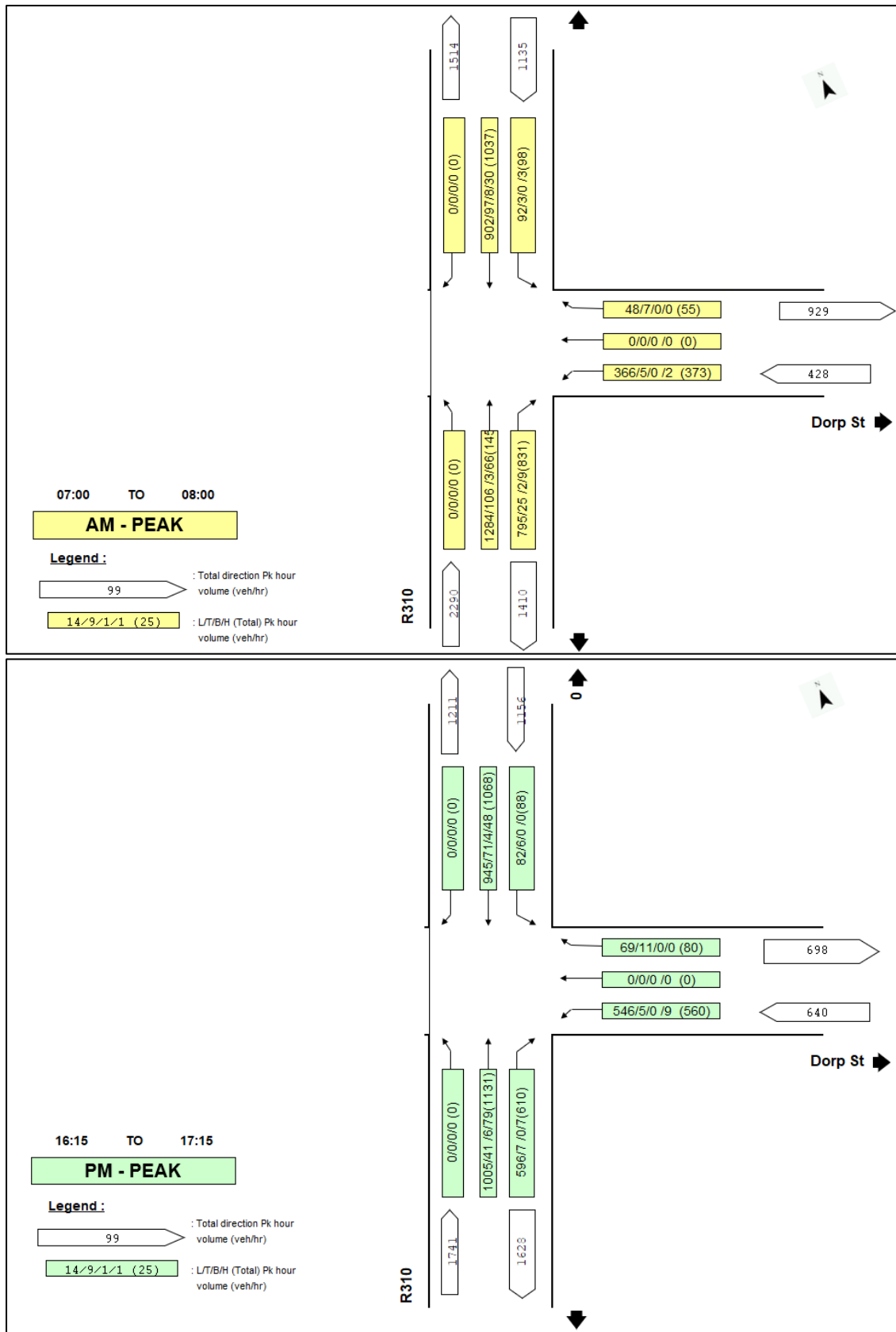


Figure 2- 6: Peak Hour Volumes as on 26 October 2022

APPENDIX B3: SUPPORTING FIGURES FOR THE BIRD STREET & R310/R44 INTERSECTION

Appendix A3 contains the following supporting information for the Bird Street and R310 Intersection in the following figures:

- **Figure 3-1: Location of intersection in proximity to the Stellenbosch CBD**
- **Figure 3-2: Variation in traffic over a twelve-hour period (from 06:00 to 18:00)**
- **Figure 3-3: Directional traffic volumes for the AM and PM Peak Hour**



Figure 3- 7: Intersection Location

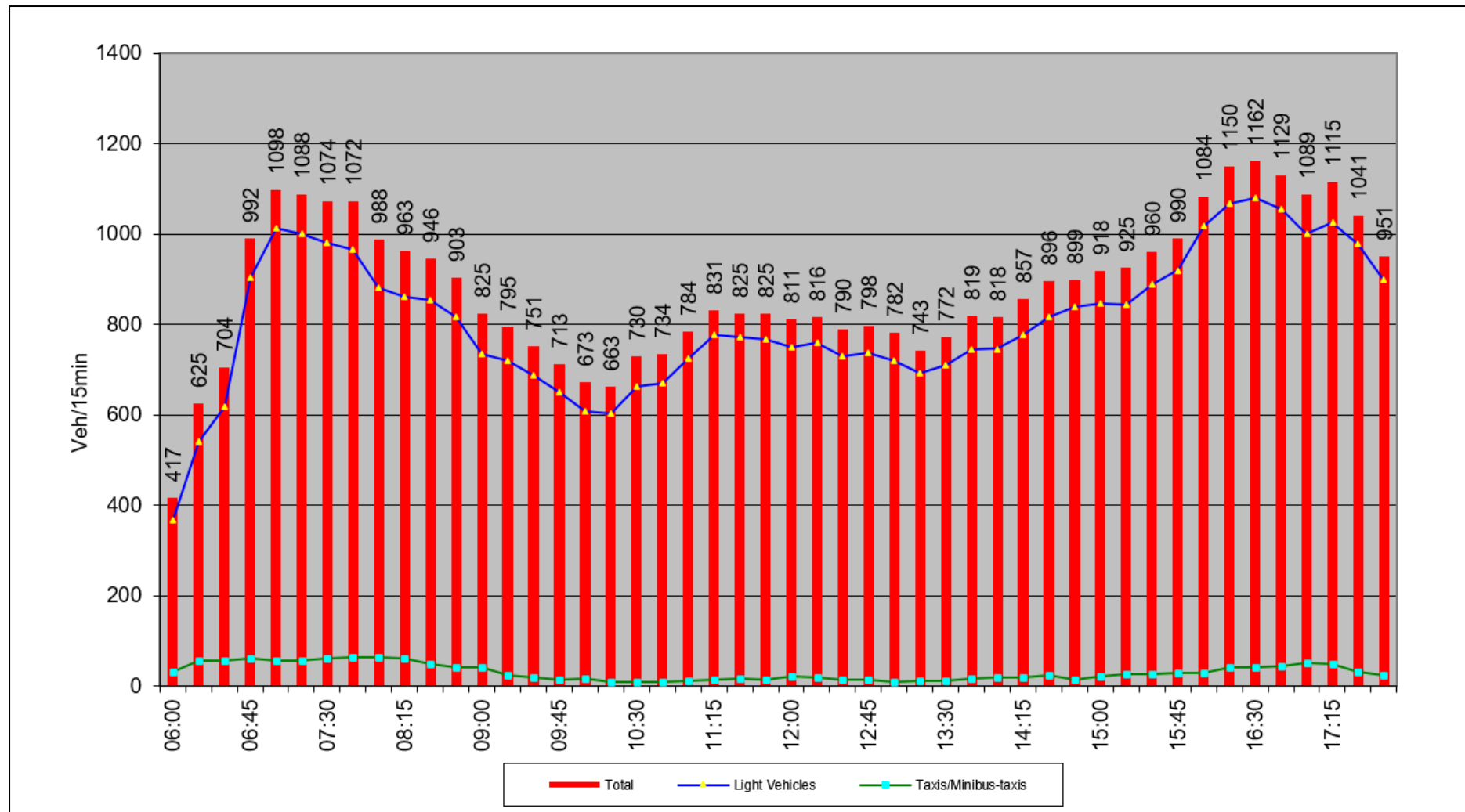
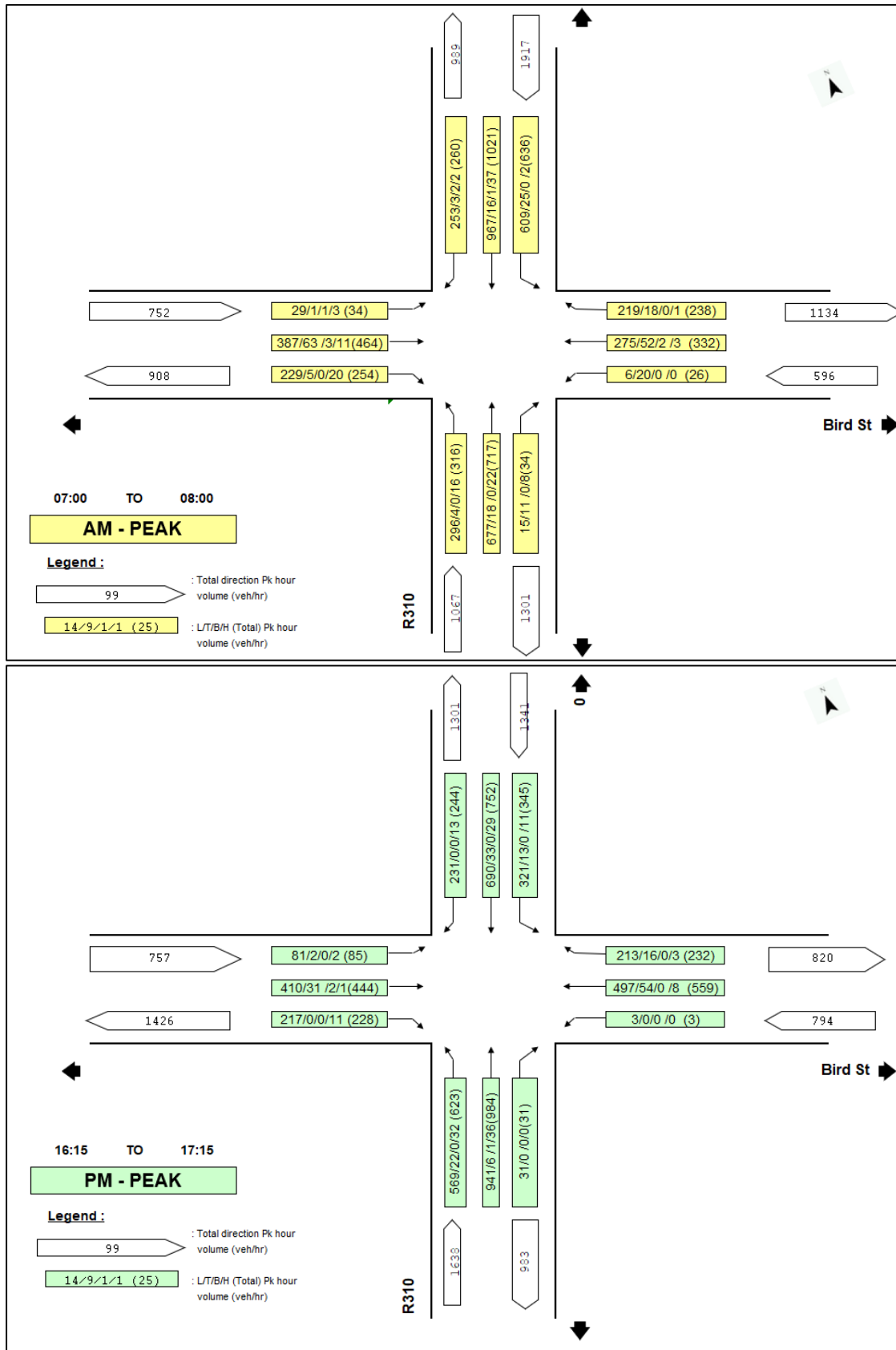


Figure 3- 8: Variation Over 12 Hours (total vehicles entering intersection per 15 minutes) – 26 Oct 2022



APPENDIX B4: SUPPORTING FIGURES FOR THE HELSHOOGTE ROAD & R44 INTERSECTION

Appendix A4 contains the following supporting information for the Helshoogte Road and R44 Intersection in the following figures:

- **Figure 4-1: Location of intersection in proximity to the Stellenbosch CBD**
- **Figure 4-2: Variation in traffic over a twelve-hour period (from 06:00 to 18:00)**
- **Figure 4-3: Directional traffic volumes for the AM and PM Peak Hour**

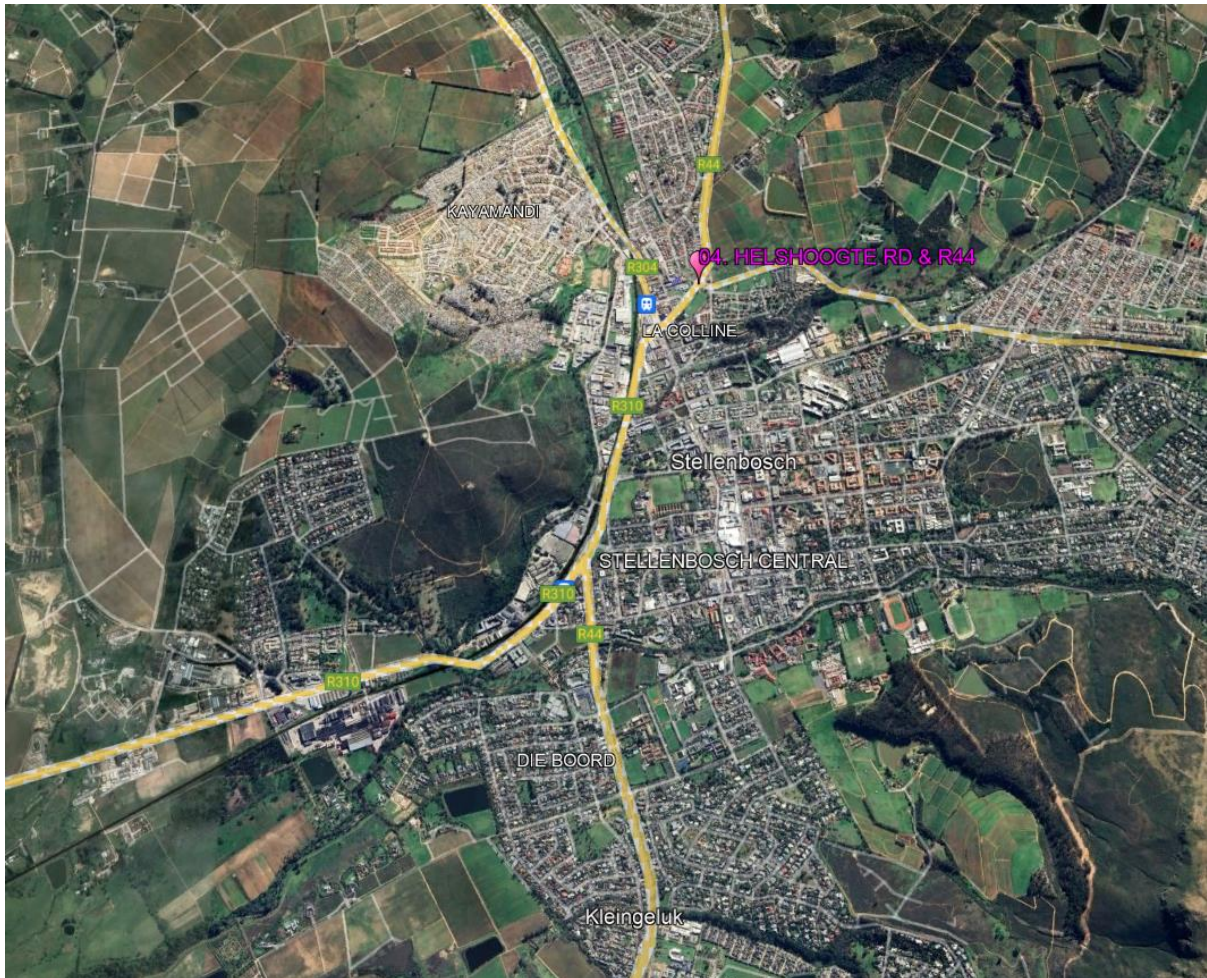


Figure 4- 10: Intersection Location

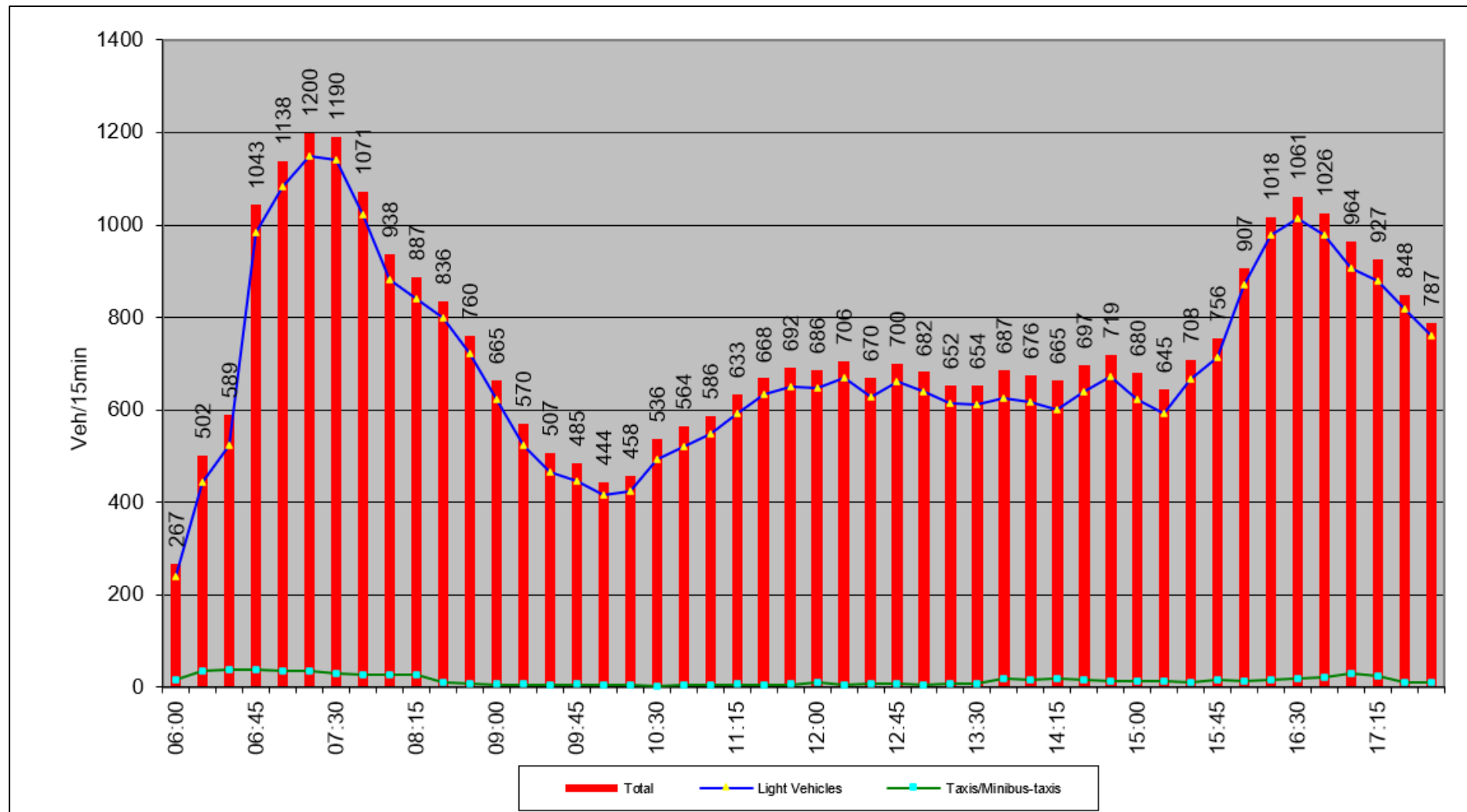


Figure 4- 11: Variation Over 12 Hours (total traffic entering intersection per 15 minutes) – 26 Oct 2022

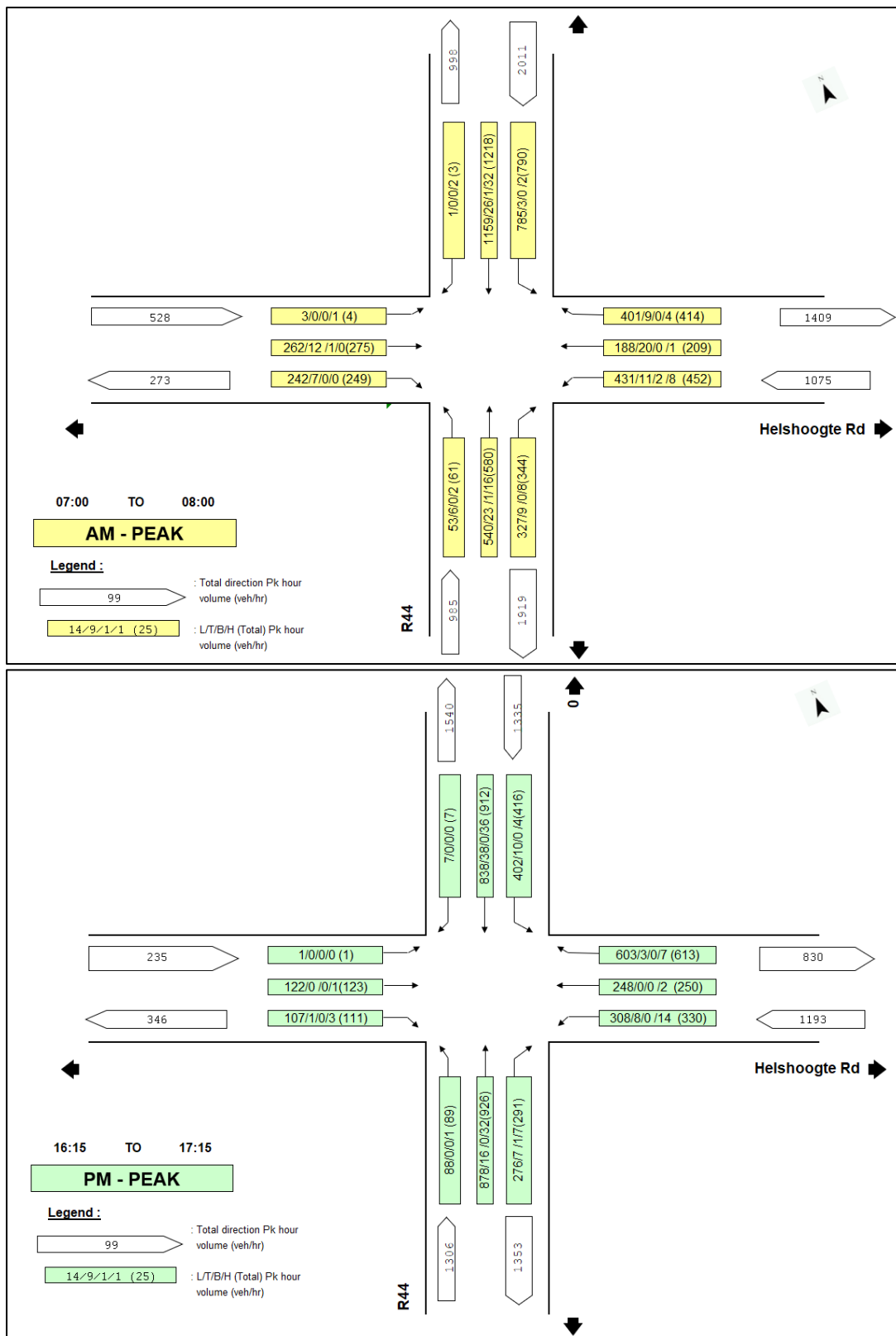


Figure 4- 12: Peak Hour Volumes as on 26 October 2022

APPENDIX B5: SUPPORTING FIGURES FOR THE HELSHOOGTE ROAD & CLUVER STREET INTERSECTION

Appendix A5 contains the following supporting information for the Helshoogte Road and Cluver Street intersection in the following figures:

- **Figure 5-1: Location of intersection in proximity to the Stellenbosch CBD**
- **Figure 5-2: Variation in traffic over a twelve-hour period (from 06:00 to 18:00)**
- **Figure 5-3: Directional traffic volumes for the AM and PM Peak Hour**



Figure 5- 13: Intersection Location

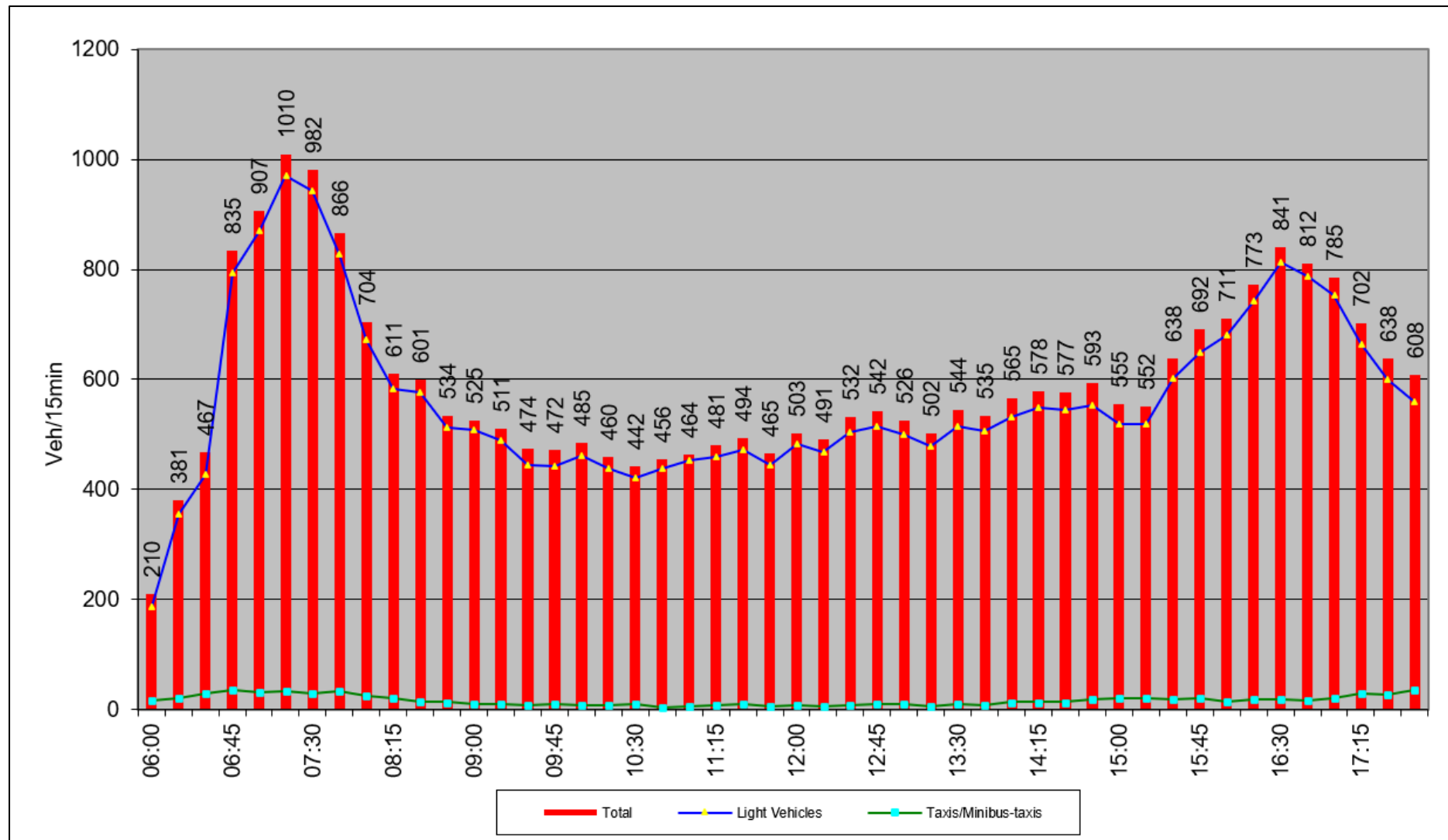


Figure 5- 14: Variation Over 12 Hours (total vehicles entering intersection per 15 minutes) – 26 Nov 2022

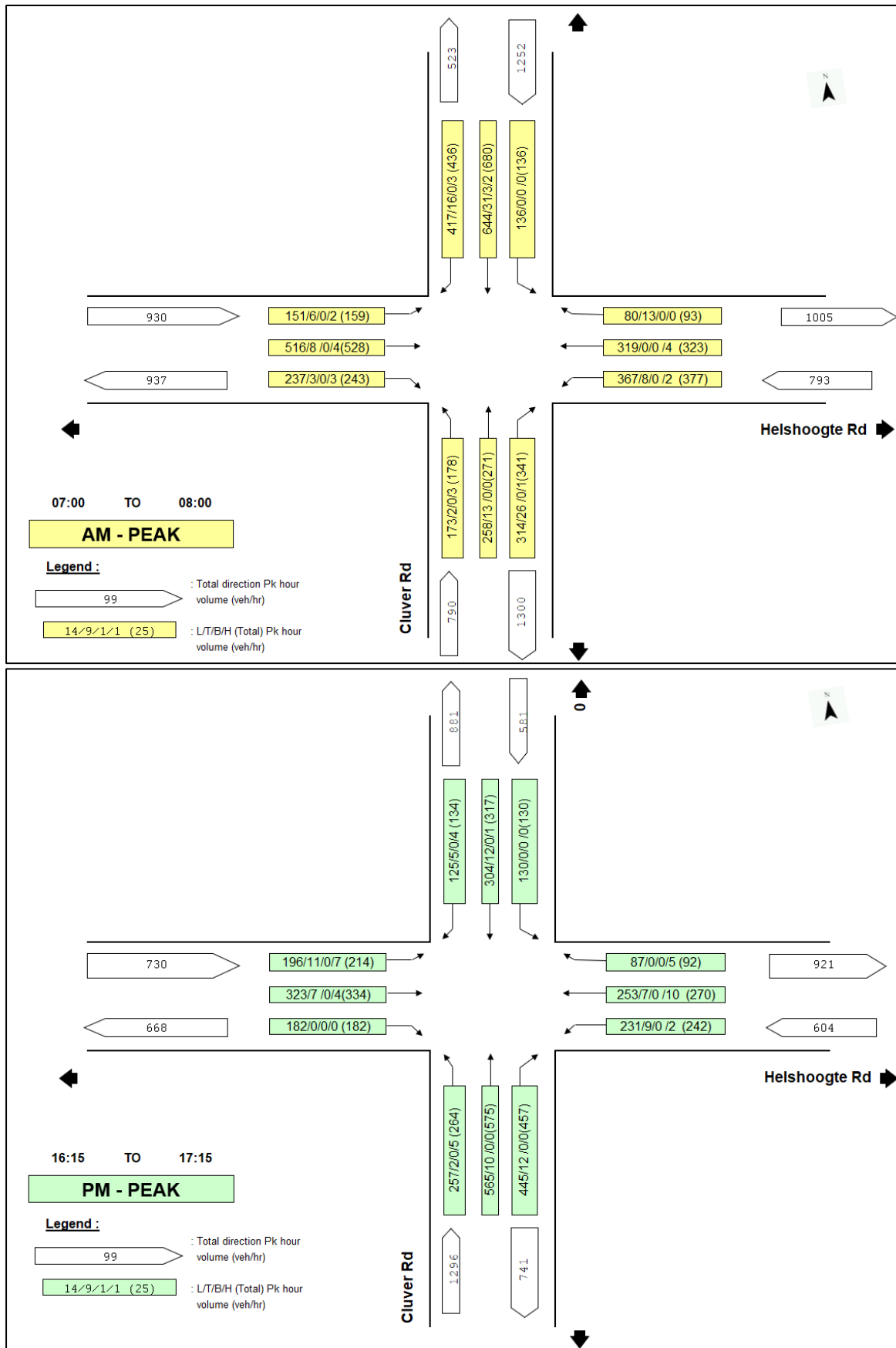


Figure 5- 15: Peak Hour Volumes as on 26 November 2022

APPENDIX B6: SUPPORTING FIGURES FOR THE R310 BADEN POWELL DRIVE & ANNANDALE ROAD INTERSECTION

Appendix A6 contains the following supporting information for the R310 Paden Powell Drive and Annandale Road Intersection in the following figures:

- **Figure 6-1: Location of intersection in proximity to the Stellenbosch CBD**
- **Figure 6-2: Variation in traffic over a twelve-hour period (from 06:00 to 18:00)**
- **Figure 6-3: Directional traffic volumes for the AM and PM Peak Hour**



Figure 6- 16: Intersection Location

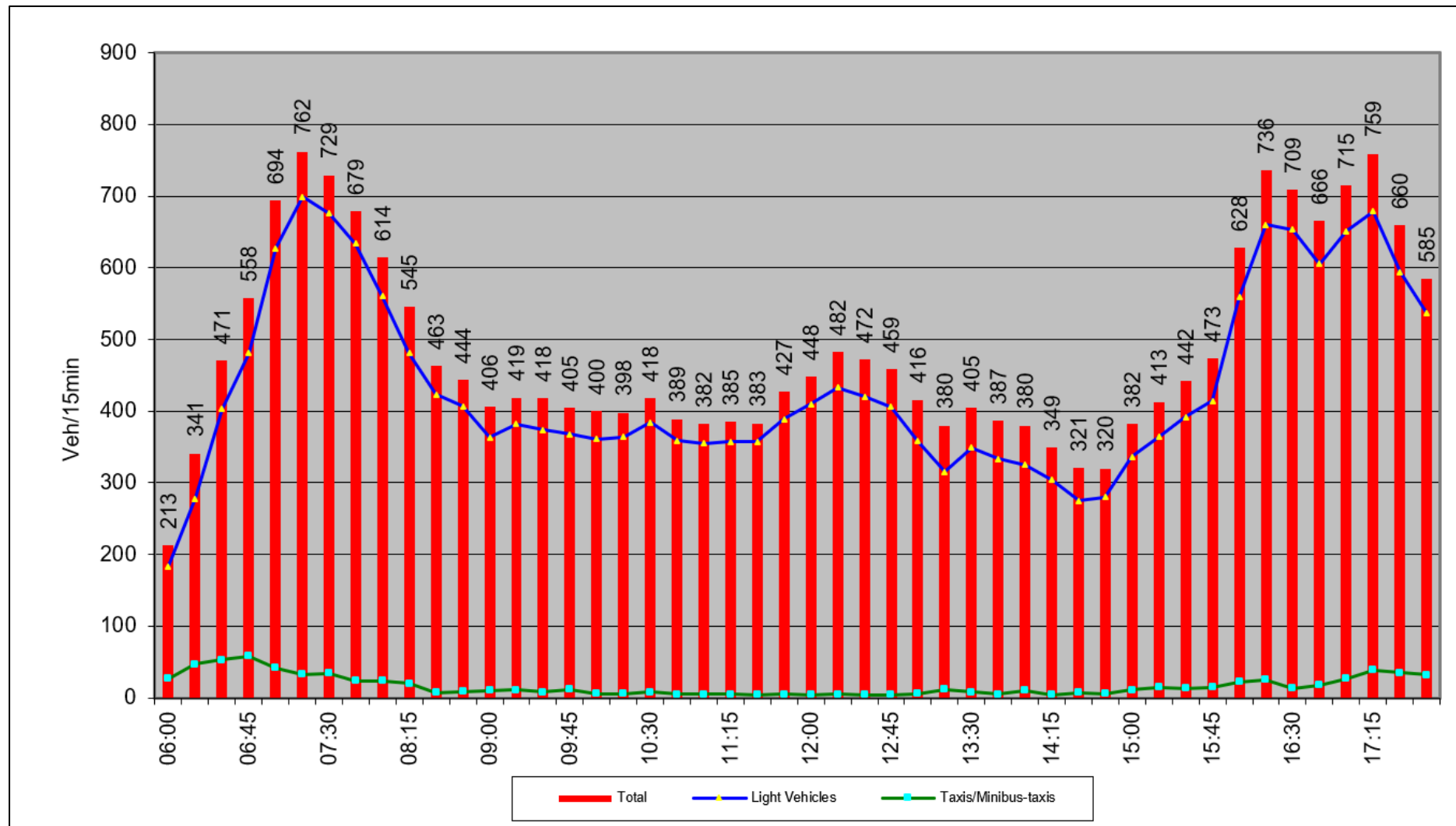


Figure 6- 17: Variation Over 12 Hours (total vehicles entering intersection per 15 minutes) – 2 Nov 2022

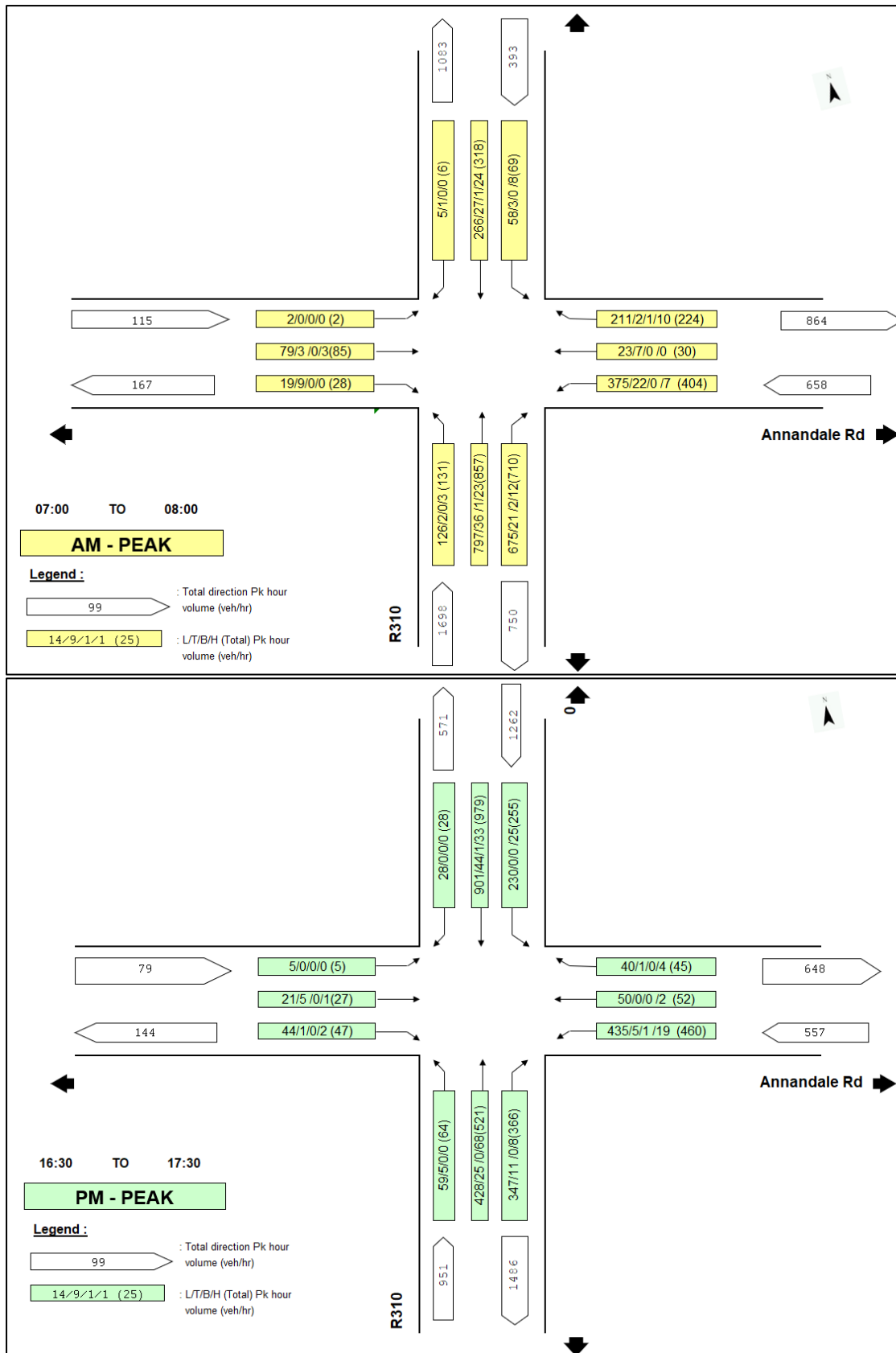


Figure 6- 18: Peak Hour Volumes as on 2 November 2022

APPENDIX B7: SUPPORTING FIGURES FOR THE 44 & WINERY ROAD INTERSECTION

Appendix A7 contains the following supporting information for the R310 Paden Powell Drive and Annandale Road Intersection in the following figures:

- **Figure 7-1: Location of intersection in proximity to the Stellenbosch CBD**
- **Figure 7-2: Variation in traffic over a twelve-hour period (from 06:00 to 18:00)**
- **Figure 7-3: Directional traffic volumes for the AM and PM Peak Hour**

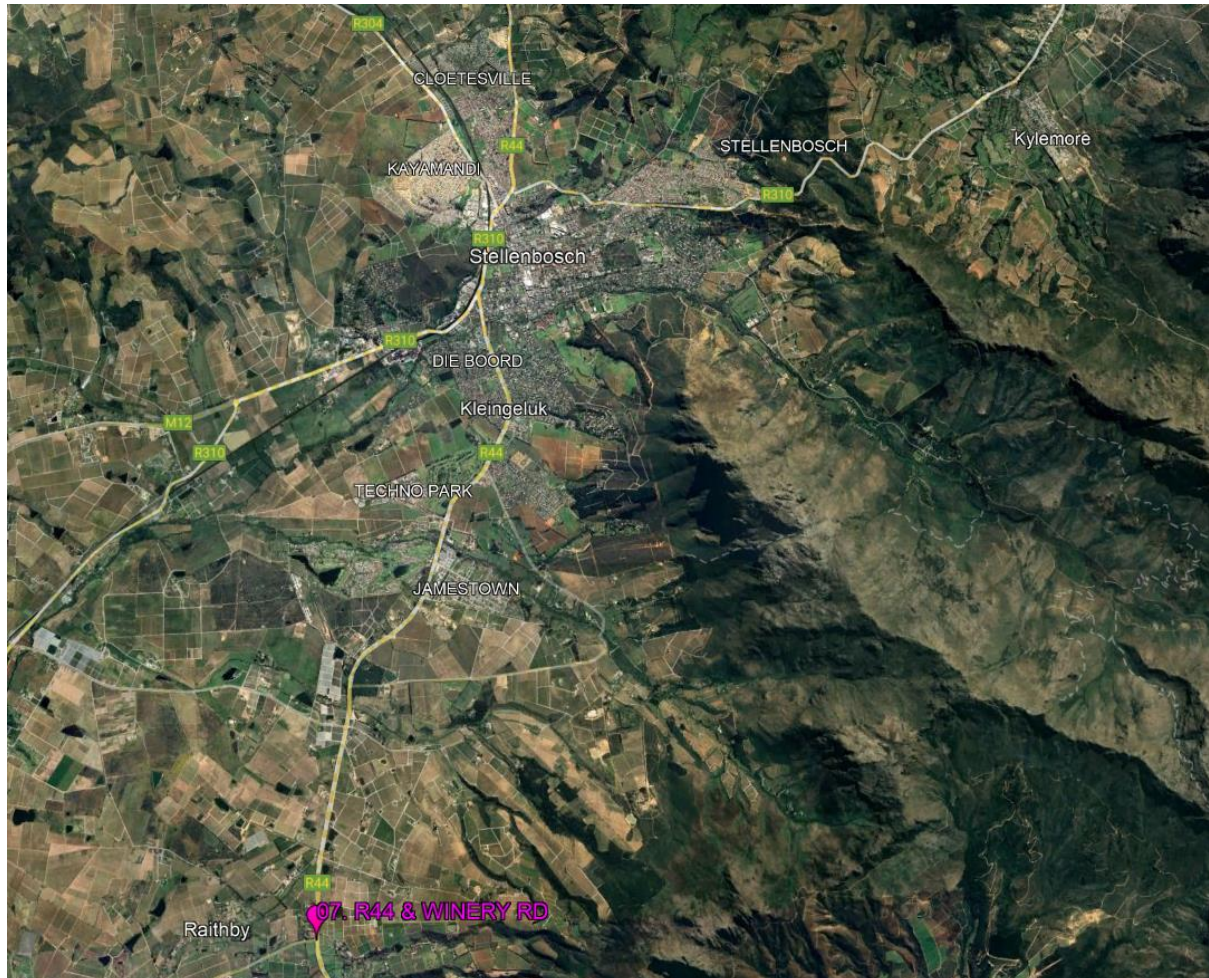


Figure 7- 19: Intersection Location

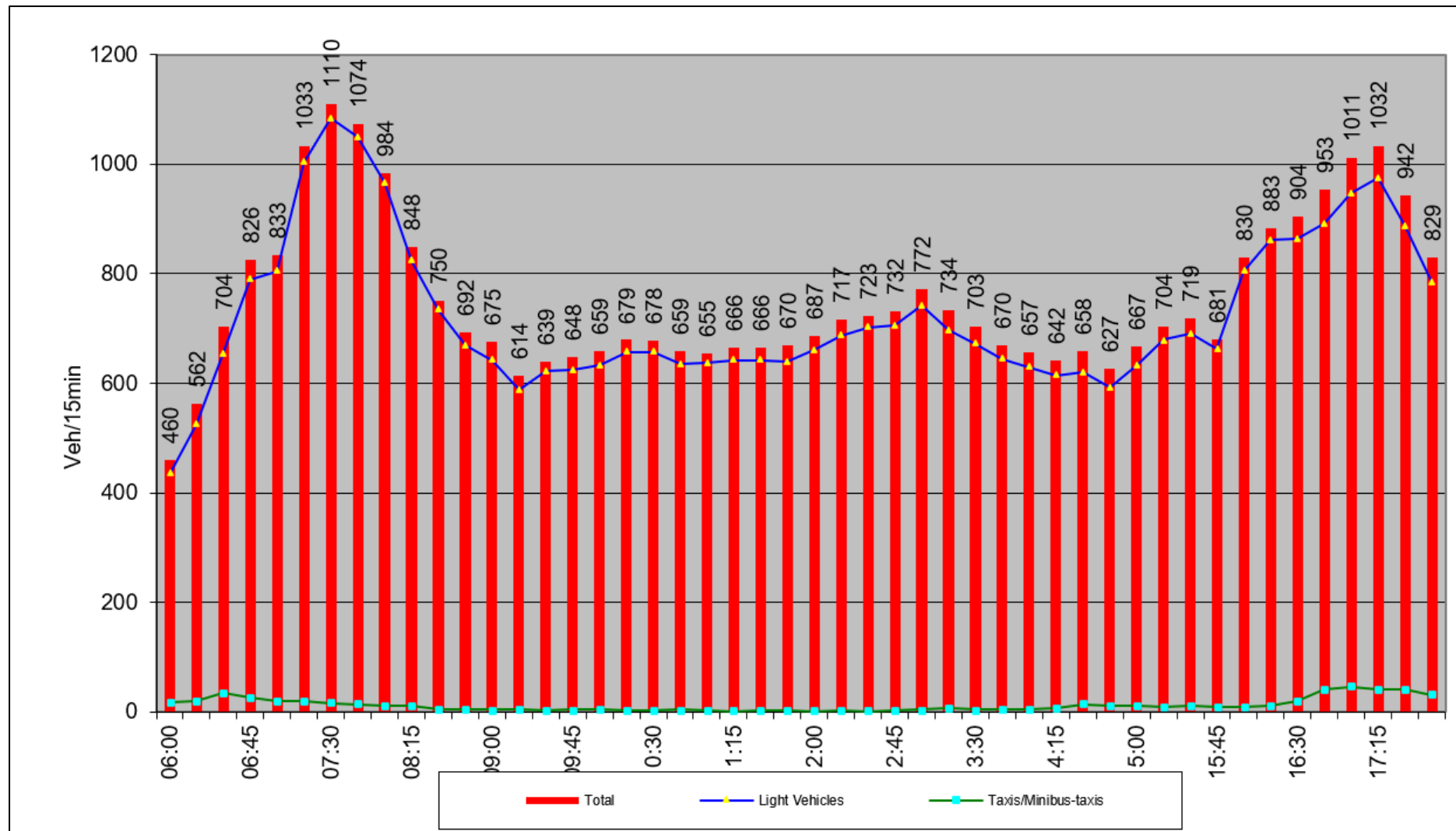


Figure 7- 20: Variation Over 12 Hours (total vehicles entering intersection per 15 minutes) – 2 Nov 2022

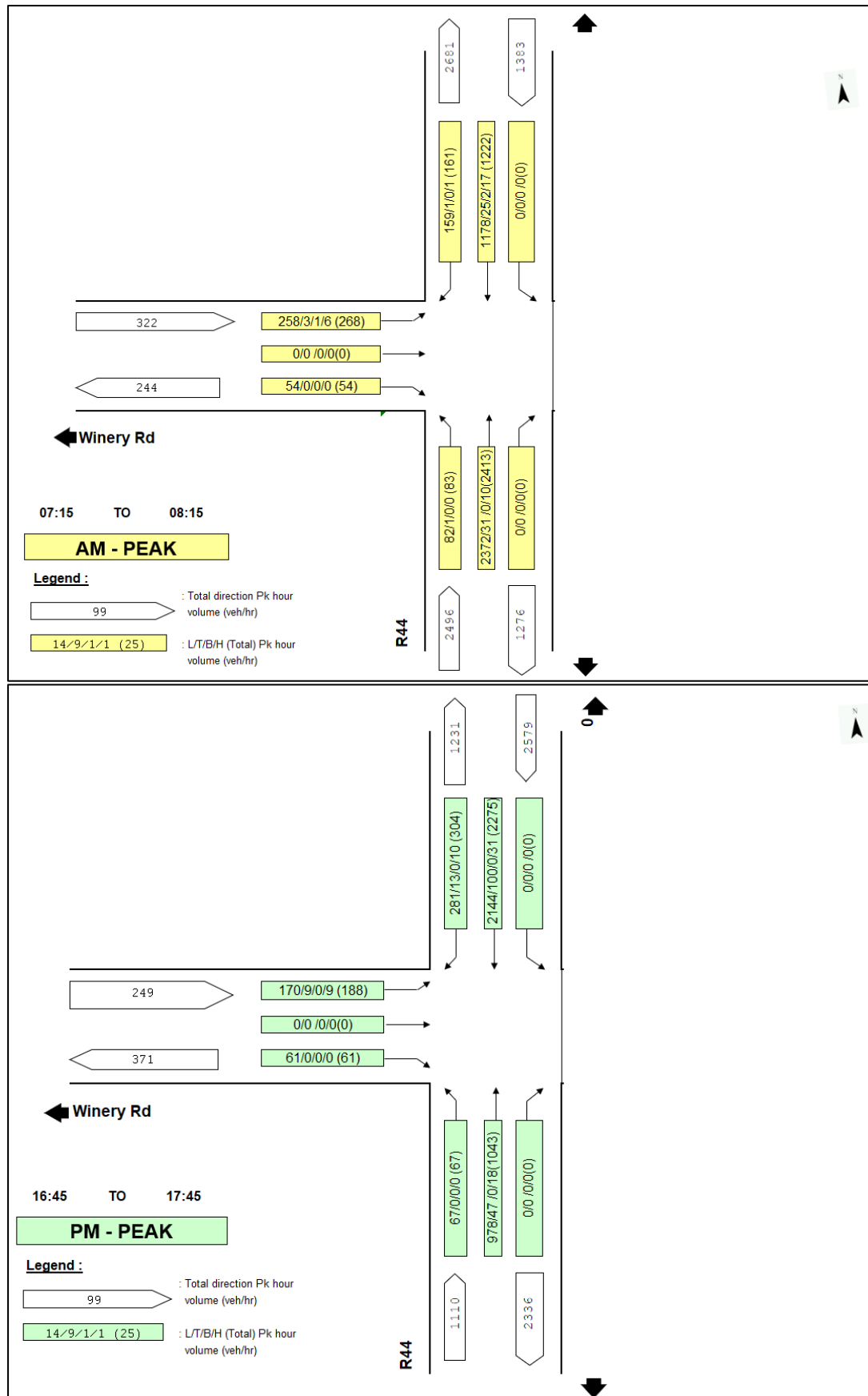


Figure 7- 21: Peak Hour Volumes as on 2 November 2022

APPENDIX B8: SUPPORTING FIGURES FOR THE R304 & KROMME RHEE ROAD INTERSECTION

Appendix A8 contains the following supporting information for the R304 and Kromme Rhee Road Intersection in the following figures:

- **Figure 8-1: Location of intersection in proximity to the Stellenbosch CBD**
- **Figure 8-2: Variation in traffic over a twelve-hour period (from 06:00 to 18:00)**
- **Figure 8-3: Directional traffic volumes for the AM and PM Peak Hour**

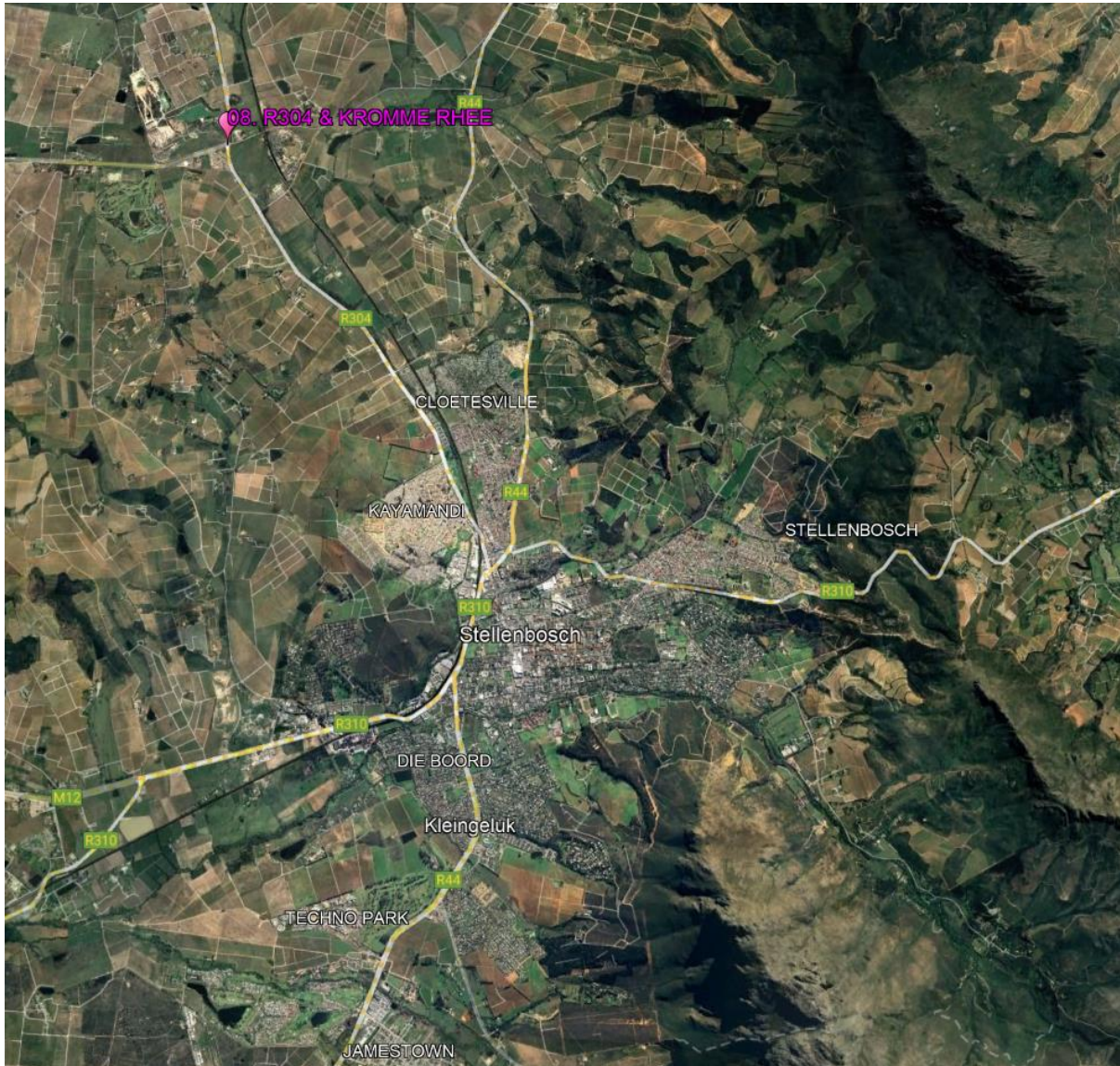


Figure 8- 22: Intersection Location

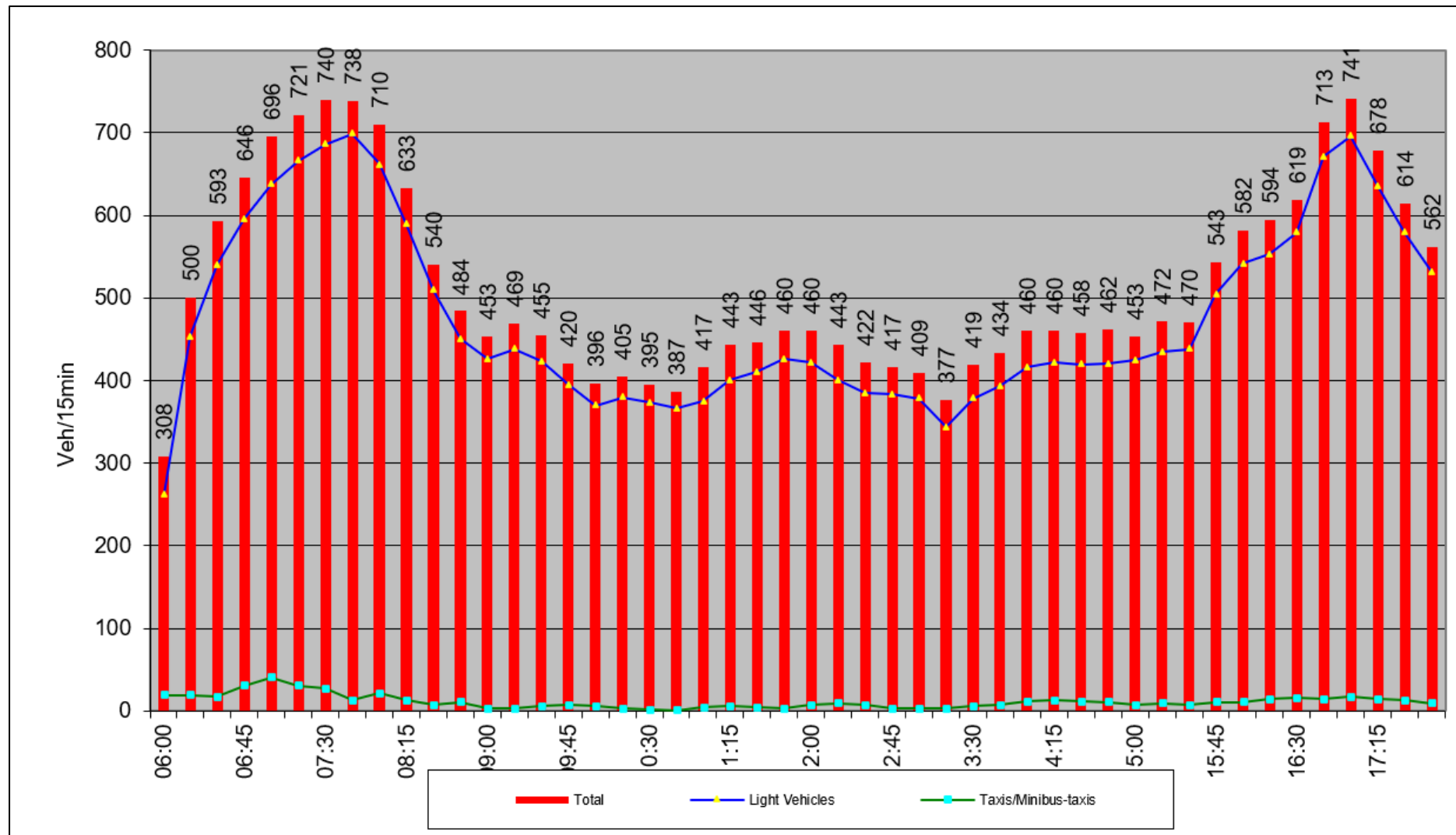


Figure 8- 23: Variation Over 12 Hours (total vehicles entering intersection per 15 minutes) – 2 Nov 2022

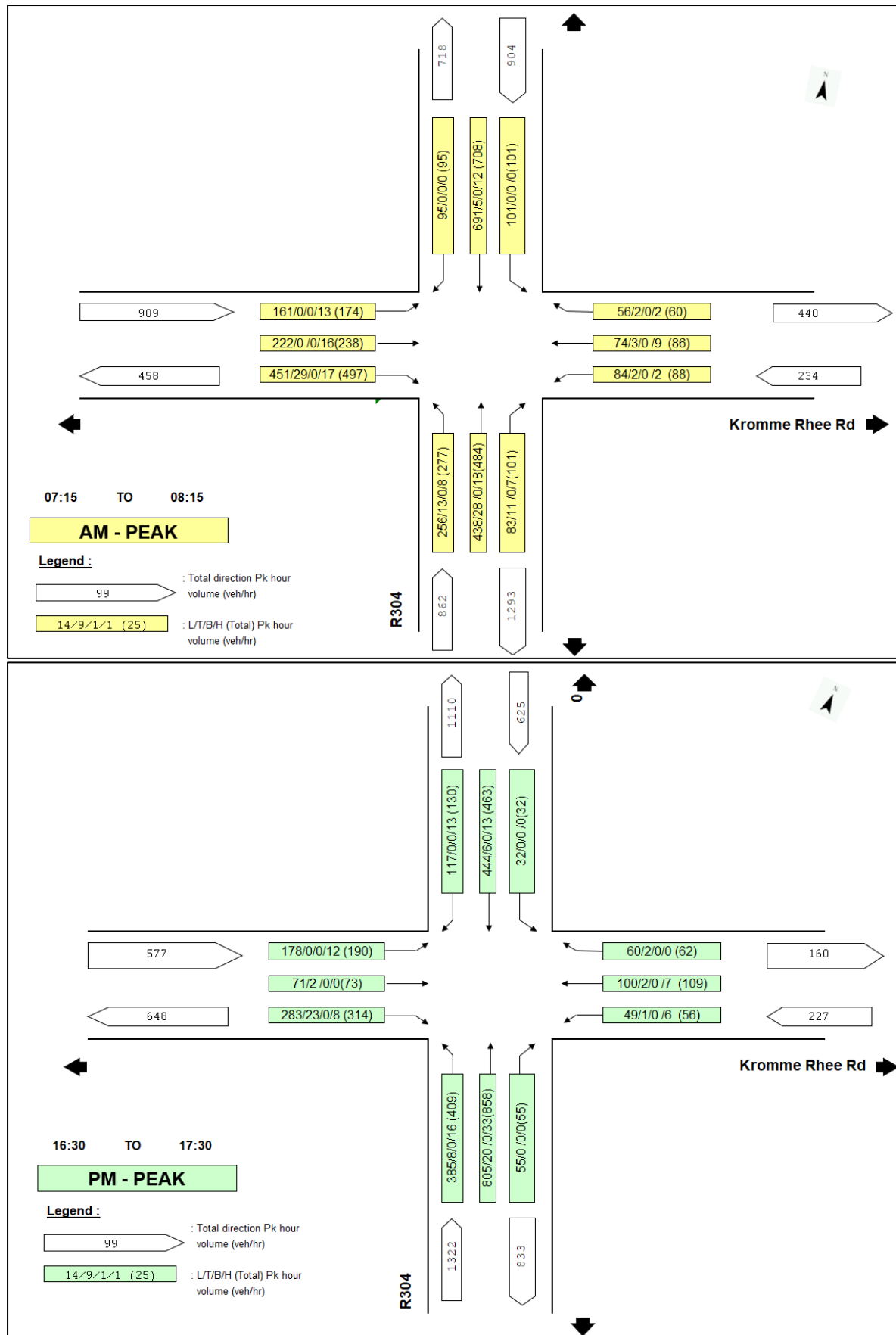


Figure 8- 24: Peak Hour Volumes as on 2 November 2022

APPENDIX B9: SUPPORTING FIGURES FOR THE R44 & KROMME RHEE ROAD INTERSECTION

Appendix A9 contains the following supporting information for the R44 and Kromme Rhee Road Intersection in the following figures:

- Figure 9-1: Location of intersection in proximity to the Stellenbosch CBD
- Figure 9-2: Variation in traffic over a twelve-hour period (from 06:00 to 18:00)
- Figure 9-3: Directional traffic volumes for the AM and PM Peak Hour



Figure 9- 25: Intersection Location

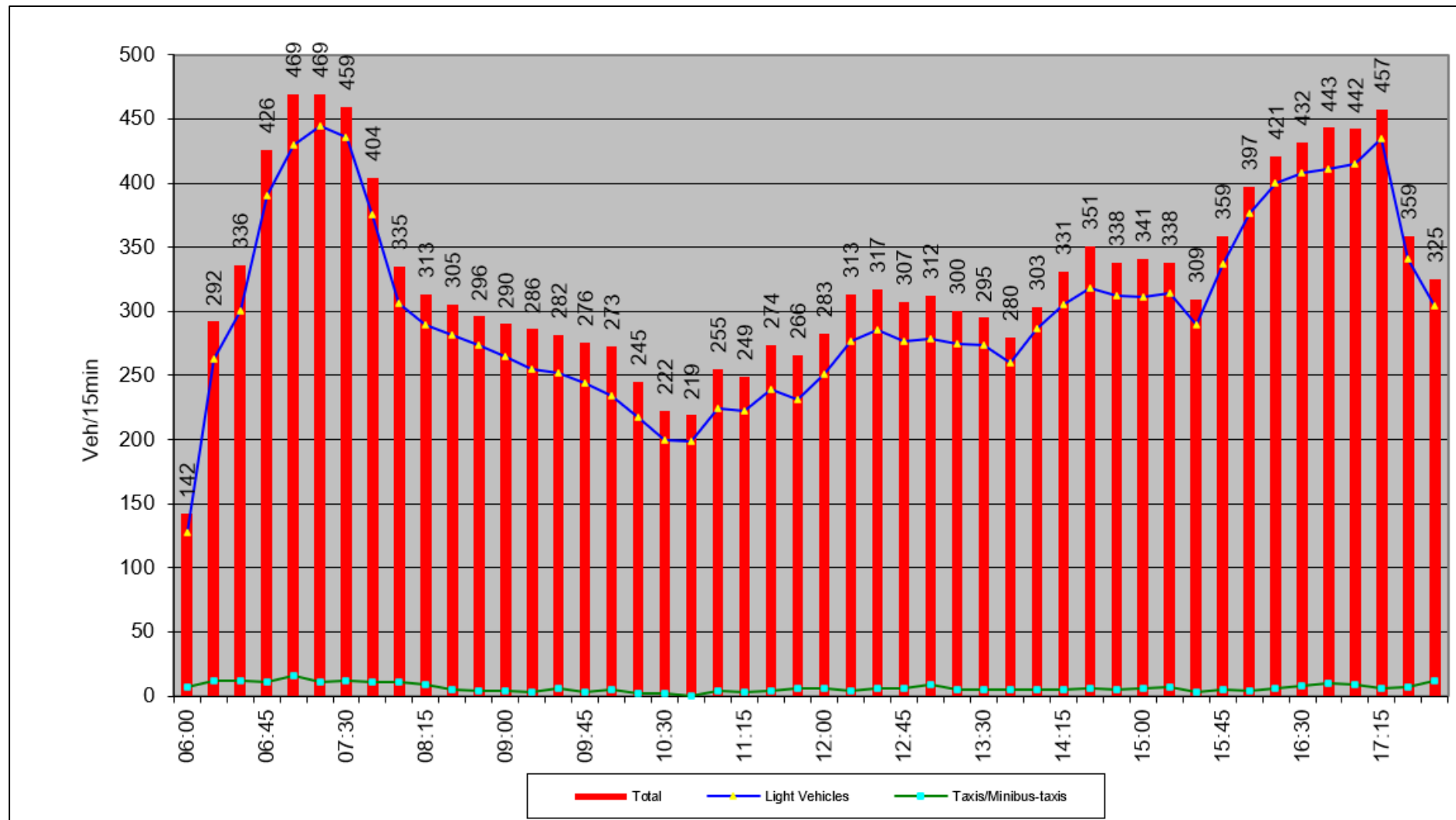


Figure 9- 26: Variation Over 12 Hours (total vehicles entering intersection per 15 minutes) 2 Nov 2022

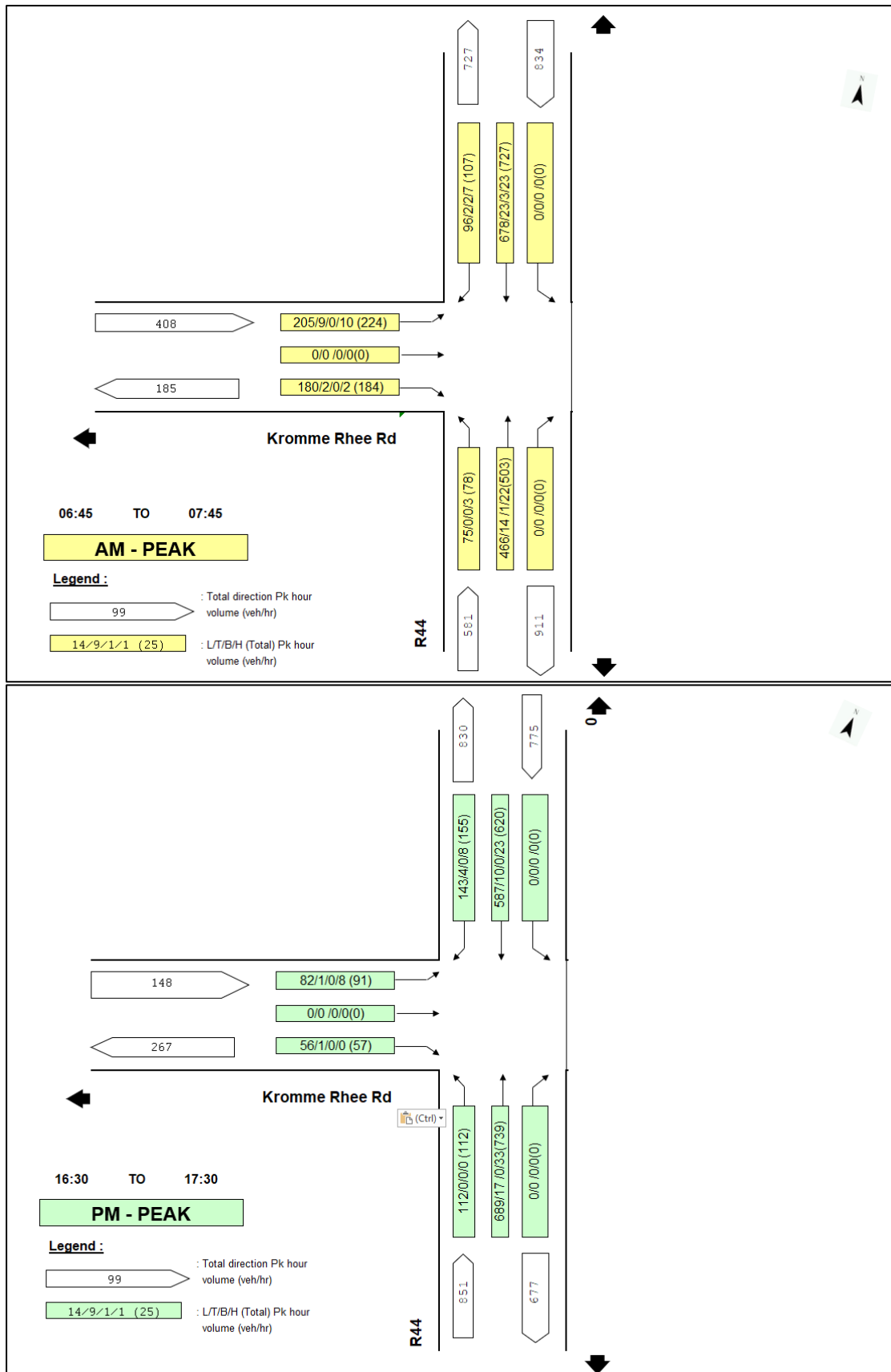


Figure 9- 27: Peak Hour Volumes as on 2 November 2022

APPENDIX B10: SUPPORTING FIGURES FOR THE R101 OLD PAARL RD & R44 INTERSECTION

Appendix A10 contains the following supporting information for the R44 and Kromme Rhee Road Intersection in the following figures:

- **Figure 10-1: Location of intersection in proximity to the Stellenbosch CBD**
- **Figure 10-2: Variation in traffic over a twelve-hour period (from 06:00 to 18:00)**
- **Figure 10-3: Directional traffic volumes for the AM and PM Peak Hour**

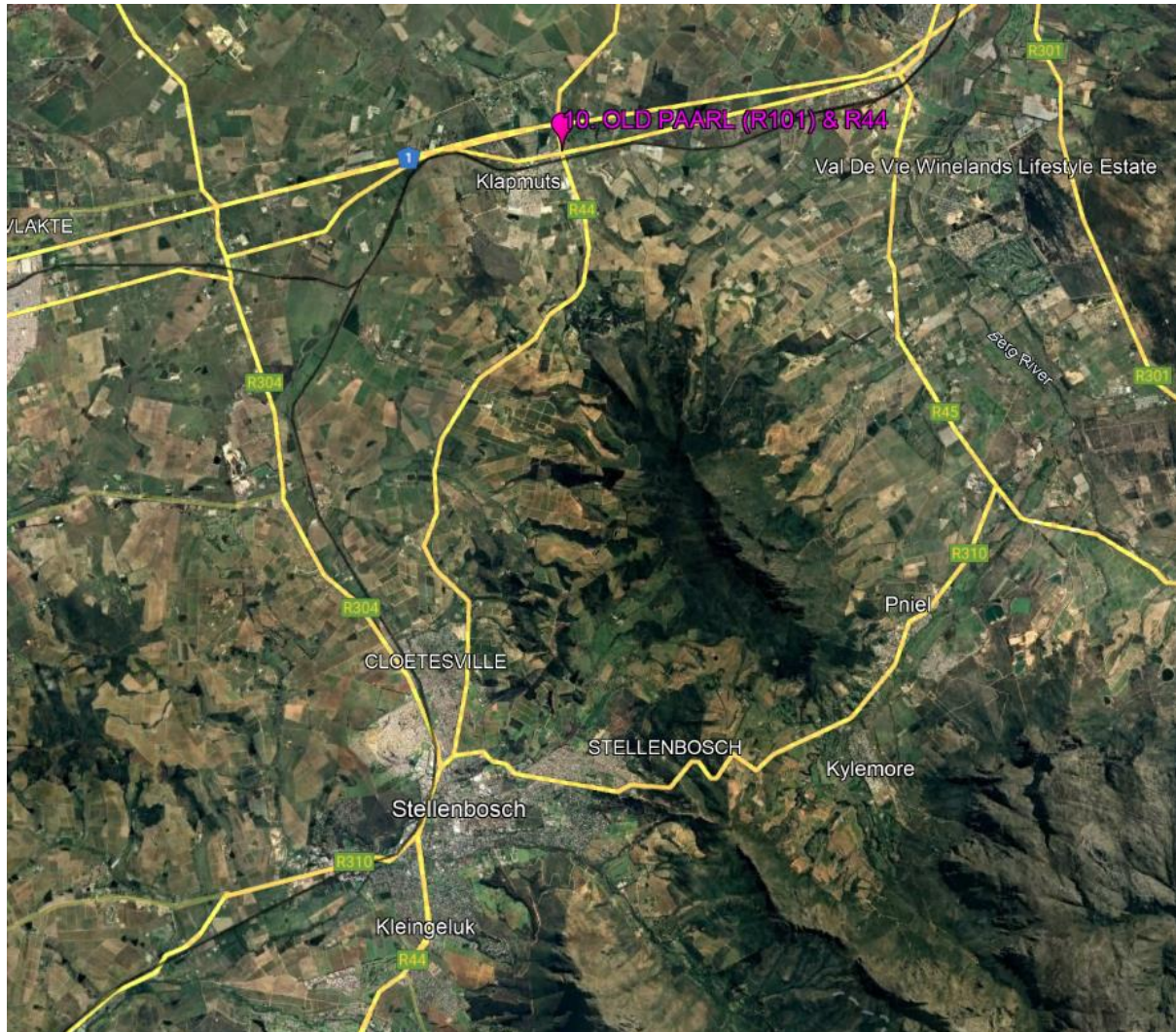


Figure 10-28: Intersection Location

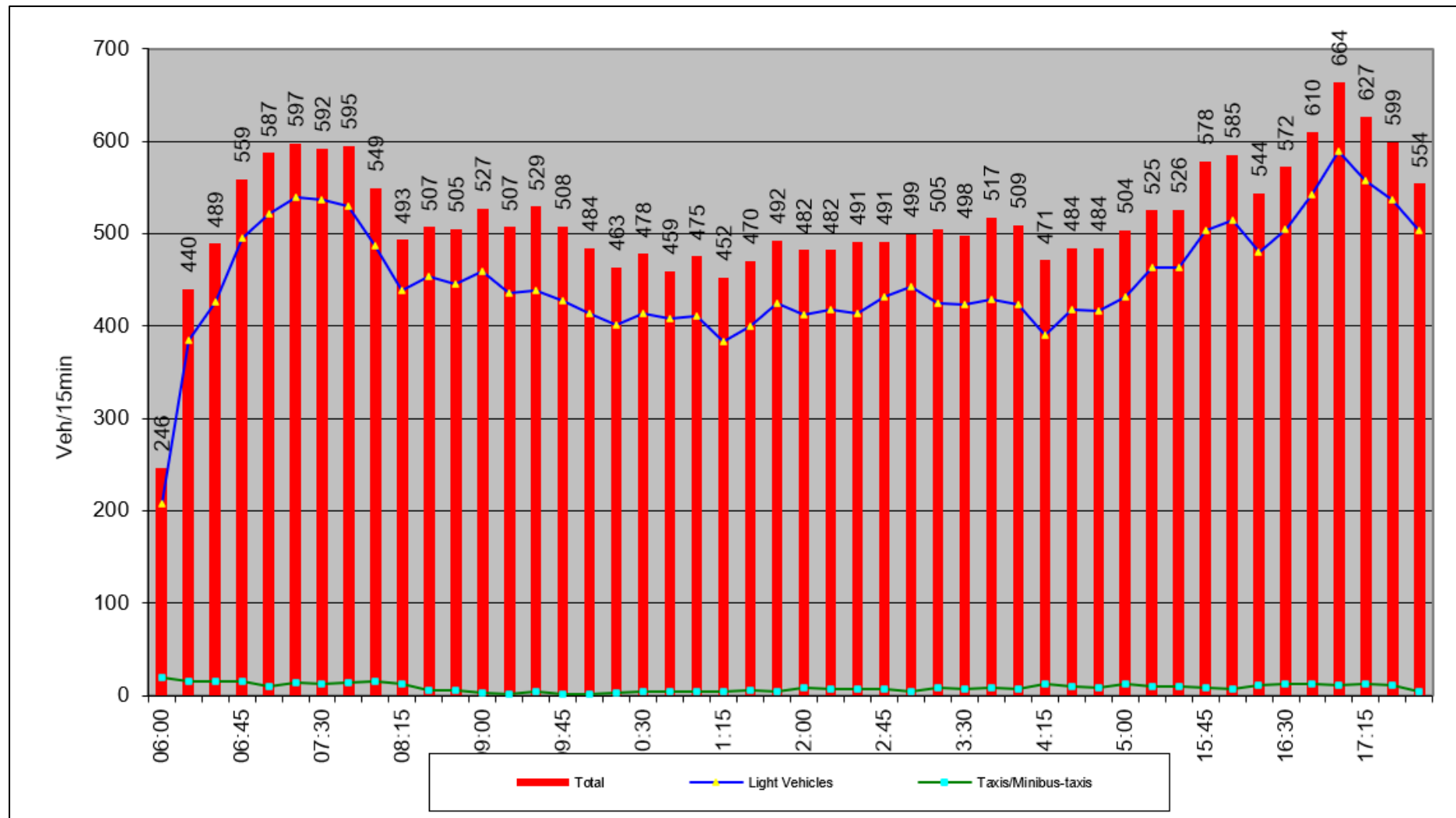


Figure 10-29: Variation Over 12 Hours (total vehicles entering intersection per 15 minutes) – 2 Nov 2022

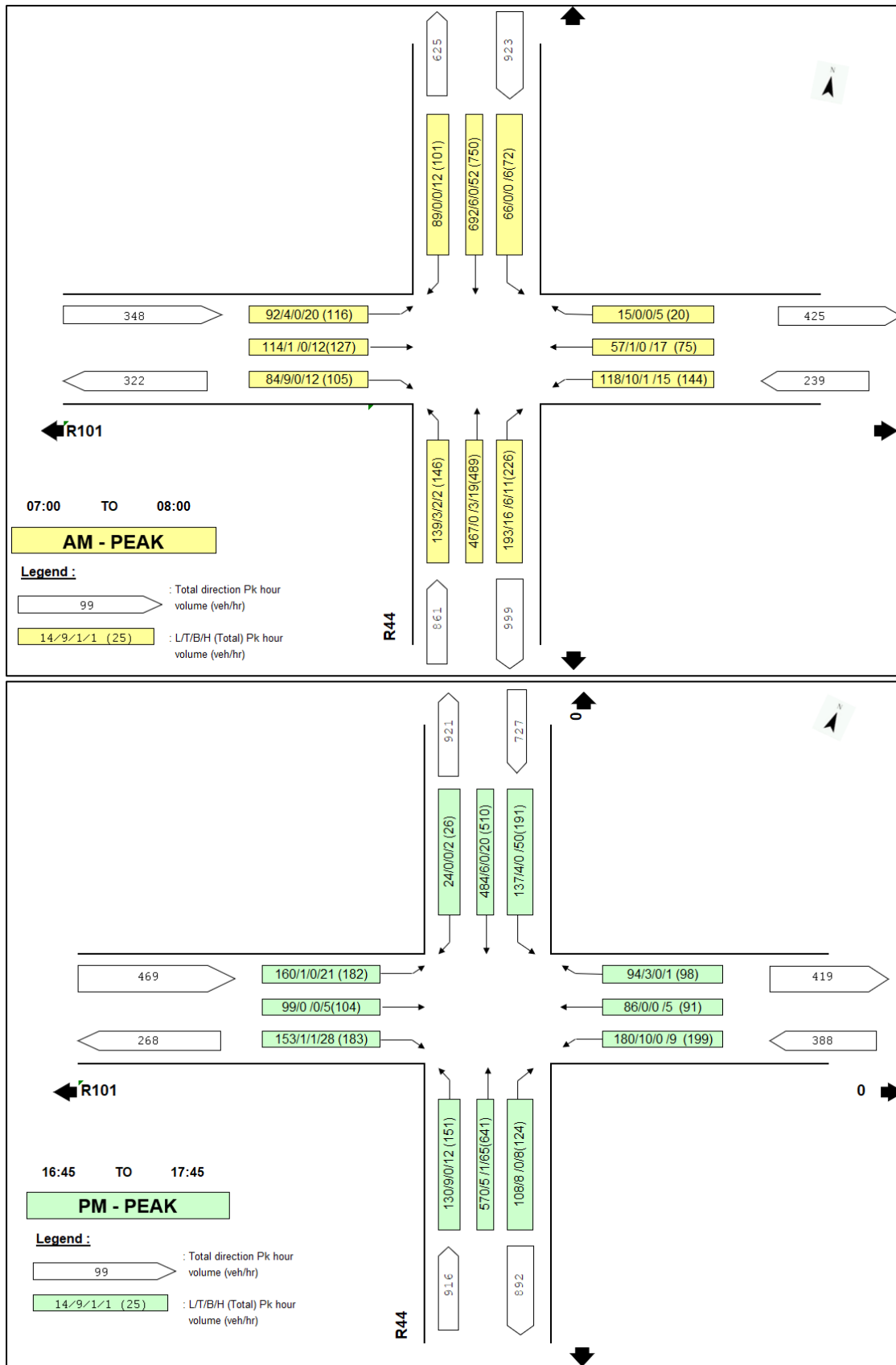


Figure 10-30: Peak Hour Volumes as on 2 November 2022

APPENDIX B11: SUPPORTING FIGURES FOR THE R45 & HELSHOOGTE ROAD INTERSECTION

Appendix A11 contains the following supporting information for the R45 and Helshoogte Road Intersection in the following figures:

- **Figure 11-1: Location of intersection in proximity to the Stellenbosch CBD**
- **Figure 11-2: Variation in traffic over a twelve-hour period (from 06:00 to 18:00)**
- **Figure 11-3: Directional traffic volumes for the AM and PM Peak Hour**

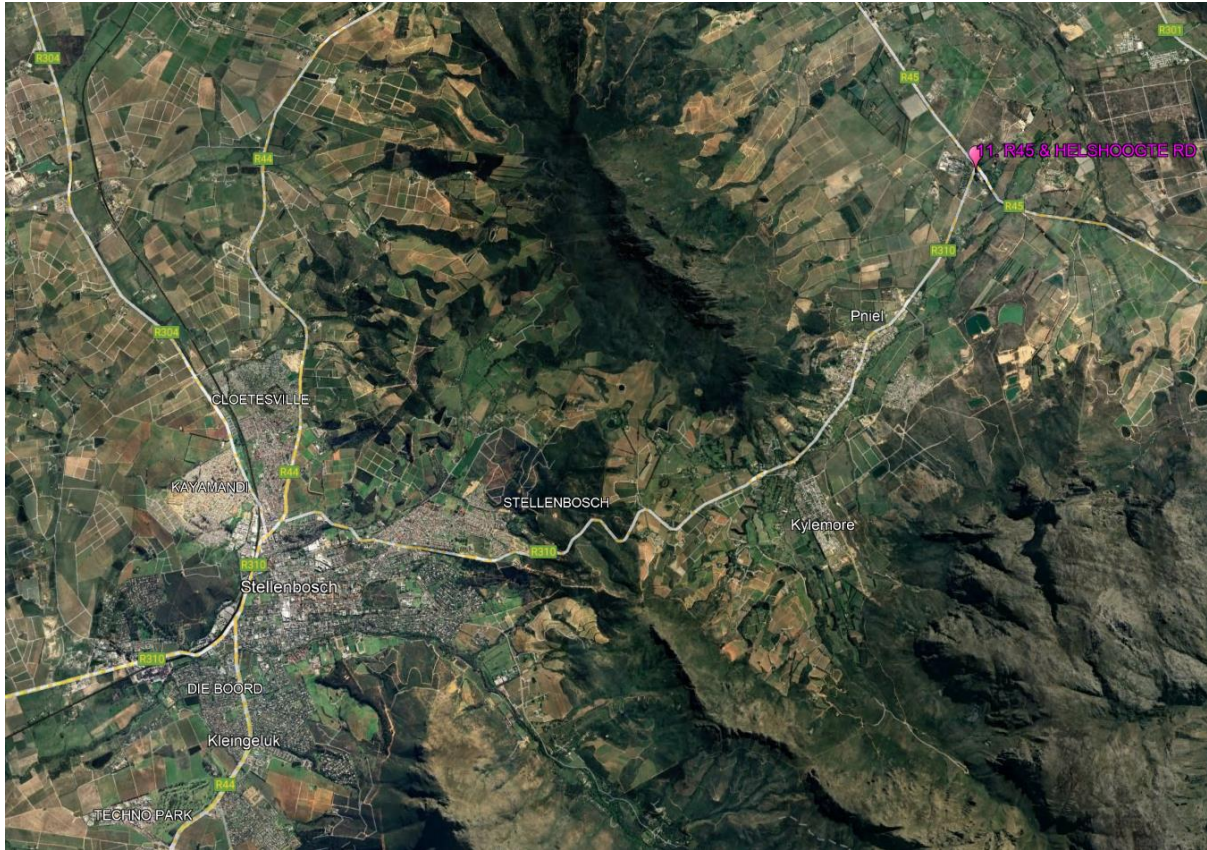


Figure 11- 31: Intersection Location

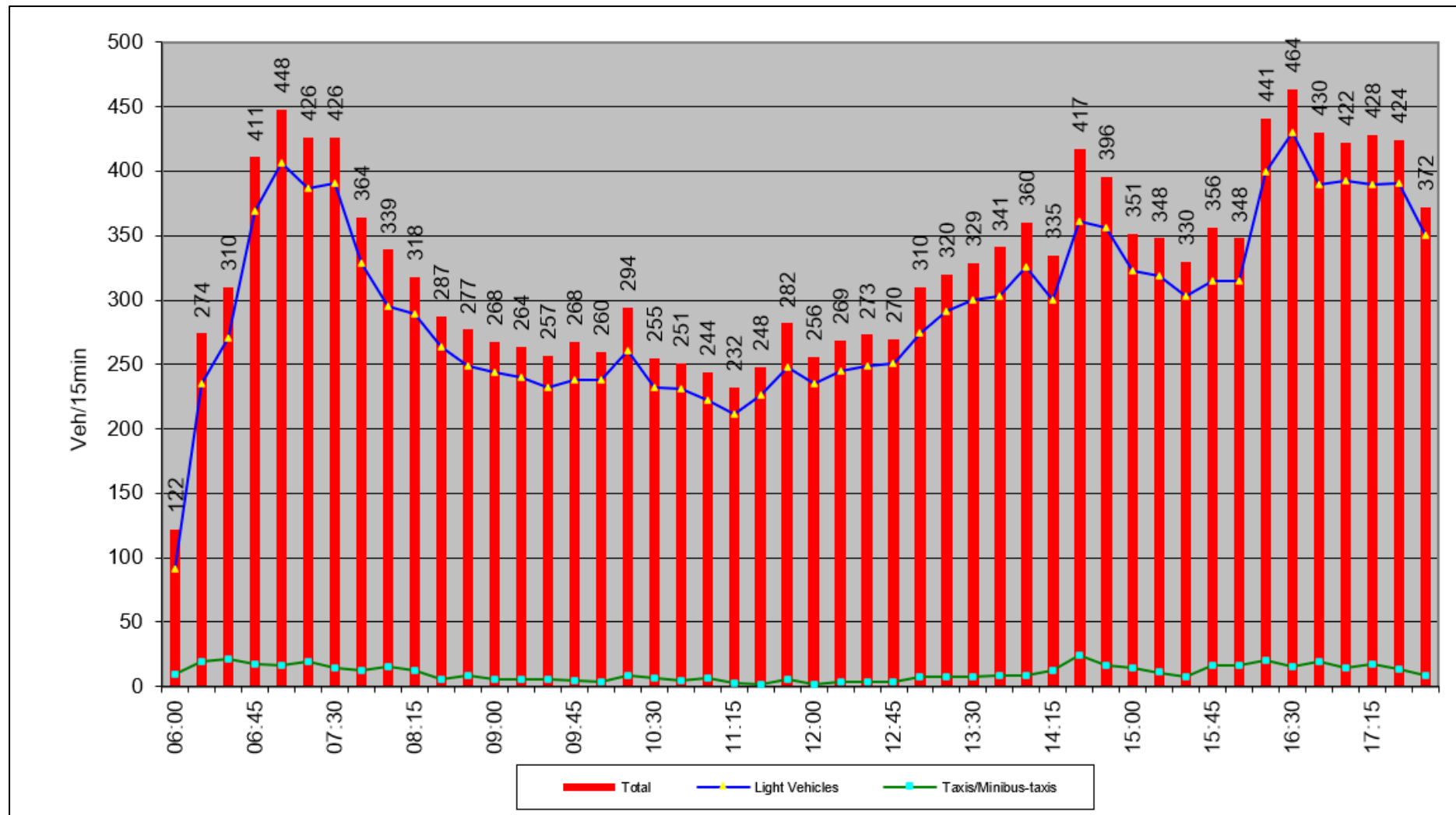
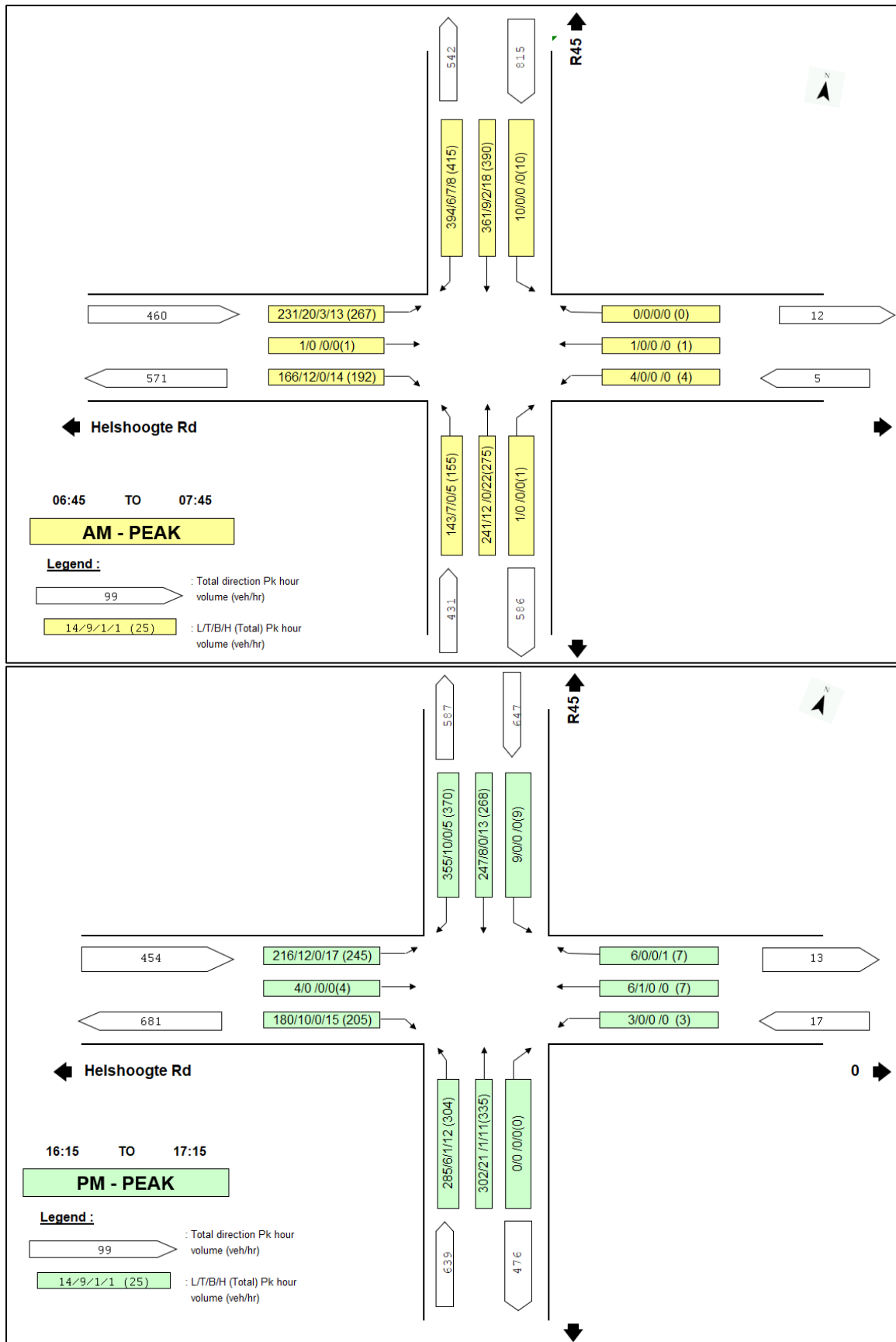


Figure 11- 32: Variation Over 12 Hours (total vehicles entering intersection per 15 minutes) – 9 Nov 2022



APPENDIX B12: SUPPORTING FIGURES FOR THE R45 & WEMMERSHOEK ROAD INTERSECTION

Appendix A12 contains the following supporting information for the R45 and Wemmershoek Road Intersection in the following figures:

- **Figure 12-1: Location of intersection in proximity to the Stellenbosch CBD**
- **Figure 12-2: Variation in traffic over a twelve-hour period (from 06:00 to 18:00)**
- **Figure 12-3: Directional traffic volumes for the AM and PM Peak Hour**

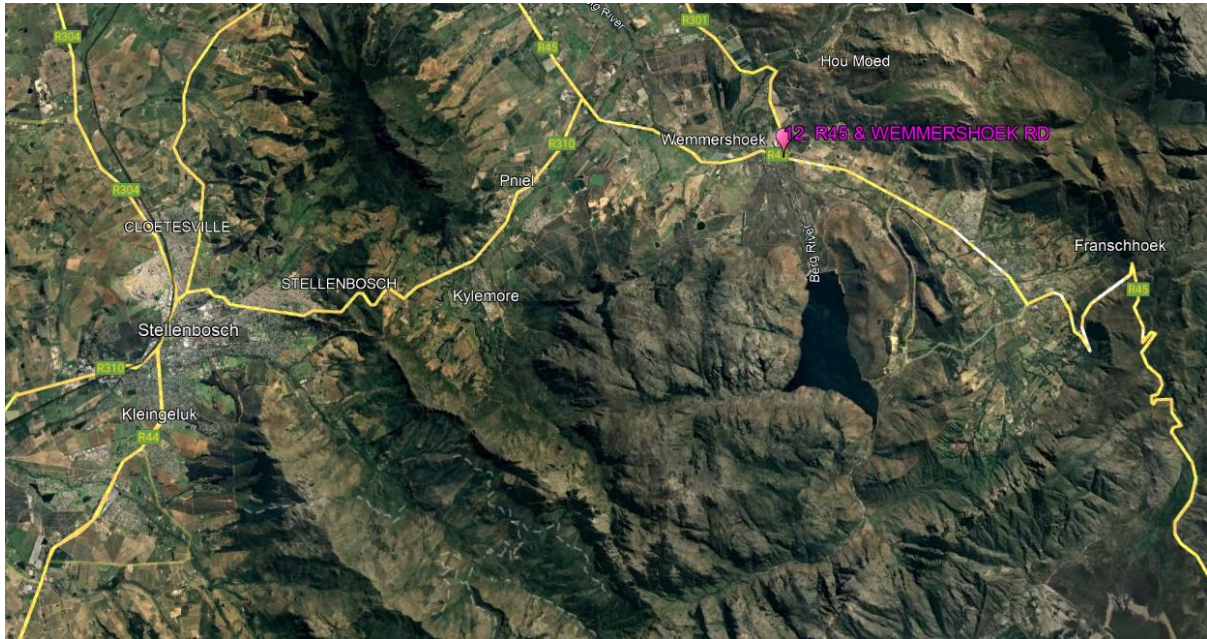


Figure 12- 34: Intersection Location

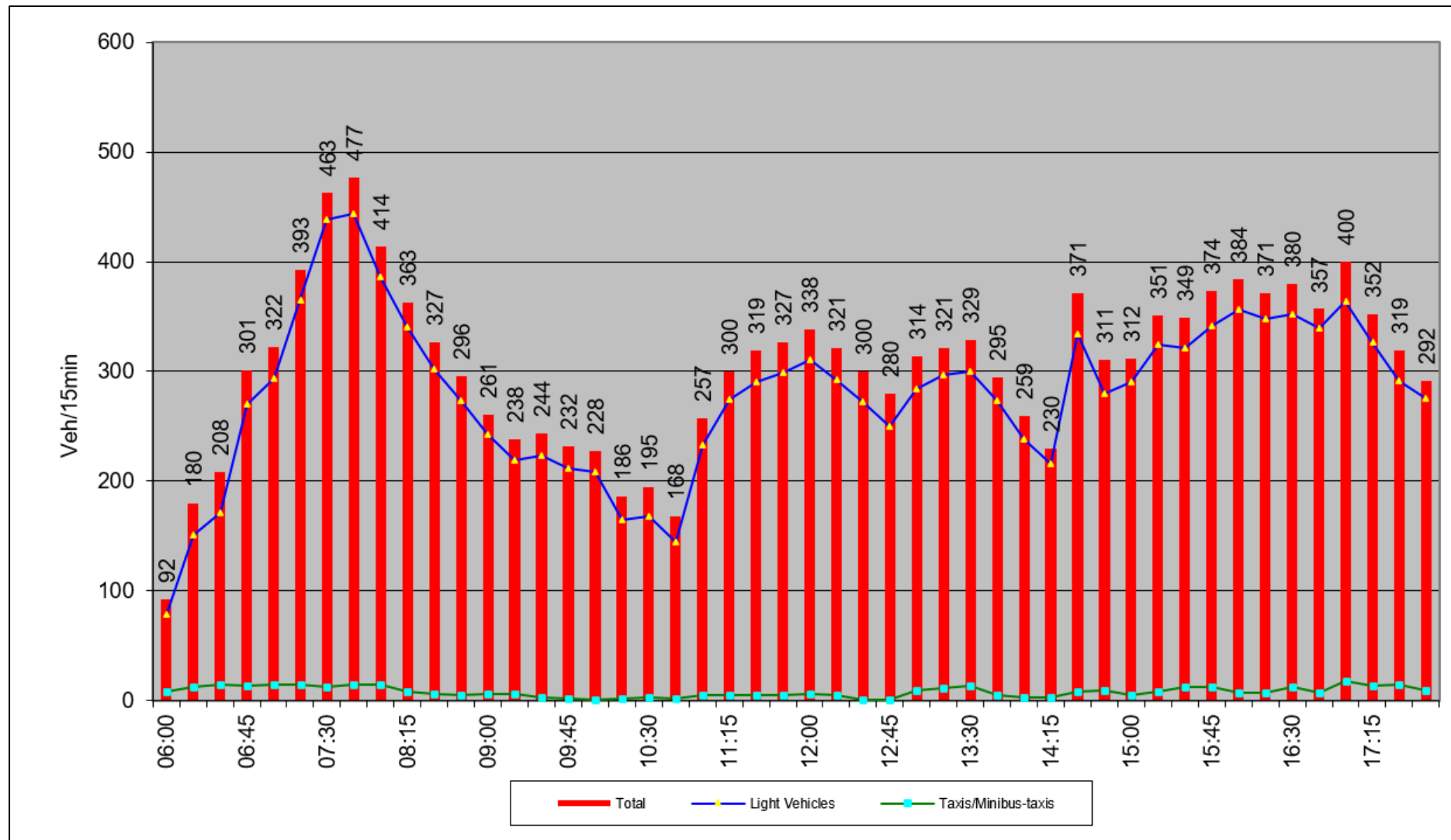


Figure 12- 35: Variation Over 12 Hours (total vehicles entering intersection per 15 minutes) – 9 Nov 2022

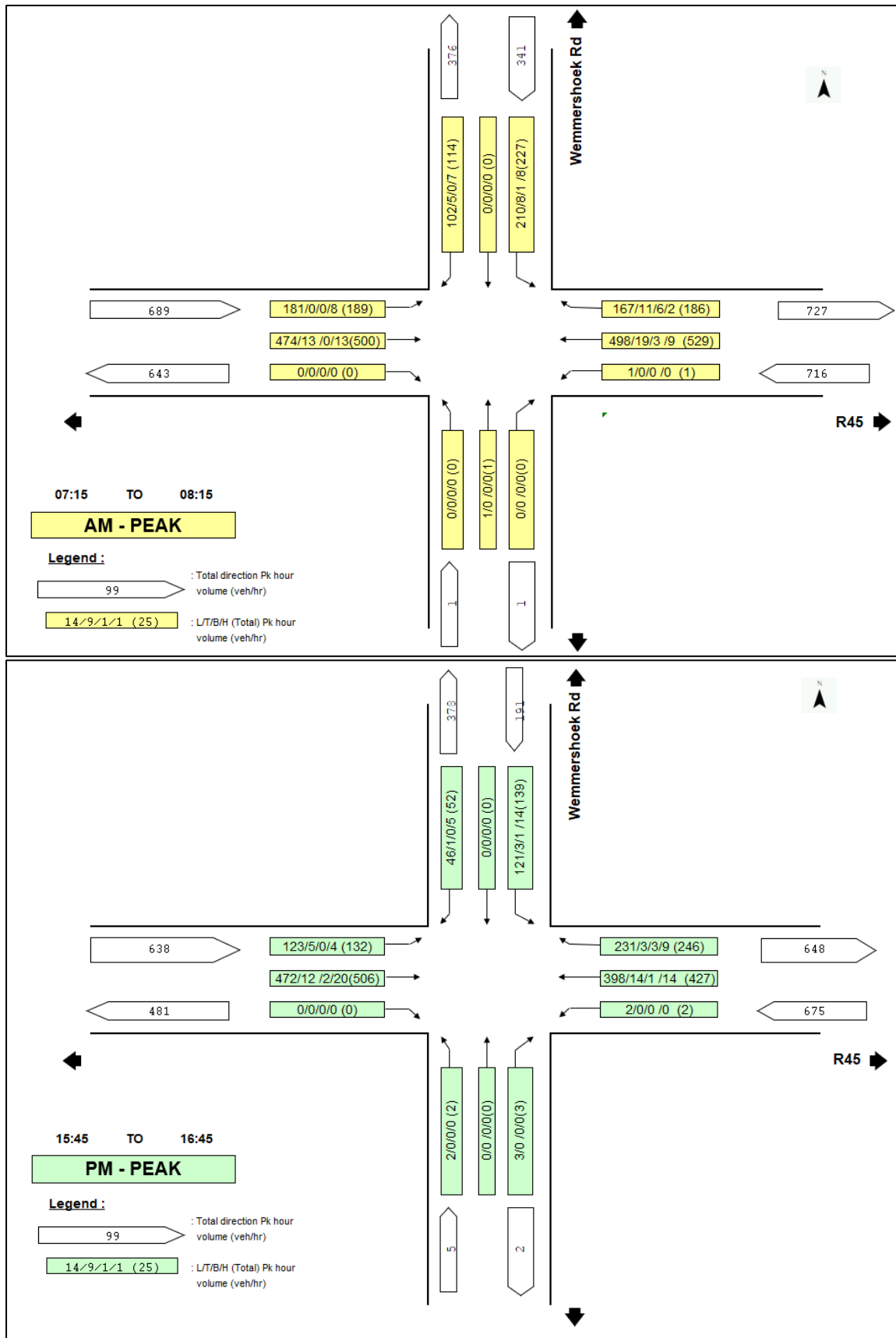


Figure 12- 36: Peak Hour Volumes as on 9 November 2022

APPENDIX B13: SUPPORTING FIGURES FOR THE R45 & EXCELSIOR ROAD INTERSECTION

Appendix A13 contains the following supporting information for the R45 and Excelsior Road Intersection in the following figures:

- **Figure 13-1: Location of intersection in proximity to the Stellenbosch CBD**
- **Figure 13-2: Variation in traffic over a twelve-hour period (from 06:00 to 18:00)**
- **Figure 13-3: Directional traffic volumes for the AM and PM Peak Hour**

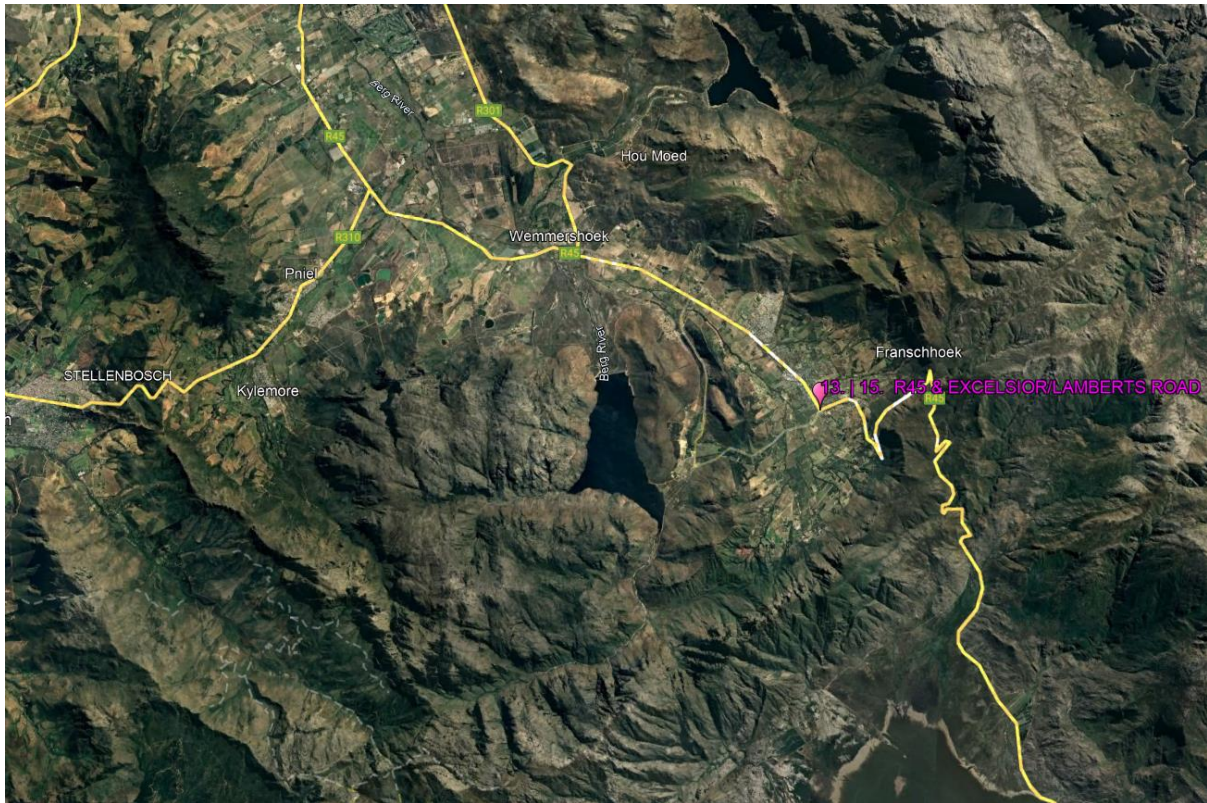


Figure 13- 37: Intersection Location

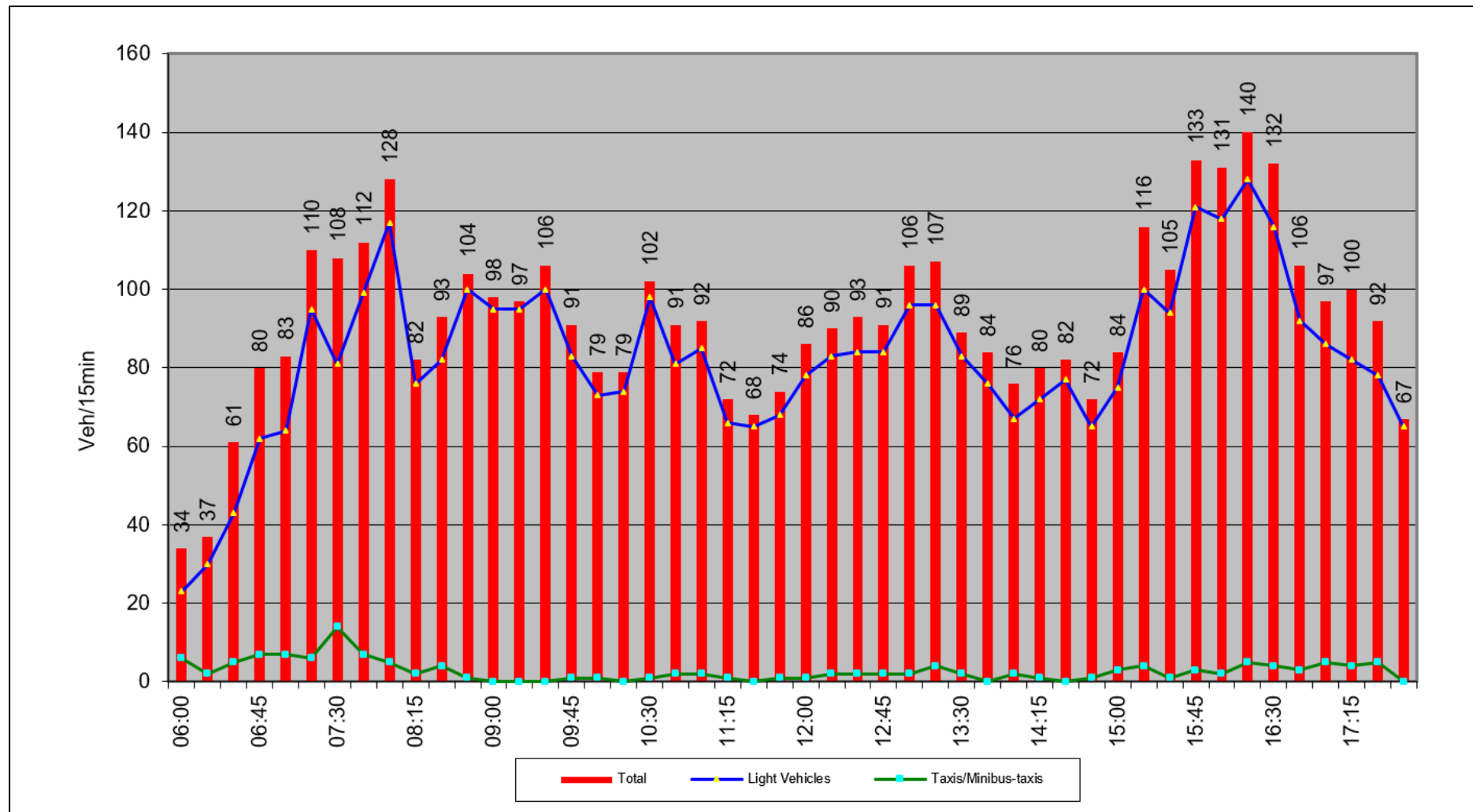


Figure 13- 38: Variation Over 12 Hours (total vehicles entering intersection per 15 minutes) – 2 Nov 2022

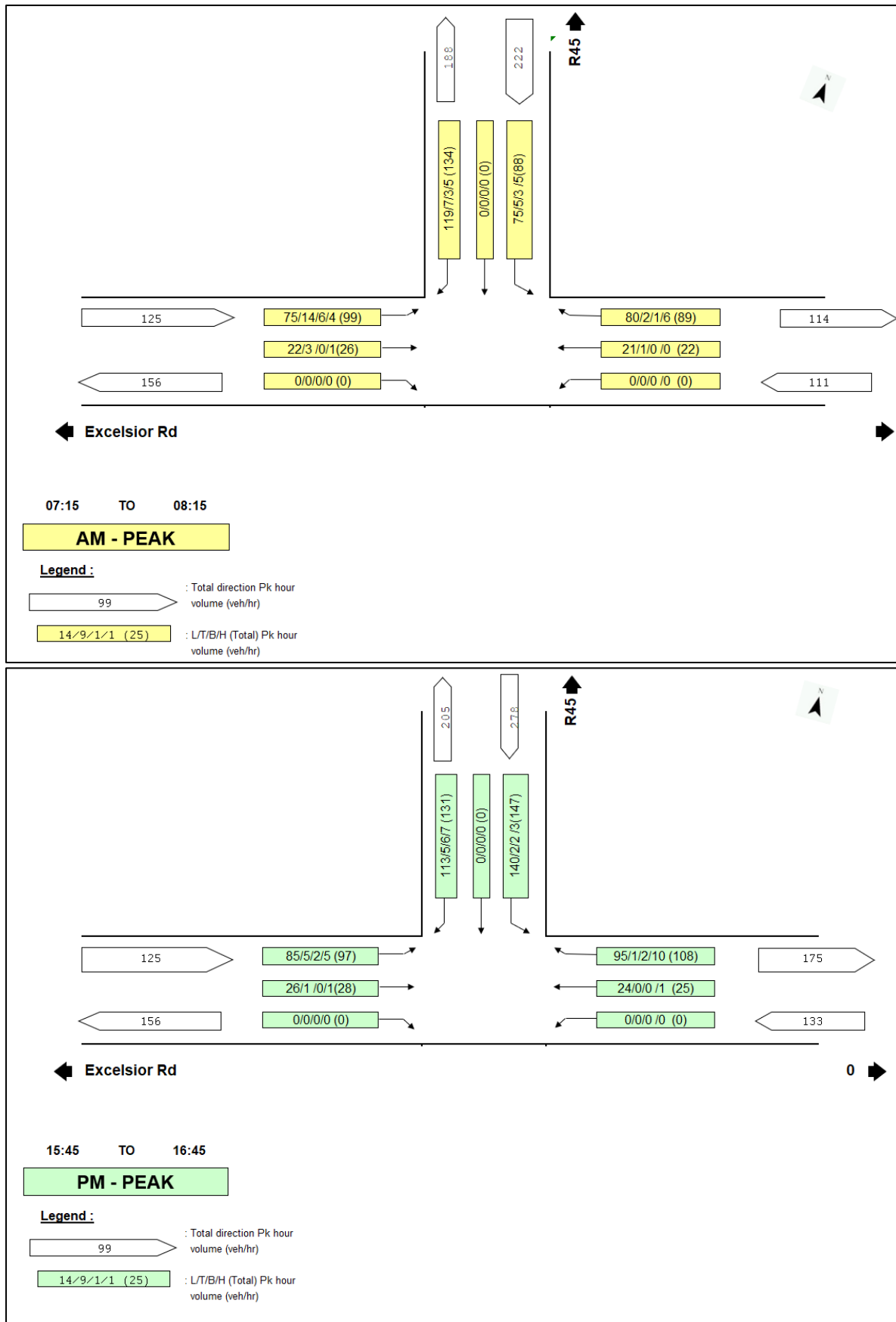


Figure 13- 39: Peak Hour Volumes as on 2 November 2022

APPENDIX B14: SUPPORTING FIGURES FOR THE SWART ROAD & HELSHOOGTE ROAD INTERSECTION

Appendix A14 contains the following supporting information for the Swart Road and Helshoogte Road Intersection in the following figures:

- **Figure 14-1: Location of intersection in proximity to the Stellenbosch CBD**
- **Figure 14-2: Variation in traffic over a twelve-hour period (from 06:00 to 18:00)**
- **Figure 14-3: Directional traffic volumes for the AM and PM Peak Hour**

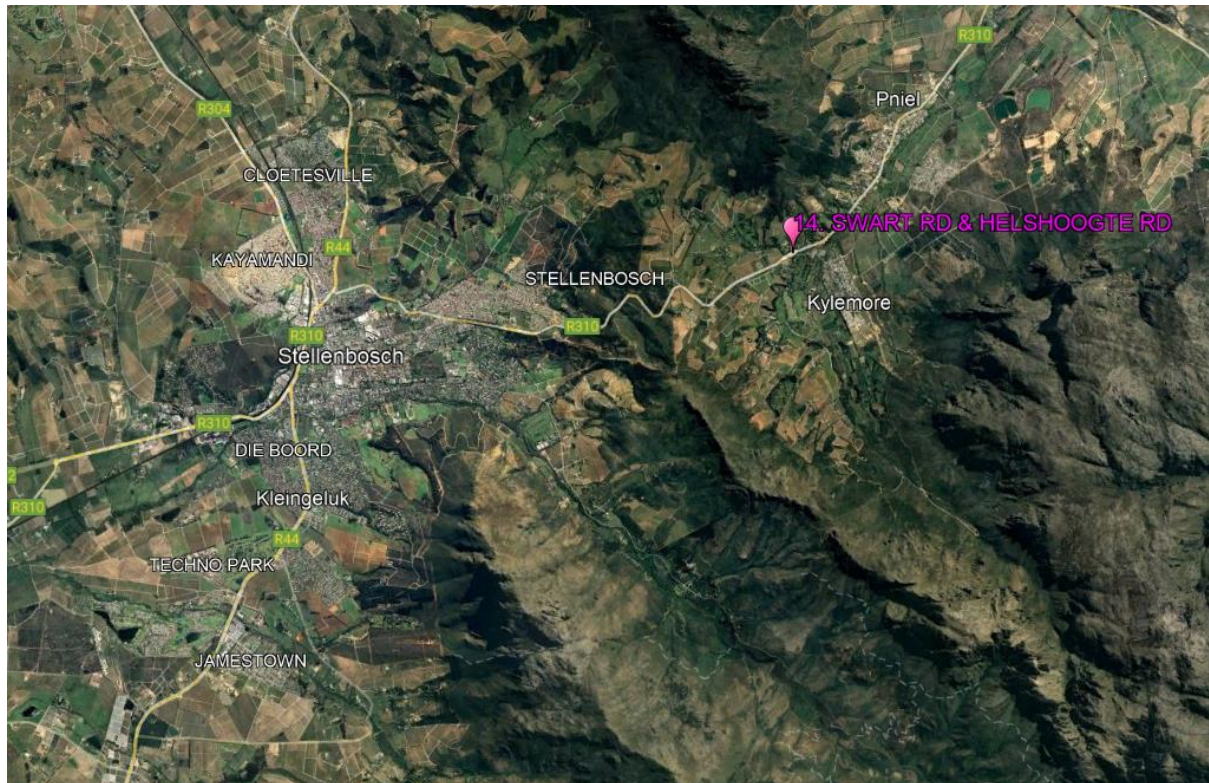


Figure 14- 40: Intersection Location

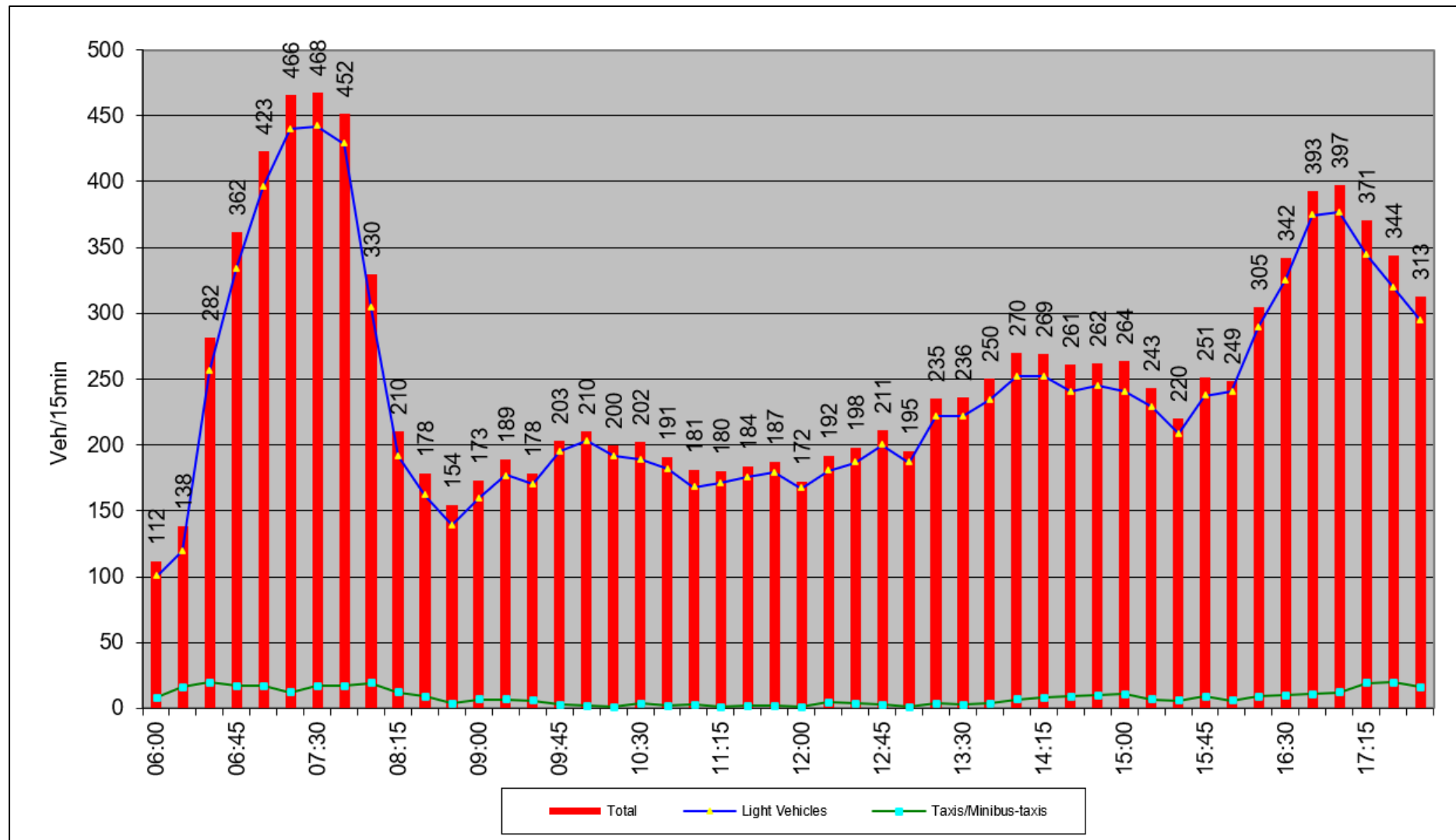


Figure 14- 41: Variation Over 12 Hours (total vehicles entering intersection per 15 minutes) – 9 Nov 2022

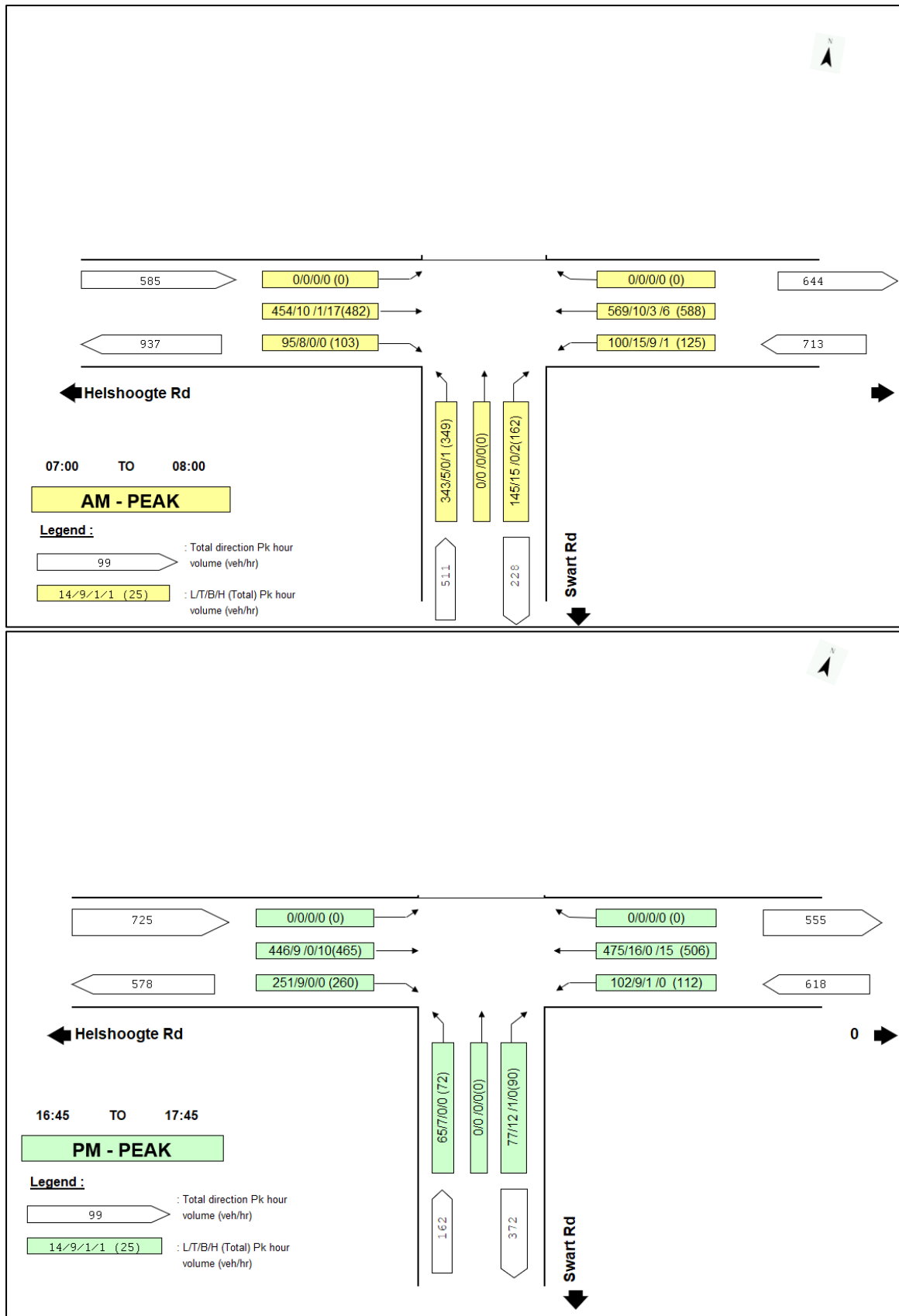


Figure 14- 42: Peak Hour Volumes as on 9 November 2022

APPENDIX B15: SUPPORTING FIGURES FOR THE R45 & EXCELSIOR/LAMBRECHTS ROAD INTERSECTION

Appendix A15 contains the following supporting information for the R45 and Excelsior/Lambrechts Road Intersection in the following figures:

- **Figure 15-1: Location of intersection in proximity to the Stellenbosch CBD**
- **Figure 15-2: Variation in traffic over a three-hour period (from 09:00 to 12:00)**
- **Figure 15-3: Directional traffic volumes for the AM and Off-Peak Hour**



Figure 15- 43: Intersection Location

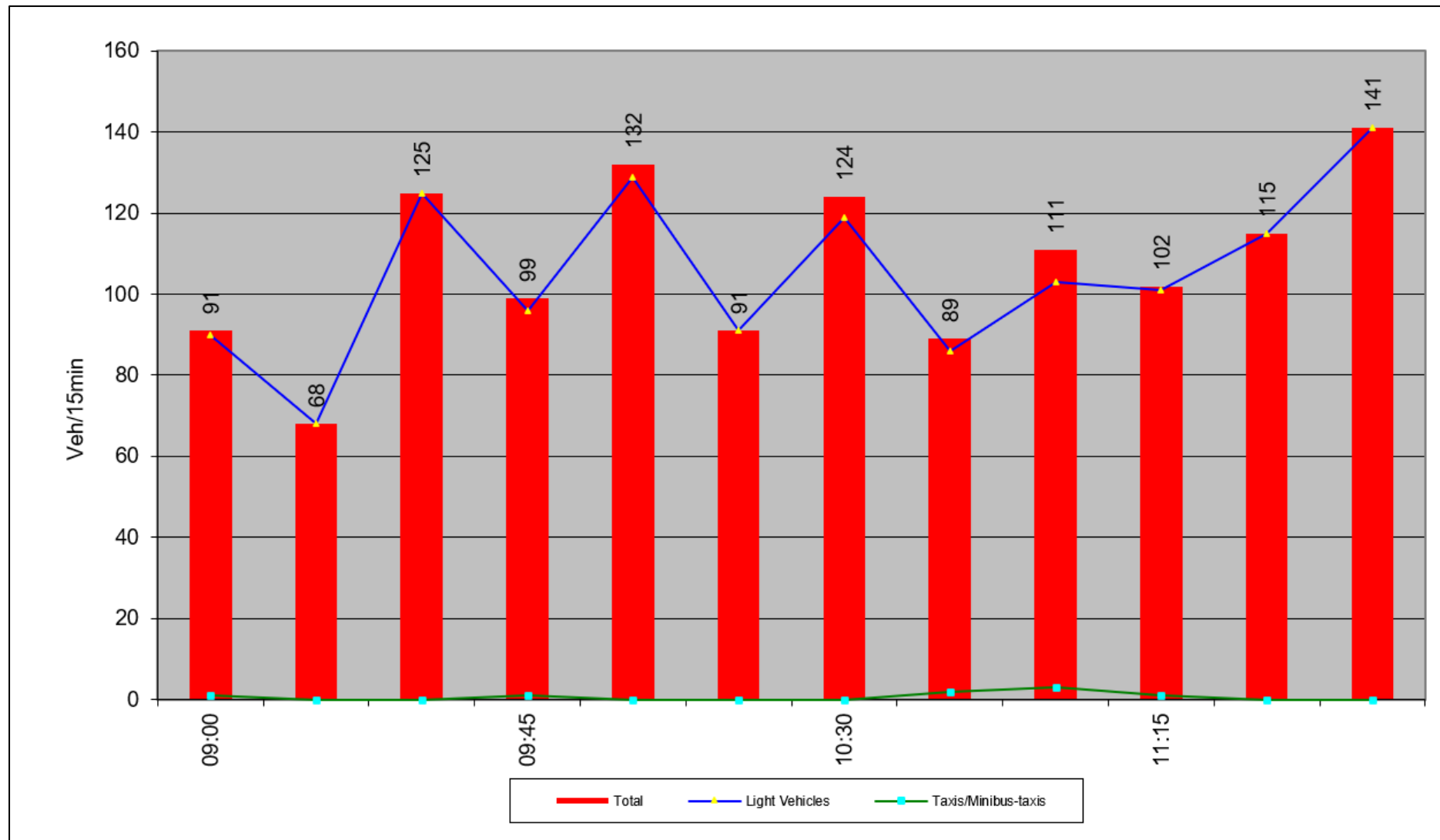
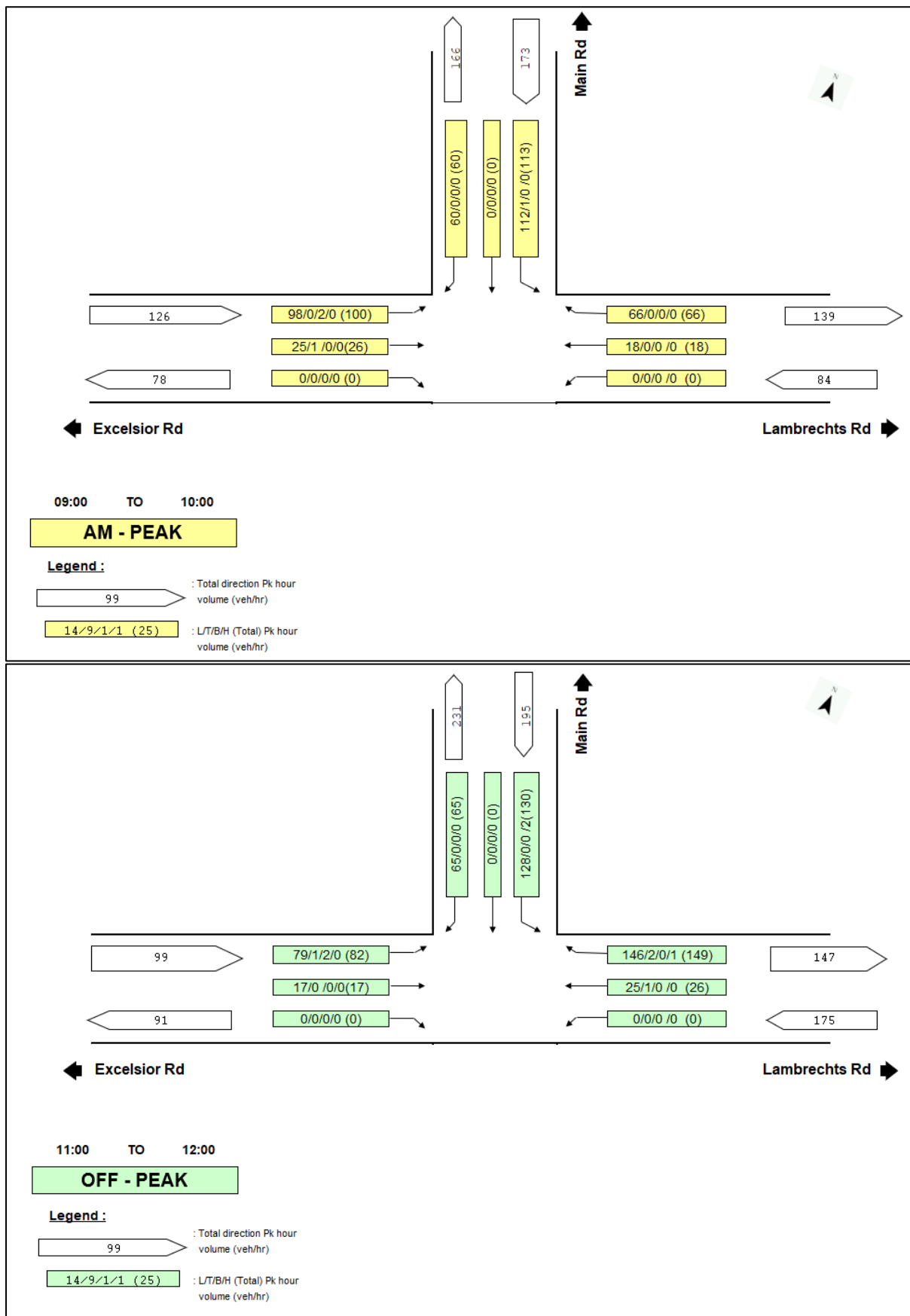


Figure 15- 44: Variation Over 3 Hours (total vehicles entering intersection per 15 minutes) – 5 Nov 2022



**APPENDIX C: STELLENBOSCH INFRASTRUCTURE
SERVICES 10-YEAR BUDGET**

BUDGETED PROJECTS - ten years 2023 to 2033

Department	Project name	Funding	Proposed budget 2022/23	Proposed budget 2023/24 (1)	Proposed budget 2024/25 (2)	Proposed budget 2025/26 (3)	Proposed budget 2026/27 (4)	Proposed budget 2027/28 (5)	Proposed budget 2028 to 2033	Budget 10 years from 2023 to 2033
Roads and Stormwater	Capital Projects									
	Adam Tas Intersection Upgrades	CRR (own funds)							12 000 000	12 000 000
	Bridge Construction	IUDG	15 000 000	5 000 000	-				6 000 000	11 000 000
	Bridge Construction	CRR (own funds)	2 700 000							0
	Devon Valley Rd	CRR (own funds)	-		-					0
	Dorp Street West dualling									0
	Klapmuts Transport Network	CRR (own funds)	-	600 000					1 000 000	1 600 000
	Lanquedoc Access Road and Bridge	DC-Roads	-	5 000 000	12 000 000	15 000 000				32 000 000
	Lanquedoc Access Road and Bridge	CRR (own funds)	-	-	3 000 000					3 000 000
	Parking Area Upgrades - Franschhoek	DC-Parking	711 442	-	-					0
	Parking Area Upgrades - Stellenbosch	DC-Parking	800 000	-	-					0
	R304/West Kayamandi Intersection Construction	DC								0
	Stormwater Drainage - Kayamandi and Enkanini	DC-Stormwater	-							0
	Wilderbosch Extension to Trumali (Eastern link)	CRR (own funds)	1 000 000	1 500 000	1 500 000	3 000 000	7 000 000	7 000 000		20 000 000
	Wilderbosch Extension to Techno Park (Eastern link)	CRR (own funds)		-	-			1 500 000	15 500 000	17 000 000
	Planning Maintenance Operations									0
	Ad hoc Minor Upgrading of Roads (WC024)	CRR (own funds)				700 000			1 400 000	2 100 000
	Ad hoc Reconstruction of Roads (WC024)	IUDG	3 000 000	3 000 000	3 000 000	5 000 000	5 000 000	7 000 000	35 000 000	58 000 000
	Ad hoc Reconstruction of Roads (WC024)	CRR (own funds)	827 249							0
	Furniture, Tools and Equipment	CRR (own funds)	400 000	400 000	400 000	400 000	400 000	400 000	2 000 000	4 000 000
	Gravel Roads Devon Valley - Safety Improvements Structural Repairs	CRR (own funds)	-	-	500 000	300 000				800 000
	Reseal Roads - Klapmuts and Surrounding	CRR (own funds)	-	1 250 000	-			1 500 000	1 500 000	4 250 000
	Reseal Roads - Kylemore and Surrounding	CRR (own funds)	1 500 000	-	-	1 500 000			3 000 000	4 500 000
	Reseal Roads - Stellenbosch and Surrounding	CRR (own funds)	4 200 000	5 000 000	5 000 000	7 000 000	7 000 000	8 000 000	40 000 000	72 000 000

Department	Project name	Funding	Proposed budget 2022/23	Proposed budget 2023/24 (1)	Proposed budget 2024/25 (2)	Proposed budget 2025/26 (3)	Proposed budget 2026/27 (4)	Proposed budget 2027/28 (5)	Proposed budget 2028 to 2033	Budget 10 years from 2023 to 2033
	Reseal Roads - Franschhoek and Surrounding	CRR (own funds)	-	2 000 000	-		2 000 000		2 000 000	6 000 000
	River Rehabilitation Implementation	CRR (own funds)	-	1 000 000	-			1 000 000	1 000 000	3 000 000
	Rivers Rehabilitation Planning and Design	CRR (own funds)	500 000	-	-		500 000		500 000	1 000 000
	Specialised Vehicles: Heavy Duty Roads	CRR (own funds)	-	2 500 000	2 000 000	2 500 000			8 000 000	15 000 000
	Specialised Vehicle: Jet Machine Blockages	CRR (own funds)					5 000 000			5 000 000
	Specialised Vehicle: TLB Digger Loader	CRR (own funds)			3 000 000				3 000 000	6 000 000
	Upgrade Stormwater Retention Facilities	CRR (own funds)	-	-	1 500 000			1 500 000	1 500 000	4 500 000
	Update Pavement Management System	CRR (own funds)	-	1 000 000	-				1 500 000	2 500 000
	Update Stormwater System	CRR (own funds)	36 500				200 000		200 000	400 000
	Vehicle Replacement: Light Vehicles (LDV)	CRR (own funds)							3 000 000	3 000 000
	TOTAL		30 675 191	28 250 000	31 900 000	35 400 000	27 100 000	27 900 000	123 100 000	273 650 000
	Capital Projects									0
	Bird Street Dualling - Adam Tas to Kayamandi	CRR (own funds)	150 000	500 000	5 000 000	10 000 000	15 000 000			30 500 000
	Endler and Martinson Street Intersection Upgrade	CRR (own funds)	1 000 000	-	-					0
	Jamestown Transport Network	CRR (own funds)	1 000 000	3 000 000		2 000 000				5 000 000
	Planning Maintenance Operations									0
	Ad hoc Intersection Improvements	CRR (own funds)				2 000 000			2 000 000	4 000 000
	Furniture, Tools and Equipment: Traffic Engineering	CRR (own funds)	150 000	150 000	150 000	150 000	150 000	150 000	600 000	1 350 000
	Heavy Duty Vehicle (Truck)	CRR (own funds)							3 000 000	3 000 000
	Main Road Intersection Improvements: Franschhoek	CRR (own funds)	1 000 000	10 000 000	-				11 500 000	21 500 000

Department	Project name	Funding	Proposed budget 2022/23	Proposed budget 2023/24 (1)	Proposed budget 2024/25 (2)	Proposed budget 2025/26 (3)	Proposed budget 2026/27 (4)	Proposed budget 2027/28 (5)	Proposed budget 2028 to 2033	Budget 10 years from 2023 to 2033
Traffic Engineering	Main Road Intersection Improvements: Franschoek	IUDG	-	-	2 129 950				750 000	2 879 950
	Main Road Intersection Improvements: Helshoogte/La Colline	CRR (own funds)	434 696	3 000 000	-					3 000 000
	Main Road Intersection Improvements: Helshoogte/La Colline	DC-Roads	1 738 055	-	-					0
	Main Road Intersection Improvements: R44/Merriman Street	DC-Roads	1 000 000	-	4 000 000		1 000 000	10 000 000	50 000 000	65 000 000
	Main Road Intersection Improvements: Stellenbosch	CRR (own funds)							16 500 000	16 500 000
	Main Road Intersection Improvements: Strand/Adam Tas/Alexander	DC-Roads	1 000 000	-	4 000 000	5 000 000	10 000 000	20 000 000		39 000 000
	Optic Fibre Traffic Signal Remote Managemenet System	CRR (own funds)	300 000	500 000	-					500 000
	Pedestrian Crossing Implementation	CRR (own funds)	300 000	300 000	-		300 000		300 000	900 000
	Raised Intersection Implementation	CRR (own funds)	600 000	-	600 000			600 000	600 000	1 800 000
	Roads and Signs Maintenance	CRR (own funds)		500 000					1 000 000	1 500 000
	Road Upgrades School Precincts	CRR (own funds)	1 000 000							
	Road Safety Improvements	CRR (own funds)	350 000	-	500 000					500 000
	Signalisation Implementation	CRR (own funds)	500 000	500 000	-					500 000
	Specialised Equipment: Roadmarking Machine + Trailer	CRR (own funds)	-	-	500 000	600 000				1 100 000
	Traffic Calming Projects: Implementation	CRR (own funds)	300 000	300 000	-	400 000			800 000	1 500 000
	Traffic Management Improvement Programme	CRR (own funds)	1 042 030	1 000 000	-		100 000			1 100 000
	Traffic Signal Control: Installation, Upgrading Traffic Signals and Associated Components	CRR (own funds)	1 500 000	500 000	500 000	500 000	500 000	500 000	2 000 000	4 500 000
	Traffic Signal Management System	CRR (own funds)	-	-	-	1 000 000				1 000 000
	Universal Access Implementation	CRR (own funds)	600 000	200 000	-		300 000		600 000	1 100 000
	TOTAL		13 964 781	20 450 000	17 379 950	21 650 000	27 350 000	31 250 000	89 650 000	207 729 950
	Capital Projects									0
	Adam Tas - Technopark Link Road	CRR (own funds)	2 300 000	3 000 000	5 000 000	20 000 000	30 000 000	30 000 000		88 000 000
	Bicycle Lockup Facilities	CRR (own funds)	200 000	300 000	-		500 000		500 000	1 300 000

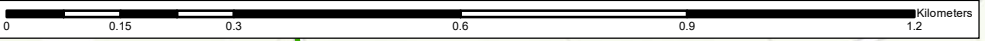
Department	Project name	Funding	Proposed budget 2022/23	Proposed budget 2023/24 (1)	Proposed budget 2024/25 (2)	Proposed budget 2025/26 (3)	Proposed budget 2026/27 (4)	Proposed budget 2027/28 (5)	Proposed budget 2028 to 2033	Budget 10 years from 2023 to 2033
Transport Planning	Kayamandi Ped Bridge (R304, River and Railway Line)	IUDG	3 000 000	16 000 000	-	10 000 000				26 000 000
	Kayamandi Ped Bridge (R304, River and Railway Line)	DC-Roads		-	-					0
	Planning Maintenance Operations									0
	Adam Tas - Corridor Transport Study	CRR (own funds)	500 000	1 000 000	-	1 000 000				2 000 000
	Comprehensive Integrated Transport Plan	CRR (own funds)	600 000	600 000	600 000	1 000 000	2 000 000	1 000 000	6 000 000	11 200 000
	Continued feasibility studies to establish a transport operating company	CRR (own funds)	-	-	600000					600 000
	Cycle Plan - Design and Implementation	CRR (own funds)	784 739	500 000	-	500 000	500 000	500 000	2 500 000	4 500 000
	Development business model transport service persons with disabilities - Stellenbosch		600 000	-	-					0
	Feasibility Link Road: Adam Tas (Devon Valley) to R304 (Kayamandi)	CRR (own funds)			2 000 000				42 000 000	44 000 000
	Feasibility Upgrade Existing Bridge or Add Bridge Eerste River Stellenbosch CBD	CRR (own funds)				400 000	400 000		62 000 000	62 800 000
	Feasibility Welgevonden Road Extension R304 to R44	CRR (own funds)			2 000 000				62 000 000	64 000 000
	Freight Strategy for Stellenbosch and Franschhoek	CRR (own funds)	-	500 000	-				500 000	1 000 000
	Non-Motorised Transport Implementation	CRR (own funds)	1 000 000	1 000 000	-	3 000 000	3 000 000	4 000 000	20 000 000	31 000 000
	Non-Motorised Transport Implementation	TBC	3 000 000		-					0
	Park and Ride (Transport Interchange)	CRR (own funds)	100 000	250 000	-					250 000
	Pedestrian Streets in Stellenbosch	CRR (own funds)	-	-	1 700 000					1 700 000
	Provision Bulk Parking Planning & Development	CRR (own funds)		3 000 000	3 000 000	3 000 000				9 000 000
	Public Transport Infrastructure (Public Transport Shelters and Embayments)	CRR (own funds)	400 000	-	400 000				800 000	1 200 000
	Public Transport Facilities (Taxi Ranks)	CRR (own funds)		-	500 000		1 000 000		3 000 000	4 500 000
	Public Transport Planning - WC024	CRR (own funds)	-	600 000	-	2 000 000				2 600 000
	Public Transport Service (Inclusive of Mobility Impaired)	TBC	165 278	-	500 000					500 000
	Re-design of Bergzicht Public Transport Facility	CRR (own funds)	1 800 000	-	-					0
	Stellenbosch - Bicycle network	CRR (own funds)	500 000	1 000 000	-					1 000 000
	Stellenbosch Tour Bus Parking	CRR (own funds)	50 000	600 000	-					600 000


Department	Project name	Funding	Proposed budget 2022/23	Proposed budget 2023/24 (1)	Proposed budget 2024/25 (2)	Proposed budget 2025/26 (3)	Proposed budget 2026/27 (4)	Proposed budget 2027/28 (5)	Proposed budget 2028 to 2033	Budget 10 years from 2023 to 2033
	Taxi Rank - Franschhoek	CRR (own funds)	-	500 000	-					500 000
	Technopark Kerb and Channel Upgrade	CRR (own funds)	-	-	1 500 000					1 500 000
	Update Roads Master Plan for WC024	CCR	-	-	2 000 000					2 000 000
	TOTAL		15 000 017	28 850 000	19 800 000	40 900 000	37 400 000	35 500 000	199 300 000	361 750 000
GRAND TOTAL			59 639 989	77 550 000	69 079 950	97 950 000	91 850 000	94 650 000	412 050 000	843 129 950

**APPENDIX D: SHORT-TERM NMT PROJECTS FOR
STELLENBOSCH MUNICIPALITY**

- NMT Only (Class 1)
- NMT facilities with Partial Separation (Class_2)
- Cycling in shoulder
- Proposed Sidewalk


- NMT Only (Class 1)
- NMT facilities with Partial Separation (Class 2)
- Existing Sidewalk (condition varies)
- Railway





Project Title: Stellenbosch CITP		Scale 1:10 000 <small>(When page size is: A3 landscape)</small>		Figure 1	
Map Title: Groendal: Proposed NMT Network		Projection: Transverse Mercator Datum: Hartebeesthoek 1994 Central Meridian: 19.0 Compiled By: GA Maree GIS QC By: Approved By: C Erasmus Date Saved: 2022/04/04 Project Number: N/A Map Ref: NMT_Groendal_1.mxd Revision: 00		Sources: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community	
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Legend


Proposed


 Ped Bridge / Crossing Point


 Pedestrian Priority Street

 NMT Only (Class 1)


 NMT facilities with Partial Separation (Class_2)


 Bicycle lanes (Partial or Marked Separation) (Class 3)


 Cycling in shoulder

 Proposed Sidewalk

Existing

 NMT Only (Class 1)

 Existing Sidewalk (condition varies)

 Railway

Page 2878

Project Title:	Stellenbosch CITP	Scale1:20 000	Figure 1
Map Title:	Klapmuts: Proposed NMT Network	<div>Projection: Transverse Mercator</div> <div>Datum: Hartebeesthoek 1994</div> <div>Central Meridian: 19.0</div> <div>GA Maree</div> <div>Compiled By:</div> <div>GIS QC By:</div> <div>Approved By: C Erasmus</div> <div>Date Saved: 2022/04/04</div> <div>Project Number: N/A</div> <div>Map Ref: NMT_Klapmuts_1.mxd</div> <div>Revision: 00</div>	<div>Sources:</div> <div>Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community</div>
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AECOM		L:\Legacy\GISData\7_Projects\60671844_StellenboschCITP\mxd\NMT_Klapmuts_1.mxd	

Legend

Pedestrian Priority Street

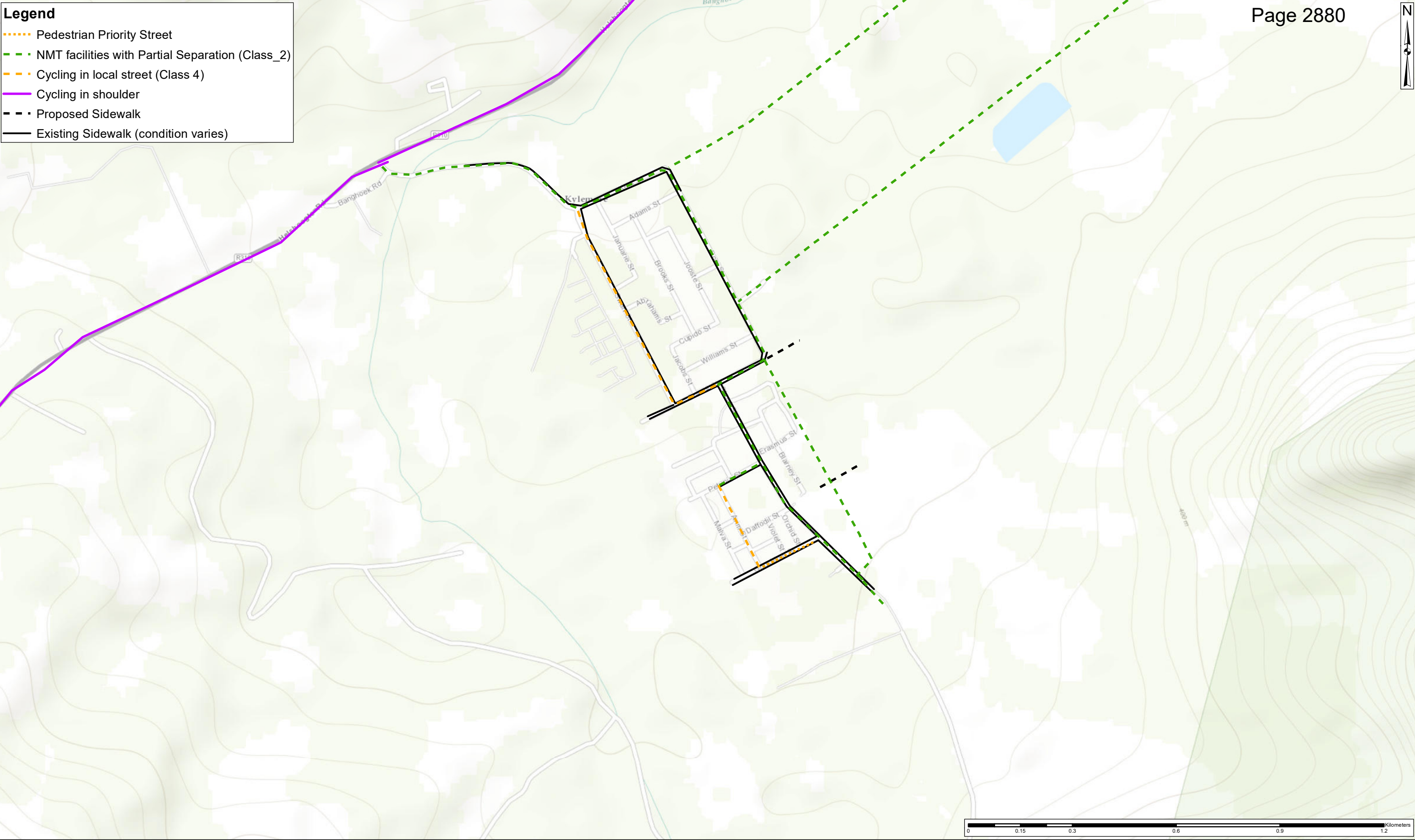
NMT facilities with Partial Separation (Class_2)

Cycling in local street (Class 4)

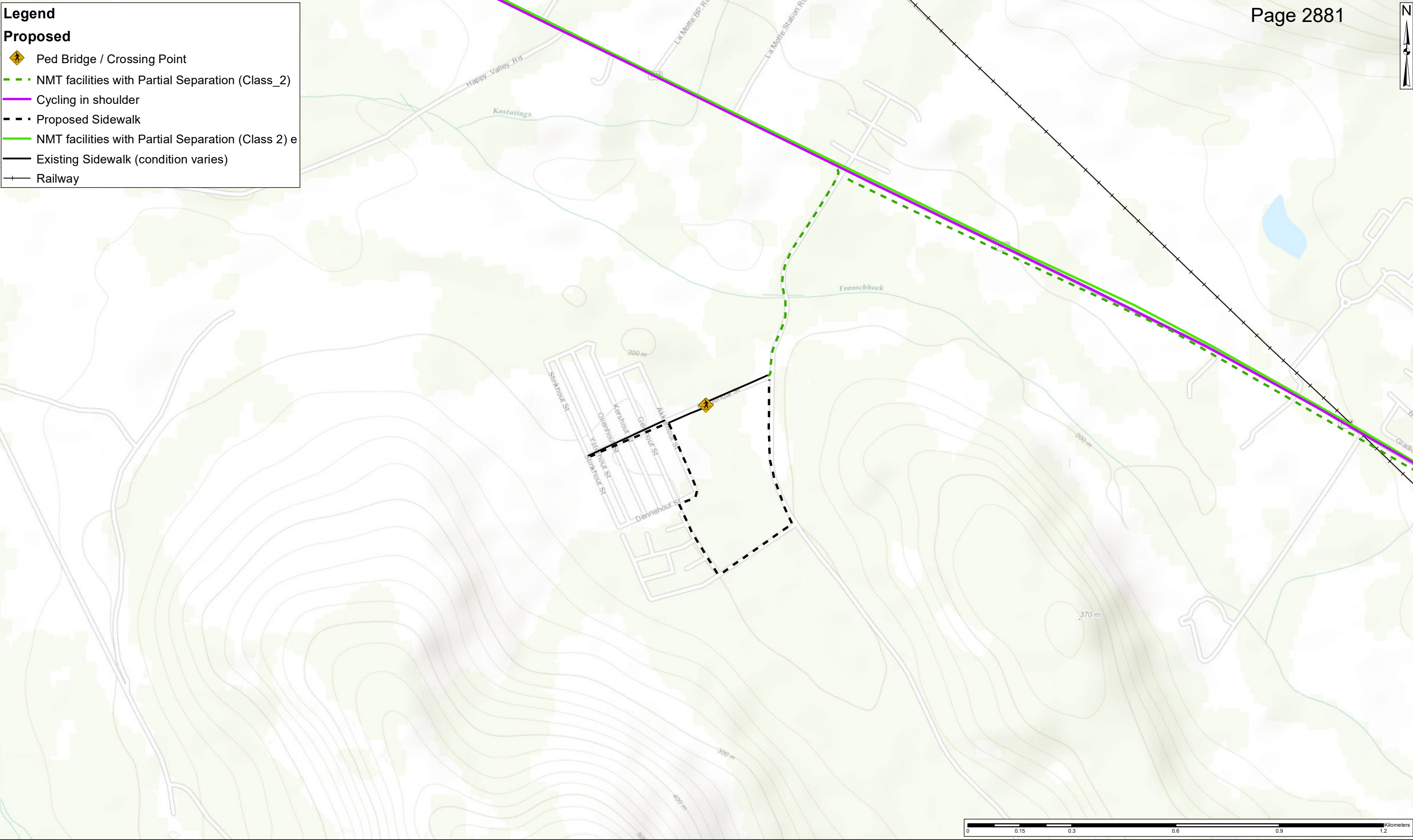
Cycling in shoulder

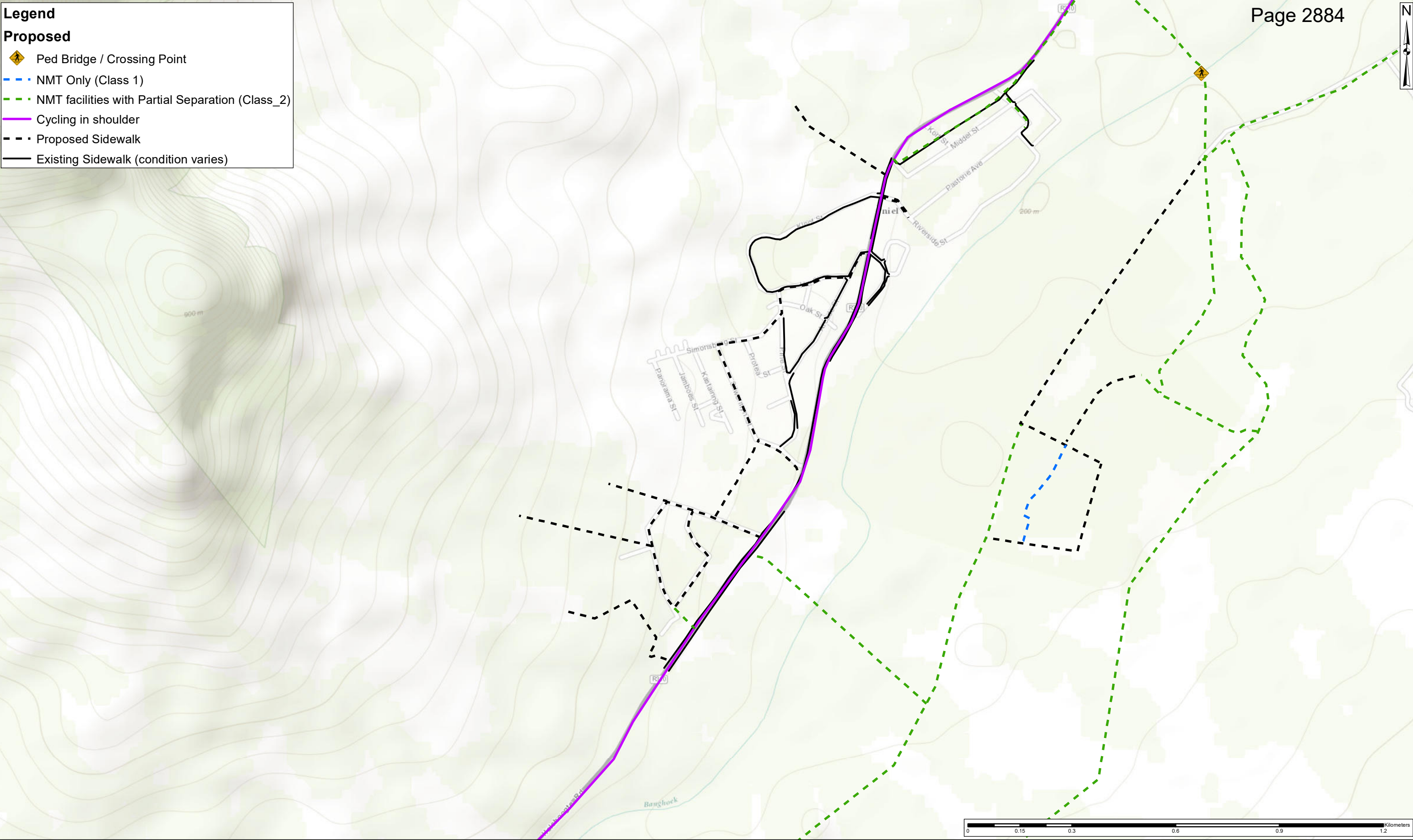
Proposed Sidewalk

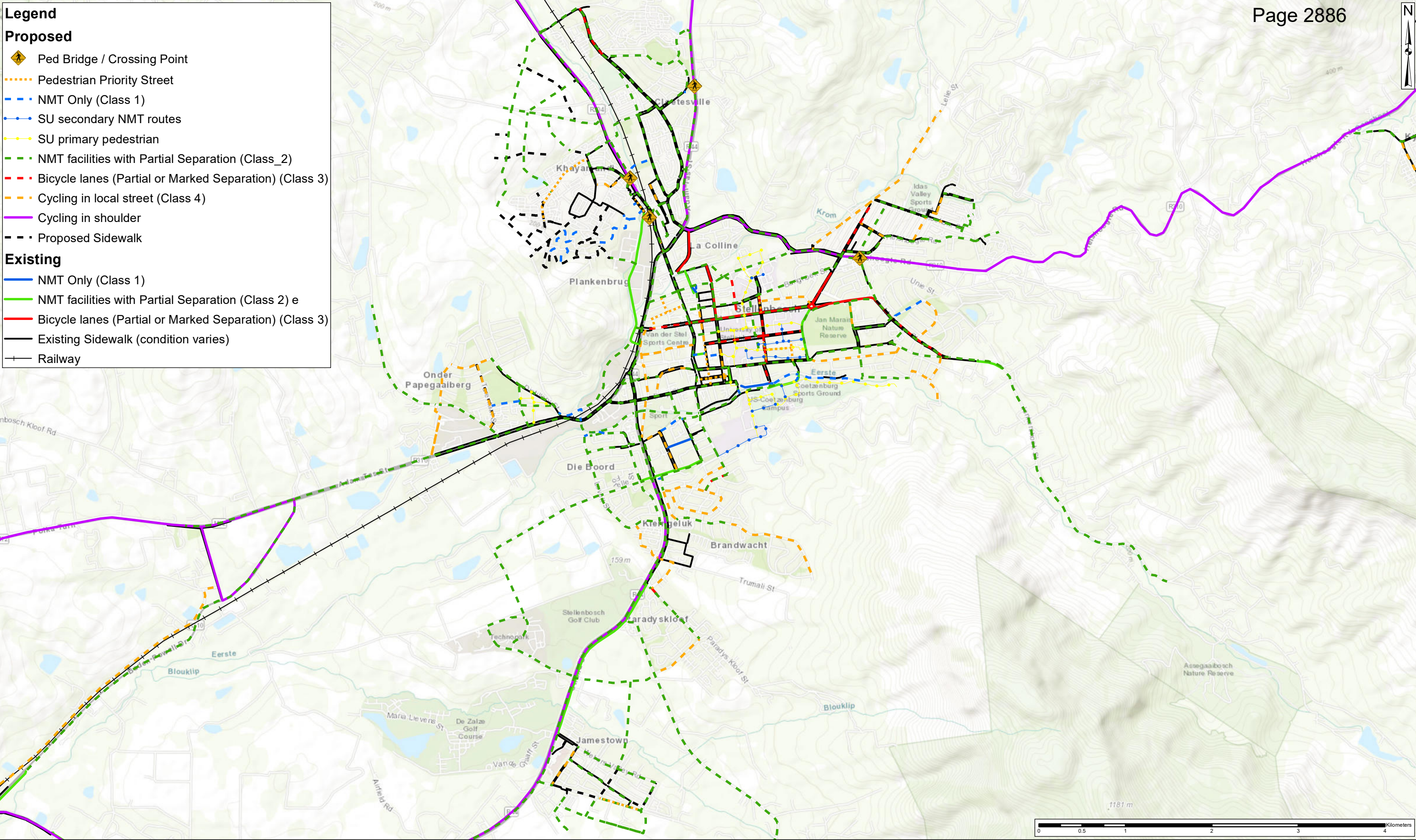
Existing Sidewalk (condition varies)

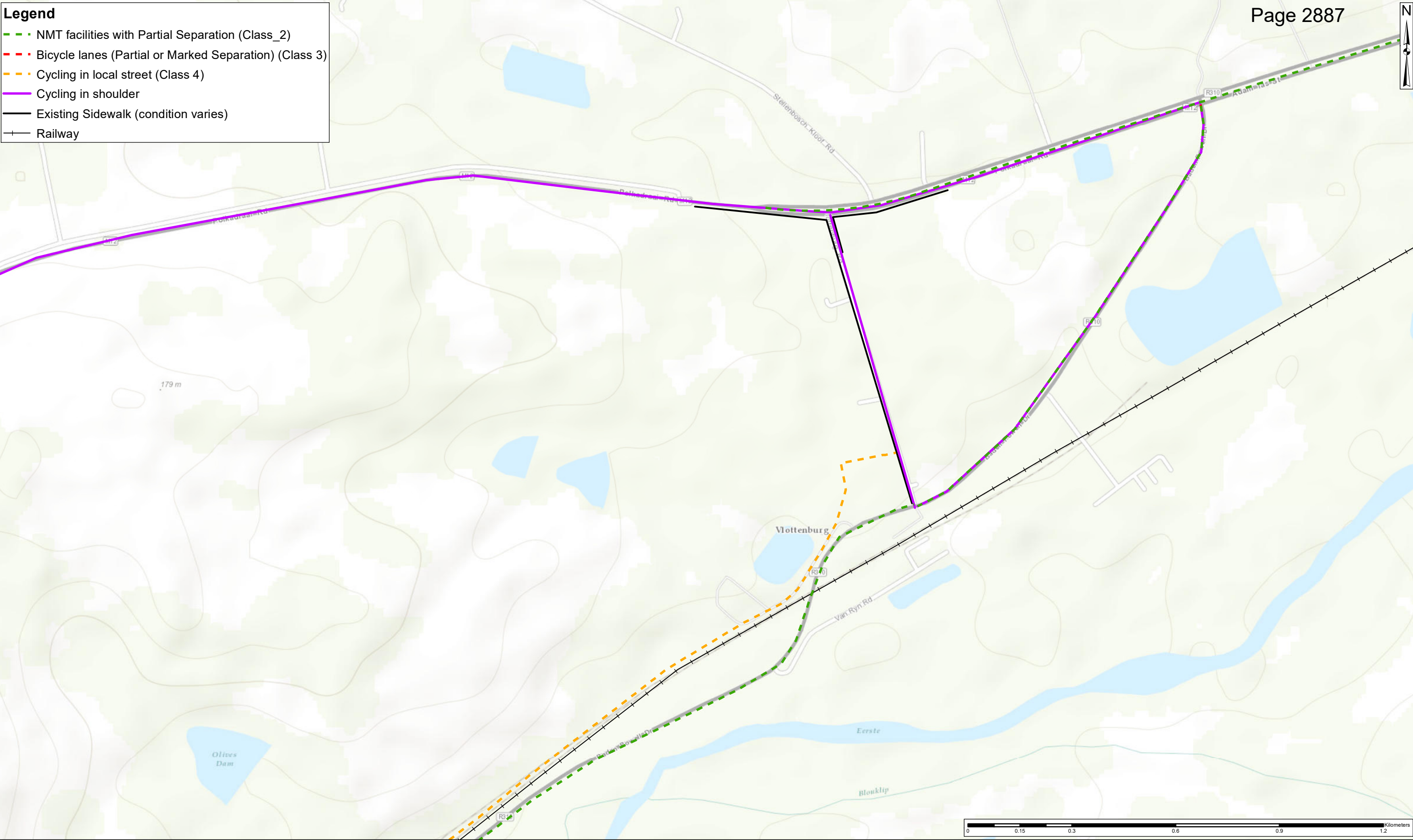


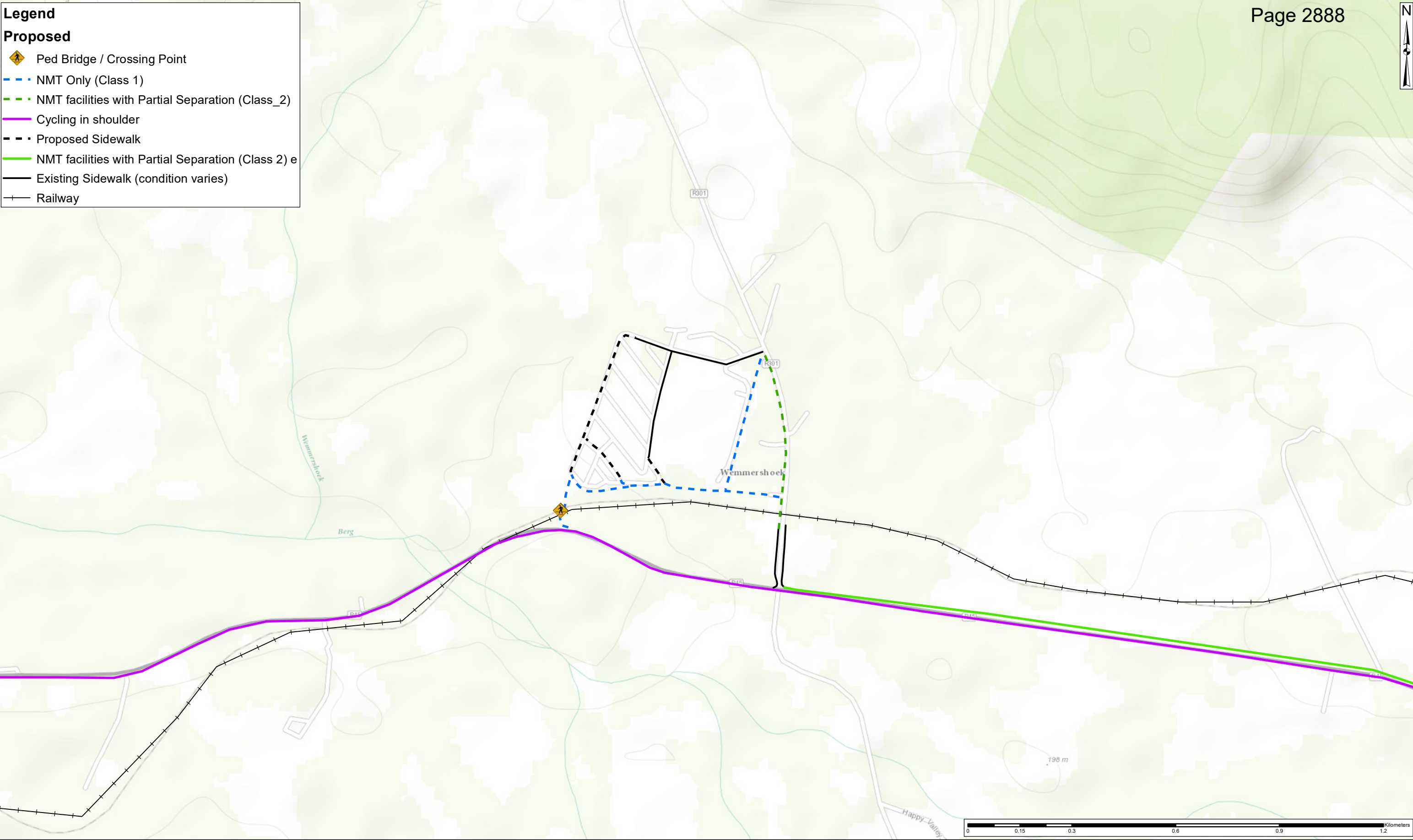
Project Title: Stellenbosch CITP		Scale 1:10 000 <small>(When page size is: A3 landscape)</small>		Figure 1	
Map Title: Kylemore: Proposed NMT Network		Projection: Transverse Mercator Datum: Hartebeesthoek 1994 Central Meridian: 19.0		Sources: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community	
		Compiled By: GA Maree			
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		Approved By: C Erasmus			
		Date Saved: 2022/04/04			
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				Map Ref: NMT_Kylemore_1.mxd	
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**APPENDIX E: STB RMP PROPOSED ROAD PROJECTS
(including Provincial road projects)**

STB RMP .PROPOSED ROAD PROJECTS (INCLUDING PROVINCIAL ROAD PROJECTS)

PROJECT REFERENCE NUMBER	ROAD NAME	ROAD AUTHORITY	ROAD NUMBER	PROVINCIAL ROAD NUMBER	ROAD SECTION / INTERSECTION NAMES	IMPROVEMENT TYPE	IMPROVEMENT DESCRIPTION	LENGTH (+/- km)	PROPOSED CLASSIFICATION	CROSS SECTION	PRIORITY *	COMMENTS/STATUS
SRMP001	Western bypass Adam Tas- Kayamandi Link	Stellenbosch/PGWC	tbc	-	New road between R310 and R304 (Western bypass - Portion north of Adam Tas Road)	New road	Option 2 New road between R310 heading north to link with the R304 to tie into the existing intersection with Welgevonden Boulevard. The route runs east of the Stellenbosch land-fill and joins Devon Valley Road for a portion before deviating to pass over the hill	6.0	Class 2, Urban Major Arterial	Dual Carriageway	-	TBC
SRMP002	Western bypass Adam Tas- Technopark Link	Stellenbosch/PGWC	tbc	-	New road between R44 (Techno Park) and R310 Adam Tas Western Bypass, portion south of Adam Tas Road - Alignment Option 1	New road	Option 3 - New road parallel to existing Techno Avenue from the R44 to R310. The road will have limited intersections with a possible 2nd access to Techno Park linking into Neutron Road. The route crosses the Eerste river (new bridge), and passes to the west of Van Ryn's Distillery before crossing the railway line (new bridge) and intersecting with Adam Tas.	4.0	Class 2, Urban Major Arterial	Single Carriageway	High	Planning and Design
SRMP003	Western bypass	PGWC	tbc	-	New road between R44 (Annandale Road) and R310 Adam Tas. Western Bypass, portion south of Adam Tas Road - Alignment Option 2	New road	Option 1 New north-south link road between Annandale Road and Adam Tas running to the east of the airport and De Zalze Estate. The route will cross the Eerste River (new bridge) and passes to the west of Van Ryn's Distillery before crossing the railway line (new bridge) and intersecting with Adam Tas. Detailed planning and investigation of route alternatives will be required, and an EIA process due to potentially environmentally sensitive areas.	6.4	Class 2, Urban Major Arterial	Single Carriageway		Further investigation required to determine whether feasible possibly as lower order road and utilizing existing routes as far as possible.
SRMP004	Kromme Rhee Road	PGWC	M23	DR1085	Kromme Rhee Road	Road upgrade	Upgrade to dual carriageway with shoulders, replacement of level crossing at Koelenhof Station with road over rail bridge.	3.5	Class 2, Urban Major Arterial	Dual Carriageway		
SRMP006	R44	Stellenbosch/PGWC	R44	MR27	R44 / Merriman Street/Adam Tas	Intersection upgrade	Grade separated intersection with bridge over railway line.	N/a	Class 2, Urban Major Arterials	-	High	Planning and Design
SRMP008	R44/R310	Stellenbosch/PGWC	R44/R310	MR27/MR172	R44 / Helshoogte Road	Intersection upgrade	Phase 1: Provide a left turn slip lane on the R44 southbound, and upgrade Helshoogte westbound to left turn, through and double right turn lanes. Phase 2: Realignment of La Colline Road.	N/a	Class 2, Urban Major Arterials	-	High	Phase 1 Complete Phase 2 Planning and Design
SRMP009	Adam Tas	STB/PGWC	R44/R310	MR27/MR177	R44 / Alexander Street / Adam Tas	Intersection upgrade	Realign Alexander Road to form the 4th leg opposite Adam Tas Road southbound.	N/a	Class 2, Urban Major Arterials	-	High	Planning and Design
SRMP010	R44	PGWC	R 44	MR27	R44 / Winery Road	Intersection upgrade	Grade Separation of intersection with free flow on the R44	N/a	Class 2, Urban Major Arterials	Dual Carriageway		
SRMP011	R44	PGWC	R 44	MR27	R44 / Annandale Road	Intersection upgrade	Grade Separation of intersection with free flow on the R44	N/a	Class 2, Urban Major Arterials	Dual Carriageway		
SRMP012	Huguenot Road	Stellenbosch	R45	MR191	R45 (Huguenot Rd) / Le Roux Street	Intersection upgrade	Intersection upgrade and potentially a new layout / control type	N/a	Class 2, Urban Major Arterials	-	High	Planning and Design
SRMP013	Huguenot Road	Stellenbosch	R45	MR191	R45 (Huguenot Rd) / La Provence Road	Intersection upgrade	Intersection upgrade and potentially a new layout / control type	N/a	Class 2, Urban Major Arterials	-	Medium	
SRMP014	Huguenot Road	Stellenbosch	R45	MR191	R45 (Huguenot Rd) / Uitkyk Street	Intersection upgrade	Intersection upgrade and potentially a new layout / control type	N/a	Class 2, Urban Major Arterials	-	Medium	
SRMP015	Huguenot Road	Stellenbosch	R45	MR191	R45 (Huguenot Rd) / Louis Botha Road	Intersection upgrade	Provide medians on approaches to Huguenot Road / Louis Botha intersection to improve safety.	N/a	Class 2, Urban Major Arterials	-		
SRMP016	Huguenot Road	Stellenbosch	R45	MR191	R45 (Huguenot Rd) / Lambrechts Road	Intersection upgrade	Intersection upgrade and potentially a new layout / control type	N/a	Class 2, Urban Major Arterials	-		
SRMP017	Lambrechts Road	Stellenbosch	R45	MR191	R45 (Lambrechts Road) / Nerina Street	Intersection upgrade	Intersection upgrade and potentially a new layout / control type	N/a	Class 2, Urban Major Arterials	-		

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SRMP018	R44	PGWC	R 44	MR27	Techno Road to Van Reede Road intersections	Additional lanes	Provision of additional lanes to increase road link capacity and intersection stop line capacity	3.3	Class 2, Urban Major Arterials	Dual Carriageway		
SRMP020	R44	PGWC	R 44	MR27	R 44	IRT infrastructure	Provision of intersection upgrades and/or dedicated lanes in congested sections	N/a	Class 2, Urban Major Arterials	Dual Carriageway & median IRT Lanes		
SRMP021	R310	PGWC	M12 & R310	MR177	Stellenbosch Arterial / Polkadraai Road	IRT infrastructure	Provision of intersection upgrades and/or dedicated lanes in congested sections	N/a	Class 2, Urban Major Arterials	Dual Carriageway & median IRT Lanes		Long-term planning
SRMP023	Western bypass	PGWC	-	-	Western Bypass / R304 intersection	Interchange	Upgrade to grade-separated interchange	N/a	Class 2, Urban Major Arterials	-		
SRMP024	Western bypass	PGWC	-	-	Western Bypass / R310 intersection	Interchange	Upgrade to grade-separated interchange	N/a	Class 2, Urban Major Arterials	-		
SRMP025	Western bypass	PGWC	R 44	MR27	Western Bypass / R44 intersection	Intersection upgrade	Upgrade to grade-separated interchange. Possible roundabout to accommodate Techno Park access, proposed new east-west route, and possibly De Zalze access. Refer to SRMP003.	N/a	Class 2, Urban Major Arterials	-		
SRMP027	R45	PGWC		MR191	Portion of R45 between N1 and Helshoogte Road	Road upgrade	Road improvement and intersection improvements	9.8	Class 2, Urban Major Arterial	Single Carriageway		
SRMP028 (Full)	R304	PGWC	R304	MR174	Portion of R304 from N1 to R310/R44	Road upgrade	Upgrade to dual carriageway.	13.5	Class 2, Urban Major Arterial	Dual Carriageway		
SRMP028 (Partial)	R304	PGWC	R304	MR174	Portion of R304 from R44 to Welgevonden	Road upgrade	Upgrade to dual carriageway.	0.75	Class 2, Urban Major Arterial	Dual Carriageway	High	Planning and Design
SRMP030	Welgevonden Boulevard	Stellenbosch	-	-	New road between Lang Road and R44	New road extension	Extension of Welgevonden Boulevard to bypass north of Welgevonden residential area, follow a new alignment and link to the R44 with a signalised intersection. A new entrance to Welgevonden will be required.	1.4	Class 3, Urban Minor Arterial	Single Carriageway		
	Remove Row											Project removed
SRMP033	Robertsvlei Road	PGWC	-	DR1351	DR1343 / DR1351 / MR191	Road upgrade	Upgrade of Robertsvlei Road to accommodate Heavy Vehicles which will allow bypassing of Franschoek town centre.	10.3	Class 3, Rural Minor Arterials	Single Carriageway		
SRMP034	Groenfontein Road	Stellenbosch	-	DR1104	Groenfontein Road from R44 to Protea Road	New road extension	Upgrade of Groenfontein Road to serve proposed new developments in Klapmuts (north and south of the N1).	5.3	Class 3, Urban Minor Arterials	Single Carriageway		
SRMP036	Remove Row											Project completed
SRMP037	tbc	PGWC	-	MR166	Road and intersection upgrades	Road upgrade	Road rehabilitation and provision of new intersections with Eikendal Road, Bredell Road and the R44.	-	tbc	Single Carriageway		
SRMP038	Old Paarl Road	PGWC	R101	MR189	Portion of Old Paarl Road from the R304 to Bloekombos	Road rehabilitation	Road rehabilitation of the R101.	-	Class 3, Urban Minor Arterial	Single Carriageway		
SRMP039	Stellenbosch Arterial	PGWC	M12	MR177	Portion of M12 from existing dualling to R102	Road rehabilitation	Road rehabilitation of the M12.	-	Class 3, Urban Minor Arterial	Single Carriageway		
SRMP040	Annandale Road	PGWC	-	DR1050	Annandale Road and a portion of Baden Powell Drive	Road rehabilitation	Road rehabilitation of Annandale Road.	-	Class 3, Urban Minor Arterial	Single Carriageway	High	Completed
SRMP041	Groenfontein Road	PGWC	-	DR1104	Groenfontein Road from Klapmuts to north of the N1	Road regravel	Regravel Groenfontein Road	-	Class 3, Urban Minor Arterial	Single Carriageway	Medium	Refer to SRMP034
SRMP043	Baden Powell Drive	PGWC	R310	MR168	Baden Powell Drive between the M12 Polkadraai and N2.	Road rehabilitation	Rehabilitation and upgrade of Baden Powell between the N2 and Vlaeberg Road. Section between Polkadraai and Annandale Road is planned.	-	Class 3, Rural Minor Arterials	Single Carriageway		In-Progress
SRMP044	Robertsvlei Road	PGWC	-	DR1351	Portion of Robertsvlei Road	Road regravel	Regravelling of existing road	-	Class 3, Rural Minor Arterials	Single Carriageway		Refer to SRMP033

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SRMP045	Winery Road / Main Street	PGWC	M9	MR165/MR166	Macassar Road to Winery Road, extension of Main Road	New road & intersection	Realignment of Macassar Road to connect with Winery Road to create improved mobility from south of the N1. Existing portion of Winery Road to be maintained for local farm access only. Main Road to be extended to meet with new road as a priority intersection.	1.3	Class 3, Urban Minor Arterials	Single Carriageway		Upgrade located outside SM
SRMP046	Remove Row											Removed
SRMP047	R44 / Stellenbosch Airport Service Road	Stellenbosch	-	-	New road link to the R44	New road	New road between the existing service road and tying into proposed intersection on the R44 - required as part of the Stellenrust Road realignment. Allows closure of several private driveways along the R44 with a consolidated access road. May require upgrading of the existing gravel service road. Closure of existing unsafe Aerodrome access off the R44	0.2	Class 4, Urban Collector Streets	Single Carriageway		Refer to SRMP048
SRMP048	Stellenrust Road	Stellenbosch	-	DR1053	Stellenrust Road	Road realignment	Realignment of Stellenrust Road over the R44 to link onto proposed new road and the closure of the existing unsafe access on the R44.	0.7	Class 4, Urban Collector Streets	Single Carriageway		Refer to SRMP047
SRMP049	New Jamestown Access Road	Stellenbosch	-	-	New Jamestown Access Road	New road extension	New Jamestown Road linking existing and proposed residential developments south to Stellenrust Road and north to Blaauwklippen Road / proposed Eastern Link	3	Class 4, Urban Collector Streets	Dual Carriageway		Long-term planning
SRMP050	School Road	Stellenbosch	-	-	Upgrade and realign School Street	New road	School Road upgrade from R44 to future Eastern Link Road	1.5	Class 4, Urban Collector Streets	Single Carriageway	High	Planning & Design
SRMP051	Pajaro Avenue	Stellenbosch	-	-	Pajaro Avenue between Webersvallei Road and Stellenrust Road	New road extension	Extend Pajaro Avenue northwards to intersect with Blaauwklippen Road and south to Stellenrust Road. Provides additional access to future Jamestown developments proposed as well as linking Jamestown to Paradyskloof.	2.3	Class 4, Urban Collector Streets	Single Carriageway		
SRMP052	Wildebosch Rd Ext – South (Eastern Link)	Stellenbosch	-	MR169	Wildebosch Road between R44 and Blaauwklippen Road	New road	The extension of Wildebosch Road to link onto Techno Avenue at the R44 (Portion of Eastern link)	0.95	Class 4, Urban Collector Streets	Single Carriageway	TBC	TBC
SRMP053	Wildebosch Rd Ext – North (Eastern Link)	Stellenbosch	-	MR169	Wildebosch Road between Paradyskloof Road and the extension of Van Reede Road	New road	The extension of Wildebosch Road north over Trumali Road and Brandwacht linking onto the extension of Van Reede Road and further north to the CBD	2.5	Class 4, Urban Collector Streets	Single Carriageway	TBC	Planning and Design
SRMP054	Van Reede Road	Stellenbosch	-	MR171	Van Reede Road	Upgrade & new road extension	Investigate the extension of Van Reede Road to link with Neutron Road.	2.3	Class 4, Urban Collector Streets	Single Carriageway		
SRMP055	Van Reede Road	Stellenbosch	-	MR171	Van Reede Road	New road extension	Extension of Van Reede Road to link with proposed new eastern extension of Wildebosch Road. Route runs through potentially sensitive farmlands and although a proclaimed provincial servitude is present, further investigations will be required.	0.6	Class 4, Urban Collector Streets	Single Carriageway		
SRMP056	Suidwal Road	Stellenbosch	-	-	Suidwal Road	New road	Extension of Suidwal Road between Doornbosch Road to Koch Road. The route is near sensitive areas and requires changes to Bloemhof Girls High School parking area.	0.4	Class 4, Urban Local Streets	Single Carriageway		
SRMP057	Stellentia Road	Stellenbosch	-	-	Rokewood Road / Stellentia Road	New road	Extension of Stellentia Road over the Eerste River (new bridge) to link onto Rokewood Road at the eastern Culemborg Crescent intersection. Provides an alternative access from Die Boord to the R310, without using the R44.	0.2	Class 4, Urban Collector Streets	Single Carriageway		

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SRMP058	Pastorie Street	Stellenbosch	-	-	Pastorie Road (Noordwal Wes Rd) link to Suidwal Street	New road	Pastorie Street link with Suidwal Road over the Eerste River (new bridge required)	0.2	Class 4, Urban Collector Streets	Single Carriageway		
SRMP059	Old Bottelary Road	Stellenbosch	-	-	Old Bottelary / Devon Valley Rd	New road extension	The extension of Old Bottelary Rd to link Blumberg Drive (Devonvale Road) and the R304	0.45	Class 4, Urban Collector Streets	Single Carriageway		
SRMP060	-	Stellenbosch	-	-	Bottelary Rd / Old Bottelary	New road	Road link between Bottelary Road and Old Bottelary Rd.	0.25	Class 4, Urban Collector Streets	Single Carriageway		
SRMP061	Merchant Street	Stellenbosch	-	MR205	R44 / Merchant Street	New road extension & realignment	The realignment of Merchant Street to link to the R45 at the R44 intersection & closure of the Merchant Street T-junction access on the R44.	0.9	Class 4, Urban Collector Streets	Single Carriageway		
SRMP062	-	Stellenbosch	-	MR27/MR189	R44 / Sandringham Road (R101)	New road	New Class 4 road between the R44 and R101, Klapmuts	3.7	Class 4, Urban Collector Streets	Single Carriageway		
SRMP063	Simonsberg Street	Stellenbosch	-	MR172	Helshoogte Road / Simonsberg Street	Road upgrade & extension	Simonsberg St extension over the R310 to Main Rd Ext, Johannesburg.	2.1	Class 4, Urban Collector Streets	Single Carriageway		
SRMP064	Sonnestraal Street	Stellenbosch	-	MR172	Helshoogte Road / Sonnestraal Street	Road upgrade & extension	The extension of Sonnestraal Street from the R310 to Main Rd, Johannesburg.	1	Class 4, Urban Collector Streets	Single Carriageway		
SRMP065	Remove Row											Project removed
SRMP066	Main Road	Stellenbosch	-	-	Main Road / Simonsberg Ext	New road	Upgrade and extension of Main Road to the south to link to planned Simonsberg St Extension & potentially Kylemore	3	Class 4, Urban Collector Streets	Single Carriageway	Medium	
SRMP067	Dirkie Uys Street	Stellenbosch	-	-	Dirkie Uys Street	New road extension	Extension of Dirkie Uys Street to connect with La Provence Street - connecting Groendal with Franschhoek.	1.4	Class 4, Urban Collector Streets	Single Carriageway		
SRMP068	Nerina Street	Stellenbosch	-	-	New access road from the R45 to existing local access road (OP5618)	Road upgrade & extension	Extension of Nerina Road from the R45 to Middagkrans Road, Franschhoek.	1.1	Class 4, Urban Collector Streets	Single Carriageway		
SRMP069	The Avenue	Stellenbosch	-	-	The Avenue / Suidwal Street	Bridge Widening	Widening of the existing bridge over the Eerste River to allow two-way traffic	0.1	Class 4, Urban Collector Streets	Single Carriageway	Medium	
SRMP070	Vlottenburg Road	Stellenbosch	-	DR1065	Vlottenburg Road	Road realignment	Realignment of Vlottenburg Road to intersect with existing Stellenbosch Kloof Road intersection. This improves safety and reduces the number of intersections and level crossings along Baden Powel. Existing intersection along Baden Powell Drive to be closed.	0.3	Class 4, Urban Collector Streets	Single Carriageway		TBC
SRMP071	Trumali Street	Stellenbosch	-	-	Trumali Street	Road upgrade	Upgrade of Trumali Street to surfaced carriageway to link with Wilderbosch Extention.	0.6	Class 4, Urban Collector Streets	Single Carriageway	High	
SRMP072	-	Stellenbosch	-	MR172	-	New road	Future Johannesburg Link Road	2.2	Class 4, Urban Collector Streets	Single Carriageway		
SRMP073	Stellenrust Road	PGWC	-	DR1053	Stellenrust Road	Road realignment	Upgrading of Stellenrust Road between Blaauwklippen and the new realigned section	3	Class 4, Urban Collector Streets	Single Carriageway		
SRMP076	Dorp Street	Stellenbosch	-	-	R44 / Adam Tas	Road upgrade	Upgrade to dual carriageway. Increased capacity from CBD to Adam Tas and northbound traffic on the R44 can access Adam Tas without using the Adam Tas/R44 intersection	0.3	Class 4, Urban Collector Streets	Dual Carriageway	High	Planning and Design
SRMP077	Schuilplaats Rd	Stellenbosch	-	-	Trumali Street / Paradyskloof Road	New road	Extension of Schuilplaats Rd - New link road from Paradyskloof Rd to Trumali Street. The link will provide a safer alternative access for residents of Paradyskloof to the R44 via the signalised intersection of Trumali Street with the R44. This will also improve overall LOS and safety along this section of the R44.	0.3	Class 4, Urban Collector Streets	Single Carriageway		Complete
SRMP078	Lanquedoc access road	Stellenbosch			Lanquedoc	New roads	Upgrade Lanquedoc access road between R310 & Main Road, including a new bridge adjacent to the existing single carriageway bridge	0.25	Class 4, Urban Collector Streets	Single Carriageway	High	Planning and design underway

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tbc	Ben du Toit Extension	Stellenbosch	-	-	Trumali Street / Paradyskloof Road	New road	Extension of Ben du Toit Street - Potential link road from Paradyskloof Rd to Trumali St	0.6	Class 4, Urban Collector Streets	Single Carriageway		Possible future link to be assessed.
tbc		Stellenbosch			Jamestown (South) road network	New roads	Road network planning for access roads to proposed housing developments	tbc	Class 4 / Class 5		High	Complete
tbc		Stellenbosch			Kyamandi (Northern area) road network	New roads	Road network planning to accommodate housing developments	tbc	Class 4 / Class 5		High	
tbc		Stellenbosch			Botmanskop Road network	New roads	Road network planning to accommodate proposed housing developments	tbc	Class 4 / Class 5			
tbc		Stellenbosch			Droedyke road network	New roads	Road network planning to accommodate proposed housing developments	tbc	Class 4 / Class 5			
tbc		Stellenbosch			Klapmuts road network	New road	Update road network planning to accommodate proposed housing developments	tbc	Class 4 / Class 5		Medium	
tbc	Dassenberg Road	PGWC		OP5616	Dassenberg Road	Road upgrade	Road rehabilitation	tbc	tbc	tbc		
tbc	La Provence	PGWC		OP5615	La Provence	Road upgrade	Road rehabilitation	tbc	tbc	tbc		
tbc	Devonvale	Stellenbosch			Devonvale	Road upgrade	Assessment of regravelling of roads in Devonvale	tbc	tbc	tbc		

Qualification:
Note that where the Road Authority is the Provincial Roads Department, projects are commissioned and funded by the Department and are implemented in accordance with the provincial budgets and timeframes. Where the Road Authority is both the Municipality and Provincial Roads Department, the Municipality would apply for funding from the Provincial department. Should the application be successful, the department will fund part of the project; in such instances the Provincial Department is the approval authority.

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