# 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, divers, 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 form 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 CITP 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 communicates. 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). |
| 4th 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.

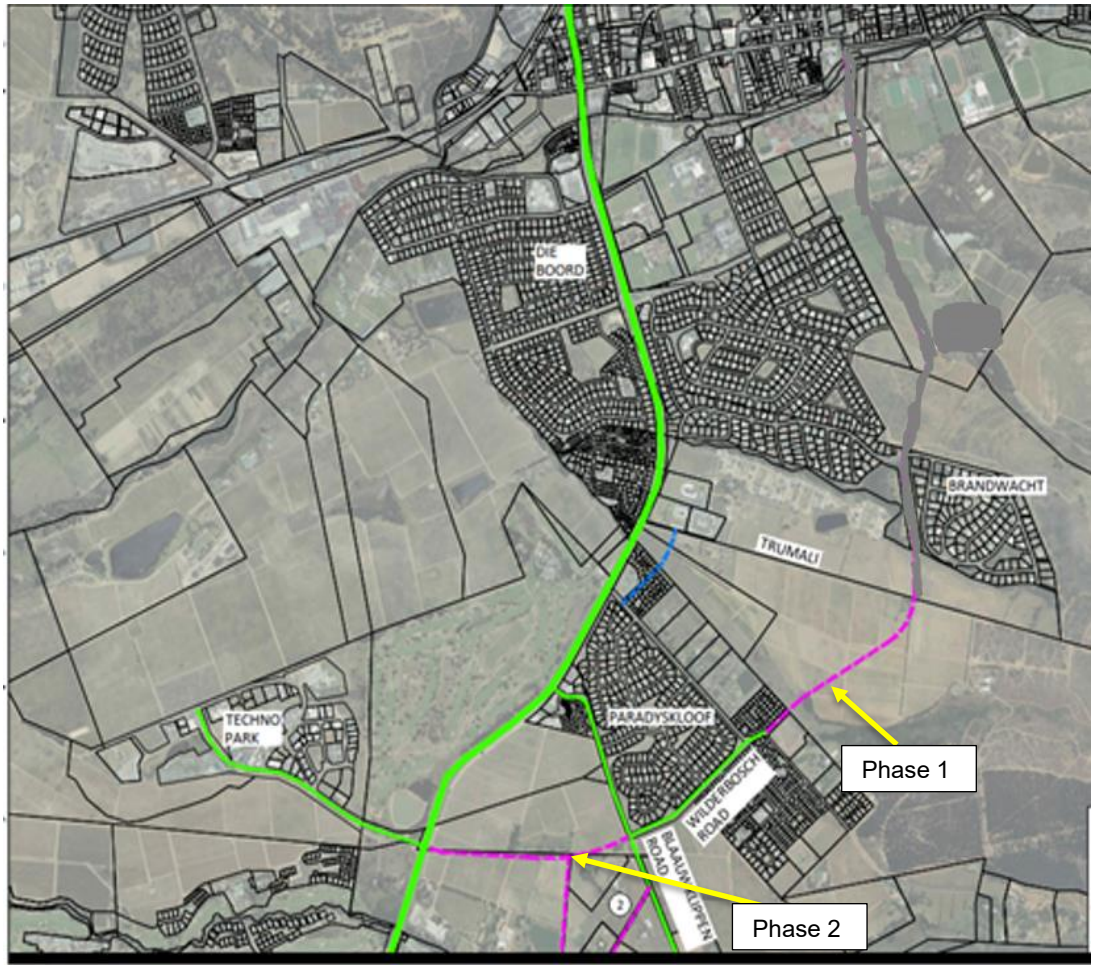


**Figure 7-1: Portions of the Proposed Eastern Link Road allowed for in the 10 year budget**

**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.

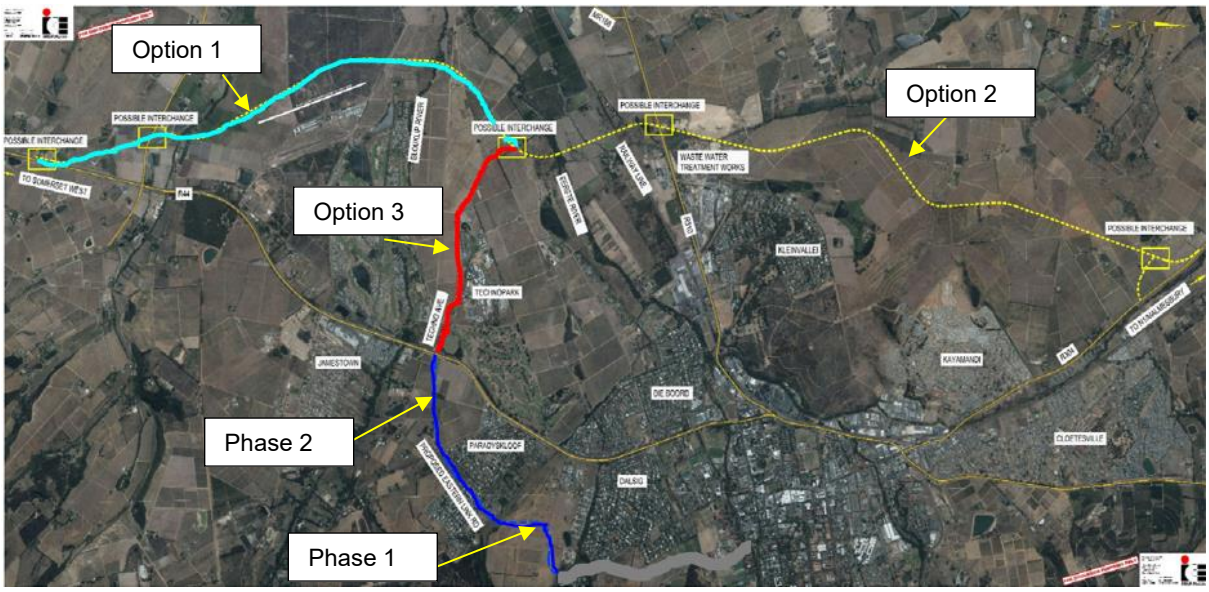


**Figure 7-2: Alignment of Possible Future Western Bypass (yellow) and Eastern Link (blue)**

*(Source: Messrs ICE)*

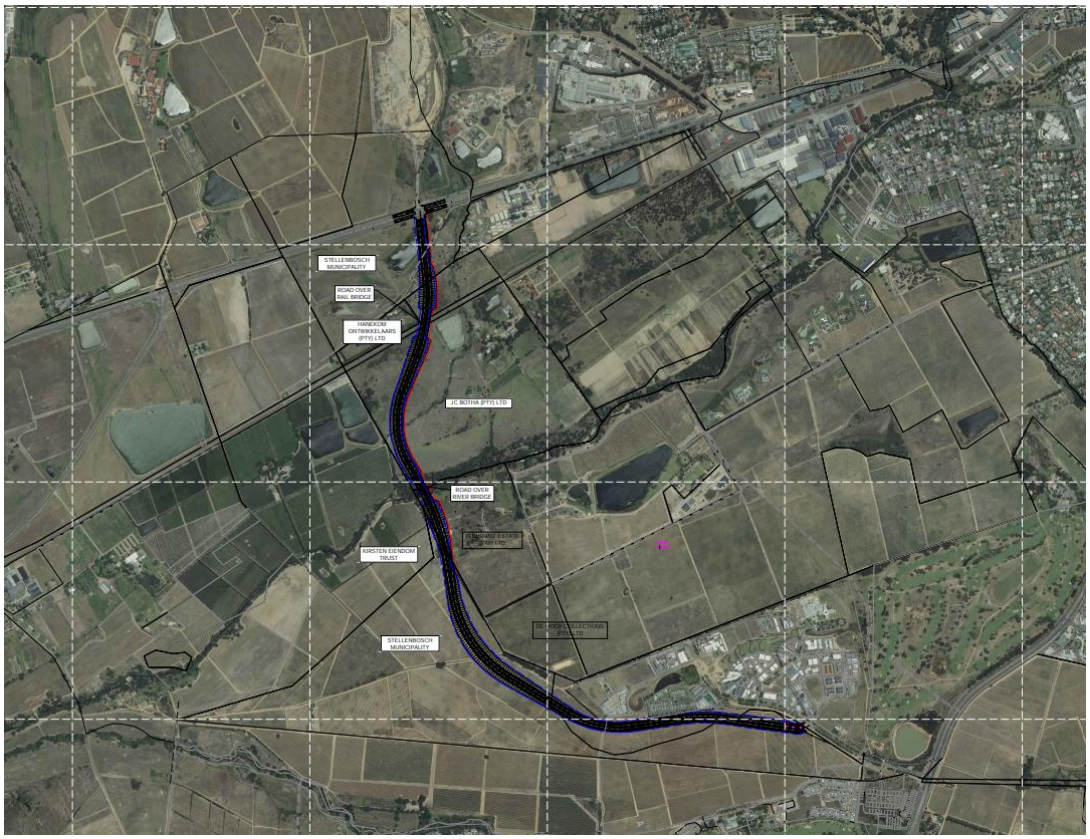

**Figure 7-3: Alignment of link road currently being designed between R44 and R310 – basically the third option from the 2019 Stellenbosch RMP – SRMP002**

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 Rheede Street (km 33.00) in Stellenbosch. As part of the environmental process, the Basic Assessment Process commenced in 2012. Messrs Kantey & Templer 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.

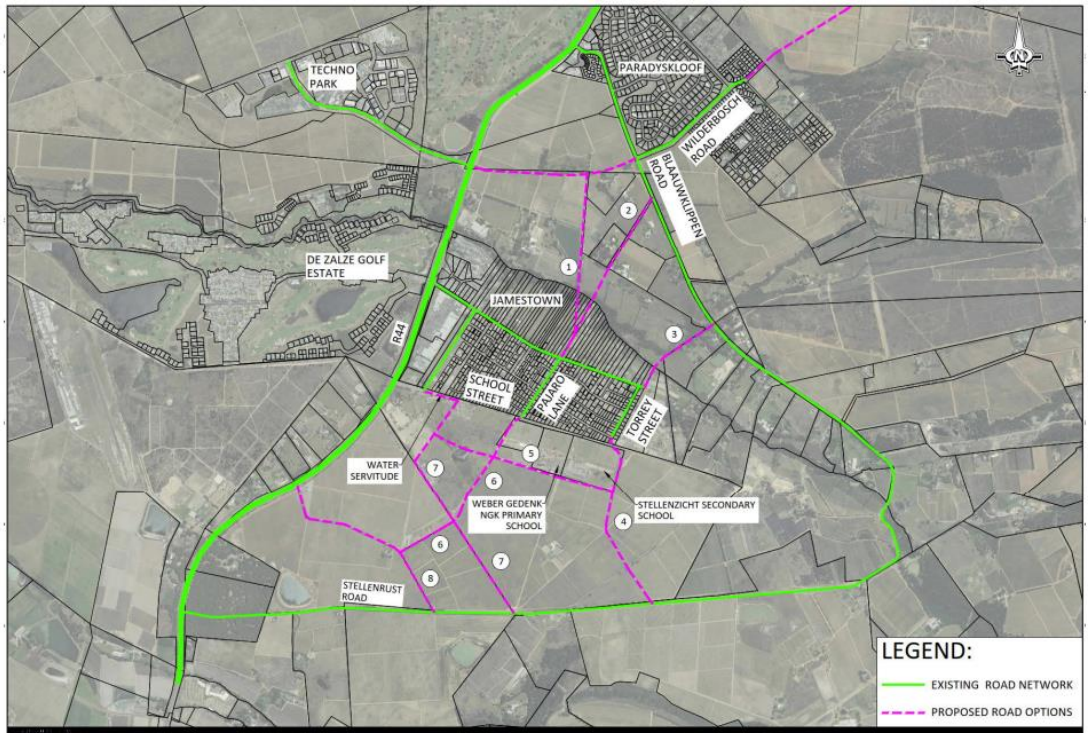


**Figure 7-4: Possible roads master plan for Jamestown – status unknown**

**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 Cloetesville;
- 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 imiproved 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 CITP, 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.

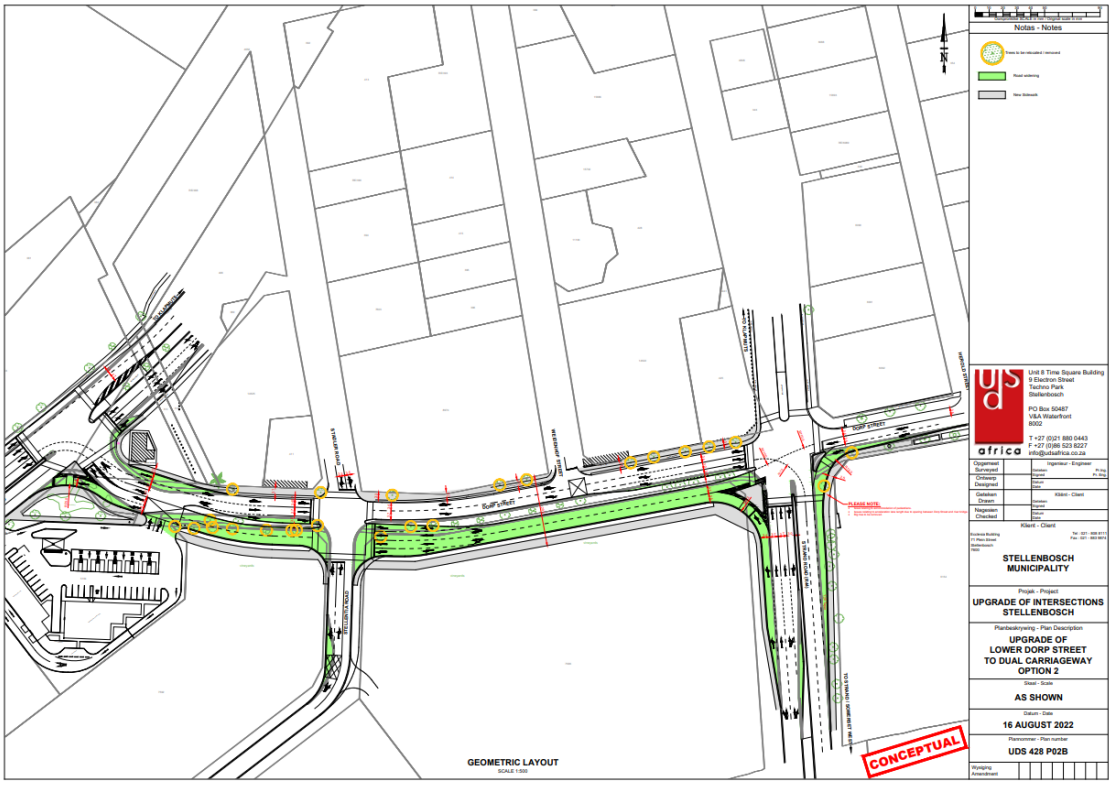


**Figure 7-6: Planned Option 2 for dualling of Dorp Street between the R44 and the R310 (Adam Tas Road)**

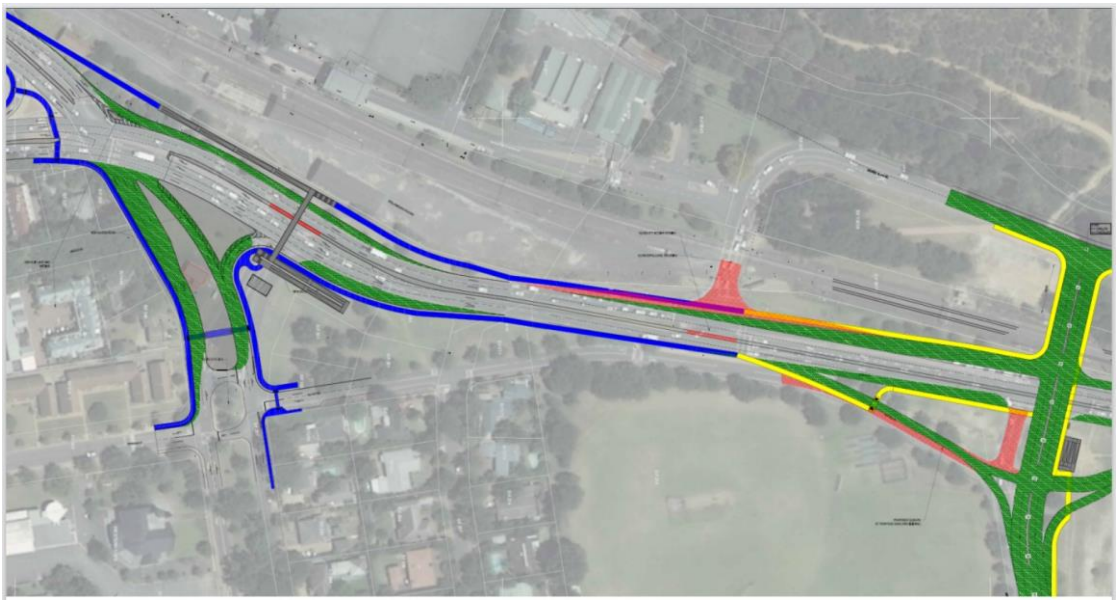

**Figure 7-7: Planned upgrade of R310/Alexander Street intersection**

**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 | | | |