June 2023

STERKSPRUIT

URBAN DESIGN FRAMEWORK

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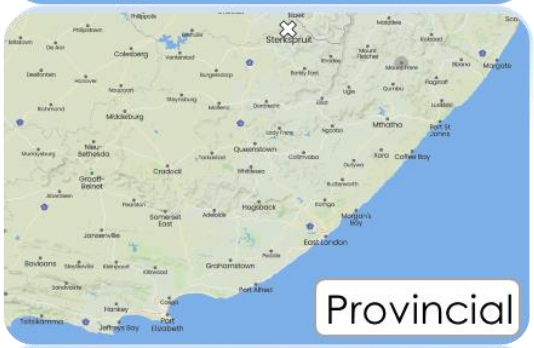
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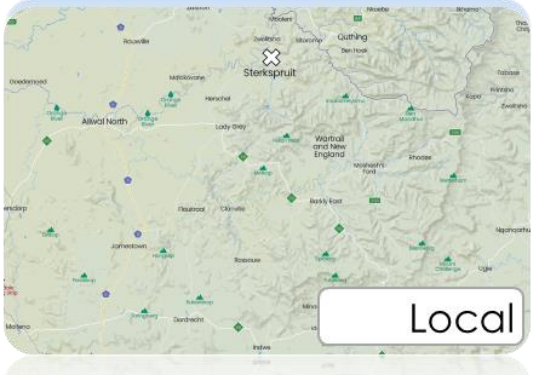
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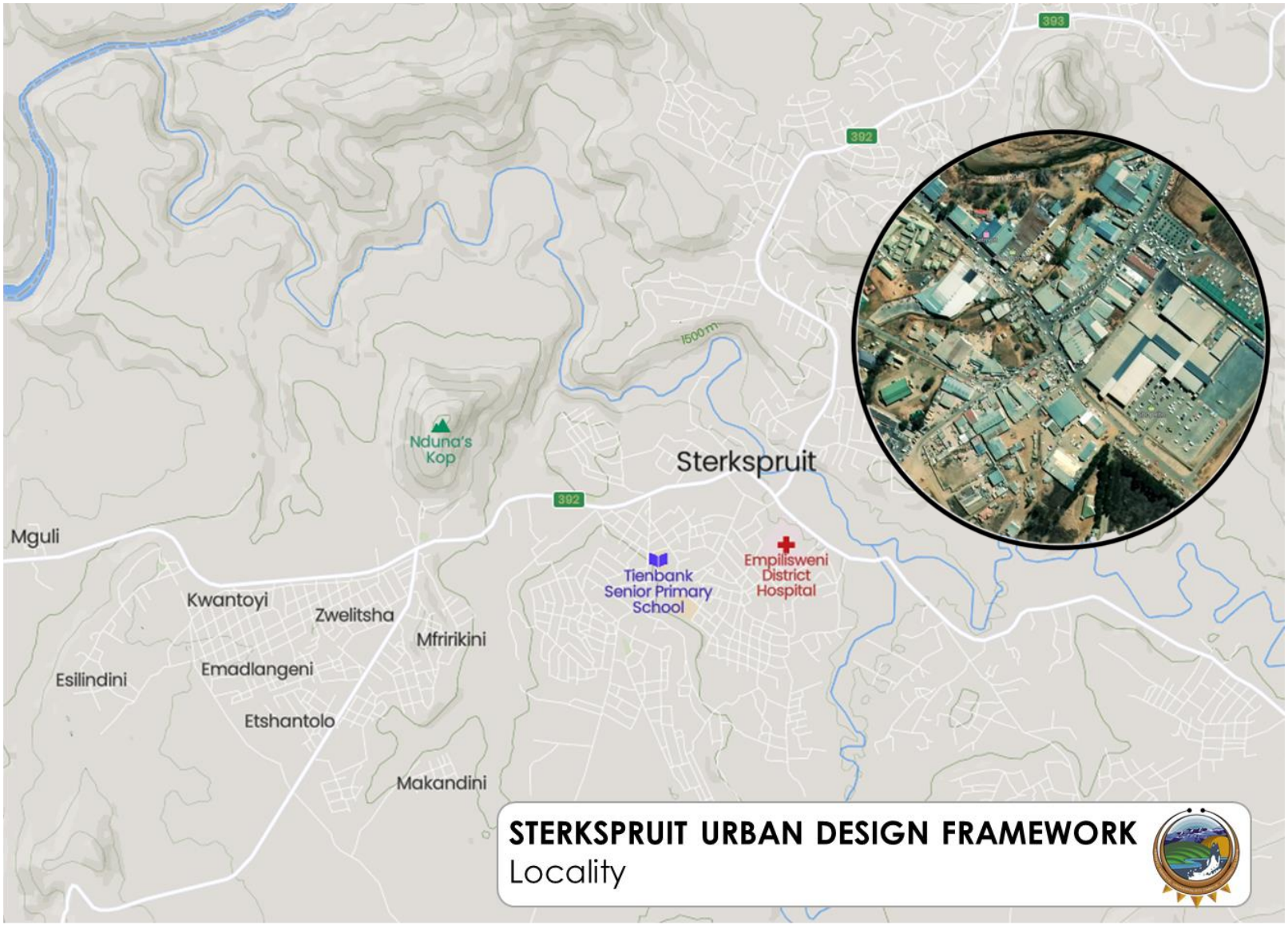
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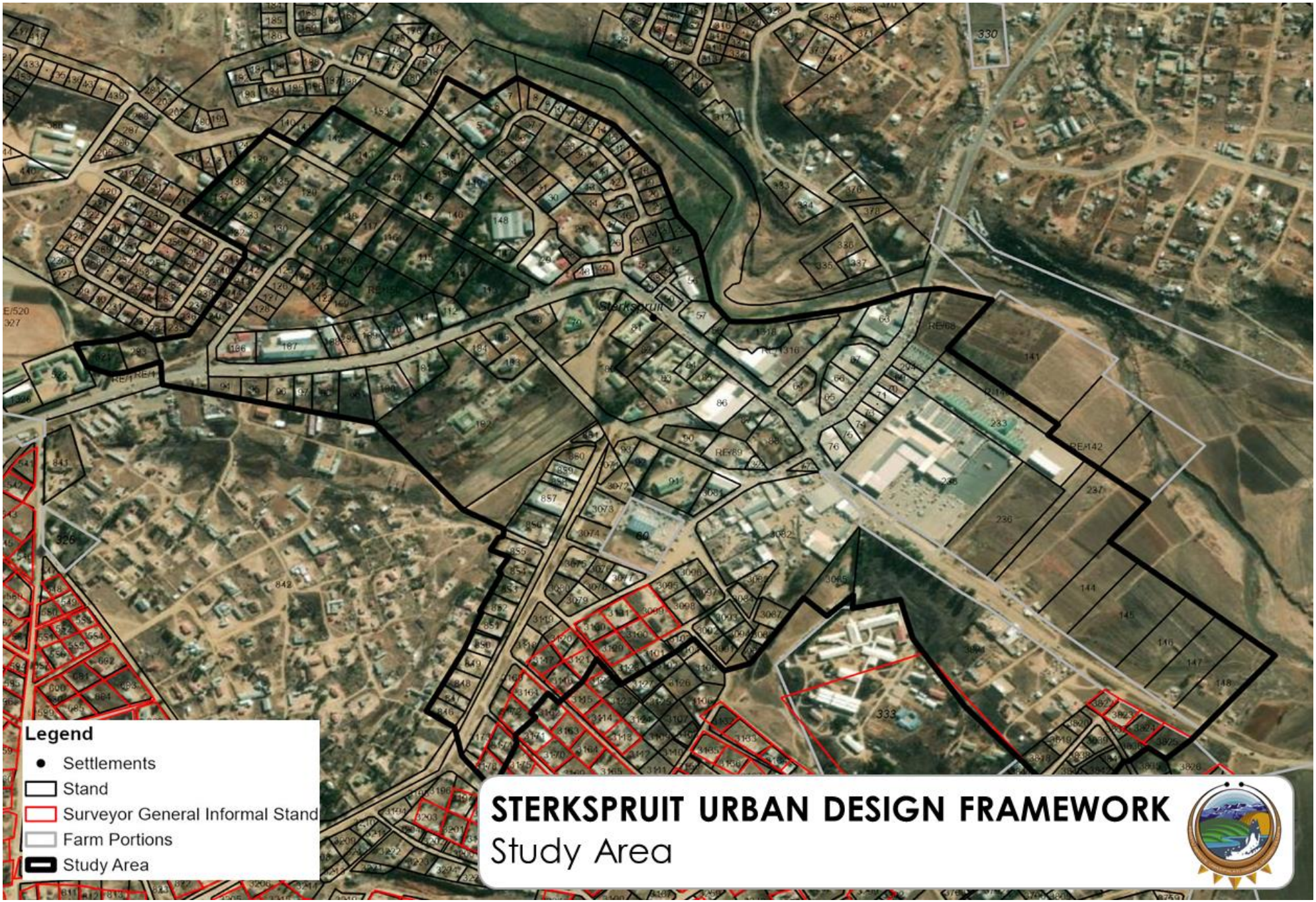
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Surveyor General Informal Stand
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Study Area
STERKSPRUIT URBAN DESIGN FRAMEWORK
Study Area

1 INTRODUCTION

1.1 The locality of the Area

The city of Sterkspruit is in the district of Joe Gqabi in the province of Eastern Cape (EC), South Africa. The satellite coordinates of Sterkspruit are:

Latitude 30°31'34"S and Longitude 27°22'14" E.

Key Attributes of Sterkspruit include:

- Sterkspruit is one of 3 major urban centres in the Municipality (the others are Lady Grey and Barkly East).
- Sterkspruit is the economic hub of the Municipality.
- Key and Strong regional linkages are evident towards Lesotho and Free State Province (Zastron).

Figure 1: Roads Infrastructure is in a poor condition (roadworks are underway in some areas)

Figure 2: The study area has an urban and rural character.

Figure 3: Heavy traffic congestion evident

Figure 4: Formal and Informal Retail/Business Sectors

Figure 5: Eskom Substation and Christiaan School

Figure 6: Degraded and Poor Stormwater and Management Evident

1.2 History of the Area

Sterkspruit is a town in the Senqu Local Municipality in the Joe Gqabi District municipality surrounded by the Drakensberg mountains of the Eastern Cape, Sterkspruit is a small scenic rural town consisting of many tribal villages. These Villages offer a fascinating multicultural diversity.

Before 1 February 2010, the District was known as the Ukhahlamba District Municipality and changed in recognition of Joe Nzingo Gqabi (born in 1929 in the District of Aliwal North and murdered in 1981 in Zimbabwe, Harare), an African National Congress (ANC) member who was a journalist for the New Age, a member of the Umkhonto we Sizwe, and one of the Pretoria Twelve.

During the time of political autonomy, the sharpest rise in the migration rate occurred in 1973, predating political independence by three years. There has also been an accelerated increase in migration to Transkei's urban centres in the last decade (1980–90) which include the Sterkspruit area. The major sending areas of migrants to the urban centres of Transkei were the combined 'other places (districts) elsewhere in Transkei (outside the sample urban centres),' followed by the Republic of South Africa, including self-governing areas and independent homelands. The Senqu local municipality observed a decrease of 1.2 %.

1.3 Background

Ditsamai Projects and Investments were appointed by the Senqu Local Municipality to undertake an Urban Design Plan and Implementation Framework for the Sterkspruit area. The project has six phases as illustrated in the diagram below:

PHASE 1: Inception Phase (Project Initiation)

Phase 2: Analysis and Synthesis

Phase 3&4:
Design Concepts and Detailed Design

An Urban Design Framework is a planning tool that sets out a vision for the future development trajectory of an area. It establishes a planning and management framework to guide development and land-use change and aims to achieve environmental, social, and economic objectives.

1.4 The purpose of the Project

The purpose of the Framework Plan is to provide an urban design proposal for the study area which will address:

- The desirable development framework that addresses the congestion and traffic flow challenges of Sterkspruit CBD.
- The locality and nature of public linkages from the major and secondary roads.
- The treatment of interfaces and guidelines for development occurring on the boundary interfaces should include an overhead implementation framework with preliminary cost implications for infrastructure requirements.

The Framework Plan must help coordinate and articulate how the elements of the public and the private realm will work together to ensure effective utilisation of the Sterkspruit CBD and immediate surrounding Mixed-Use Corridors to promote economic investment and benefit the Sterkspruit community in general.

Main Goals of the Project:

- The catalyst to redevelopment of Sterkspruit.
- Create regional attractions in the form of a formalized and upgraded central business area that is accessible to all.
- Attracting economic investment.
- Promoting local businesses and economic development in Sterkspruit.
- Arranging and formalising pedestrian and vehicle circulation priorities.
- Extend the streets and activity of the CBD outwards and along mixed-use development corridors.

- Provide parking areas to serve the CBD.
- To identify areas for infill development, especially accommodation for mixed-income groups.
- To guide infrastructure development.

1.5 Purpose of the Report

This report is the Urban Design Plan for the project. It builds on the strategic directions of the Sterkspruit Local Spatial Development Framework and the Sterkspruit Small Towns Regeneration Strategy, setting out a suite of urban design objectives, guidelines, and requirements that will guide the future development of the Precinct.

With numerous vacant and developed land parcels and different land ownership entities evident in the study area, the purpose of the Urban Design Framework is to facilitate the delivery of a well-integrated urban form with building and subdivision design that responds to adjacent developments and features of the Precinct, ensuring high quality and high amenity outcome.

The subject area stretches along the R392 (just passing the bridge over the Sterkspruit River) towards the intersection formed between the R392 and the road leading towards Mkhuzo (westwards direction). The area further leads towards the east, north, and south of the R392. Development is predominantly evident along the R392 Corridor (Main Road).

1.6 The Vision for the site

The proposed vision for the Sterkspruit Precinct Area:

"Enhance the relationship between the urban and rural space through improved access and accessibility, sense of place, densification and improved settlement and urban design guidelines".

The vision is to enhance the identity of Main Road as a highly interactive civic space, accessible to the whole region."

1.7 Key Objectives

- To deliver an improved, more accessible central business area that attracts investment while improving access to key services to all.
- To provide active and contemporary civic space in the form of a more well-defined community services node/focus area.
- To establish good access for pedestrians and cyclists.
- To recognize and interpret the cultural heritage significance of Sterkspruit.
- To contribute to the transformation of Main Road (R392) into a vibrant place to work and visit with high-quality public spaces.
- The provision of a high-quality pedestrian environment that is universally accessible.
- Identify areas for municipal urban infrastructure development such as roads, water, electricity, parks, and cemeteries.

1.8 The Guidelines

Development Guidelines are to be prepared for the Sterkspruit Urban Design Framework which would guide the following:

- High quality and innovative design whilst recognising the heritage significance of the site.
- Guiding the general amenity, built form and access, and sustainability issues.
- To encourage innovation in architectural design through the exploration of new building typologies and the use of new materials or the unconventional use of existing materials.
- To prepare development standards for land within the study area that must be achieved and a related set of performance standards that satisfy the stated objective.

1.9 The principles

1.9.1 Safe Pedestrian Environment:

The project will create a pedestrian priority environment that provides safe, attractive, and direct pedestrian access along the key Major and Secondary Roads (e.g., the R392).

1.9.2 Sensitive Infill and permeability

New infill development should be sensitive to existing built forms without being overly prescriptive in scale and form.

1.9.3 Nodes/vistas

Street ends to the precinct should be prioritized as public plazas or overlooks to promote visual connections to the natural resources and promote public access.

1.9.4 Street Edges

New buildings throughout the precinct must adopt an appropriate positive relationship to the street to better encourage informal social interaction, outdoor activity, and pedestrian orientation.

1.9.5 Streets for cars, people, and bikes

Streets are more than the paving between the curb edge, they also include the improvements between property lines: sidewalks, street trees, and landscaping as well as controls over the relationship of the property edge to the public right of way on the boardwalk.

1.9.6 Economic opportunities and permeability.

New infrastructure should encourage additional economic opportunities without detracting from the amenity of the precinct being created. Opportunities should be encouraged along both the Main Road (R392) and secondary roads. Where possible, permeability should be encouraged.

1.9.7 Beginning and an end

Clear definition of the beginning and end of the precinct through landmark building, sculpture, signage, or paving.

1.9.8 Strategic Management

Organisational structure, implementation model, and partnership approach to development that favours a public-private partnership approach.

1.9.9 Respond To History

The framework responds to the existing historic fine-grained street grid which enhances accessibility as well as connects key historic places, buildings, and places of memory into the main public space system.

- Ensure a sensitive response to the natural and built context and scale.
- Protect and enhance protected landscapes, structures, and buildings.
- Protect and enhance the historic grain and character of the CBD.
- Protect and enhance the relationship between the CBD and its landscape setting (river corridor, agricultural landscape mountain views).
- Distinguish old from new but ensure visual harmony between historical fabric and new interventions in terms of appropriate scale, massing, form, and architectural treatment.

1.10 Best Practice Lessons

The Status Quo report presents findings on local and international best practices for small-town regeneration. The recent site visits and the Terms of Reference support these findings. **The following key lessons are to be considered:**

- The CBD should have a "Sense of Place," responding to the historic built environment qualities of a place and its relationship with its natural and cultural setting (e.g., topographical backdrop, agricultural edges, riverine corridors)
- Appropriate forms of heritage interpretation, information, signage, and representation should be used to enhance the understanding of the heritage significance of the CBD for all cultures and histories.
- Regeneration interventions need to support and complement existing businesses and investors, ensuring that interventions create value for private sector entrepreneurs, investors, and the community.
- That a high-quality, appropriately scaled, well-managed built environment comprising public space and buildings, is essential in defining the CBD character and is critical to enabling a diverse and inclusive local economy.
- Streets and spaces should feel safe, welcoming, and comfortable to be in with a visual connection between street space and the activities within the buildings so that there are "eyes on the street".
- Comfort and dignity are associated with amenities such as shade, seating, ablutions, and spaces where all feel welcome and safe.
- Places must be easy to get to and well-integrated with their surroundings so people can move around conveniently and affordably – by foot, by car, or by public transport.
- Improved levels of permeability for pedestrians and vehicles to enhance access to local opportunities and facilities and support thresholds for amenities and economic activities.
- Urban regeneration interventions should respond to and support the specific economic roles that the major and secondary roads play in the Sterkspruit economy and that opportunities exist to strengthen the connections between these distinct roles.

- Improvements in the taxi facilities along with other transport services are essential to improving mobility and access to employment opportunities in and around Sterkspruit.

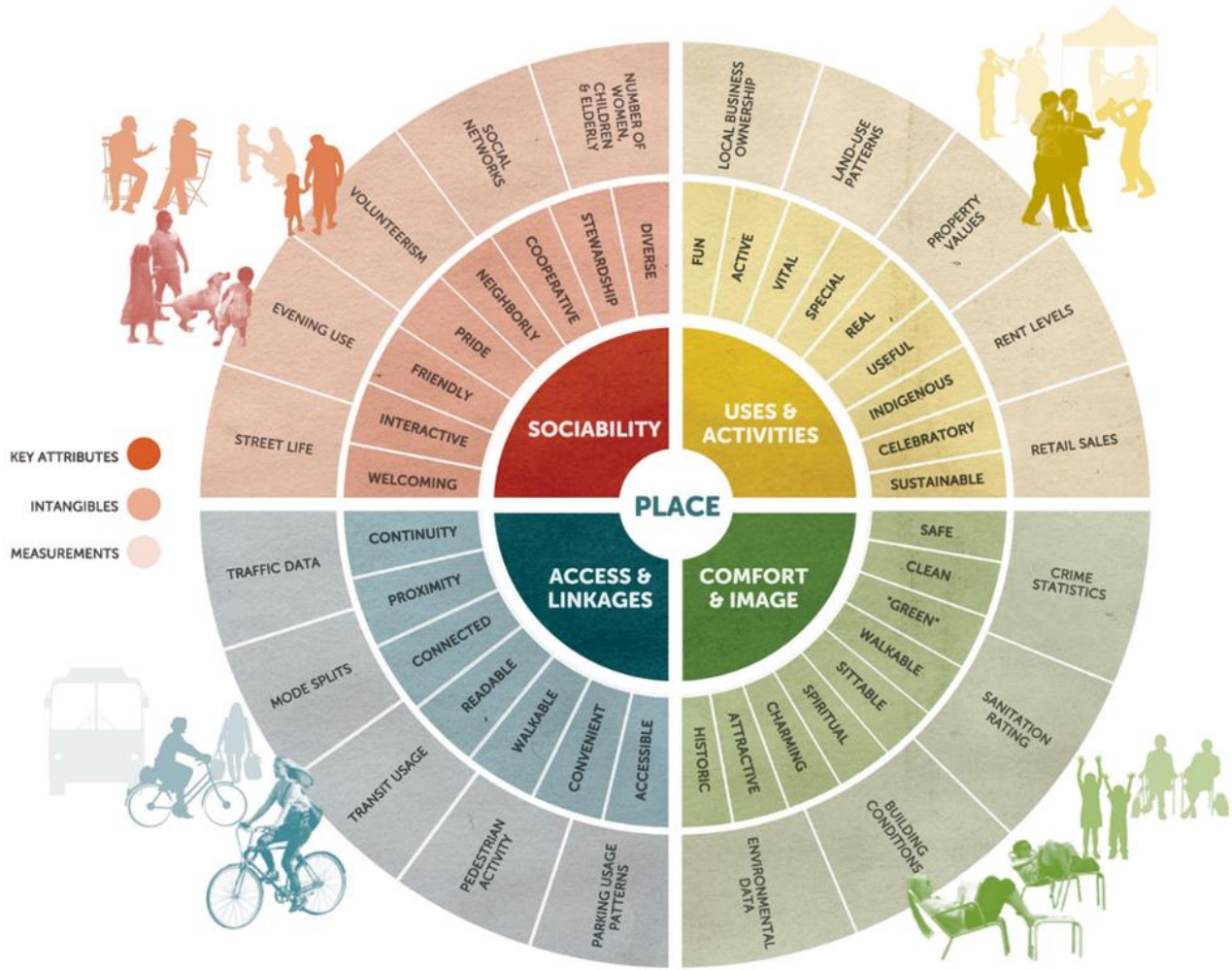
2 SPATIAL THEMES

Great public spaces are those places where celebrations are held, social and economic exchanges occur, friends run into each other, and cultures mix. They are the "front porches" of our public institutions – libraries, field houses, schools – where we interact with each other and government. When these spaces work well, they serve as the stage for our public lives. (Project for Public Spaces[1])

2.1 THEME 1: SOCIABILITY

Sociability refers to the ability of a certain place to attract friends and neighbours to meet and sit together. Key to the success of sociability is following a people-based planning approach which needs to consider the following:

- Safety and Security of public spaces and other areas where residents wish to express themselves. The safest locations are on well-connected streets with plenty of pedestrian traffic with good visibility from surrounding buildings. People attract

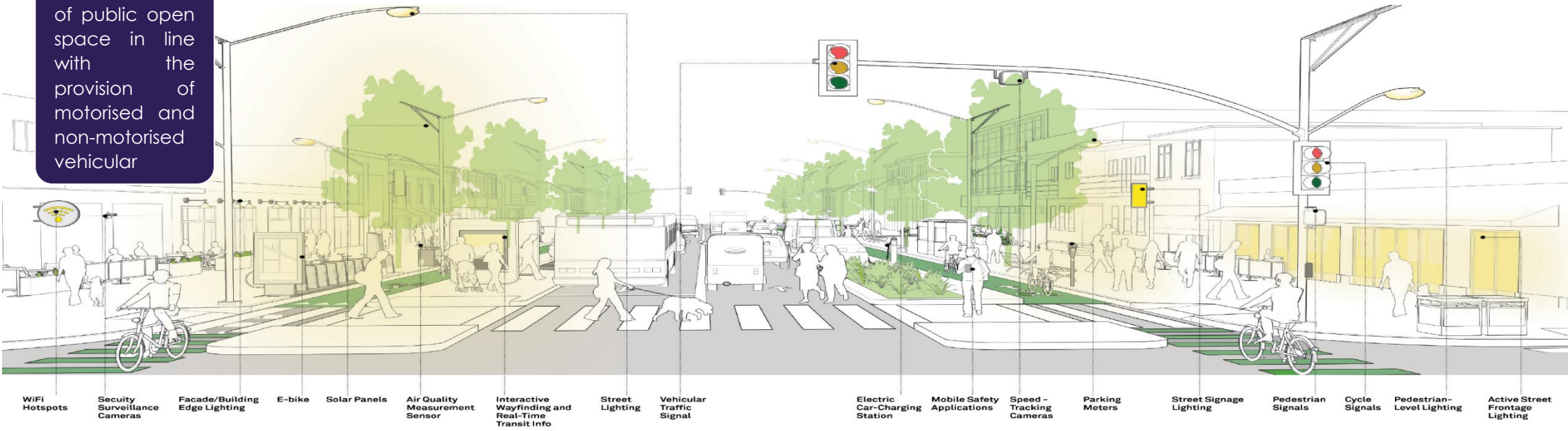


[1] Project for Public Spaces (PPS) is a non-profit organization dedicated to helping people create and sustain public spaces that build strong communities. https://www.pps.org/article/grplacefeat

people and people normally make other people feel safe.

- Quality movement and mobility frameworks (allowing for different means of transportation, whether motorised or non-motorised). Routes should allow for local movement.
- The safest cul-de-sacs are short and straight, with many highly visible dwellings, and connected directly to through streets; and
- Well-designed street furniture considering local resources (e.g., the use of natural stone, or creative African artwork) Street furniture should allow for the following:
    - Minimising visual clutter and integrating urban design elements using vibrant colour schemes to improve visibility and improve patriotism (through heritage) of residents.
    - Allowing for level textured surfaces that are accessible.
    - Minimising stairs.
    - Allow for benches.
    - Allow for places of rest including shading.

Envisaged use of public open space in line with the provision of motorised and non-motorised vehicular



2.2 THEME 2: USES & ACTIVITY

Activities in a certain place attract people to visit and return. A good place offers fun, activities, vital services, special places, useful areas, and provision for indigenous facilities, and must be sustainable. In addressing these attributes, the following needs to be considered:

- Identifying key nodal or focus areas where an exciting and vibrant urban character through mixed-use development and improved densities can be developed that support a wide variety of uses, therefore creating a well-defined and improved living.
- Development of an urban regeneration strategy and the implementation thereof. This would not only create the critical mass required to support retail and other developments, but it also encourages diversification of offerings and provides an exciting vibe that attracts other people and attracts investors.
- Mixed-use structures and mixed-use precincts are important and have the following benefits:
    - Land use synergy.
    - Lifecycle housing.
    - Creating a sense of place.
    - Access to amenities and destinations.
    - Walkable/Bikeable neighbourhoods.
    - Increased transit opportunities.
    - Affordable housing.
    - Improved livelihoods.
    - Protection of the local environment; and
    - Sense of community.
- Key components of Mixed Development Include:
    - Vertical mixed-use development combines different uses in the same building structure in a distinct vertical fashion. Parking may be underground and surface parking is often limited. Ground floor uses are typically retail, restaurant, and services, with offices and residential above; and
    - Horizontal mixed-use development can combine different uses in interconnected building structures and can also be two or more high-rise structures on a single stand with each structure holding a different land use.
- An important factor in maintaining sufficient levels of pedestrian activity and making streets and public spaces attractive and safe, is the way buildings are laid out concerning these streets and public spaces.
- Also important are the location and number of building entrances and windows. More openings with a more direct relationship with the street are recommended.
- Themed container stalls can be used to accommodate a vibrant informal trading sector, these "container parks" can be themed through local competitions where sponsors can provide materials. The

benefit of using a container structure is that the structures can be relocated or moved when needed or required for new development. This approach could enable the temporary use of well-located spaces to accommodate the second and third economic sectors.

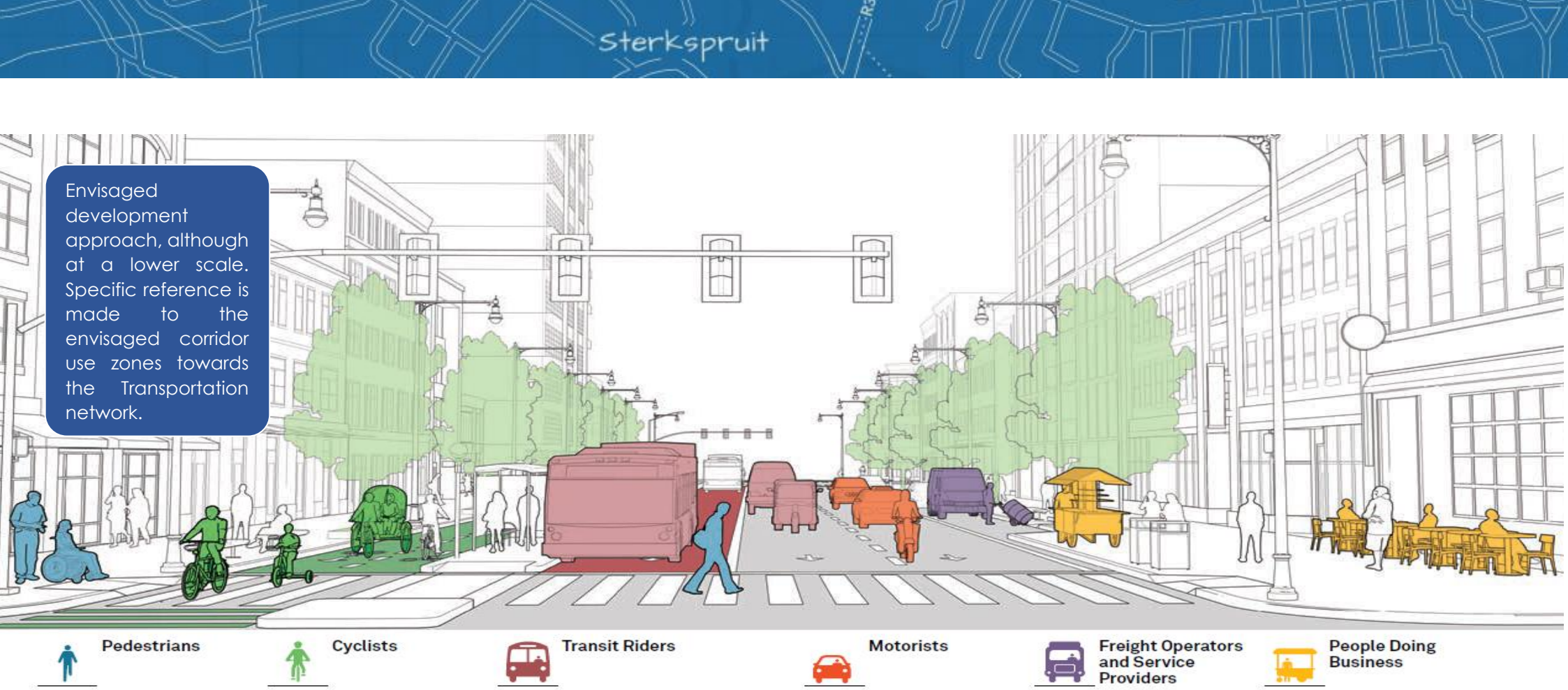
- The presence of dead frontages (e.g., Blank walls) significantly reduces the attractiveness of streets and public spaces for pedestrians, which is critical in centres dominated by retail and other pedestrian-sensitive uses.

2.3 THEME 3: ACCESS AND LINKAGES

An accessible place refers to how it's available and easy to get to and get through the place, the availability of transportation to the place's location, and the connection between the place and adjacent buildings. Key considerations in this regard include:

- The pedestrian is the key element of the movement system of a town. The integration of activities and movement routes creates an interdependent system between the social aspects and other aspects (e.g., business uses).
- Sidewalks provide many benefits including safety, mobility, and healthier communities. In addition to reducing walking along roadway crashes, sidewalks reduce other pedestrian crashes.
- The following pedestrian design considerations are important:
    - Create an identity using colour schemes at each location, and different focus areas.
    - Use landmarks (e.g., heritage resources/buildings) to provide orientation cues and memorable locations.
    - Create well-structured and themed paths using local resources.
    - Give visitors a vista and map of local tourism opportunities and destinations.
    - Provide signs at decision points to help with wayfinding decisions.
    - Use sightlines to show what is ahead.

- In terms of open space, the following needs to be considered:
    - A route's visibility from its surrounding street and a clear line of sight through parks and open spaces.
    - To generate more walking and cycling on greenways and in open space, a network of paths must be first and foremost accessible.
    - The network must be linked directly to the street network, providing clear views at the entrance points, and overlapping views between routes to facilitate natural surveillance.
    - Direct lines of sight should be used; and
    - Multi-directional views into the surrounding urban area are recommended.



2.4 THEME 4: COMFORT AND IMAGE

A comfortable place makes a good impression on its visitors. With a beautiful image, safety, cleanliness, and the availability of seats comes a memorable impression. Key considerations to improve the comfort and image includes:

We note that the National Department of Tourism recognizes that tourism can play a powerful role in strengthening the economies of our villages, towns, cities, and other dense settlements. Tourism can also support the renewal of declined small-town main streets and rejuvenate urban cores through economic growth, employment creation, more efficient land use, and improved public transport systems. Importantly, tourism can play a significant role in the creation of more sustainable township hubs by targeting tourism investment strategically in areas with the best potential. To this end, tourism needs to be better integrated into planning systems

particularly at the neighbourhood level. Other considerations in terms of heritage include:

- Heritage helps create a sense of place.
- Heritage and economic decisions can work together.
- Heritage is not just about old buildings.

Public Art can heighten awareness, question assumptions, express, and define a community's values, identify, and reveal the unique character of a specific neighbourhood. It can also express a positive sense of identity and values.

3 SPATIAL RATIONALE

3.1 SPATIAL CONCEPT

The spatial concept unpacks structuring elements that guide spatial development within partially rural/urban areas. It further illustrates the spatial vision of the Municipality, with specific reference to the various structuring elements, i.e.:

- Macro Context and Function
- Built Environment and Heritage
- Development Nodes
- Edges, Thresholds, and Gateways
- Movement and Corridors

The above structuring elements provide a spatial concept on which strategies can be formulated. The spatial strategies relate to the location of development and where it should take place with land use guidelines in the precinct. The spatial strategies further provide strategic guidelines for the change of land use, including densification and infill development, architectural guidelines circulated and services provision, and how new development or expansion should take place.

3.2 SETTLEMENT PLANNING

The spatial concept and strategies are driven by principles for settlement planning and urban development. Principles on good spatial practice should inform all deliberations on spatial planning as a golden thread from the start. The Settlement Planning Principles further refine the SPLUMA principles, norms, and standards.

3.2.1 ACCESSIBILITY

The need to ensure that people have access to a variety of opportunities is implied in the SPLUMA principles. This requires an understanding of the relationships between different activities in terms of spatial proximity (close and far), access, and time. In the past accessibility has mostly been considered in terms of travel time in private vehicles.

However, this measurement is not only environmentally unsustainable, as it is mostly dependent on access to private motor vehicles but also reflects a denial of the reality that the majority of our citizens do not have private vehicles, may not always be able to afford public transport and thus have to spend significant time and energy walking to fulfil their needs. Thus, appropriate walking distance should always be used as the measure for accessibility. 20 minutes or 1km is regarded as an acceptable distance to walk and should be used as a basis of settlement design.

Improved transportation in the case of the Sterkspruit Study Area would require:

- A Transport Mode (Taxi, Bus, and Non -motorised Transport)
- Paved walking pathways to link the different focus areas of the study area.

3.2.2 FUNCTIONAL INTEGRATION

The implementation of the walking distance principle to promote greater access to opportunities for all people will require the functional integration of the existing and proposed

activities. In this regard, all activities should be accessible within walking distance along the envisaged corridor that is formed.

3.2.3 SOCIO-ECONOMIC INTEGRATION

The principle of access and integration also requires socio-economic integration. In reality, there is often community resistance to the integration of poor, middle, and high-income communities. The use of a socioeconomic gradient with relatively small differences in income and property value between adjacent communities can help mediate this problem.

A high level of socio-economic integration can be achieved in a 1km radius by applying this principle. In particular, efforts should be made to locate low-income neighbourhoods nearer to the core or nodes of settlements and away from the periphery.

3.2.4 EFFICIENT URBAN STRUCTURE

Applying the principles of walking distance access and functional integration will contribute to creating more efficient (i.e., where urban infrastructure is used optimally) settlements. Currently, settlements are characterized by segregation of land uses and low-density development that cannot support public transport, or small businesses. To address these issues and achieve better access and integration, appropriate densification will have to be promoted.

3.2.5 A LOCAL NODAL HIERACRHY

To increase economic activity, social facilities, and employment opportunities should be grouped or clustered according to a spatial hierarchy logic, i.e., higher-order facilities in the most accessible locations and vice versa, rather than randomly scattered.

3.2.6 COMPACTION AND DENSIFICATION

Understanding densities and how they may be altered depending on the kind of urban growth outcomes that are desirable has given rise to a debate between the desirability of urban sprawl, generally associated with uncontrolled low-density growth, versus compact growth.

Compact growth is seen as being focused and structured to efficiently provide transport and services, creating viable business thresholds and attractive public places, and reducing the impact of urban growth on scarce resources such as arable, scenic, and high biodiversity potential land.

3.2.7 PROTECTION AND ENHANCEMENT OF THE ENVIRONMENT

The Municipality, in its decision-making, should give protection and improvement of the urban environment, the quality of life it allows, and the conservation of its biophysical and socio-economic resources.

The Municipality should carry out measures to enhance the urban environment and must encourage developers to implement policies, which enhance the local environments adjacent to their development. Environmental Management Regulations should form part of all applications for all major development as stipulated by legislation.

3.2.8 EFFICIENT PUBLIC PARTICIPATION

The objective requires that the Municipality should introduce mechanisms to ensure that the public, and in particular communities affected by land development, have opportunities to influence planning decisions. This objective is to ensure that the full resources of the region are utilised in facilitating land development. The underlying idea is a public-private sector partnership because neither sector on its own has the skills or capacity to do the job.

3.3 CONCEPTUAL FRAMEWORK

The conceptual framework provides for the integration of the key urban design components that configure the urban design framework. These components promote an accessible, functional, and efficient spatial system within the Study Area. They are crucial tools to regenerate Sterkspruit as a node more viable for future development and expansion. The Diagram below illustrates the arrangement of the components within the conceptual framework.

The Conceptual Framework of Sterkspruit attempts to envision the following:

- Improved access and movement networks which make provision to improve the region's transportation systems.
- Improved access to government and key socio-economic services to service the Sterkspruit region.
- Mixed Use areas to stimulate improved and coordinated economic development. It is envisaged that the precinct area is to be formalised (subdivided) which would improve the security of tenure for potential investors.
- A well-connected open space zone network is proposed to strengthen sustainable development in Sterkspruit.
- To develop an area that promotes sustainable livelihoods and improves the community's access to key socio-economic services.
- To stimulate local economic development by developing an area that provides the potential for the private sector to be interested in investing within the region.
- The spatial concept needs to advocate integrated development and allow a good balance of mixed land use types, thereby strengthening local economic development while improving local living conditions.

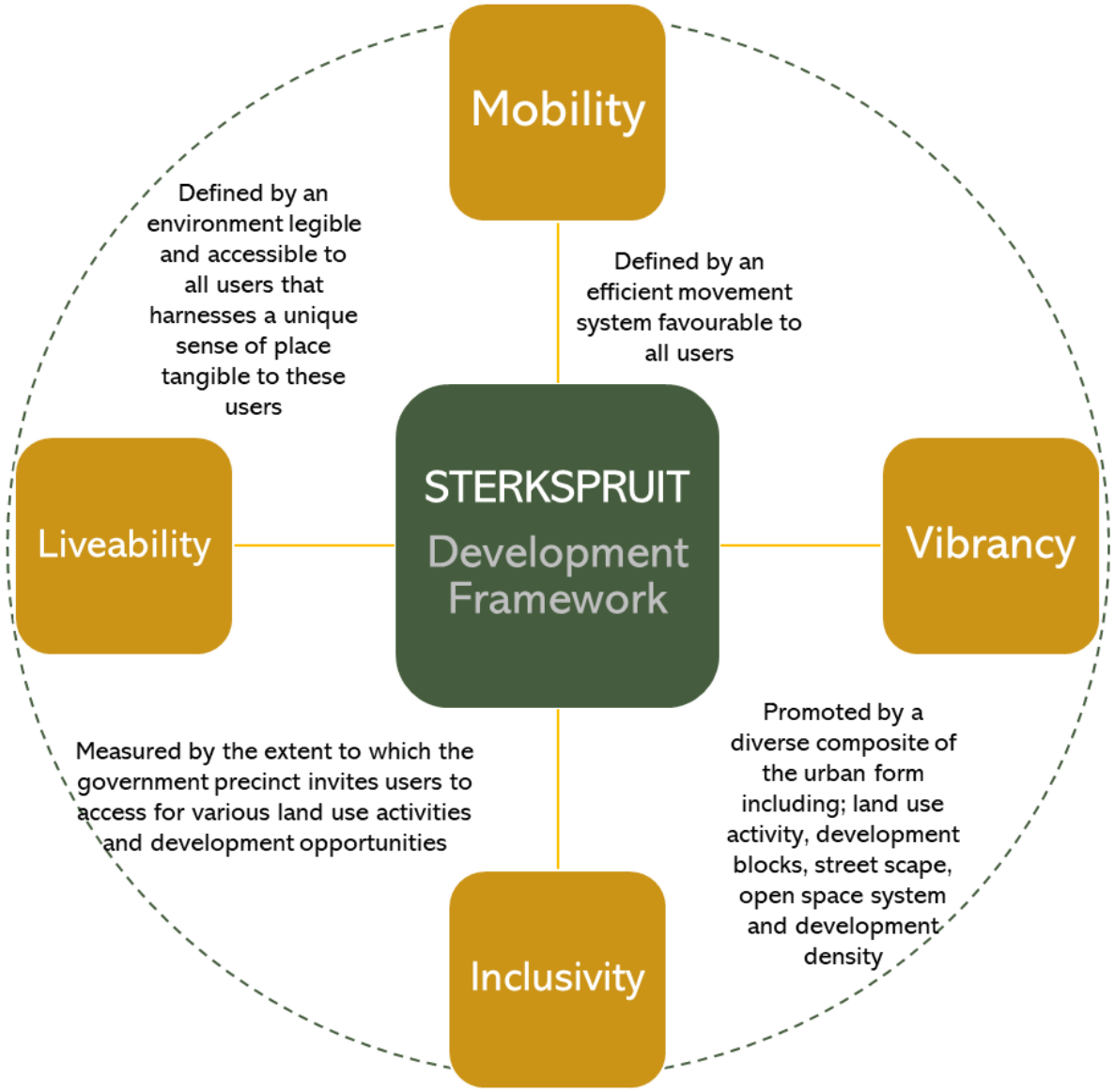


Figure 8: Envisaged Sterkspruit Urban Design Framework

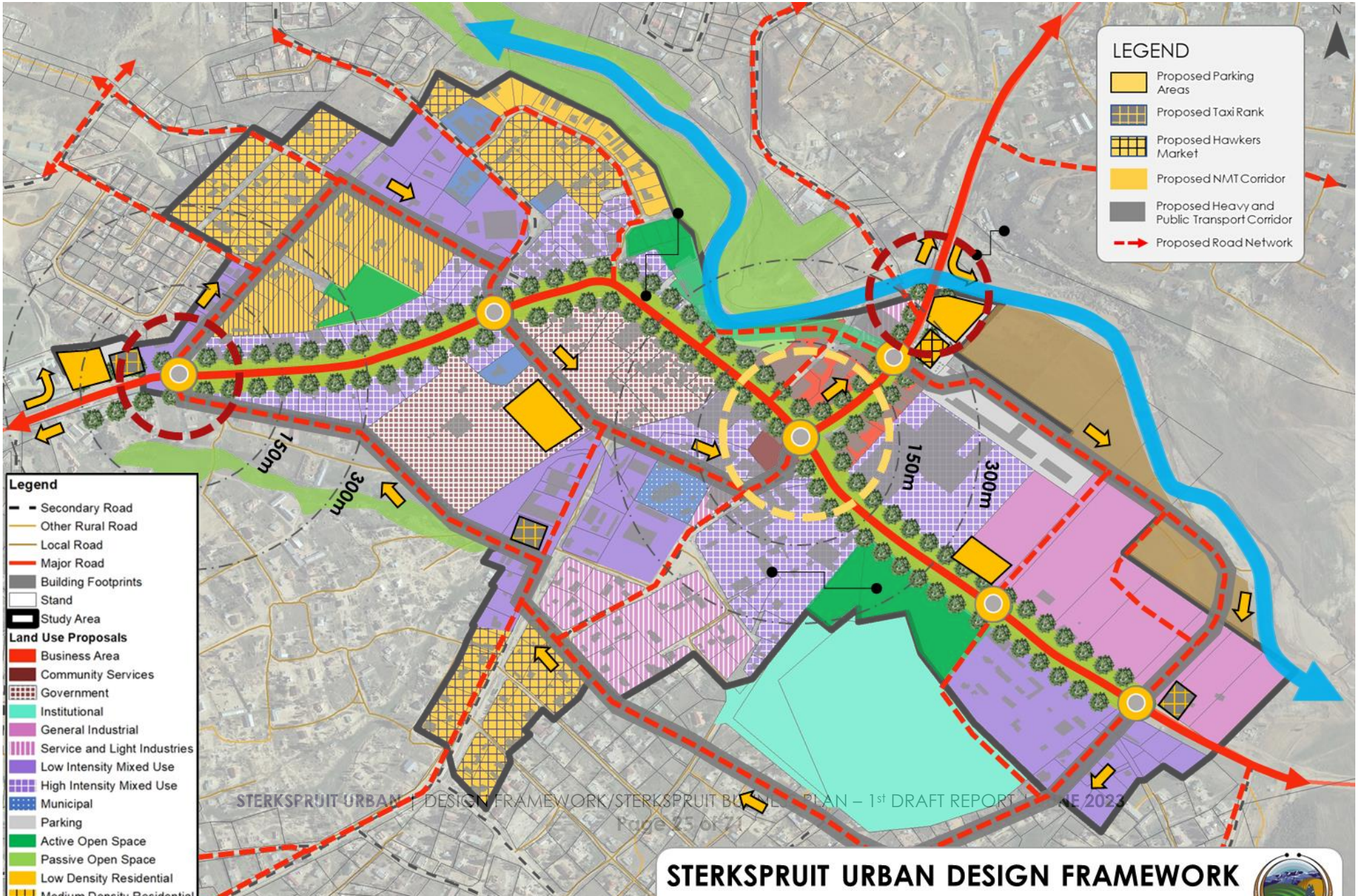
4 COMPOSITE PLAN

The preparation of a composite plan consists of identifying important structuring elements impacting or influencing the precinct development area. In the case of the Sterkspruit Urban Design Framework, key development focus areas have been identified within a wider area. These areas were identified due to the strong relationship between the Nodes and the surrounding areas.

The Nodes cannot be secluded. It is, therefore, important to identify linkages and relations between these focus areas that will strengthen and support sustainable development. During the process of compiling the composite plan, the following elements were evaluated:

- A holistic overview of the village and immediate surroundings.
    - Identification of key focus areas.
- Identification of Movement networks.
    - Determine the hierarchy of existing roads and movement networks.
- Identification of development nodes.
    - Important nodal areas have been identified impacting the Study Area.
- Open space framework.
    - Identify the environmentally sensitive areas as well as the open space/green areas "no go areas".
- Land use framework.
    - Evaluating the existing spatial form of Sterkspruit to identify the correct location of new land uses.

The following frameworks are proposed to facilitate the implementation of the urban design framework. The frameworks seek to facilitate the implementation of the study area character.


Sterkspruit
LEGEND
Proposed Parking Areas
Proposed Taxi Rank
Proposed Hawkers Market
Proposed NMT Corridor
Proposed Heavy and Public Transport Corridor
Proposed Road Network
N
Legend
Secondary Road
Other Rural Road
Local Road
Major Road
Building Footprints
Stand
Study Area
Land Use Proposals
Business Area
Community Services
Government
Institutional
General Industrial
Service and Light Industries
Low Intensity Mixed Use
High Intensity Mixed Use
Municipal
Parking
Active Open Space
Passive Open Space
Low Density Residential
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300m
150m
300m
STERKSPRUIT URBAN DESIGN FRAMEWORK

4.1 MOVEMENT FRAMEWORK

Sterkspruit has two main movement corridors namely Zastron Street and Main Road. These two streets carry the bulk of heavy and light vehicle traffic which congests the CBD of Sterkspruit. It is proposed a new Heavy Vehicle and Public Transport Road be developed which runs along the outer edges of the CBD, South of the Hospital. The proposed road will split from Zastron Street just after crossing Sterkspruit River and cross Main Road near the new proposed Taxi Rank. The proposed road will continue northwards before it turns east to cross Main Road once again and finally re-joining Main Road at the junction of Main Road and Zastron Street.

The Heavy Vehicle and Public Transport Proposed Road would allow Main Road to prohibit Public Transport and Heavy Vehicle traffic that passes through Sterkspruit. Only Heavy vehicles which destination is adjacent to Main Road and is not accessible from any other road should be allowed to enter Main Road. This limitation on heavy vehicles and public transport should occur on the section of Main Road West of the junction between Main Road and Zastron Street.

The proposed road should also follow a one-way design to allow better traffic flow. The section of Zastron Street that lies in between its junction with Main Road and the Proposed Road should also be converted to a one-way street leading out of Sterkspruit. Motorists entering Sterkspruit would then need to use the Proposed Road and connect to the Main Road at the following junction.

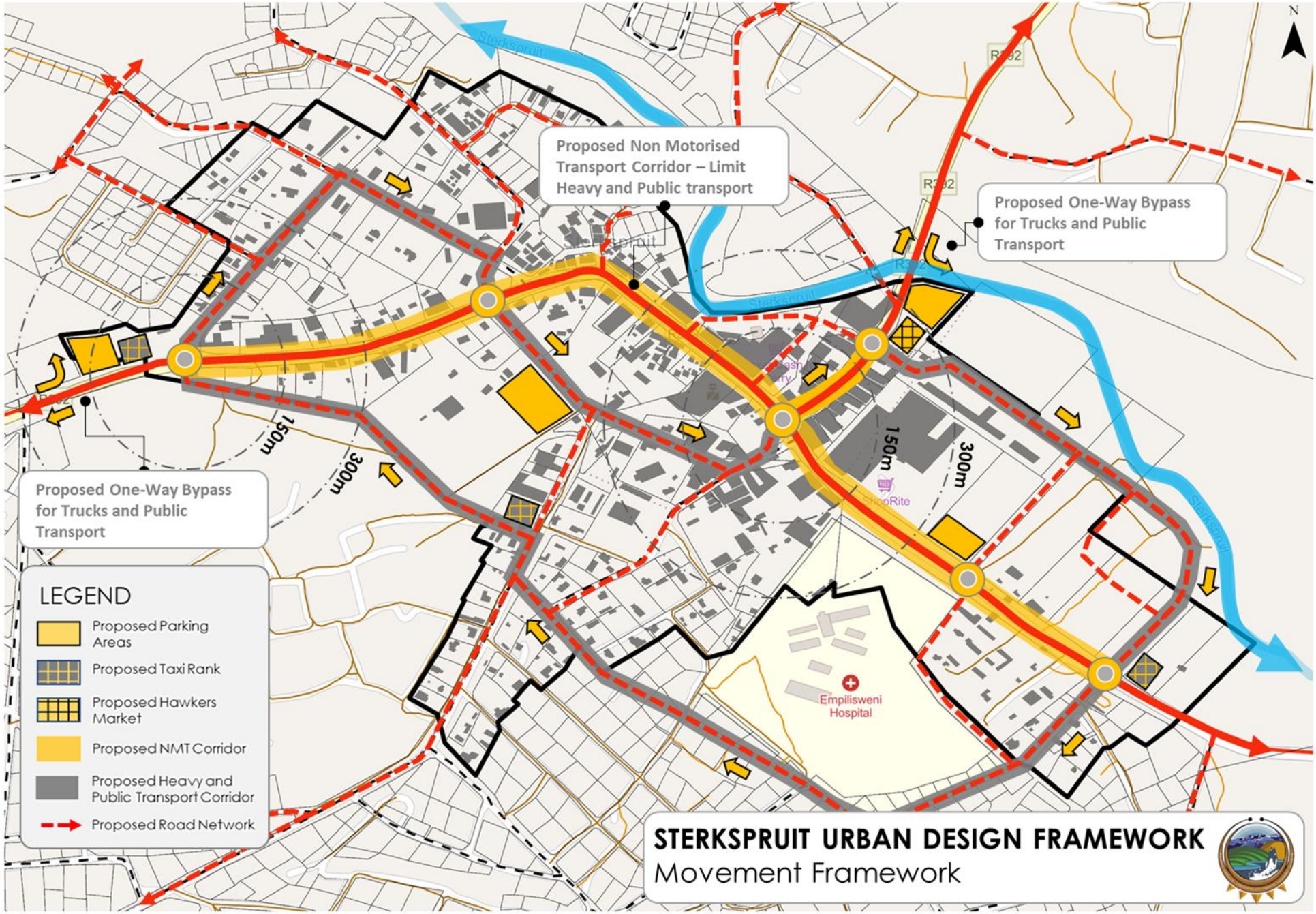
At the Zastron Street entrance to Sterkspruit a hawker's market is proposed to allow people leaving and entering Sterkspruit to visit the market. Parking should also be provided to prohibit street parking. Further parking areas are proposed along the New Heavy Vehicle and Public Transport Road and Main Road. These parking areas should be designed according to the design guidelines mentioned in this report.

Numerous Taxi Ranks are also proposed within the study area to ensure access to public transport is within walkable distance. These Taxi Ranks should conform to design guidelines set out by the Municipality and should form part of a positive urban edge.

An extensive road network is also proposed throughout the study area to connect all the activities within the study area. These roads should follow design guidelines and conform to designs used in on Main Road and Zastron Street.

All the roads should have allowances for NMT, but Main Road and Zastron Street need to be especially supportive of NMT. These two roads should be wide enough to allow for bicycle and pedestrian traffic while still having sidewalk space available for other activities such as seating and trading stalls.

Traffic circles are also proposed at junctions along Main Road as traffic calming instruments and provide opportunities for landscaping.


Sterkspruit
Proposed Non Motorised Transport Corridor – Limit Heavy and Public transport
Proposed One-Way Bypass for Trucks and Public Transport
Proposed One-Way Bypass for Trucks and Public Transport
150m
300m
150m
300m
Empilisweni Hospital
LEGEND
Proposed Parking Areas
Proposed Taxi Rank
Proposed Hawkers Market
Proposed NMT Corridor
Proposed Heavy and Public Transport Corridor
Proposed Road Network
STERKSPRUIT URBAN DESIGN FRAMEWORK
Movement Framework

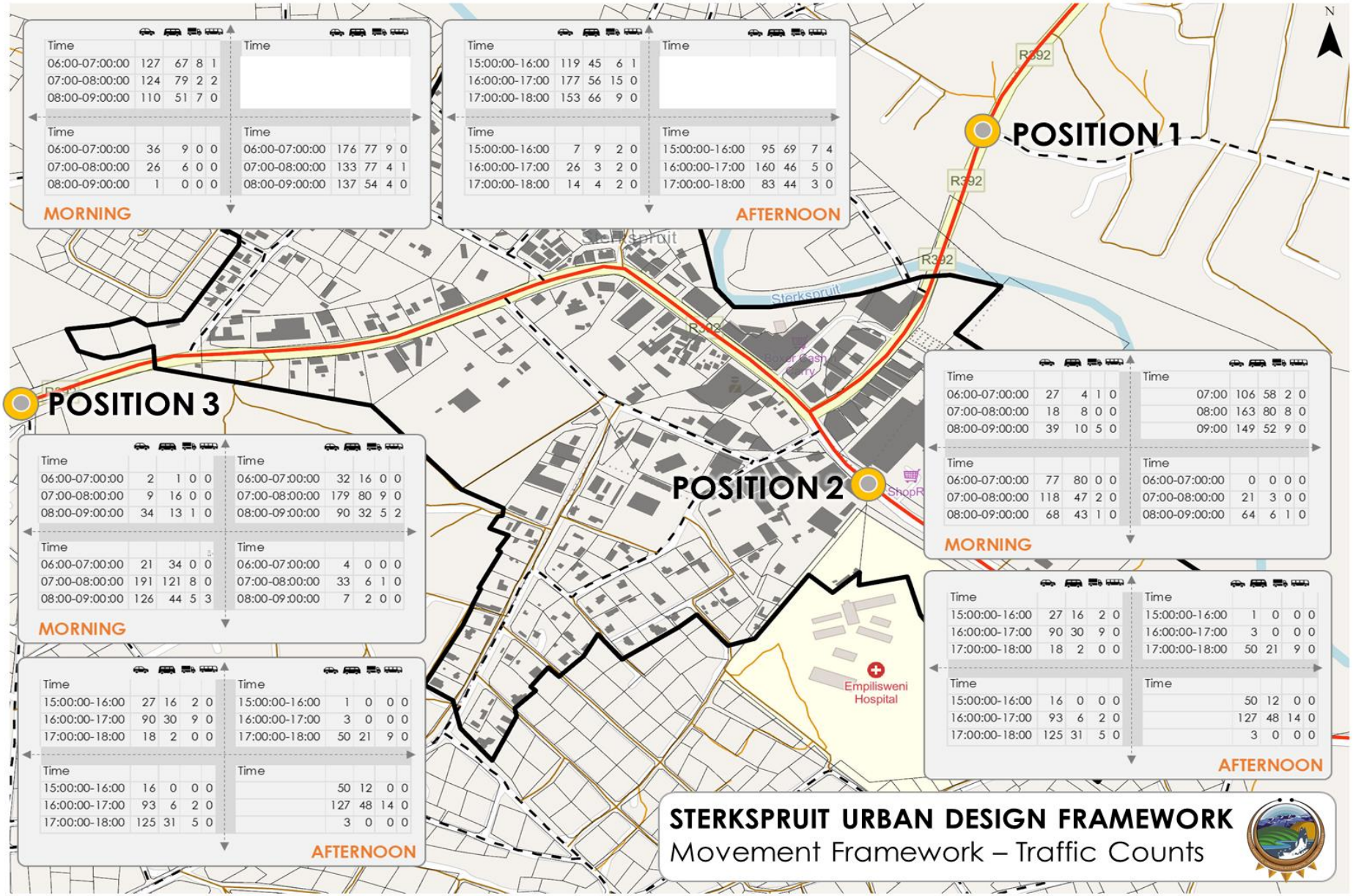

Sterkspruit
POSITION 1
POSITION 2
POSITION 3
R392
Sterkspruit
Empilisweni Hospital
MORNING
AFTERNOON
STERKSPRUIT URBAN DESIGN FRAMEWORK
Movement Framework – Traffic Counts

Figure 9: Photos taken from the Traffic Counts

4.2 PUBLIC OPEN SPACE FRAMEWORK

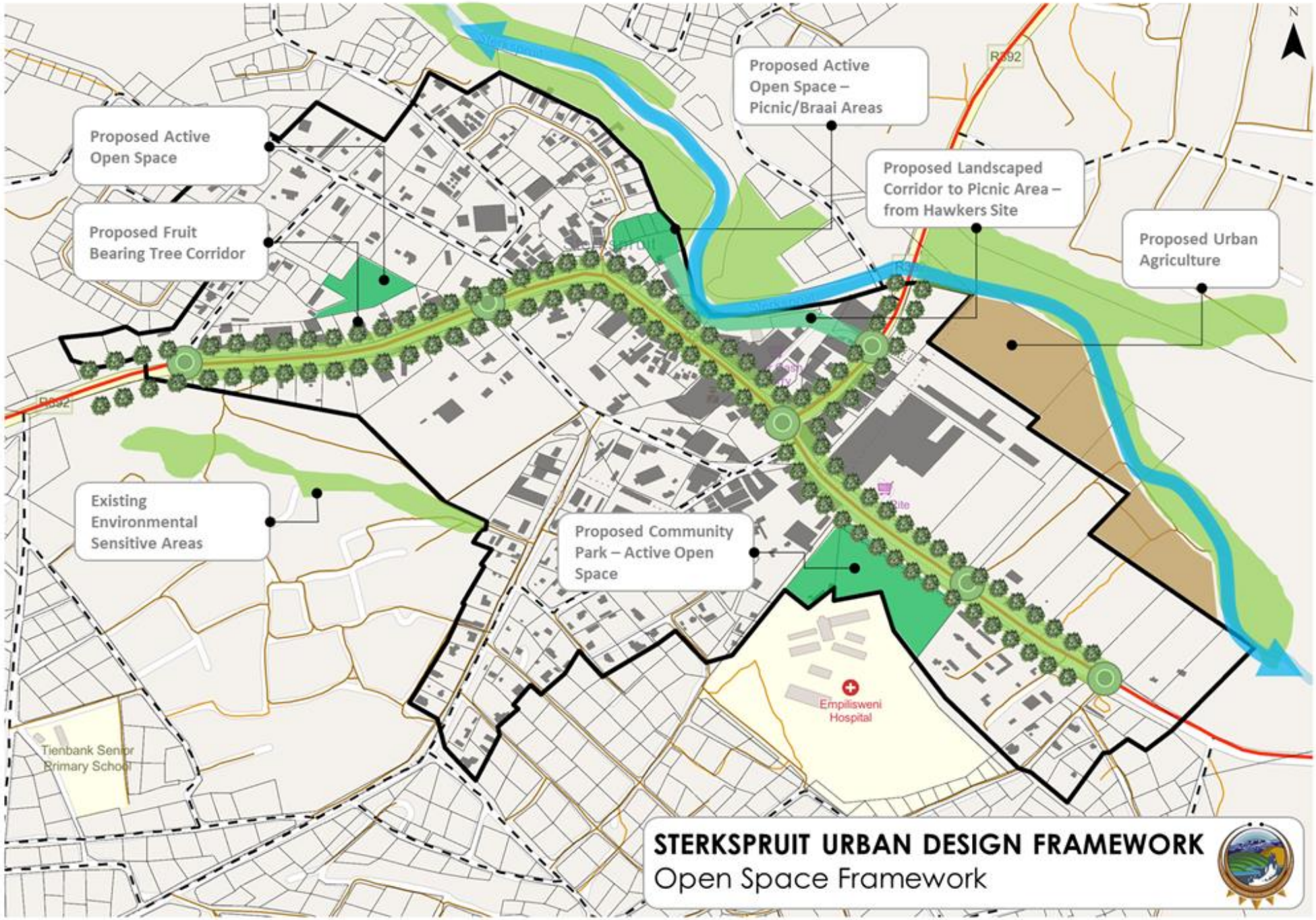
An extensive public open space network has been proposed for Sterkspruit. This open space network is a combination of active and passive public open space along with environmentally sensitive areas and urban agriculture.

The first active open space proposed lies next to the Sterkspruit River and should be fitted with braai and picnic facilities. Connected to the braai facility is a landscaped open space corridor which links the braai area with the hawker's market.

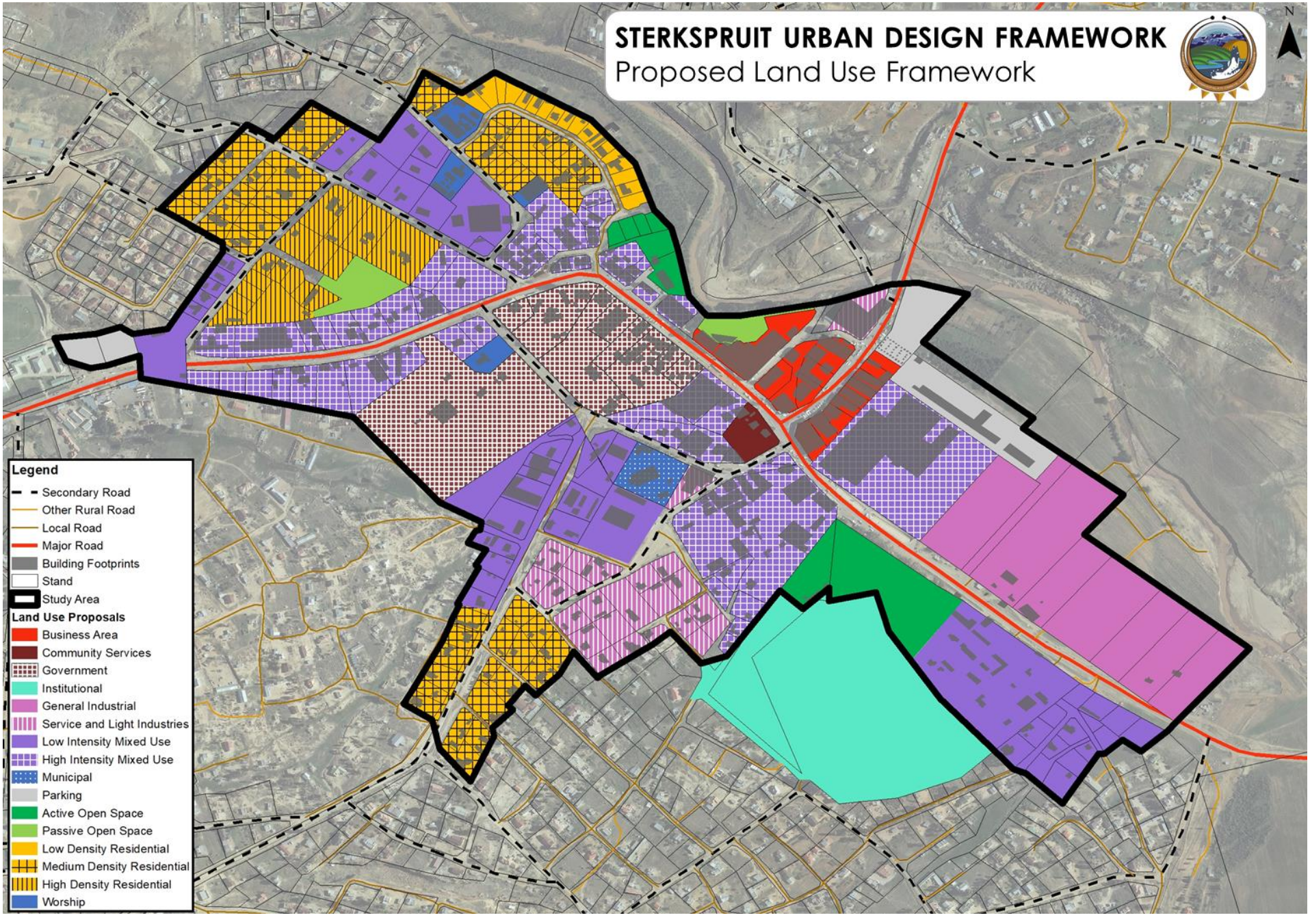
The other active open spaces proposed are located on either side of the study area and should be developed as community parks that provide opportunity for recreation activities such as community gatherings, markets, picnic facilities and sport facilities. These areas should be landscaped and where possible low maintenance pathways should be developed.

The environmentally sensitive areas should be left as passive open space to support conservation efforts in these areas. Where possible hiking trails can be implemented with low maintenance paths and signage which teaches hikers about plant growth and conservation.

Urban agriculture also forms part of the open space network and an area next to the river on the edge of the study area is proposed as a community farm. The proximity of the community farm to the commercial activities of Sterkspruit and the proposed hawkers market creates easily accessible markets for excess produce. Furthermore, a fruit baring tree corridor is proposed along Main Road and Zastron Street to supplement food security and create an identity for the area.


Proposed Active Open Space
Proposed Fruit Bearing Tree Corridor
Existing Environmental Sensitive Areas
Proposed Active Open Space – Picnic/Braai Areas
Proposed Landscaped Corridor to Picnic Area – from Hawkers Site
Proposed Urban Agriculture
Proposed Community Park – Active Open Space
R392
Empilisweni Hospital
Tienbank Senior Primary School
N
STERKSPRUIT URBAN DESIGN FRAMEWORK
Open Space Framework

4.3 LAND USE FRAMEWORK



5 DESIGN GUIDELINES

Generic design guidelines have been developed that can be applied to all the focus areas within the precinct. These guidelines will help achieve the desired vision for Sterkspruit and include the following:

- Built form guidelines that address built edges, infill development, and future growth.
- Landscape guidelines refer to natural edges, vegetation, street furniture, lighting, parking; and
- Trading guidelines address both formal and informal trading and their interface with the public.

5.1 Built Form guidelines.

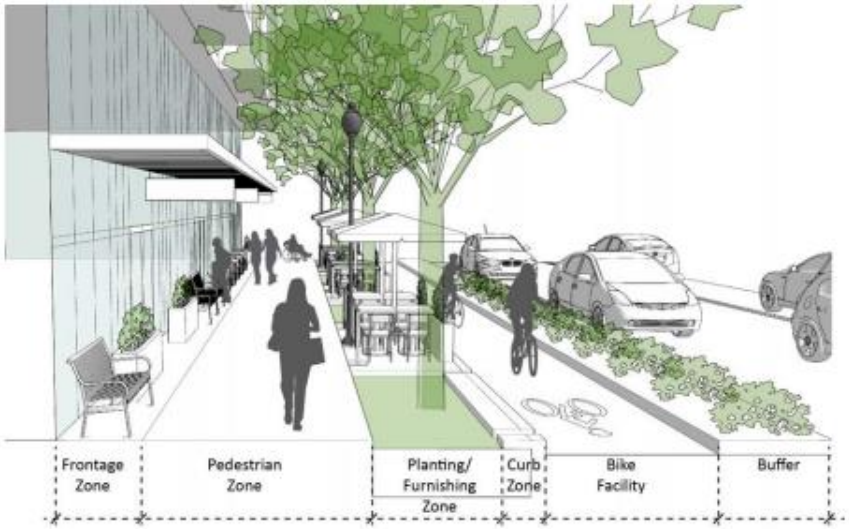
5.1.1 Active edge

Create active building edges and streets by avoiding blank walls that face the public and narrow sidewalks. Ensure the main street that commercial and retail uses are found on the ground floor with clear visibility into the buildings.

The buildings should be placed close to boundary lines and be able to provide shade or cover through overhangs/colonnades. The sidewalks should be wide enough to use for seating, bike parking, entries, and other active uses which engage the public. Parking, loading areas, and driveways should be located away from activity streets.

5.1.2 POSITIVE EDGE

Avoid high walls and parking lots on street edges and in front of buildings. Ensure positive and transparent building edges which heightens security through surveillance.



5.1.3 PUBLIC FACILITY EDGE

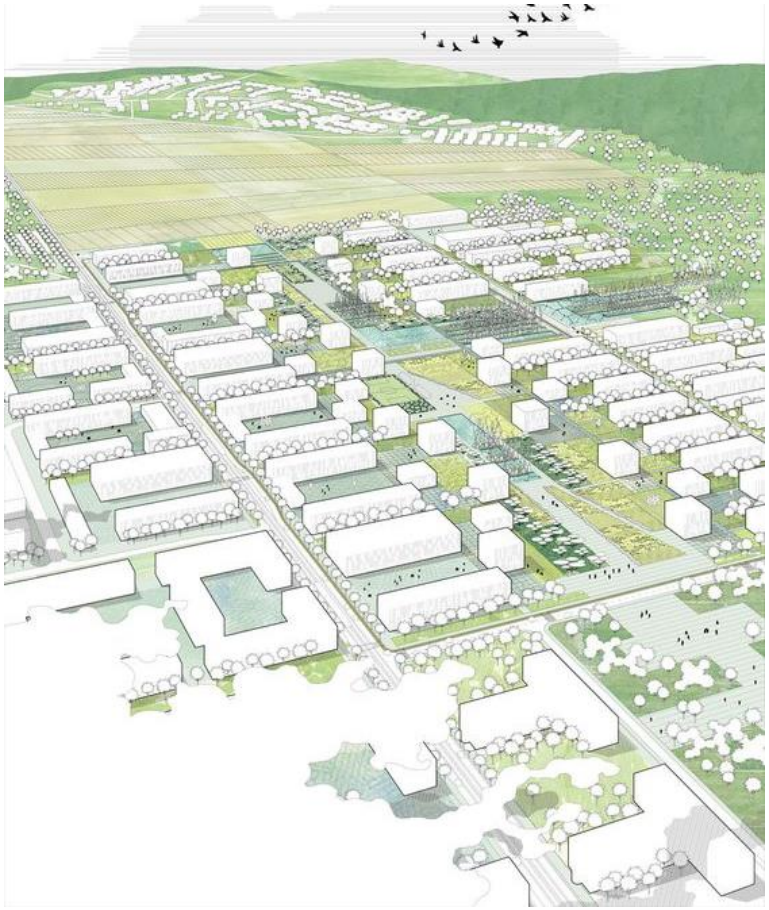
Public facilities should follow the same guideline concerning positive and active building edges. Where appropriate public facilities should open onto public spaces such as public squares or open spaces. Low walls should be used to define boundaries to forecourts.

5.1.4 INFIL AND GROWTH

Put zoning in place which will allow single storey residential buildings to intensify into vertical mixed-use buildings with commercial ground floors and residential use above.

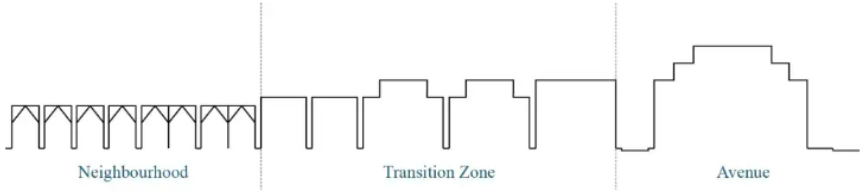
5.1.5 PERMEABILITY

Blank walls and dead edges should be avoided by discouraging large box uses on the perimeter block of activity streets. Therefore permeable, accessible, and varied blocks should be created through small shop frontages and permeable facades. This permeability supports walkability of a block by creating more accessibility for pedestrians.



5.1.6 TRANSITIONAL ZONES

Transitional zones act areas where density transition can take place and minimise the negative effect higher density multi storey residential and mixed-use buildings have on single residential buildings by respecting the character, privacy, and solar access of adjacent properties.



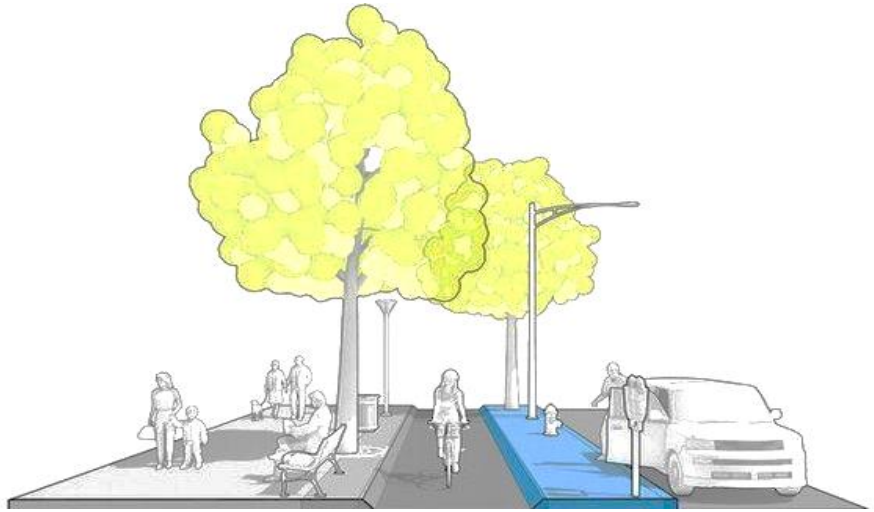
5.2 LANDSCAPE GUIDELINES

5.2.1 RIVER AND GREEN

Ensure positive building edges towards the river and public open spaces. Create safe pedestrian bridges across the river with natural look-out-decks along riverbanks. Provide pathways for cyclists and pedestrians along green corridors and the river. Allow for urban agriculture along river and the 32m buffer.

5.2.2 PLANTING

Allow only the planting of fruit-bearing trees along Main Road and Zastron Street to help create a corridor and sense of place. The trees should also provide shade to pedestrians and promote active sidewalks. Avoid planting trees to densely to allow sunlight to reach buildings and allow visibility to street.



5.2.3 STREET FURNITURE, LIGHTING AND SIGNAGE

Create seating areas that provide safe spaces to sit and linger. Ensure that lighting is human scaled in public spaces and pedestrian routes. Create a family of signage which can be used throughout the precinct and integrate signage with buildings, streetlights, and furniture to avoid cluttering public spaces.

5.2.4 PARKING COURTS

Create parking lots that are multi-functional by being capable to host public events as well as cars. The parking courts should be well landscaped with tree avenues and paving where possible.

5.2.5 PAVING

Paving materials should be locally sourced and reflect the character of the town. Use the same paving design throughout the precinct to create a continuous flow. Use robust low walls to define public places and can be used as extra seating.

5.2.6 RAISED CROSSINGS

Raised crossings are a continuation of the sidewalk across the street. These raised crossings ensure continuity and safer road crossings. These crossings should be placed at important intersections and should have a gradual rise.

5.3 TRADING GUIDELINES

Use trading stalls to activate the dead edges of building along activity streets or public places.

5.4 LAND USE GUIDELINES

5.4.1 ACTIVE OPEN SPACE

Approach	Proposed Zoning	Preferred Land use	Density (DU/HA)	Built Form
To provide active open space through recreation facilities.	Open Space	Main use: Active public open space Other uses: Tourist facility, sport facility.	N/A	Height: n/a

5.4.1.1 Development Guidelines

These areas should be landscaped and where necessary low maintenance footpaths should be developed. The areas should be fitted with braai facilities if possible and picnic sites. All building frontages that face these spaces should be positive and where possible provide entry to the building and integrate the open space design into the building. Tourist facilities such as museums, markets and information centres should be supported adjacent and within these zones. Development of small-scale sport facilities and playgrounds should be implemented where enough space is available.

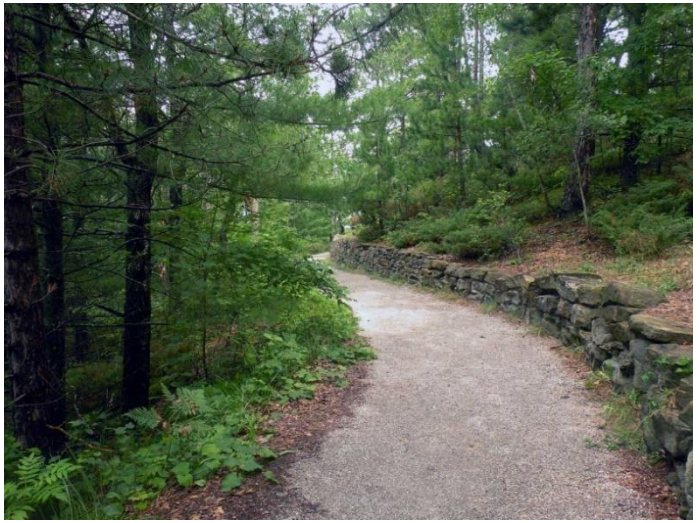
Example Of Park Design	Example Of Braai Area
 Riverside Park, with lookouts and walkways. Areas for the public to sit and trees that provide shade for visitors.	 Braai areas with seating and paving to create designated picnic areas with waste bins and lighting.

5.4.2 PASSIVE OPEN SPACE

Approach	Proposed Zoning	Preferred Land use	Density (DU/HA)	Built Form
To protect the natural environment and provide passive public open space.	Open Space	Main use: Conservation area Other uses: Hiking trails, wild garden	N/A	Height: n/a Only buildings and facilities directly related to management of the conservation area.

5.4.2.1 Development Guidelines

The main aim of these zones is to protect the natural environment and stop development within areas where flooding is likely. Within the area, only natural land uses, and hiking should be allowed. Only ablution facilities and management structures should be allowed to be built in the area.

Example of a wild garden	Example of low maintenance hiking trail
	

5.4.3 LOW DENSITY RESIDENTIAL

Approach	Proposed Zoning	Preferred Land use	Density (DU/HA)	Built Form
To provide single residential housing through formalisation.	Special Residential	Main use: Single residential Other uses: Home occupation, guest lodging, creche	Up to 20 Dwelling Units per Ha	Height: 2 storeys 50% Coverage

5.4.3.1 Development Guidelines

The areas densities should remain consistent with single residential dwellings. A clear flood line should be determined to ensure residential development does not encroach into flood risk areas. Landscaping should be enforced around all residential properties to conform to park and open space designs.

5.4.4 MEDIUM DENSITY RESIDENTIAL

Approach	Proposed Zoning	Preferred Land use	Density (DU/HA)	Built Form
To provide medium density residential development though infill and formalisation.	Residential 1	Main use: Single and medium density residential Other use: Guest lodging, group housing	Up to 40 Dwelling Units per Ha	Height: 2 storeys 50% Coverage

5.4.4.1 Development Guidelines

The area should be formalised through infrastructure and service delivery. Erven should be laid out to provide space for infill development and provide erven to individuals. The provision of ownership will help create a sense of place in the precinct and allow secure tenure. Landscaping should be enforced around all residential properties to conform to park and open space designs. The area should act as a transitional zone between high density multi storey uses and single residential neighbourhoods.

5.4.5 HIGH DENSITY RESIDENTIAL

Approach	Proposed Zoning	Preferred Land use	Density (DU/HA)	Built Form
To provide high density residential neighbourhoods through infill development	Residential 1 Special Residential	Main use: High density residential and flats Other use: Guest lodging	Up to 60 Dwelling Units per Ha	Height: 3 storeys 50% Coverage (to allow for parking)

5.4.5.1 Development Guidelines

Infill development and densification is needed in these zones. Multi-storey buildings with secure tender and sectional title apartments would be suited to the area. These buildings should not be out of scale with the surrounding buildings and should be built to ensure sufficient sunlight reaches surrounding properties. Transitional areas should exist between high density neighbourhoods and single residential neighbourhoods.

5.4.6 BUSINESS AREA

Approach	Proposed Zoning	Preferred Land use	Density (DU/HA)	Built Form
Provision of retail and business facilities. Informal trading spaces and stalls integrated into the design.	General Business	Low-intensity business and retail uses.	Varying Density	Height: 3 storeys 70% Coverage

5.4.6.1 Development Guidelines

The zone should integrate the mixed-use zones to create a continuous activity street with active frontages. The design guidelines should be strictly followed by the commercial and retail uses in the area. The incorporation of informal trading stalls in the design of the area should be encouraged. Dead edges of existing businesses should be used as a location for trading stalls.

Example of trading stalls

5.4.7 GOVERNMENT USE

Approach	Proposed Zoning	Preferred Land use	Density (DU/HA)	Built Form
Provision of government offices and facilities	Government	Public service and municipal offices	N/A	Height: 2 storeys

5.4.7.1 Development Guidelines

New governmental facilities and offices should be developed strictly according to the design guidelines and be integrated to activity streets. The buildings should have forecourts bordering the active streets with low walls that separate the forecourt and can be used as seating. Furthermore, the public facilities should provide parking away from the street to ensure greater visibility and connection to the street. The buildings bordering the public open spaces should have a positive frontage towards the open space which can be used as a secondary entrance.

5.4.8 GENERAL INDUSTRIAL

Approach	Proposed Zoning	Preferred Land use	Density (DU/HA)	Built Form
Industrial development through infill and new development on vacant properties	Industrial	Low to medium intensity Industrial Uses	Varying density	Height: 3 storeys As per Land Use Scheme

5.4.8.1 Development Guidelines

Industrial buildings should avoid large blank walls especially facing the Main Road. Where blank walls are close to activity streets trading stalls and wall art should be used to create positive edges. Large industrial developments fronting the Main Road should provide a large artistical focal element to help create an identity for the area. These artistical elements can be in the form of signage, public art of graffiti art. These artistic elements will help break up the large formless industrial buildings normally associated with industrial developments. Where large megastructures are evident on superblocks, safe pedestrian walkways through the site should be investigated to improve permeability.

Example of art installations at industrial buildings	
	

5.4.9 SERVICE AND LIGHT INDUSTRY

Approach	Proposed Zoning	Preferred Land use	Density (DU/HA)	Built Form
Industrial development through infill and new development on vacant properties	Industrial	Low intensity industrial and service uses	Varying density	Height: 2 storeys As per Land Use Scheme

5.4.9.1 Development Guidelines

The area serves the existing light industrial, and service uses in the area and should allow for further development of similar uses. These include non-noxious light-industry workshops and warehouses as well as offices related to the service industry. The area should be environmentally sensitive in its development approach and follow the prescribed design guidelines for the study area. Where needed large buildings with dead edges should incorporate art installations to improve street view.

5.4.10 LOW INTENSITY MIXED USE

Approach	Proposed Zoning	Preferred Land use	Density (DU/HA)	Built Form
Horizontal mixture of residential and commercial uses.	• General Business • Special Business • Institutional • Educational • Special Residential • Residential 1	Main: Retail, commercial, offices, single and medium density residential Other uses: Churches, Tourist facility, community facilities	Varying density	Height: 2 storeys As per Land Use Scheme

5.4.10.1 Development Guidelines

The area should act as a transitional zone between high density multi storey uses and single residential neighbourhoods. Zoning in the area should allow for the mix of uses horizontally and where possible vertically with commercial uses on the ground floor and residential uses above.

5.4.11 HIGH INTENSITY MIXED USE

Approach	Proposed Zoning	Preferred Land use	Density (DU/HA)	Built Form
Vertical mixture of residential and commercial uses.	• Commercial • General Business • Industrial • Government • Public Garages	Main: Retail, commercial, offices, medium and high density residential	Varying density	Height: 3 storeys As per Land Use Scheme

	• Special Residential	Other uses: Tourist facility, community facilities		

5.4.11.1 Development Guidelines

Residential use on ground floors should be discouraged with a focus on commercial activities on ground floors and residential uses above. These areas are important in creating activity streets and therefore sidewalks which allow for NMT is essential along with space for sidewalk activities and street furniture. Informal trading stalls should form part of design of these areas.

6 NODES


Pedestrian Realm
(Paving and Landscaping)
Proposed
Active Open Space Area
(Picnic Spot with Braai
Facilities)
Proposed NMT Network
link to open space
Proposed
Fruit bearing tree corridor
Proposed
Active Open
Space (leading
to Medium
density Housing)
S.2
Proposed
Active Open Space Area
(Picnic Spot with Braai
Facilities)
Proposed
Taxi Rank
Proposed
Filling Station
Proposed
Traffic Circle (landscaped)
Proposed
Gateway
Proposed
Truck stop with
Ablution facilities
Proposed
Retail
centre
Proposed
Mixed Use Zone (Retail Park)
Proposed
Gateway
Proposed
Traffic Circle (landscaped)
Proposed
Mixed Use Corridor
(landscaped)
Proposed
Industrial Park
S.1
Proposed Government
Precinct Area
Proposed Mixed Use
Development Zone (high
intensity uses)
Proposed Mixed Use
Development Zone (high
intensity uses)
Proposed Mixed Use
Development Zone (Low
intensity uses)
LEGEND
Active Open Space
Urban Agriculture
Mixed Use
Institutional Use
Retail and Business Use
Precinct Area
Focus Area

The above map shows two nodes that were identified within the study area. These nodes were identified due to their location and interaction with key land uses. The two nodes will be discussed in further detail. The map also shows more detail on the location of certain proposed developments within the larger study area.

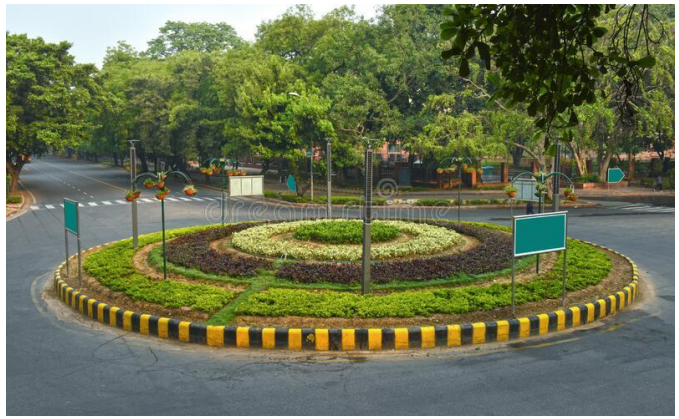
These developments include an industrial park, urban agriculture project, active open spaces, the NMT network, retail centres, landscaped traffic circles, mixed use developments and residential developments.

6.1 NODE S1: MAIN ROAD AND ZASTRON STREET JUNCTION

Main Road and Zastron Street are the two most important streets within the study area as the provide access to Sterkspruit from surrounding settlements and important land uses. This area should act as a gateway to Sterkspruit with signage integrated into the landscaped traffic circles providing directional information to visitors and residents.

A parking area should be provided which does not hinder the positive edges of buildings, where most cars can be parked and encourage pedestrian movement to reduce motor vehicle traffic in the area.

The proposed fruit bearing tree corridor should run through all the streets within the node and carry on along the major roads in Sterkspruit. Street furniture in the area should add to a sense of place and encourage lingering in a safe environment and create safety through surveillance, especially at night. The street furniture should furthermore provide opportunities for activities and public gatherings.



Example of landscaped traffic circle.

Example of sidewalk design

Examples of street furniture

6.2 NODE S2: JUNCTION OF PROPOSED HEAVY VEHICLE AND PUBLIC TRANSPORT ROUTE AND MAIN ROAD

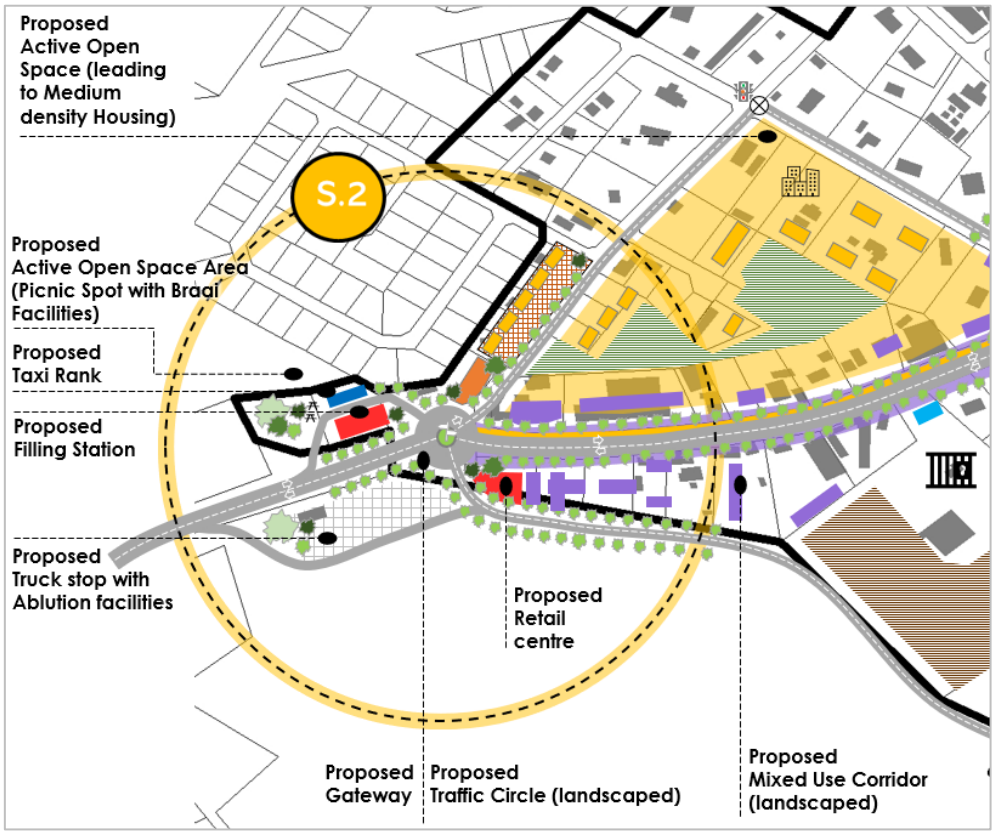
The area is strategically located where public transport, heavy vehicles and light vehicles intersect. Therefore, the area is ideally located to house a proposed taxi rank, filling station, and truck stop. These three developments will take advantage of agglomeration benefits provided by the proximity of similar land uses.

The node is also seen as an entrance point to Sterkspruit and therefore should be developed as a gateway with landscape traffic circles. These traffic circles should once again be fitted with signage that provides directional information. Furthermore, the area will be characterised by mixed uses along Main Road and a proposed retail facility.

Medium to high density multi storey residential developments will also form part of the area with access to well-developed active open spaces provided with picnic and braai facilities.

The commercial properties adjacent to the active open space should integrate the open space into their designs through seating and secondary entrances, while also allowing access from the street to the open space via pathways through their properties.

The residential buildings should have direct access to the active open space and balconies can be implemented to support informal surveillance. Where possible of street parking should be provided away from retail and residential street frontages. Main Road is essential for NMT and therefore positive edges, street furniture and wide sidewalks should be implemented. The fruit bearing tree corridor is continued along streets within the node.



Examples of Taxi Rank

Example of Truck Stop

7 IMPLEMENTATION FRAMEWORK

7.1 INTRODUCTION

The formulation of the Implementation Framework is based on the following key questions and guidelines. The final outcomes are presented as a development matrix that captures the key actions, expectations, and outputs towards the successful implementation of the urban design proposals. This section further provides the following:

Development guidelines that provide a land use budget, present land-use types, and needs as well as provide an overview of services and social facilities need to be required.

- Guidelines towards the implementation of the Precinct and the proposals made in the Urban Design Framework.
- Key development projects.
- An Implementation Strategy.
- Development proposals and design costs for the overall urban design framework (or delineated study area).
- The provision of a development matrix and capital investment framework

7.1.1 KEY FACTORS TO INFLUENCE IMPLEMENTATION

The implementation process for the Urban Design Framework is likely to be influenced by several factors, which should be seriously considered from the onset (see figure). They are:

- Planned public and private sector projects and investments.
- Active and organised key stakeholders and their interests.

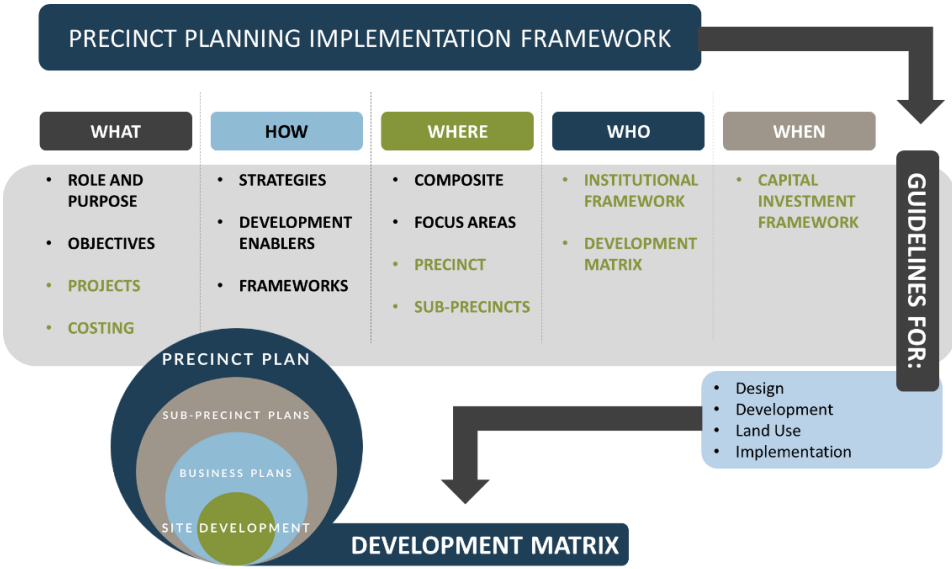


Figure 10: Urban Design Framework Implementation Framework

- Development issues identified in consultation with stakeholders.
- Proposed development vision, objectives, and principles.
- Stakeholders and their inputs.
- Limited amount of municipal/state-owned land.
- Local community initiatives, and
- Implementing Departments, Local Government, and their respective roles.

The Implementation plan follows the following logic (see figure below):

- Strengthening National, Provincial and District linkages.
- Ensuring horizontal and vertical alignment of activities.
- Embedding a clear role and purpose for each site.

- Initiating design and land use concepts.
- Prioritisation of projects, and
- Funding for Projects.

Figure 11: Factors influencing Implementation.

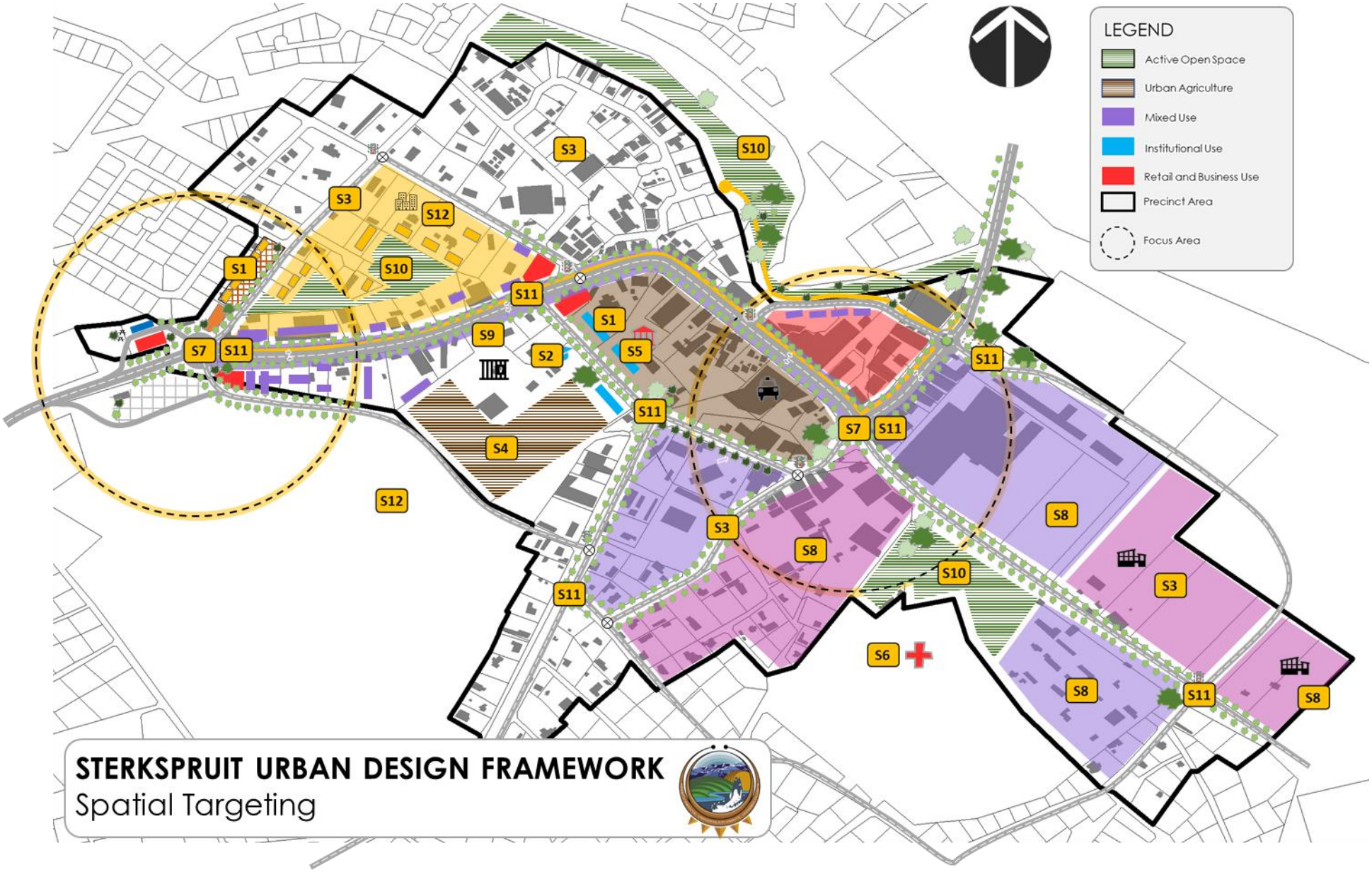
7.2 SPATIAL TARGETING

Spatial targeting is the deliberate focus of particular interventions or projects in specific areas, as it is a more efficient way to achieve the desired spatial outcome. Efficiency is a measure that is based on the comparison of costs and benefits. And in many cases, costs and benefits are unevenly distributed in space. This notion is deducted from the Pareto principle, more commonly referred to as the 80/20 rule. In the case of the precinct, it pertains to land that can be developed (e.g., agriculture, tourism, and manufacturing) and the existing assets, infrastructure, projects as well as settlements, which is concentrated on ±20% of the total land cover. To effectively allocate budget, resources, and capacity within the region, 80% of the resources, investment and interventions need to be concentrated within the areas with the highest population concentrations (20%), to obtain visible changes at ground level. The following table and associated maps will describe and spatially reference the identified projects and interventions.

Table 1: Spatial Targeting of key development initiatives within Sterkspruit

KEY FOCUS AREA	PROJECT/INTERVENTION	SPATIAL REF.
Social Development	• Development of an Old Age Home with supporting frail care services to service the elderly. • The development of an ABET Centre to support adult based educational programs.	S1

KEY FOCUS AREA	PROJECT/INTERVENTION	SPATIAL REF.
Education	• The development of a SMART enabled Library to service local residents.	**S2**
Services	• Upgrading of the Bulk Services network to address the added development pressure experienced in Sterkspruit	**S3**
Agriculture	• To support Urban Agriculture development / Community Gardens – addressing local food security (vegetables)	**S4**
Knowledge Economy	• The development of a TVET/FET College focused on the skills required within the surrounding area.	**S5**
Health	• Upgrading and refurbishment of the Empilisweni District Hospital. It is proposed that additional/qualified staff be sourced.	**S6**
Tourism	• Upgrading of the two (2) key development nodes towards the centre and east of Sterkspruit. Urban Regeneration and upgrading would address and attract tourism development.	**S7**
Local Economic Development	• The establishment/demarcation of mixed-use development zones to support new investment.	**S8**
	• The development an Industrial Development Park.	
Employment and Skills development	• The development of an SMME Incubation Centre to focus on Artisans, Agriculture, and other low skilled employment opportunities.	**S9**
Environmental Management	• Improved management of open space / riparian areas • Soil erosion management (water drainage areas) • Development of open space facilities (e.g., playgrounds)	**S10**
Transportation	• Improved access through the development of traffic circles, gateways, and linkages • Development of public transportation infrastructure. • The construction of bypass roads to guide traffic, therefore limiting traffic congestion,	**S11**
Human Settlements	• Land tenure upgrading • To managing urban sprawl. • To develop a wider range of housing options (housing typologies) to give housing options for all income groups.	**S12**


LEGEND
Active Open Space
Urban Agriculture
Mixed Use
Institutional Use
Retail and Business Use
Precinct Area
Focus Area
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S2
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S12
STERKSPRUIT URBAN DESIGN FRAMEWORK
Spatial Targeting

7.3 IMPLEMENTATION MATRIX

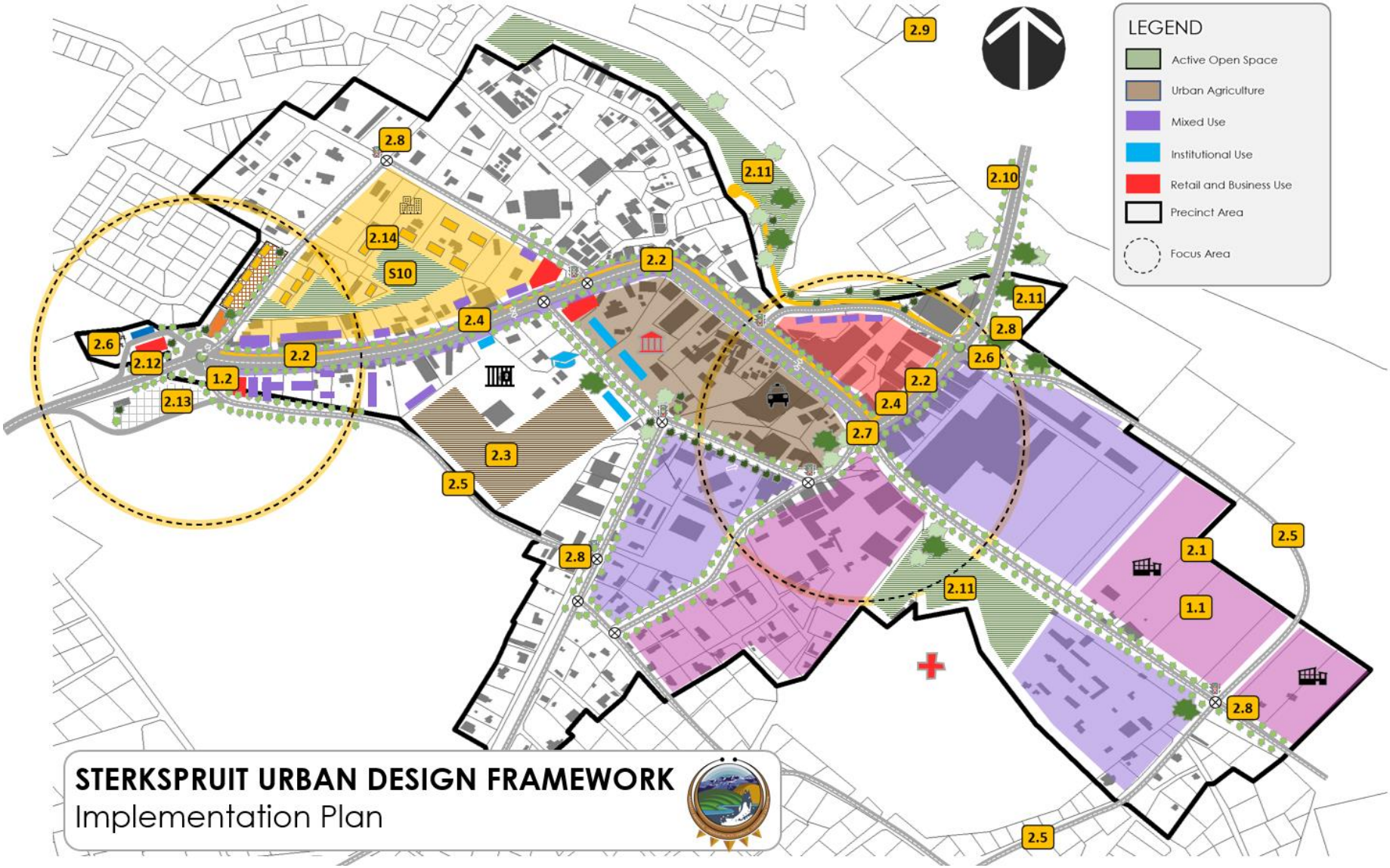
Table 2: Implementation Matrix

Spatial Reference	Sub-Precinct	Description	Project Type	Program	Time Frame			Priority	Milestone	Possible Funding Source
					Short	Medium	Long			
1.	**SOFT PROJECTS**									
-	All	Development of a uniform Aesthetic development and construction guidelines guideline to manage all development within the Precinct. Local resources/materials should be promoted.	Design and Deliver	Planning and Development	x				Development Conditions, Development rules and guidelines	Joe Gqabi DM
-	2	Establishing an Industrial Park Management unit consisting of both private and public role-players that should be established to manage, market, and promote development within the precinct	Design and Deliver	Planning and Development	x					SLM, Joe Gqabi DM
-	All	Development of a Tourism Plan which includes improved signage and marketing along major freeways and district/regional linkages as well as improved integration of tourism activities in the broader region	Design and Deliver	Local Economic Development	x	x			Tourism Strategy	SLM, Joe Gqabi DM
-	1	Development of a SMME strategy to address local resource requirements needed to implement both the Industrial and Precinct development needs	Plan and Promote	Local Economic Development	x				Employment Opportunities	DEDEA
-	All	Development of a strategy to promote a crime free development zone, this would include security systems, 24-hour surveillance systems and in-house security protection services for the Precinct area.	Plan and Promote	Planning and Development	x	x			Security Plan/ Framework	SLM, Joe Gqabi DM, DEDEA
1.1	2	Initiate tax incentive development zones and programs to attract investment in the Precinct	Design and Deliver	Planning and Development	x				Industrial Park Registration	SLM
1.2	1	Developing/Implementation of a local marketing and investment strategy to register, attract, manage, and coordinate development in Sterkspruit (Marketing / sales Offices to be located close to the main gateway or entrance to the Precinct). This office can also be used as a tourism office.	Design and Deliver	Local Economic Development	x				Marketing / Investment Office	SLM, Joe Gqabi DM, DEDEA

Spatial Reference	Sub-Precinct	Description	Project Type	Program	Time Frame			Priority	Milestone	Possible Funding Source
					Short	Medium	Long			
-	All	Promoting of pro-tourism development initiatives along main development corridors, this could be done through the delineation of development zones that support tourism-related land uses only	Design and Deliver	Local Economic Development	x				Tourism Plan / Strategy	SLM, Joe Gqabi DM
-	All	Implementation of an environmental management plan and strategy to mitigate and management the construction process and to manage the environmentally sensitive areas of the study area	Design and Deliver	Environmental Management	x	x	x		Environmental Management Plan	SLM
-	All	Running regular awareness and cleaning campaigns to clean Sterkspruit and to make to town for attractive for tourism development	Design and Deliver	Local Economic Development	x				-	SLM, DEDEA
-	All	Developing a landscaping plan for the Precinct development that considers local/indigenousness plant species and local climate conditions.	Plan and Promote	Environmental Management	x				-	SLM, DEDEA
-	All	Ongoing clearing of alien invasive species program	Design and Deliver	Environmental Management	x	x	x		-	SLM, DEDEA
-	All	Alienation of Municipal owned land to make land available through a public tender process to allow the private sector to invest in the development. Land should be made available with strict pro-development conditions.	Design and Deliver	Local Economic Development		x			Land Availability to Investors	SLM, Joe Gqabi DM
2.	**HARD PROJECTS**									
2.1	2	Fencing of the Industrial / Office Park areas, this could be done in phases	Plan and Promote	Infrastructure		x			-	SLM, DEDEA
	All	Bulk services provision to service the Precinct services (this could be done in phasing). Service should include potable water, irrigation water, stormwater, and electricity	Plan and Promote	Infrastructure		x	x		Provision of Bulk and Internal Services	SLM, Joe Gqabi DM, ECCOGTA
2.2	All	Development of walkways, landscaping, public art, traffic circles, street lighting and signage for the proposed Precinct (to be done in phases)	Plan and Promote	Urban Design		x			Pedestrian friendly Areas	SLM, Joe Gqabi DM, DEDEA

Spatial Reference	Sub-Precinct	Description	Project Type	Program	Time Frame			Priority	Milestone	Possible Funding Source
					Short	Medium	Long			
2.3	1	Identifying and development of local community-based / urban agriculture initiatives that supports local value chains in the agricultural sector.	Plan and Promote	Local Economic Development		x			Food Security	SLM, DALRRD, DEDEA
2.4	All	Development of gateways towards and from the Development as indicated in the Precinct Plan proposals, this includes landscaping, traffic circles, traffic calming measures, street lighting and signage. Gateways should also accommodate alternative heavy vehicle transport into Sterkspruit.	Plan and Promote	Urban Regeneration		x			-	SLM, Joe Gqabi DM, Public Works, ECCOGTA (UIDG)
2.5	All	Construction of new roads to improve accessibility towards and from the proposed Precinct development. Roads should specifically focus on bypass routes to limit further congestion.	Design and Deliver	Roads and Stormwater		x			Infrastructure	SLM, Joe Gqabi DM, Public Works
2.6	All	Upgrading and development of taxi stops, and taxi ranks where required to improve accessibility towards the proposed Precinct	Design and Deliver	Transportation		x			Infrastructure	SLM, Joe Gqabi DM
2.7	2	Upgrading and refurbishment of the Sterkspruit CBD area as well as the main roads to and from Sterkspruit. Mixed Use development corridors should be strengthened with improved landscaping, sidewalks, and traffic management.	Design and Deliver	Urban Regeneration		x			Urban Regeneration	SLM, ECCOGTA, Public Works
2.8	All	Installation of Broadband Lines to the Precinct development area. Wi-Fi towers are to be developed at key areas.	Design and Deliver	ICT Facilities		x	x		Improved connectivity	Open Serve, Telkom
2.9	-	Construction of a Technical / Smart School that targets local skills demands in the construction, science, agriculture, ICT, and industrial sectors	Design and Deliver	Educational Facilities		x	x		Improved Skills Development Programs	DoE, Public Works
2.10	1	The construction of walkways to and from the Ikhala TVET College (along the R392)	Design and Deliver	Educational Facilities		x	x			DoE, Public Works

Spatial Reference	Sub-Precinct	Description	Project Type	Program	Time Frame			Priority	Milestone	Possible Funding Source
					Short	Medium	Long			
2.11	All	Development of recreational, social facilities that includes a place of refreshment, sport facilities and other recreational activities such as walking trials and football.	Design and Deliver	Sports and Recreation		x			Active Open Spaces	SLM, Joe Gqabi DM, DEDEA, ECSRAC
2.12	1	Construction or support for the development of a Filling Station with ancillary services towards the eastern gateway.	Design and Deliver	Local Economic Development		x			Economic Development	Private Sector
2.13		The development of a Truckstop with ablution facilities.	Design and Deliver	Transportation		x			Infrastructure	SLM, Joe Gqabi DM
2.14	1	The development and/or support for a medium to high density housing developments towards the northeast of the precinct area to accommodate various income groups (old age home, flats etc)	Design and Deliver	Human Settlement Development		X			Human Settlements Development	Private Sector, ECDHS, HDA


LEGEND
Active Open Space
Urban Agriculture
Mixed Use
Institutional Use
Retail and Business Use
Precinct Area
Focus Area
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2.1
1.1
STERKSPRUIT URBAN DESIGN FRAMEWORK
Implementation Plan

7.4 IMPLEMENTATION PLAN

This section deals with more detailed implementation programs and actions that are specifically addressing development proposals for the delineated study area.

7.4.1 PRECINCT MANAGEMENT

The first step in initiating the implementation process is one that the Senqu Local Municipality should undertake, and that is the establishment of a Development Coordination Forum. This body is not responsible for project implementation but is instead responsible for overseeing the implementation process and coordinating the actions of all role-players active in the development of Sterkspruit. The Local Municipality remains responsible for all development within Sterkspruit and is the sole custodian of the town's development. The role of the Development Coordination Forum is to ensure that all development taking place within the town is in accordance with the Urban Design Framework.

As such the Forum would be chaired by a Municipal official but would have as its members the Development Companies, Local Business Development Agency /Forum, a Technical Task Team as well as representation from the Tourism and Branding sector. Private developers, service providers such as Eskom and Telkom and officials from various municipal departments and other spheres of government would be required to make representations to the Forum on an ad-hoc basis as and when they plan to become active in the town. Generally, councillors would not sit on this Forum but would regulate its activities through its requests for resolution approval and report back to Council, ExCo or Portfolio Committees. The Development Coordination Forum should meet regularly, act as the central collation point for all documents and instructions and should keep and distribute minutes of all decisions taken. Any expenditure incurred by it would have to be done in accordance with the normal procurement policies of the Municipality. It is also recommended that at least some level of decision-making responsibility is delegated to the Forum by the Municipality. This is to increase efficiency, reduce bureaucracy, streamline processes and be able to act speedily and timeously.

7.4.2 MANAGEMENT TOOLS

The identification of planning responses for achieving the urban design vision still leaves a substantial gap between what is to be done and how it is to be done. As most of the land is owned by Private Individuals, the opportunities available for redeveloping the area are limited. It is, therefore, necessary to understand that the planning and management tools identified for the areas are substantially different from what will be used in areas where substantial land areas are available within formalised areas. The tools identified must have the potential to impact and change the way in which the land use of the study area is managed. Proposed planning tools include:

- Planning Tools
  - Scheme amendments
  - Conditions of approval
  - Site development plans
- Design codes, guidelines

- Landscape planning
- Signage
- Financial Tools
- Rates rebates

- Development contributions
  - Subsidies
  - Trade-offs
  - Levies
- Agri park space
  - Logistics services
  - Packaging services
  - Storage facilities Signage
  - Space/Site rental Signage
- Events
- Business incentives
- Facilities provision

7.4.3 PROJECTS

The Urban Design Framework is translated into specifically defined actions that are required to assist Implementation Agents in initiating the development process. These actions take the form of Catalytic Projects, so named because they are designed to stimulate further public and private sector investment, thereby building a self-sustaining regeneration momentum. This is done by the projects demonstrating the commitment of the Municipality to Sterkspruit and boosting public confidence in it. The objectives of implementing the Catalytic Projects are ultimately the economic and social upliftment of the people of Sterkspruit and its traditional hinterland. The physical improvements brought about by the Catalytic Projects, however, are intended to create an environment that is more conducive to doing business, attracting investment and visitors, and encouraging residents to spend more leisure time in Sterkspruit. Several catalytic projects have been identified that will initiate the regeneration process. These projects can be implemented in any order as and when funding is secured, land acquisition processes completed, and legal procedures finalised. By their nature, they are independent projects and do not rely on the completion of others before they can be started. To define the specific role of the Municipality in the design and implementation of each project, three categories of action have been defined. These are for the Municipality to:

- Design and deliver.
- Plan and promote; or
- Illustrate and facilitate.

7.4.3.1 DESIGN & DELIVER PROJECTS

These are projects that the Municipality initiate, fund, design, implement, and project manage:

- Facilitation of public and privately-owned land.
- Alienation of Municipal owned land that is strategically located to attract investment.
- Infrastructure Sector and/or master plans to service development proposals.
- Upgrading of the public realm or street furniture.
- Improved pedestrian networks, crossings, and public transportation.
- Rehabilitation of the River riparian areas.

- Upgrading and improving maintenance of public open spaces.
- Taxi Rank upgrades.
- Integrated housing development to accommodate all housing typologies.
- Improved gateways and intersections towards Sterkspruit.
- Upgrading of the main road networks which includes the development of gateways.
- Provision of informal trading facilities.
- SMME Incubation and Skills Development Centre(s); and
- Mix Use development zones.

7.4.3.2 PLAN & PROMOTE PROJECTS

These projects are those that are not necessarily directly funded or implemented by the Municipality but are to be planned and promoted to secure external funding. The Municipal role is also to ensure that these projects are implemented in accordance with the approved Urban Design Framework. Projects under this category include:

- Promoting infill development.
- Investment promotion and branding strategy.
- Sustaining a professional maintenance and management regime.
- Enforce the Land Use Scheme and penalise building violations, especially within the CBD.
- Awareness campaigns to promote CBD character.
- Local clean town campaigns.
- Infrastructure maintenance programmes.
- Crime prevention and anti-vandalism strategies.
- Open Space Management; and
- Industrial Park development.

7.4.3.3 ILLUSTRATE AND FACILITATE PROJECTS

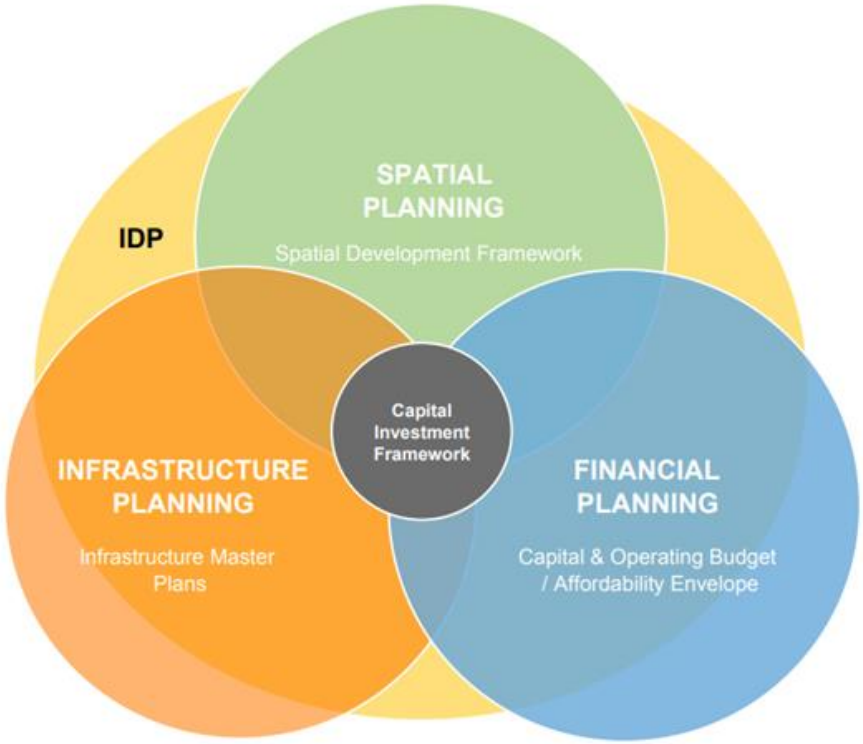
These projects are not funded or implemented by the Municipality. Rather, they are planned, funded, and implemented by the landowner or private sector. The Municipal role is to illustrate and facilitate the opportunities for the site and assist the landowner in removing restrictions, obtaining rights, and facilitating the development of the project as quickly as possible. Projects under this category include:

- Establishment of an Industrial Cluster.
- Establishment of an Agricultural Park.
- Township establishment to cater to local economic development or human settlements.
- Support and advocate tax incentive programs to attract investment; and
- To support and be flexible towards accommodating private sector investment.

7.5 CAPITAL INVESTMENT FRAMEWORK

The Spatial Planning and Land Use Management Act 16 of 2013 requires that municipal spatial development frameworks determine a capital expenditure framework (CEF) for the municipality's development programmes, depicted spatially. The "Capital Investment Framework" (CIF) forms the foundation for more effective integration of the municipality's spatial development strategies with the IDP and budget. These instruments are central to the implementation, and unless the implementation framework of an SDF connects explicitly with

these, there is little chance of the proposals being realised. Providing more specific guidance on what investments should be made where and in what order of priority, will ensure alignment between the municipality's strategies, plans, and policies. In addition, the risk that budget allocations undermine or contradict the SDF is mitigated. The Senqu Local Municipality SDF's key spatial strategies are central to financial sustainability and should inform the Municipality's approach to its Capital Expenditure Framework. Among these strategies, regional accessibility is key to inclusive and equitable growth and co-ordinated growth management is of particular importance.



Developing the CEF into an effective tool for coordinated development based on a shared set of development strategies and speaks directly to the Municipality's mandate to co-ordinate infrastructure planning.

The preparation of a Capital Expenditure Framework is supported by a Medium-Term Integrated Infrastructure Investment Framework (MTIIF). Several tools exist to protect the capital investment needs in space, against which the available resources can be matched, sequenced, and prioritised. This is informed by the leadership priorities of the council.

The intention of the Capital Investment Framework (CIF) is to close the gap between the IDP, the Municipal SDF and as well as the Urban Design Framework. This is to be achieved using the Urban Design development strategies as the basis on which plans, or strategies can place their plans, thus ensuring integration through a shared platform.

7.5.1 MONITORING AND EVALUATION

SPLUMA requires all three spheres of government to produce SDFs. The focuses of the SDFs are different. The national SDF provides broad strategic direction, provinces focus on a coordination role, and municipalities develop detailed plans for the areas of their jurisdiction. A Municipal SDF fits into a hierarchy of spatial plans, taking direction from the national and relevant provincial SDF. The Urban Design Framework draws more detailed planning to a specific development area from the SDF.

At the national government level, the Department of Agriculture, Rural Development and Land Reform (DALRRD)

was initially assigned the primary responsibility to implement SPLUMA. It monitors, oversees the establishment of the National Spatial Development Framework (NSDF) and other SDF guidelines. It is responsible for guiding any land development in the national interest and developing regulations, and frameworks for the applications of exemptions and delegations in terms of the Act. Secondary responsibilities, such as Land Use Systems and Alignment of authorisation, are assigned to the Department of Cooperative Governance and Traditional Affairs (COGHSTA). The provincial government supports monitors and strengthens municipalities (in terms of section 10 of SPLUMA). It is also responsible for the establishment of Provincial SDF, provincial laws, and regulations and to provide technical support and dispute resolution.

Local government is responsible for the establishment of Municipal SDFs and subsequent Precinct Plans/Urban Design Frameworks which are required to be consistent with provincial and national legislation. Municipalities may receive assistance from national and provincial governments when necessary. The municipal SDF, land use systems and by-laws should be reviewed every five years.

The table below provides an overview of the monitoring and evaluation framework to be used to measure the implementation of the proposals made in the Urban Design Framework.

PERFORMANCE INDICATORS	MEANS OF VERIFICATION	SPLUMA
Integrated Transport Planning: The Municipality will work together with government departments and other key stakeholders in promoting a strong and viable movement structure to provide opportunities for economic infrastructure.		
• Upgrading of major transportation routes/roads. • Improving access to existing and proposed focus areas.	Number and location of roads upgraded (to improve and built on focus areas).	Spatial Efficiency
• Creating new linkages and Gateways.	New roads (km developed).	Spatial Efficiency
• Development along municipal and or provincial development corridors.	A number of high impact and catalytic projects are located along with transportation or other development corridors.	Spatial Efficiency
• Focused development in Settlements located along activity and movement corridors.	Type and level of services provided to settlements located along development corridors.	Spatial Efficiency / Spatial Sustainability
• Improved public transportation networks through infrastructure development/upgrading/refurbishment.	A number of public transportation projects improves local accessibility (rail, roads, air).	Spatial Efficiency
Agriculture: The municipality needs to ensure that Agricultural land is protected and is not under threat from non-agricultural uses such as settlements, mining, or renewable energy development.		
• Protection of high potential agricultural land.	• Identification and mapping of agricultural land with high potential.	Spatial Sustainability

PERFORMANCE INDICATORS	MEANS OF VERIFICATION	SPLUMA
	• Introduction of land use controls for agricultural land.	
• Agricultural protection plans/strategies.	• Size and use of high potential agricultural land Scheme. • clauses designed to protect high potential agricultural land.	Spatial Sustainability
• Agricultural development support.	• Initiatives to promote agriculture Direct support to land reform projects	Spatial Justice / Spatial Sustainability
Environment: The municipality will work with all stakeholders towards promoting environmentally sustainable development.		
• Established programmes for clearing invasive aliens through Working for Water, or other forms of rehabilitation, e.g., through Working for Wetlands, Land Care, and Riparian repair.	Initiatives to rehabilitate land affected by soil erosion	Spatial Sustainability
• Established environmental management programs.	Application of carrying capacity standards to grazing land management.	Spatial Sustainability
• Effective Water Resource Management.	• Developed Water Resource Management Strategy.	Spatial Sustainability

PERFORMANCE INDICATORS	MEANS OF VERIFICATION	SPLUMA
	• Improved sanitation and waste management infrastructure and services in primary nodal areas.	
• Delineation of flood risk areas	• 1:50 years and 1:100-year flood lines. • People removed from flood risk areas.	Spatial Resilience
• Establishment of protected areas	• Proclamation of environmentally sensitive areas that are not currently protected.	Spatial Resilience Spatial Sustainability
• Catchment management	• Catchment management programme. • Participation in national catchment management initiatives.	Spatial Resilience
• Alien Plant management	• Amount of land cleared of alien plants.	Spatial Resilience
• Protected area development	• Protection of indigenous forestry.	Spatial Resilience
• Wetland management	• Rehabilitated wetlands and riparian zones.	Spatial Resilience

PERFORMANCE INDICATORS	MEANS OF VERIFICATION	SPLUMA
	• Delineation of all major wetlands. • Observation of a 32m buffer from each wetland.	
• Biodiversity Zones	• Management of biodiversity corridors.	Spatial Resilience
Development of social and service infrastructure: The municipality must work together with government departments and other stakeholders to improve the quality of life of residents through the development and improvement of social and service infrastructure.		
• Improved sanitation services and infrastructure	• Waterborne sanitation system in areas inside urban edge.	Spatial Efficiency
• improved access to water	• Piped water within the house in urban settlements. • Water on-site or at least within 200m from each household in dense settlements.	Spatial Efficiency
• Improved access to electricity	• Eradication of electricity backlogs.	Spatial Efficiency
• Improved access to social facilities	• All households access a health facility within a 5km radius. • Number and location of new health facilities. • Weakly mobile clinics.	Spatial Efficiency
	• Number of new health facilities. • Number of new schools.	
Unlocking Economic Development and addressing spatial economic imbalances: The municipality will promote spatial planning to drive social and economic development.		
• Tourism development	• Increased investment in terms of tourism, leisure, and commerce within the municipal region. • Branded Tourism Routes. • Introduction of new tourism products. • Number of new tourism facilities and products located in the Sterkspruit area	Good administration / Spatial Resilience
• Commercial & industrial development in nodal areas	• Commercial & industrial development applications received by the municipalities. • Percentage increase in commercial land.	Spatial Efficiency
• Private sector investment	• Uptake of commercial	Spatial Efficiency

PERFORMANCE INDICATORS	MEANS OF VERIFICATION	SPLUMA
	land in dense rural settlements	
Continuum of Sustainable Human Settlement: Public Sector Investment is important to improve access to basic and public services and the creation of incentives to support the nodal areas for private sector investment.		
• Development of service centres	• Number, nature, and budgets for municipal projects in each of these growth centres.	Spatial Efficiency / Spatial Sustainability
• Focusing strategic and high impact projects within focus areas	• Level of access and location of public facilities serving different communities in these focus areas.	
• Promoting clusters of public facilities as a means to encourage nodal development.	• Availability of infrastructure in nodes to enable these to perform their roles. • Number of public facilities located in identified service.	
Sustainable Spatial Planning System: The municipality must integrate the SDF with the Urban Design Framework to be used in conjunction with the LUMS to form an integrated planning system.		
• Development of Local Area Plans / Precinct Plans for other focus areas.	• Number of LAP's prepared.	Spatial Justice / Spatial Resilience
• Developing settlement plans	• Number of approved settlement plans.	Spatial Justice / Spatial Sustainability

PERFORMANCE INDICATORS	MEANS OF VERIFICATION	SPLUMA
• Development of Guidelines for land Allocation	• Accepted norms and standards for site sizes. • Identified factors that should be considered when allocating land for different land uses.	Spatial Justice / Spatial Sustainability
• Compliance with the Spatial Data Infrastructure Act (SDI)	• Generation of new spatial data • Improved GIS system and data. • Spatial identification and coding of rights allocated. • Register of land rights holders.	Spatial Efficiency / Good Administration

8 References

- Senqu Local Municipality. Senqu Spatial Development Framework, 2016
- Senqu Local Municipality. Senqu Property Valuation Roll. 2014
- Stats South Africa. Census 2011.
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