Mbombela Precinct Plan Development
Chapter 2: Site Investigation and Proposals

Towards Precinct Plans for Four Identified Sites aimed at establishing a Government Precinct and Rejuvenating the CBD
Urban Design Framework: Concept Development

Chapter 1 of the Mbombela precinct plan development document dealt with the policy around the relevant sites and the contextualisation of the sites in terms of urban design. Chapter 2 will now deal with site specific and urban design techniques to address the proposed typologies.

Part A will delve into the structural elements which shape the nodes and their linkages.

Part B will address each node in terms of a situational analysis, contextual analysis, urban design proposal and finally urban design recommendations at a conceptual level.
PART A: Structuring Elements

- Roads
- Environment
- Public transport – Buscor
- Pedestrian movement
- Proposed BRT routes
- SDF proposals
- Intensification Zones
- CBD Precinct Plan Proposals

The topics analysed in this section all contribute to unpacking clues and cues relating to the final design for the 4 nodes.
Mbombela’s road network consists of national, provincial and district roads. The Municipality has high-quality infrastructure which includes an international airport (KMIA), Mbombela Soccer Stadium, Provincial offices, railway links to Zimbabwe, Mozambique, Swaziland and the rest of South Africa as well as the N4 Maputo Corridor between Gauteng and the deep sea port of Maputo.

Sections of the N4, either side and throughout Nelspruit are dual carriageway, as is the entire R40 between Nelspruit and White River. Virtually all other major roads are asphalt surfaced single carriageways with one lane in each direction. Minor roads are gravel surfaced.

The majority of the employed population uses public bus services and reside in the Nsikazi area. The N4 and R40 roads serve as the backbone to the road infrastructure network.

- Site 1, is directly north of the N4 (Samora Machel Drive) and a street away from the R40, which serves as the main north-south connection between White River, Rocky Drift and Nelspruit and is a major corridor for vehicular traffic during and outside peak hours. It is for this reason included as part and parcel of the intensification zone strategy, which signifies importance at the local and regional levels.

- Site 2, while currently situated within the Nelspruit CBD as defined within the draft CBD precinct plan, connects well to its surroundings. It is also centrally located, east of the R40, and due North of the N4 highway making it a valuable site in terms of accessibility.

- Site 3 also plays a vital role in terms of local and regional significance, in that it is situated strategically adjacent to the PRASA Nelspruit Station and newly refurbished regional taxi rank thus making this site an intermodal transport hub.

- Site 4, albeit smaller in size, could serve as a gateway into Mbombela from the east.
Environmental Constraints

The site in relation to the environment
Environmental Impact Assessments are required for all development activities that are likely to change land use activities, as stated in the SDF. Sites 1, 2 and 3 are located within zones that pose no perceived damage to the extent that it requires Environmental Impact Assessments. Site 4, which abuts a riparian corridor, will require an environmental impact assessment to be carried out before development is carried out.

The site lies adjacent to a riparian corridor that is directly linked with Crocodile River. The Crocodile River and adjacent riparian zones in the vicinity of Nelspruit already forms part of the Greenbelt Initiative. The aim of the initiative is to ensure that the Crocodile River in the vicinity of Nelspruit is suitably protected. The initiative includes the Nelspruit Botanical Gardens, which harbours an exceptionally diverse array of indigenous plant species.

A conceptual buffer was demarcated along the main rivers, including riparian zones to form part of the MOSS. This buffer is wider than the minimum buffer of 32m prescribed by the National Water Act, 1998 (Act 36 of 1998).

While the environment needs to be taken special care of, the Golden Triangle for the corridor illustrates that Nelspruit is part and parcel of the main zone for densification and uses that would assist in LED strategies and the economy at large. With the sites all falling within the main transit corridor of Nelspruit, the best yield in terms of uses for the site would be a mix of residential, office space as well as business uses.

For the new intended development, it is therefore imperative that sustainable best practice is utilised in finding common ground between preserving the environment and creating spaces where such environments may become aesthetically pleasing, as well as ensuring the space is used to achieve maximum benefit where buildings are concerned. In this regard, and given the strategic location off Samora Machel, it necessitates that buildings designed here play a gateway role, in portraying iconic features.
Buscor is a major public transport provider in the region. Any planning proposals should incorporate existing bus routes within the CBD.

The Municipality is intending on implementing a possible BRT within the CBD. Proposed BRT Trunk and feeder routes remain paramount in unpacking the develop-ability of the sites.

The sites also lie on key arterioles and close to transport interchanges making them easily accessible. With upgraded pedestrian linkages, users will have ease of access in and around the city.
The vast majority of people that commute to the CBD do so via public transport as a primary means. Once within the CBD, people traverse the CBD to their respective destination via foot. Key nodes within the CBD are of importance to identify specific routes for sidewalk upgrading and to promote non-motorised transport within the CBD.
Linking 1\textsuperscript{st} and 2\textsuperscript{nd} Economies at Transport Linkages

- This refers to the link between the 1\textsuperscript{st} (Formal) and 2\textsuperscript{nd} (Informal) economies and the extent to which activities decrease or increase the divide between the “rich” and “poor”. The deepening of this divide has a threat to the stability of the entire socio-economic system.

- Street Trade, especially around the taxi rank and site 3 have a visible presence. The idea of expanding this operation, should be handled in line with the BRT station stops, as well as integrated into the streets envisaged to link the sites, thereby increasing pedestrian flow and opening avenues for trade to take place. With the “eyes on the street” by these traders, opportunities to formalise a cycle route along the two streets linking sites 2 and 3, will serve as a precedents to inform the future implementation of such lanes in Nelspruit.

- Mbombela is characterised by having many participants in the 2\textsuperscript{nd} economy and few in the first. Part of the development challenge is to provide as many opportunities as possible for 2\textsuperscript{nd} economy participants to link with the 1\textsuperscript{st}. Many of these links are regulatory, experiential or educational and beyond the scope of a SDF, however, a critical component of these opportunities are found in space.
Linking 1\textsuperscript{st} and 2\textsuperscript{nd} Economies at Transport Linkages

- It is therefore proposed that a hierarchy of trading opportunities be made available to informal traders and SMME’s including the following:

1. Street traders should be accommodated on Anderson Street, which will be the street linking Site 2 and Site 3 (east west linkage) and to the public transport system at large (Taxi Rank, Bus terminals as well as train station to the east).

2. To this end, it is proposed that the BRT route be extended to incorporate site 2 into its planned routes, to accommodate the infill of lower to medium residential units.

3. Centrally located market, which may be linked to a public transport interchange, able to intercept significant pedestrian flows, which will be incorporated into site 3.

4. Range of sidewalk, verge and median opportunities that cater for permanent traders e.g. fruit and vegetable, refreshments, newspapers and magazines and periodic crafts, junk, second-hand, antiques, clothes etc.

5. All of these opportunities should be properly managed and enforced with reasonable permit conditions enforced and depending on levels of security and facilities provided (toilets, paving, shade, services) rentals charged.
SDF proposals

The SDF highlights the Nelspruit CBD, in which 3 of the 4 sites are located, as Economic Opportunity Nodes for improvement. This ties in with development plans for site 2, 3 and 4, in that spaces are being designed not to merely increase densities, but livability, walkability and overall functional efficiency.

Site 1 is located at a current industrial zone and along the N4 transit corridor regional node highlighted for intensification purposes. Its role and function as a regional activity node needs to be maintained through encouraging developments with a regional function. Promotion of residential densification and mixed land use is supported along these areas. Provision of affordable housing opportunities in this area is key since it will help tie with the need to upkeep residential character.

All the zones wherein the Nodes are located support development in line with mix use and intensification. In this way the precinct plan will keep within the parameters of the spatial policies and help attain the goals outlined within these policies. This will also be an advantage to the municipality since it will help contain sprawl which seems to be the current development pattern within Mbombela.
Intensification zones

Site 1 falls within the Western Intensification zone, within an area demarcated for “Strategic Mixed Use 3” development.

| Uses allowed: | Places of refreshment, retail, dry cleaners, offices, laundrettes, places of instruction, social halls, places of amusement, places of public worship, confectioners, fish fryers, hotels, gymnasium, drive through restaurants, residential |
| Vision: | To create a specific urban environment of mixed use through the redevelopment, infill and expansion or conversion of existing buildings or vacant land with the allowed uses mentioned above. This area provides a buffer between the N4 and the Old Nelspruit Industrial area to the residential neighbourhoods situated behind the intensification line. As this area is situated on the perennial of many residential neighbourhoods consisting of various densities it provide jobs and recreational opportunities to patrons in close proximity. |
| Maximum density: | As approved by the municipality |
| Maximum coverage: | As can be allowed with regards to existing services at time application |
| Maximum FAR: | As can be allowed with regards to existing services at time of the application |
| Maximum height: | 3 storeys |
| Other: | The site provides a strategic opportunity to create a mix use development which will complement the High Court precinct, and lies on prime land in conjunction with the N4 development corridor, located within the Golden Triangle for development. |

Map: Intensification Zones for development
CBD Precinct Plan Proposals

The mixing of different land uses within a specific location or precinct. Mixed uses can comprise a combination of residential (mostly higher density residential), businesses, offices and community facilities. Mixed uses can either comprise different land uses on different erven but within the same locality or mixed use in the same building.

Sites 2, 3 and 4 are demarcated as “General Mixed Use” as per the Mbombela CBD Precinct Plan. In keeping with this, the development of the Department of Public Works Precinct Plan will look at these intentions in good light.

In the next section each site will be analysed in greater detail which will also help understand these proposals put forward by the SDF, Intensification Zone Strategy, as well as the Nelspruit CBD Precinct Plan.
LUMS: General Mixed Use Zoning

• The draft Land use management scheme of Mbombela describes the following in respect of “General Mixed-used zoning”.

• The development of residential uses in non-residential areas is generally encouraged by the Municipality as such residents can benefit from the proximity to the place of work and various services, facilities and attractions available within the non-residential areas. In addition, the presence of the residential use can contribute towards creating after hours activity and security.

• The amenity and character of the area, especially the residential use, must be protected against the potential for adverse conditions and the activities should be compatible. Consequently, the following matters shall be taken into account when considering applications for mixed uses:
  • Protecting the character and ensuring non-residential uses are able to conduct their normal day to day activities without undue influence from residential uses, and
  • Ensuring residential uses are not developed where it will result in significant unacceptable disturbance to residents from surrounding uses resulting in a reduced level of amenity.
  • Residential uses in non-residential areas should expect a different level of amenity than that available in a residential development situated within a residential area.
### LUMS: Land Budgets

#### Existing Zoning
The adjacent table indicates the land budget as per the existing zoning.

<table>
<thead>
<tr>
<th>Node</th>
<th>Extent</th>
<th>Existing Zoning</th>
<th>Max Height</th>
<th>Max Coverage</th>
<th>Max F.A.R</th>
<th>Max Gross Bulk*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1103100m²</td>
<td>Private Open Space</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2</td>
<td>228800m²</td>
<td>Business 2</td>
<td>3</td>
<td>80%</td>
<td>2157600m²</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>342400m²</td>
<td>Business 1</td>
<td>6</td>
<td>80%</td>
<td>284800m²</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>411000m²</td>
<td>Business 1</td>
<td>3</td>
<td>80%</td>
<td>222000m²</td>
<td></td>
</tr>
</tbody>
</table>

#### Precinct Plan Zoning Proposals
The adjacent table indicates the land budget as per the Draft Intensification Zone and CBD Precinct Plan proposed zonings.

<table>
<thead>
<tr>
<th>Node</th>
<th>Extent</th>
<th>Precinct Zoning</th>
<th>Max Height</th>
<th>Max Coverage</th>
<th>Max F.A.R</th>
<th>Max Gross Bulk*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1103100m²</td>
<td>Strategic Mixed Use 3</td>
<td>3</td>
<td>as required</td>
<td>as required</td>
<td>4115200m²</td>
</tr>
<tr>
<td>2</td>
<td>228800m²</td>
<td>General Mixed Use</td>
<td>6</td>
<td>80%</td>
<td>4169600m²</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>342400m²</td>
<td>General Mixed Use</td>
<td>6</td>
<td>80%</td>
<td>444000m²</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>411000m²</td>
<td>General Mixed Use</td>
<td>6</td>
<td>80%</td>
<td>444000m²</td>
<td></td>
</tr>
</tbody>
</table>

#### Recommended Zonings
The adjacent table indicates the proposed zoning and development controls in terms of the draft LUMS.

<table>
<thead>
<tr>
<th>Node</th>
<th>Extent</th>
<th>Proposed Zoning</th>
<th>Max Height</th>
<th>Max Coverage</th>
<th>Max F.A.R</th>
<th>Max Gross Bulk*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1103100m²</td>
<td>General Mixed Use</td>
<td>8</td>
<td>60%</td>
<td>4412400m²</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>228800m²</td>
<td>General Mixed Use</td>
<td>6</td>
<td>80%</td>
<td>4115200m²</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>342400m²</td>
<td>General Mixed Use</td>
<td>8</td>
<td>80%</td>
<td>4169600m²</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>411000m²</td>
<td>General Mixed Use</td>
<td>6</td>
<td>60%</td>
<td>444000m²</td>
<td></td>
</tr>
</tbody>
</table>

*It should be noted that the **maximum gross bulk** is calculated utilizing the respective zonings as indicated in the table. In order to calculate more accurate leasable floor area (GLA), a detailed site development plan would have to be drawn to scale to retrieve accurate figures.*
PART B: Nodal Development

The Sites shall now be assessed in detail through the following:

- Compact City Model- housing as a means of integration
- Situational Analysis
- Contextual Analysis
- Urban Design Proposals
- Urban Design Recommendations at a conceptual level.
The Compact City:

The interventions within the precinct plan are based on the compact city model. As mentioned in chapter 1 of this precinct plan, urban design principles play an important role in developing or rejuvenating the built environment. The emphasis on mixed land uses and the benefits of it are embedded in the proposed developments. However, in order to place in context these interventions, the proposed residential component will be looked at since it plays a fundamental role in place making. These residential typologies will be explained as follows:

- High Income Residential
- Middle Income Residential
- Low Income Residential

The reason for categorizing these residential uses in this manner is due to this being the medium of understanding within the South African context. The proposed mix of uses and tenures is also based on developments within South Africa which are contemporary examples of how sustainable development within the local context should take place. It also aims at creating an economic base, social platforms and increased activities which is ideal for CBD rejuvenation.

The table below is a summary of the advantage and problems of low versus high densities. Within the global context, mixed use developments have been taking place for centuries. This is due to the fact that land availability and environmental features play a major role in shaping our cities. In the South African context, it is important for us to look at ways of inhibiting our abuse on the environment, as well as overcome economic disparities created during apartheid, along with creating social cohesion between people of different races, cultures and ethnicities. It is through this complex fundamental need for change that the integrated mixed use development is proposed.
The Compact City:

<table>
<thead>
<tr>
<th>ADVANTAGES</th>
<th>PROBLEMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIGH DENSITY</td>
<td></td>
</tr>
<tr>
<td>Efficiency of Infrastructure provisioning</td>
<td>Infrastructure overload</td>
</tr>
<tr>
<td>High revenue generation</td>
<td>Environmental hazards</td>
</tr>
<tr>
<td>High access for customers</td>
<td>Pollution</td>
</tr>
<tr>
<td>Efficient land use</td>
<td>Congestion</td>
</tr>
<tr>
<td>Economies of scale</td>
<td></td>
</tr>
<tr>
<td>Good access for employment</td>
<td></td>
</tr>
<tr>
<td>Low Pollution</td>
<td>Poor access to services</td>
</tr>
<tr>
<td>Quiet</td>
<td>Poor and expensive transport options</td>
</tr>
<tr>
<td>Low cost infrastructure options possible</td>
<td>Services expensive to provide and maintain</td>
</tr>
<tr>
<td></td>
<td>Uses large amounts of land</td>
</tr>
<tr>
<td>LOW DENSITY</td>
<td></td>
</tr>
</tbody>
</table>
High Income Residential:

• Earnings from R15 000 upward.

• The South African mortgage industry is currently the largest in the continent as it sits at just over R1.1 trillion, which is equivalent to more than a third of the country’s GDP.

• The mortgage industry offers housing loans mostly to high-income and middle-income earners whose properties have consistently appreciated in recent years.

• High income residential is an important component in Node 1 where patriots of the law fraternity will frequent.

• This tier of development will attract developers and investors into developing the site.

• The attraction of investors will also create a thriving private rental market.

• Although this component will take up a minimal proportion of the development, it is important to attract users of this nature in creating a more inclusive environment between high and middle income earners.
Middle Income Residential:

- Earnings from R3500 - R15 000.
- Will be considered within the ‘GAP’ market.
- A means of creating more inclusive environments by adding this tier of income group since they stand as a transition between high and low incomes. This will be ideal for NODE 1 since it allows for graduate professionals to also live and work on the site.
- All the nodes should include this income group since it creates a platform of exchange between earners.
- Developments will also qualify for FLISP funding.
- This tenure group within the CBD will also help uplift the CBD.
- Access to employment and other amenities will be in walking distance.
- According to council workers, availability of decent-middle income mortgaged or rental units will be ideal for them to occupy especially within Node 3- opposite the council precinct.
- Government precincts will also be able to afford employees with accommodation close to or above workplaces.
Low Income Residential:

- Earnings from R0 – R35 00.
- Will be considered within the fully subsidised or BNG market.
- Great need for fully subsidised housing within the country at large, however these need to be well located and equitably serviced.
- This tenure of housing within the CBD will allow fast take ups meaning that there will be increased activity within the CBD.
- Mixing low and middle income earners will not only create integration but also integrate user perceptions thus creating a sense of ownership in the space.
- Increased sense of place will also allow for more integrated communities.
- Low income housing in the CBD will give people easy access to jobs and save them transportation costs.
- Already existing housing market within the CBD in spaces initially planned for other users (eg. Node 3).
- Access to further grants will make development become achievable more easily.
- Enhances the SMME’s advantages by being within the city at all times, therefore also increasing activity times.
- Helps achieve the notion of an equitable city.
• There is a trend of the young and up-coming population to relocate from the semi-urban areas to the main urban centres.

• This young and up-coming middle aged population segment includes the Black Middle Class that is characterised by relatively high levels of human development.

• This trend has resulted in the need for low to middle income residential developments in the main urban centres.
CASE FOR LOWER TO MEDIUM RESIDENTIAL HOUSING UNITS IN THE CBD

• Over the years Mbombela has grown considerably due to its status as provincial capital seat, with Nelspruit as a regional service centre, tourism and major infrastructural developments (i.e. Mbombela Stadium, N4 Northern Bypass, KMIA, R40 upgrade, improvements to the Lowveld Botanical Gardens etc.).

  Result: demand for urban land around main economic centres i.e. White River, Nelspruit and Hazyview = resultant higher land prices

• Whilst Mbombela is now a fairly large city, it has retained its natural characteristics and a sought after environment to live in.

  Result: environmental attributes of Mbombela = increased its property market values = number of high quality residential estates where these environmental features are key.

• The property market in Mbombela is driven by the private sector, which is primarily profit orientated, hence prices are inflated when there is a demand.

  Result: Profit oriented private sector market phenomenon does not augur well with the poor and marginalised. = systematic exclusion of poor from entering the property market, especially around the main economic centres.

• The inability of the marginalised and poor to enter the residential property market around the main centres together with the lack of access to land and high living costs leave them with no alternatives other than to remain in the eastern semi-urban areas. The informal nature of settlements in Mbombela leads to encroachment into natural environments.
Node 1: Situational Analysis

Node 1 comprises of the property known as a Portion of the Remainder of Erf 6/65 West Acres Ext 1. The property is 10.31 ha in extent and is zoned “Private Open Space” in terms of the Nelspruit Town Planning Scheme.

The new ‘Council Chambers’ currently under construction opposite the site

The new High Court directly across the site where the building is currently under construction

Existing Rugby Stadium used by local Rugby clubs

Soccer field utilized by students of the adjacent school

School use on site

Crossing shopping Centre
Node 1: Contextual Analysis

Access
The site is constrained due to the topography insofar as access off Samora Machel drive is concerned. The existing access located on the south west corner of the site (Indicated as point A) would have to be retained as the primary access into the site. This access route is used as the loading bays within the crossing centre. Additional accesses to the site could be through The Crossings shopping centre (Indicated as B) as well as through Kiepersol Street from the north (Indicated as C).

Environment
The western portion of the site is populated with rocky outcrops (Shaded in blue) and hence would be expensive to develop this particular portion of the site. The topography of the site slopes from west to south-east. Adequate storm water infrastructure would have to be installed to cater for the slope.

Existing Built Form
The existing structures located on the site range from a school to club house facilities for the respective stadia. Along with this there is a hardware store and educational facility on the site. These structures do not pose a challenge for the redevelopment of the site. There are however servitudes that traverse the site. These would have to be adequately investigated to assess the relocation of any infrastructure if required. The most important linkages adjacent to the site include The Crossings Shopping Centre as well as the New High Court and the adjacent Lawyer Chambers.
Node 1: Urban Design Proposals

**Development Vision**
The vision for the development is based on the need for an integrated mixed used development which would be complemented by the High Court Precinct. The vision is based on Melrose Arch development in the City of Johannesburg which seeks to create a lively ‘eat, work and play’ environment. This space will be aimed at creating inclusivity between high income and middle income earners. Social platforms within the spaces will be developed to enhance social cohesion.

**High Court Precinct (A)**
The new High Court together with the adjacent law chambers provides a catalyst for growth in respect of Node 1. The pedestrian linkages of the high court precinct into the node remains paramount to capture the value and market been created by the new High Court. A pedestrian bridge (Intervention A) is thus proposed due to the topography of the land.

**Rocky Outcrops (B)**
The topography of the site is layered with rocky outcrops to the east of the site. Due to the extent of the site, this natural geological feature could be turned into a garden feature as one crosses into the node from the court precinct with SMME’s providing light meals within the garden precinct. Along with this it can be used as an active open space with an outdoor gym and library.

**Hotel/Residential Component (C)**
With the high court precinct in walking distance, the demand for more residential accommodation is significant due to the locality of the node. The proposed residential component of the development shall encapsulate a 4 to 5 storey hotel and conference facility together with residential apartments geared to suit middle to higher income earners. These buildings should also include a gym and spa to serve patrons.

**’A’ Grade Office Space (D)**
Market demand would dictate the uptake of the ‘A’ grade office space within the node. Possible tenants could include law firms, financial institutions and any other corporate head quarters of companies doing business in Mbombela. Internal spaces can also be planned to allow for smaller professional companies to afford rentals. In this way there will be an exchange between professionals within the precinct.

**Premium Retail (E)**
Due to the nature of the development, this section would be dedicated to a retail type market which would include restaurants, bars that open up onto an open piazza. This use shall be sub-servient to the adjacent residential component.

**Residential/Office Space (F)**
This sector of the development shall be dictated to market demand and could comprise of residential units or office space on lower levels. With direct linkages to ‘The Crossings’ shopping centre, residential units shall be the appropriate land use.
Melrose Arch as a precedent shows how the creation of spaces through building design can help achieve spaces that appeal to the urban design principles discussed in chapter 1. Alongside, a concept of how the development can take place emulates the lessons learnt from Melrose Arch. The design principles will be summarized using the X, Y, Z axis as a means of explaining the impact of edge conditions within functional attractive spaces. These axes are broken down as follows:

X axis - includes all items pertaining to the ground floor.

Y axis - regards the density and frontages of the upper levels.

Z axis - specifications relating to active frontages and the materials used in the public realm.

X - Melrose arch complex is yet another good example of how the ground level should allow pedestrians to interact with the building.

Y - increased densities coupled with mixed land uses allows for a greater use of the site and also takes away the “ghost town” effect since the site has 24/7 usage.

Z - the public realm is the greatest consideration and therefore buildings need to adapt active frontages in the development. Public furniture is also important and adds to the pedestrian experience.
# Land Use Budget

## Node 1 (103100m²)

<table>
<thead>
<tr>
<th>Sector</th>
<th>Land Use</th>
<th>Floor/s</th>
<th>Extent</th>
<th>Height</th>
<th>Coverage</th>
<th>F.A.R</th>
<th>Gross Bulk</th>
<th>Developable Bulk</th>
<th>Residential Density (excl Hotel)</th>
<th>No of Units</th>
<th>Average Unit Size</th>
<th>No of Parking Bays required</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Office</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Retail</td>
<td>1</td>
<td>5400m²</td>
<td>6</td>
<td>5,4%</td>
<td>0.31</td>
<td>32400m²</td>
<td>5400m²</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Residential</td>
<td>2,3,4,5,6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>13500m²</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hotel</td>
<td>2,3,4,5,6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>13500m²</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Office</td>
<td>1,2,3,4</td>
<td>6950m²</td>
<td>4</td>
<td>6,7%</td>
<td>0.27</td>
<td>27800m²</td>
<td>63du/ha</td>
<td></td>
<td></td>
<td></td>
<td>1251</td>
</tr>
<tr>
<td></td>
<td>Retail</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Residential</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hotel</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>Office</td>
<td>1,2</td>
<td>6500m²</td>
<td>5</td>
<td>6,3%</td>
<td>0.31</td>
<td>32500m²</td>
<td>13000m²</td>
<td></td>
<td></td>
<td></td>
<td>416</td>
</tr>
<tr>
<td></td>
<td>Retail</td>
<td>3,4,5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>19500m²</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Residential</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hotel</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>Office</td>
<td>1</td>
<td>4500m²</td>
<td>4</td>
<td>4,3%</td>
<td>0.17</td>
<td>18000m²</td>
<td>4500m²</td>
<td></td>
<td></td>
<td></td>
<td>338</td>
</tr>
<tr>
<td></td>
<td>Retail</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>13500m²</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Residential</td>
<td>2,3,4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>225</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hotel</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>60m²</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td>23350m²</td>
<td>22.70%</td>
<td>1.06</td>
<td>110700m²</td>
<td>110700m²</td>
<td>922</td>
<td>2865</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Node 2 comprises of various properties within the Mbombela CBD. The entire site is 2.88 ha in extent and is zoned “Business 2” in terms of the Nelspruit Town Planning Scheme. The node comprises primary of motor workshop uses.

The new renovated department of Health building

The majority of the node comprises of light industrial uses leaning towards motor workshop repair centres. The topography of the Node also indicates that the Node slopes towards a southerly direction.

Vacant carpark which has potential for redevelopment

A 3-Dimensional analysis alongside shows the buildings currently on site. As can be seen, the buildings were all carried out independently and thus do not follow any concise format.

The space is currently underutilized with very little pedestrian flow however, sidewalks are adequately paved and shaded. The size of the sidewalk is also comfortable for pedestrian usage however cars are parked and fixed on the pavement therefore the need for maintenance is apparent.
Node 2: Contextual Analysis

Access
The site forms part of the CBD and is permeable by virtue of a number of thruways. Access off Samora Machel Drive through a ‘left in, left out’ could be possible in future should the node require it. Linkages to the east- Node 1 is crucial, as well as to the south towards the “Municipal Precinct”

Environment
The topography of the site is shaped in manner that slopes from north to south of the site. To the western side of the Site lies a riparian corridor which should be protected and enhanced. This environmental element also has potential to be used as a pedestrian linkage between the site and the government precinct in the south east.

Built Form
The site forms part of the CBD and is built up comprising of light industrial land uses. To the south west of the site lies the Mpumalanga Department of health building which has recently been renovated. This provides a good catalyst to initiate a land banking programme starting at the bottom of the site that would eventually lead to better inter connections with the existing investment the Health Department has made in this instance.

The Ehlanzeni District Municipality as well as Mbombela Local Municipality is located to the south east of the site. Linkages to this “Municipal district” would be imperative to catalyse the development of this node into a possible “Government Precinct”.

The provision of housing on the site may also allow for government workers to qualify for residences which will add to the much needed efforts in providing houses within the GAP market.
Node 2: Urban Design Proposals

Department of Health (A)
The Node is located within the CBD and adjacent to the newly refurbished department of health building. Linking the southern portion of the node with this building could serve as catalyst for redevelopment.

Residential (B)
Desktop investigations have indicated a demand for cheap inner city housing close to working opportunities. With many buildings already having some sort of informal residential component present, a possible social housing or GAP market project could be worth investigating within this sector.

Linkages (D)
Pedestrian linkages to ‘The Crossings centre’ as well as to the ‘Municipal Precinct’ and Node 3 need to be created through adequate urban design and street furniture.

Development Vision
The vision for the development is based on an integrated urban development that comprises of mix uses in terms of motor industry, office and residential accommodation. The development is located within the CBD which would in essence serve as a catalyst for inner city rejuvenation.

Commercial/ Office (C)
The bulk of the node shall comprise of office and retail moving away from the light industrial located within this CBD node. However a direct stimulus needs to be injected into the node to drive more Pedestrianisation and activity into the area. To drive activity within the space, Stanley Avenue in Auckland Park, Johannesburg was looked at to drive inner city open spaces within city blocks.
Node 2: Urban Design Recommendations

Elevation drawing of the proposed intervention. With residents as well as other users on site, the sense of security is enhanced. Wide pedestrian walkways coupled with creature comforts like shade, lighting and seating all add to the vitality of the space.

The adjacent image is an artistic impression of how the site could look within phase 1 of development after land is purchased. The mix of uses and aesthetically pleasing environment helps create lively functional spaces.

Mixed land uses coupled with higher densities help frame the street and communal internal spaces.

Parking
Urban Greening, street furniture and Lighting
Pedestrian Realm
### Land-use Budget

#### Node 2 (28800m$^2$)

<table>
<thead>
<tr>
<th>Sector</th>
<th>Land Use</th>
<th>Floor/s</th>
<th>Extent</th>
<th>Height</th>
<th>Coverage</th>
<th>F.A.R</th>
<th>Gross Bulk</th>
<th>Developable Bulk</th>
<th>Residential Density</th>
<th>No of Units</th>
<th>Average Unit Size</th>
<th>No of Parking Bays required</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>Office</td>
<td>2</td>
<td>2100m$^2$</td>
<td>4</td>
<td>7.30%</td>
<td>0.3</td>
<td>8400m$^2$</td>
<td>2100m$^2$</td>
<td>130du/ha</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Retail</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2100m$^2$</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Residential</td>
<td>3,4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4200m$^2$</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Office</td>
<td>2</td>
<td>8025m$^2$</td>
<td>5</td>
<td>28%</td>
<td>1.4</td>
<td>40125m$^2$</td>
<td>8025m$^2$</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Retail</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8025m$^2$</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Residential</td>
<td>3,4,5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>24075m$^2$</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>10125m$^2$</td>
<td>35.30%</td>
<td>1.7</td>
<td></td>
<td>48525m$^2$</td>
<td>48525m$^2$</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Office**: 2 floors and 2100m$^2$ extent with coverage 7.30% and F.A.R 0.3. Developable Bulk: 2100m$^2$.
- **Retail**: 1 floor and 2100m$^2$ extent.
- **Residential**: 3, 4, and 5 floors with a total extent of 8025m$^2$, coverage 28%, and F.A.R 1.4. Developable Bulk: 8025m$^2$.
- **Total**: 3, 4, and 5 floors with a total extent of 10125m$^2$, coverage 35.30%, and F.A.R 1.7. Developable Bulk: 48525m$^2$.

No of Parking Bays required:
- **B** sector: 56 units with 75m$^2$ average size, requiring 84 parking bays.
- **C** sector: 321 units with 75m$^2$ average size, requiring 482 parking bays.

Total units: 377 with 566 parking bays required.
Node 3: Situational Analysis

Node 3 comprises of various properties within the Mbombela CBD. The property is 4.24 ha in extent and is zoned “Business 1” in terms of the Nelspruit Town Planning Scheme. The node comprises primarily of retail and commercial properties with a possible residential component located above. Currently the site is being used to its best in terms of retail purposes. However there is room for residential interventions since these uses are being carried out yet undocumented.

Pedestrian entrance to the Nelspruit PRASA station

Greening along Voortrekker Street

Entrance to Public Taxi rank

Taxi holding area

Informal street trading

Department of Justice Magistrate Court

South African Police Service Regional building
Node 3: Contextual Analysis

Access
The site is located adjacent to the existing newly constructed Taxi Rank as well as the Nelspruit PRASA station. The site also borders the Buscor routes which lead directly into the newly constructed bus terminal located to the far east of the site. The site falls within the heart of the CBD and has vast potential for a multi modal transit orientated government node.

Environment
The site is fully built up and does not have any visual clues that point towards any environmental constraints.

Existing Built Form
The site is fully built up with buildings dating back to the founding of the town of Nelspruit. In light thereof a heritage assessment should be conducted to assess the redevelopment/demolition of structures located on the site due to the possible age of the buildings. The site lies adjacent to the SAPS and DOJ Magistrate court while department of public works holds a significant portion of the site within their portfolio.
Node 3: Urban Design Proposals

**Development Vision**

The vision for the development is based on an integrated urban development that comprises of mix uses in terms of office and residential accommodation with the focus on catalysing on existing government property portfolio. With Public works already holding a significant portfolio of properties in and around this node, coupled with the various transport modes adjacent to the site, a multi modal transport node is proposed for this node.

**Bester Street Linkages (A)**

The South African Police Services and the local Magistrates court is situated along Bester Street and along the southern portion of the node. Urban street furniture together with a more pedestrianized route needs to be emphasized along this section of Bester street to better create linkages between the two city blocks.

**Public Works (B)**

The Department of Public Works have various design options in respect of the re-development of their existing portfolio in this sector. These options align to this precinct plan and should be retained and developed as proposed.

**Government Office space (C)**

The land located in this sector is privately owned and should be earmarked for acquisition to further drive the development of this government node. The proposed uses in future could encapsulate offices for government officials and possible lawyer offices to feed off the existing Magistrate court.

**Informal Trade Market (D)**

In order to bring more activity into the node without completely destroying the foot traffic of the block, an informal traders market is prosed within this square. This would create a vibrancy that already exists within the area as well as planning for informal traders. This can also take place in conjunction with current traders to avoid conflict.

**Retail and Residential (E)**

The existing uses which work well within this space is the retail component due to the adjacent PRASA station and Taxi rank. It is thus proposed that retail uses remain on the ground level with residential and office space located above.

**Henshall Street (E)**

Henshall street is earmarked as a priority Bus route for the existing Buscor and proposed BRT. So while mobility remains paramount along this road, adequate pedestrian crossing needs to be constructed to generate enough foot traffic into the node.
The above elevation drawing shows once again how the street frontage should be encapsulated. Currently the site is made up of majority retail uses and thus allows for social platforms to be created. These uses should be retained and uplifted to spur on greater social cohesion.

Alongside is an artistic impression of how the site should be developed. As can be seen there is sufficient provisioning made on the street frontages to allow for public integration. Along with this, central spaces are developed between buildings to allow for interaction between residents living in the buildings.
## Land-use Budget

### Node 3 (42400m²)

<table>
<thead>
<tr>
<th>Sector</th>
<th>Land Use</th>
<th>Floor/s</th>
<th>Extent</th>
<th>Height</th>
<th>Coverage</th>
<th>F.A.R</th>
<th>Gross Bulk</th>
<th>Developable Bulk</th>
<th>Residential Density</th>
<th>No of Units</th>
<th>Average Unit Size</th>
<th>No of Parking Bays required</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>Office</td>
<td>2,3,4,5,6</td>
<td>2868m²</td>
<td>6</td>
<td>6.70%</td>
<td>0.4</td>
<td>17208m²</td>
<td>14340m²</td>
<td></td>
<td></td>
<td></td>
<td>646</td>
</tr>
<tr>
<td></td>
<td>Retail</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2868m²</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Residential</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Office</td>
<td>2,3,4,5,6,7</td>
<td>4500m²</td>
<td>7</td>
<td>10.60%</td>
<td>0.74</td>
<td>31500m²</td>
<td>27000m²</td>
<td>216du/ha</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Retail</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4500m²</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Residential</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>Office</td>
<td>2,3</td>
<td>13800m²</td>
<td>8</td>
<td>32.50%</td>
<td>2.6</td>
<td>110400m²</td>
<td>27600m²</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Retail</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>13800m²</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Residential</td>
<td>4,5,6,7,8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>69000m²</td>
<td></td>
<td></td>
<td></td>
<td>920</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>75m²</td>
<td>1380</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>21168m²</td>
<td>49.80%</td>
<td>3.74</td>
<td></td>
<td>159108m²</td>
<td>159108m²</td>
<td>920</td>
<td></td>
<td></td>
<td>1380</td>
</tr>
</tbody>
</table>
Node 4: Situational Analysis

Node 4 comprises of various properties. The property is 1.10 ha in extent and is zoned “Business 1” in terms of the Nelspruit Town Planning Scheme. The node is currently vacant however it is being used by Buscor holding as a transit area. The node also lies in an area that can be considered the Institutional Sector due to the close proximity of schools.

Buscor holding area

Wetland adjacent to the site

Cameron Street which is also the entrance to the site.
Access
The site is located adjacent to the R104 (Samora Machel) split with traffic coming into Nelspruit from the east. The site is therefore suited to the possible establishment of an ‘iconic gateway’ building into the CBD. The site is also bounded by a riparian corridor to the east thus allowing for access to the site only along Cameron Street.

Environment
The site lies adjacent to a riparian corridor that is directly linked with Crocodile River. NEMA regulations would have to be looked at in depth to ascertain the environmental constraint in this regard. In the interim a development restriction area along the riparian corridor shall apply. New development on the site can be integrated with the environmental feature which will enhance both uses.

Existing Built Form
The site is vacant and currently used as a bus holding area by Buscor. To the south west of the site lies various newly constructed Provincial Government offices (blue ring) which could be linked to this proposed development.
Node 4: Urban Design Proposals

**Development Vision**
The vision for this node is one associated with the visual impact as one arrives into Mbombela CBD from the east on Samora Machel Drive. The node should create a visually enhancing projection of the City and give visual clues to the gateway of Mbombela. This node should also emphasise green building techniques in an effort to drive sustainable building practices within Mbombela.

**Riparian Corridor (A)**
The adjacent wetland should be protected and incorporated into the development. The space could be utilised as a recreational space. Later on the precinct plan will make reference to design innovations which can be developed within this environmentally sensitive area.

**Public Works Portfolio (B)**
The Department of Public Works has newly refurbished buildings within this vicinity. Linkages to these buildings are valuable and could provide for more active Pedestrianisation of the space.

**Gateway from the East (C)**
These buildings are strategically facing the R104 as it is a major corridor into the CBD. The buildings constructed here should be iconic in nature and face the R104.

**Recreational Open Space (D)**
The recreational open space located within the centre of the node should be directly linked with the adjacent riparian corridor and could form part of an urban greening project.
Node 4: Urban Design Recommendations

Landscaped green spaces that include the relevant infrastructure (e.g., Wifi) allow for the creation of active spaces as well as integration between the built and natural environment.

Green Building techniques can be utilised to create a benchmark for future development. Open planned spaces that create opportunities for SMMEs and smaller businesses will be a means of creating vibrancy on the site.
## Land-Use Budget

### Node 4 (11000m²)

<table>
<thead>
<tr>
<th>Sector</th>
<th>Land Use</th>
<th>Floor/s</th>
<th>Extent</th>
<th>Height</th>
<th>Coverage</th>
<th>F.A.R</th>
<th>Gross Bulk</th>
<th>Developable Bulk</th>
<th>Residential Density</th>
<th>No of Units</th>
<th>Average Unit Size</th>
<th>No of Parking Bays required</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>Office</td>
<td>2,3</td>
<td>3850m²</td>
<td>6</td>
<td>35%</td>
<td>2.1</td>
<td>23100m²</td>
<td>7700m²</td>
<td>175du/ha</td>
<td></td>
<td></td>
<td>347</td>
</tr>
<tr>
<td></td>
<td>Retail</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3850m²</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>231</td>
</tr>
<tr>
<td></td>
<td>Residential</td>
<td>4,5,6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>11550m²</td>
<td></td>
<td></td>
<td>192</td>
<td>60m²</td>
<td>288</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>3850m²</td>
<td>6</td>
<td>35%</td>
<td>2.1</td>
<td>23100m²</td>
<td>23100m²</td>
<td></td>
<td>192</td>
<td></td>
<td>866</td>
</tr>
</tbody>
</table>
Urban furniture is an important aspect of the public realm. These vital elements of the built environment all work together in creating a user friendly environment. From the images attached we see how they all act together in framing the street and building frontages. Pavements are also very important, in a South African context we often see the importance of vehicles and therefore tarmac as the only option. However as part of the development of the precinct, stoned cobbled pathways should be used to create continuity for pedestrians and changes in texture for vehicles.
The images above and below are some concept designs done by a firm call Big City Urbanists. The aim of this firm is to create urban furniture and urban elements that suit the context of the area. In terms of this, designs can be made to suit each node specifically. As can be seen, they are capable of producing urban furniture that integrates into the environment as well as user areas. Amenities like gymnasiums, libraries, amphitheaters, public walkways are all important to the functioning of the city. By including these amenities within the public realm also helps create social cohesion and a stronger public realm.
Linking the Sites

Bicycle Lanes are proposed in the inner city on Anderson Street to avoid vehicle dependency. Anderson Street is seen as the main street link between site 2 and 3.

The street comprises a good mix of uses including a host of retail outlets, hotel and conference centre, Shopping centre, and a dispersal of informal trade closer to the taxi rank (Site 3).

Medians consisting of landscaping with seating and lighting to be included along the route as depicted above.

A formalised ‘informal traders Market’ to integrate with the site Off Anderson street to create a Vibrant market, that will integrate with the urban fabric, and complement the pedestrianised Green spaces envisaged between the site’s building footprint.

A clear distinction must be made between pedestrian crossing and bicycle crossing as depicted in the illustration.

The Buscor Route should be extended to begin from Site 1 to integrate the site, which is isolated in the east, with the remaining sites to the west of the Provincial route.

Image: Bicycle Lane well marked with glow-in-the-dark artwork.
Linking the sites - Proposed BRT routes

• The phase 1 route bisects directly through Site ③, making it a prime location for development.

• The route further demonstrates the optimal location of Sites ② and ④, which are located within a block from the route, therefore taking cognisance of the developments envisaged for the area, and will allow easy access to sites ②, ③ and ④.

• The three sites fall within the BRT concentration catchment area for phase 1.

• Extension of BRT routes into surrounding neighbourhoods and business centre’s should incorporate Site ①, to the east. The phase 2 planned routes does indicate a movement pattern to integrate well with Site ①.

It is proposed that the BRT route be extended and amended to incorporate site 2 into its planned routes, to accommodate the infill of lower to medium residential units as depicted in the graphic alongside.

Each station consisting of a shelter with Seating which must include a bin as well.

Public transport pick-up and drop-off zone along the proposed extension route will facilitate maximising inner-city densities.

The public transport pick-up and drop-off stations should have bollards with lamps to provide safety as well as extra lighting during the night.
Linking the sites

Proposed extension of Buscor from Site 1 linking with the route to the east.

Site 1 will immediately gain ease of access to the Crossings Shopping Centre, and this linkage will then be further translated to link to the three sites within the central node via the Buscor Buses.

By using intensification strategies, and adding residential components to sites 2 and 3, along with street lighting and furnishing along proposed pedestrian movement sites, the overall integration of the sites and users become apparent.
Land Banking & Phasing

Node 1 and Node 4 are located on sites where no major/established development has taken place. In terms of this, valuable land is being wasted and should be developed as soon as possible. In this way development within the municipal area will also take place in closer vicinity to the already developed CBD and surrounding areas. This will aid in problems like gentrification and sprawl which is a common occurrence in South African Cities after the demise of apartheid.

Mbombela is also growing at a very fast rate. According to estate agents in the area, there is a need for different types of uses all over the city. Taking these factors into account, nodes 1 and 4 should be developed in the best possible manner in line with the proposals put forward in this precinct plan. This will give guidance in terms of what can/should be achieved on site and will also aid in the provisioning of further services and amenities within the geographical area.

Due to the brown field development of sites 2 and 3, a land banking approach is proposed to ease the financial burden of purchasing all the required property at the same time. The land banking approach should align to the proposed phasing of the development based on the property holdings of the Department of Public Works. Based on the departments portfolio, property acquisitions should be made on a block by block basis thus alleviating possible land owners who are unwilling to sell. This phasing will also allow for buildings to be built while land acquisition of further portions takes place. In this way, the development of these two nodes will take place over a period of time, however they will increase on the usage and character meaning that the nodes will mature as the entire site is being purchased. In terms of the buildings themselves, they should be built in a manner that will allow them to be used and reused over time. In this way, spaces will not face the problem of becoming dormant or unused over time. Spaces will thus be capable of being changed and adapted over time which will allow them to be suitable for any use at the given time.
Conclusion

**Node 1**
Node 1 should be seen as a strategic land parcel and could be leveraged off the existing “Court Precinct”. Due to the scale of the development, it would be best developed in phases through a private entity. Possible private-public partnerships should be investigated to take the proposal forward. In this way, the development will also meet the desired outcomes since it is proven that developments are more easily achieved with the partnership between private developers and public land owners.

**Node 2**
Node 2 lies within the CBD precinct. The greatest challenge in respect of this node lies in the various land owners. A land banking programme should be initiated to begin consolidating land parcels primed for redevelopment.

**Node 3**
Node 3 holds the greatest prospect of redevelopment as a Transit Orientated Development (TOD) node. With Public Works already having a large property portfolio within this node, a property acquisition strategy should be prioritized to acquire the adjacent properties. The character of the site should be maintained and enhanced since it allows for a good integration of users on site.

**Node 4**
Node 4 lies on the gateway into the Mbombela CBD, as with node 1, private-public partnership should be investigated to take the proposal forward. As mentioned in the urban design recommendation, this site should also be a leader in terms of green building and environmental integration within Mbombela.

In light of above proposals as mentioned in this document, detailed site development plans should be drafted for each node to accurately identify the respective leasable areas which could be achieved. This exercise would bring forth a more comprehensive case towards getting the private sector involved as well as indicating to Public Works the possibilities around further acquisitions within Mbombela CBD towards the government precinct.