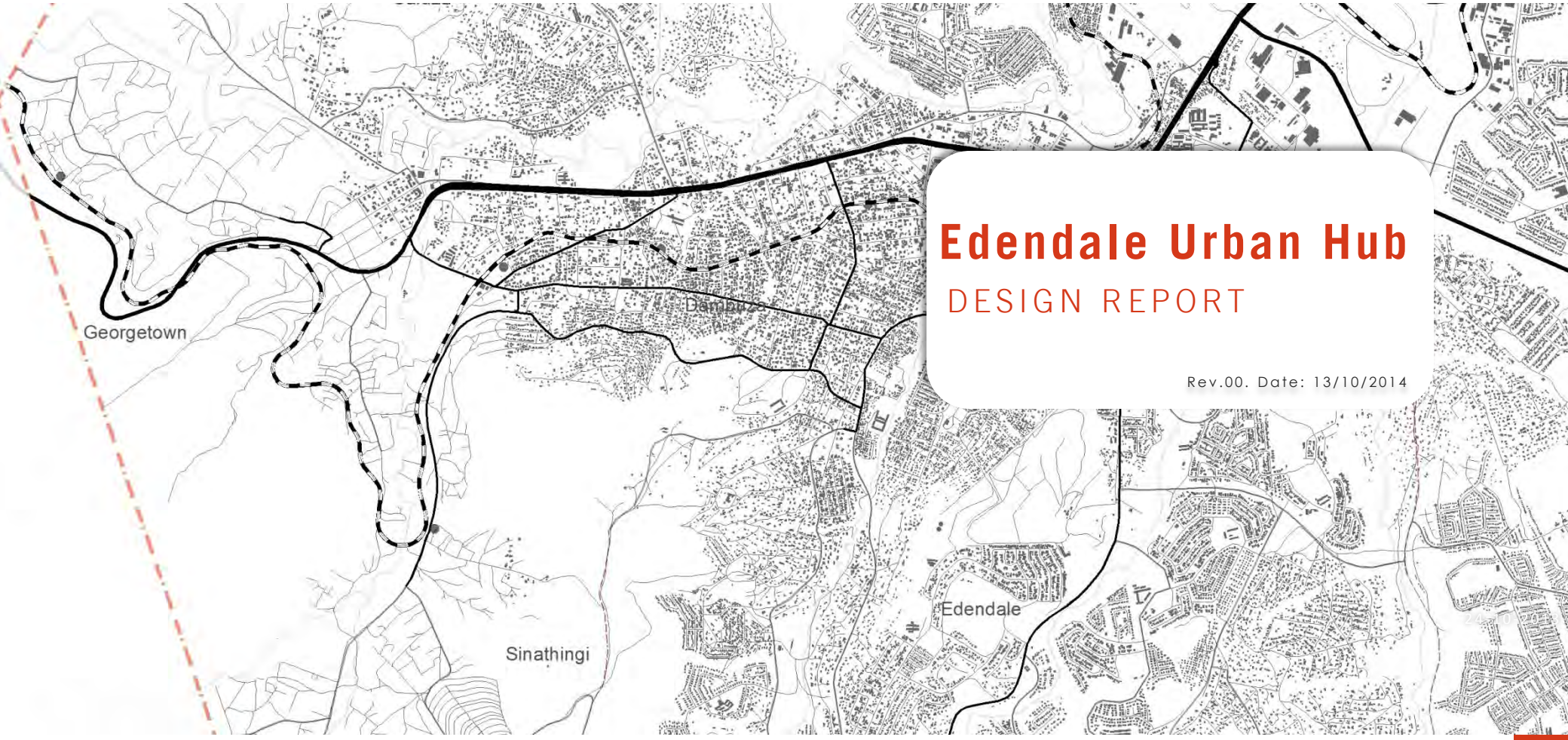

Edendale Urban Hub

DESIGN REPORT

Rev.00. Date: 13/10/2014

IYER

URBAN DESIGN STUDIO

DRAFT.....

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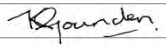
PREPARED BY	KAMALEN GOUNDEN		
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01 INTRODUCTION

REPORT INTRODUCTION

1.1 Project Background

Iyer Urban Design Studio were appointed to provide project management support for the implementation of the Neighbourhood Partnership Development Grant (NDPG) in The Greater Edendale Area of the Msunduzi Municipality.

The primary focus of the NDPG is to "stimulate and accelerate investment in poor, underserved areas by providing technical assistance and capital grant financing for municipal projects that have either a distinct private sector element or an intention to achieve this." Along with this, the NDPG has been focussed on public investment that can be used to attract private community investment in the key targeted areas, so as to unlock the social and economic potential in these areas.

The NDP have identified the Greater Edendale area for a Township Regeneration strategy with the aim of ensuring that the development of an Urban Hub within the Greater Edendale area will assist with the transformation and regeneration of the area and that the spin-offs of this would contribute to the improvement of the surrounding areas.

As part of this project, a Strategic Review of the Greater Edendale area was conducted by Iyer Urban Design Studio in order to gain a better understanding of the broader development context, so as to be in a better position to propose and exploit future and focussed development opportunities in Edendale.

Drawing from the numerous studies and initiatives that have taken place in the area, the Strategic Review revealed that the Greater Edendale area had great potential to overcome the deficiencies inherited from Apartheid and become a thriving area.

One of the driving forces behind this optimisticall stand-point was the IRPTN project, which is expected to be implemented in the next few years. It is expected that the project will drastically transform the Municipality bringing a range of transportation, land use and increased densification opportunities and becoming a major structuring device in the Greater Edendale area.

The Strategic Review also reflected that the majority of the initiatives taking place in the municipality are concentrated within The Imbali precinct. The report highlighted that the bulk future growth and investment would most likely occur within this Precinct both in the short and medium term.

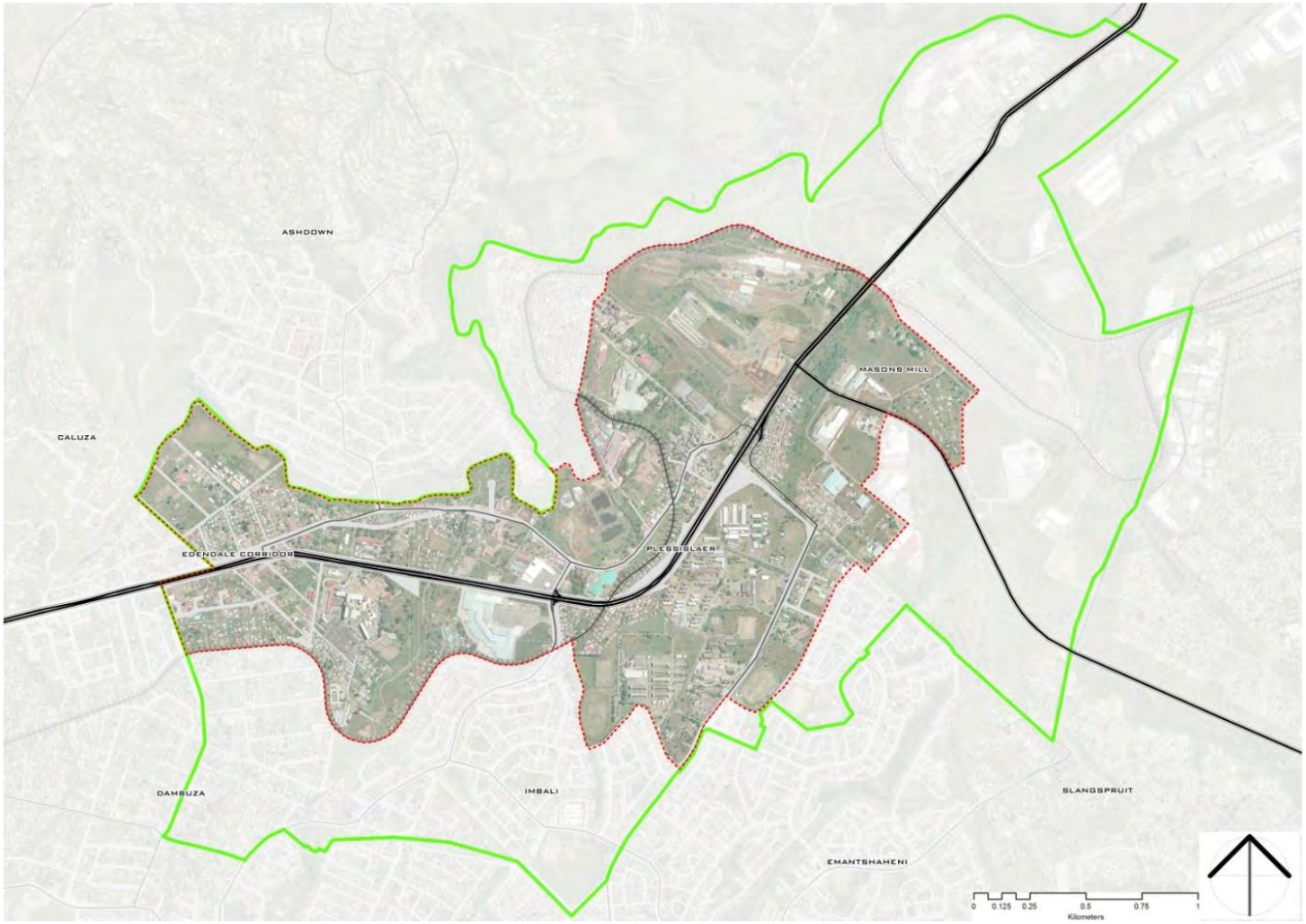
It was established that the area proposed for the development of an Urban Hub must encompass the Hospital, Shopping Mall's and Future Educational precinct in Edendale.

The review also established that it is essential to ensure that development of the Hub is in a manner that allows for greater synergy between the existing and proposed land uses.

Considering the above, it is motivated that the most likely location of the Hub would be within the Imbali Precinct. The plan on the following page reflects the Imbali 'Heroes Precinct' with a vinnette over the areas that are less likely to be developed as an Urban Hub based on certain spatial elements that include, topography, walking distance, major edges such as the railway and open space. Land uses such as Industrial which are already established within the Precinct, limits to transform these areas into a town centre (Urban Hub).

Urban Hubs are points of maximum connectivity clustered around a transport hub, functioning as town centres.

01 INTRODUCTION



Imbali Heroes Precinct

Area for consideration for the establishment of an Urban Hub

01 INTRODUCTION

REPORT INTRODUCTION

1.2 Purpose of Report

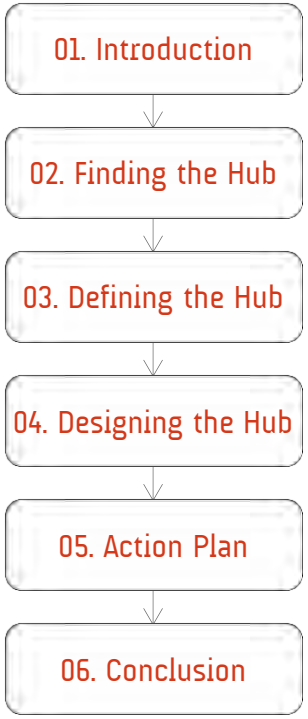
This report is intended as a Precinct Design report and forms part of Phase 3 of the overall project. The main objective of this phase is to prepare a precinct plan for the Hub, leading to the identification of specific projects which in the next phase, specific project plans will be prepared for projects emanating from this plan.

As part of the process of preparing the plan, the report will start with identifying and confirming the exact location of the Hub. Once the location of the Hub is confirmed, the character and extent of the Hub will be confirmed through a series of assessments in line with the NDP's Urban Design Toolkit.

The assessments will include:

- Movement Network Assessment
- Green Structure assessment
- Productive System Assessment
- Quality Urbanism
- Bulk Infrastructure

After defining the character and extent of the Hub, Section 4 will describe the Precinct Plan design for the Urban Hub. Section 5 will comprise of an Action Plan and Implementation Strategy defining and Prioritising the projects proposed within the Hub this will lead to the conclusion and evaluation of the report.



02 FINDING THE HUB

HUB LOCATION

2.1 Section Introduction

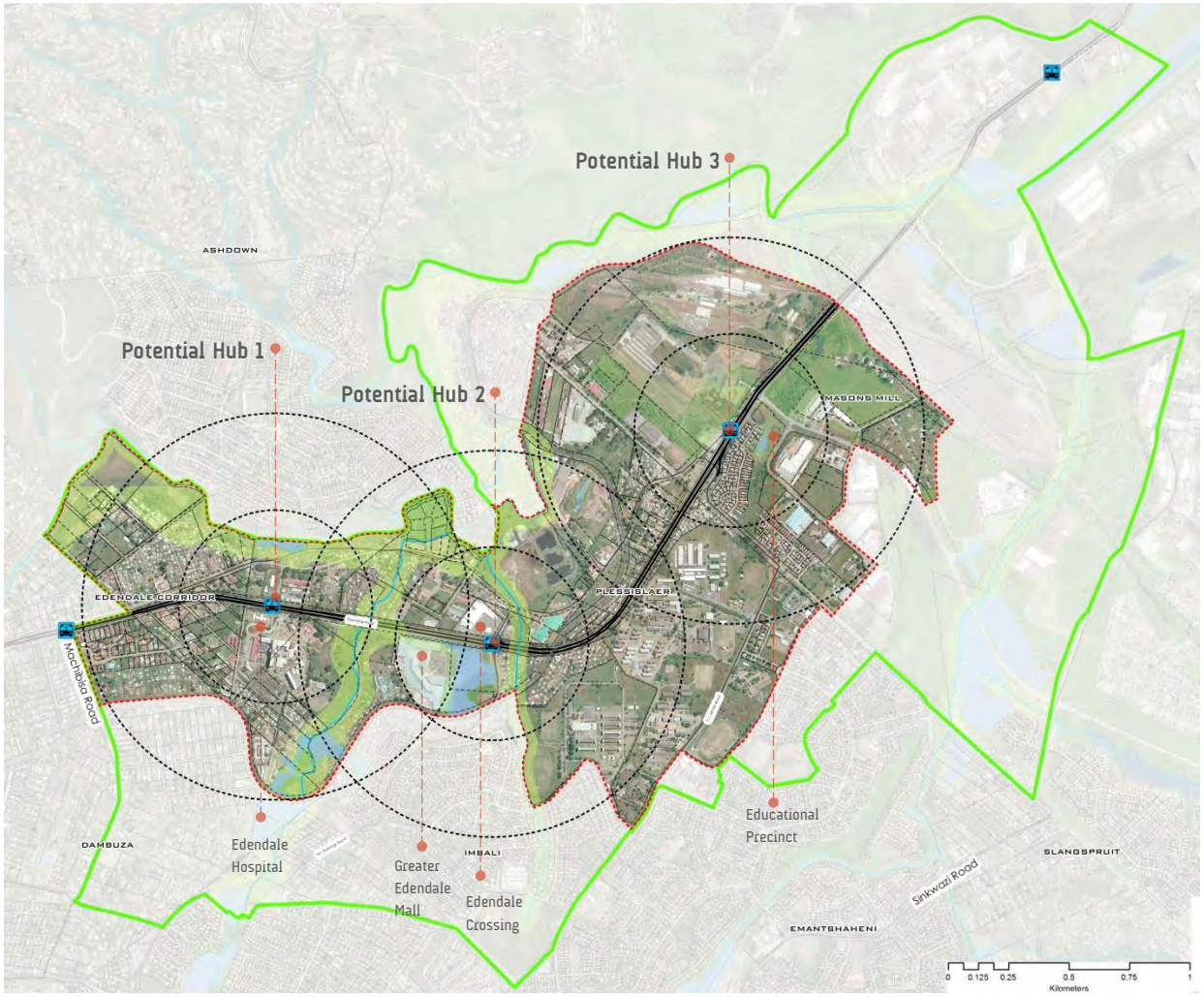
This section of the report aims to confirm the location of the Urban Hub. After considering the findings of the Strategic review, the initial proposed location of the Hub (town centre) needed to be reviewed. Three possible locations of the Hub were proposed and as part of the design process. These positions were evaluated against specific criteria.

The plan to the right shows the location of each of the potential hubs within the Imbali Heroes Precinct. Each possible location has a 400m and 800m buffer around the future BRT bus stations.

Potential Hub 1 is located on the western end of the Imbali heroes precinct with its centre just in front of Edendale hospital along Edendale road.

Potential Hub 2 is located east of this site where the two shopping centres are situated. As in the case of the hospital site, a proposed BRT bus station is located at this location.

Potential Hub 3 is located within the Imbali Heroes precinct however further east of the hospital in the Masons Mill area. Much like the other 2 sites, the centre of this potential Hub is also situated at one of the proposed BRT stations.



Imbali Heroes Precinct

Area for consideration for the establishment of an Urban Hub

HUB LOCATION

2.2 Assessment Criteria

In order to identify the best location of the Hub, all three potential Hub sites were assessed. An assessment matrix was developed and used in the assessment of all 3 potential Hub areas. Each area was given a score of either

- Opportunity (1)
- Neutral (0)
- Negative (-1)

The criteria by which the potential Hub locations were assessed included the following:

- **The Context:** which looked at the potential 'Urban Hub' context and considered the relationship of the 'hub' with the neighbouring land parcels – is there an existing relationship with neighbouring land parcels, are there opportunities for relationships to be formed through specific planning mechanisms or are there no opportunities which exists to create a possible future relationship as a result of existing barriers.

- **Catchment Extent:** this refers to the location of the identified 'Urban Hub' along the Edendale corridor and the local/ immediate neighbour or threshold from which it can potentially draw.

- **Accessibility:** this criteria consists of several components
  1. Current road infrastructure and access;
  2. Future road infrastructure and access:
  3. Pedestrian access and circulation;
  4. Pedestrian flows and concentration;
  5. NMT provision/ access to the 'hub':
  6. Connection/ link to public transport;
  7. Universal access:
  8. Potential for rail (in future) to compliment the 'hub';
  9. Visual access of the area - line of sight to node/ high intensity zone.
- **Land Availability:** this plays an important role in the identification of the potential 'Urban Hub'. The identification of vacant properties, possible urban renewal potential and informal settlement for potential upgrading are a key component.

- **Ownership:** the aim here was to assess if there is municipal or state owned land within 10 minutes/ 800 meters of the potential 'Urban Hub'?

- **Housing Opportunities:** does the potential 'Urban Hub' offer opportunities for increased housing prospect in the form of infill/ densification or redevelopment?

- **Economic Activity:** Does the potential 'Urban Hub' present opportunities for increased Informal trading/ markets, retail service industry and or manufacturing industry? Market forces - are investors likely to invest within the potential 'Urban Hub' based on past trends and existing GLA/ population thresholds?

- **Commuter Comfort:** Does the potential 'Urban Hub' provide a safe and secure environment that contain basic facilities, which are easily accessible to the daily commuters and surrounding community?

- **Environment:** Does the open space system impact (wetlands/ floodplains) on the ability for the potential 'Urban Hub' to develop to its full potential, and are there topographical implications within the 10 minute/ 800 meter radius of the 'hub'? Will potential development within the potential 'Urban Hub' trigger an EIA?

- **Development Proposals:** Does the potential 'Urban Hub' have any previous/ current development proposals or planning interventions which are applicable within the 10 minute/ 800 meter radius of the 'hub'? If so, what type of impact will the proposed development have on the 'Urban Hub'? What future complimentary land uses/ facilities could be established in the 'Urban Hub'?

- **Surrounding Facilities:** Evaluate the potential 'Urban Hub' according to the exposure to schools, health, education or institutional facilities to supplement activity and demand within the area.

HUB LOCATION

2.2 Assessment Criteria

		POTENTIAL HUB 1		POTENTIAL HUB 2		POTENTIAL HUB 3
ASSESSMENT STRUCTURE	EVALUATION	COMMENT	EVALUATION	COMMENT	EVALUATION	COMMENT
THE CONTEXT	0	▪ The grade on topography at the hospital makes access and connectivity challenging. ▪ The Hospital operates as a stand-alone facility. It occupies a large portion of the site within a five minute walking distance and thus fragments the area as people have to go around it to get to the core of the proposed site. ▪ If developed, people will have to navigate around the facility to access and support it. ▪ Edendale road currently fragments the proposed site due to the lack of suitable intersections that link the areas north and south of the road. ▪ The Rail on the southern side of the proposed site provides a hard edge which limits future expansion and connection to the south.	1	▪ Both the Shopping centres are situated at a key intersection and therefore they are in a strategic position. However, they are also hemmed in by environmentally sensitive land on both the eastern and western side. ▪ Apart from the one route through the southern portion of Imbali, there are no other meaningful connections to the shopping centre.	1	▪ The main relationship observed with the proposed hub and its surroundings is through its role as a gateway to the rest of the Imbali Heroes acre precinct. ▪ It is an area where industry meets residential + education.
CATCHMENT EXTENT	1	▪ The catchment will be fairly similar for all areas, with some 600 000 being served by the node in 2050	1	▪ The catchment will be fairly similar for all areas, with some 600 000 being served by the node in 2050	1	▪ As the larger portion of the proposed Hub area is not presently developed, the area currently has a low catchment. ▪ The Masons mill area is an example of this in that it is an area which would better serve as an industrial area.
ACCESSIBILITY	0	▪ The steep topography in the proposed area poses a challenge to the accessibility of the area. ▪ Future improvement of access to the area will be achieved through the development of the IRPTN as Pedestrians will have a dedicated underpass to access the adjacent drop-off facility with ramps, stairs and lift, to access the hospital above. BRT is on lower level and mixed traffic on upper level. ▪ There is potential for improved linkages for public transport. ▪ The existing rail infrastructure presents an opportunity for rail to be used as a mode of public transportation that compliments the hub in the future as it is currently active and used by daily trains carrying timber. ▪ While there is a need for improved NMT routes, the topography and structure of the existing road movement network is awkward and not grid-like and this poses a challenge for users, particularly those on foot as such the existing roads need to be reworked. ▪ Service roads are to be re-aligned. There is encroachment onto properties astride the main road. Culverts are to be extended.	1	▪ Pedestrian flow is not as unrestricted as station in Hub 1 i.e. potentially higher conflict with vehicular traffic and reduced through put of traffic since pedestrians cross the road at-grade. Crossing is 6m wide and is staggered, which improves pedestrian flow and safety. There is direct access to Edendale Mall. There is a retaining wall on the northern edge of the road, which will affect pedestrian circulation. A cycle path is proposed on the east-bound sidewalk (northern edge of main road) ▪ Apart from Edendale road, the core of the proposed Hub area can be accessed through Mount Partridge. ▪ Accessibility of the area has potential to improve in the future with the BRT station planned for the intersection of Edendale and Mount Partridge roads. ▪ The area also currently shows signs of high flows of pedestrian movement. ▪ The Hub can also be accessed via Public transport and NMT. ▪ In terms of rail, there is a railway line running through the area within 5 minutes walking distance of the mall. ▪ There is limited connectivity to the South due to the topography and the rail.	1	▪ The main road link is Edendale road which is supported by pedestrian and cycle lanes serving as an NMT route. Along with this are numerous other road linkages within the area. ▪ The future BRT station and Depot within the proposed area are expected to also boost the level of accessibility of the area in the future. ▪ The location of the proposed Hub automatically puts it at an advantage in terms of access as one would naturally have to go through this area to get to the other areas within Edendale. ▪ Hub 3: For IRPTN, station MS-ST-05 - Pedestrian flow is not as unrestricted as station in Hub 1 i.e. potentially higher conflict with vehicular traffic and reduced flow of traffic since pedestrians cross the road at-grade. Mid-block crossing is 6m wide, which improves pedestrian flow. ▪ There is a retaining wall on the both the northern and southern edge of the road, which will affect pedestrian circulation. ▪ A cycle path is proposed on the west-bound sidewalk (southern edge of main road). Sutherland Road and Herschensohn Road are to be re-aligned. The cycle path swaps to the northern edge of the main road, from Sutherland Road westwards.

HUB LOCATION

2.2 Assessment Criteria

		POTENTIAL HUB 1		POTENTIAL HUB 2		POTENTIAL HUB 3
ASSESSMENT STRUCTURE	EVALUATION	COMMENT	EVALUATION	COMMENT	EVALUATION	COMMENT
LAND AVAILABILITY	0	▪ The proposed area has a very limited number of vacant sites thus there is minimal potential for any Greenfield development in the proposed area. ▪ There is evidence of developed areas west of the Hospital that could possibly be targeted for Urban Renewal initiatives. ▪ The existing river east of the hospital also fragments the area as a result of the legislative requirements for buffers around watercourses which thus restricts any possible expansion of the proposed Hub.	1	▪ The majority of the land within the proposed area is developed and as a result there is very little vacant land available for development ▪ If found to be available for development, the Tannery site will be the main portion of vacant land within the area with potential for development. ▪ More land has been acquired as part of the Council's land acquisition programme as such there is greater opportunity for development within the proposed Hub.	0	▪ There are also limited portions of land along Edendale road that have the potential for urban renewal initiatives that will benefit the Hub as a whole. ▪ The Tannery site, is proposed for Industrial Development and Masons Mill area has been proposed for a future Depot site.
OWNERSHIP	0	▪ While the area does have a large amount municipal and state owned land, most of this land is already developed or environmentally sensitive. ▪ Portions of the proposed area have a number of small residential plots that are inhabited. The higher the number of individual land owners, the greater the challenge of securing land for development. ▪ The northern portion of the site appears to have fewer individual owners thus presenting greater opportunity for acquiring land for development in the area. ▪ Although a large portion of the land in the proposed area is currently privately owned, the municipality has targeted some areas for expropriation.	1	▪ Of the land that is privately owned within the proposed Hub area, most is composed of reasonably large parcels thus implying that there are fewer land owners to deal with should the land be proposed for an alternate use. ▪ The Municipality has however been conducting a Land Acquisition Programme that has seen some land within the proposed hub being transferred.	0	▪ Ownership of the land within the area is divided between the Municipality, Province, Parastatal and Private owners. ▪ Of the land that is privately owned, the larger average size of parcels shows that there would be less individual owners to deal with, should a need to purchase land for development arise. ▪ A number of properties within the proposed Hub along Edendale road have been identified for land acquisition.
HOUSING OPPORTUNITIES	1	▪ The hub possesses high potential for infill housing opportunities mainly in the areas to the west of the Hospital. ▪ This is evident from the number of sites that have not been fully developed in the area. ▪ The municipality has targeted a large portion of the land within the proposed hub, west of the hospital for housing projects.	0	▪ There is very little potential for housing as the majority of the land within the proposed hub area is already serving non-residential uses. ▪ Apart from the Tannery site, there are two small portions east of the mall along Edendale road with existing residential units. These could be earmarked for redevelopment so as to accommodate higher densities in support of BRT in the area.	1	▪ The main areas that have potential for housing development are along Sutherland road and South- western portion of Edendale road. ▪ These two areas are ideal for redevelopment/ densification initiatives and possibly some ground floor retail will help increase the thresholds of the area so as to better support the future BRT system and other developments that may be proposed within the Hub. ▪ One of the main challenges to such an initiative is the multiple residents currently residing on key parcels of land within the proposed Hub area.

HUB LOCATION

2.2 Assessment Criteria

		POTENTIAL HUB 1		POTENTIAL HUB 2		POTENTIAL HUB 3
ASSESSMENT STRUCTURE	EVALUATION	COMMENT	EVALUATION	COMMENT	EVALUATION	COMMENT
ECONOMIC ACTIVITY	0	▪ Space for the introduction of new economic activity is limited as land generally developed. No potential for expansion of economic activity in this node exists. However the Municipality has acquired land North of the hospital which has opportunity for redevelopment.	1	▪ The proposed site currently accommodates a lot of economic activity however there is still potential for the informal/ trading markets to increase within the proposed Hub area. ▪ The recent acquisition of land in the area by the municipality increases economic opportunity in the area.	1	▪ There is substantial space available for redevelopment. However mainly suitable for Industrial and Transport related development. ▪ Due to the existing educational precincts, industrial activity and supporting infrastructure (rail and road) in the area, the proposed Hub has the potential to grow in terms of economic activity. ▪ The future BRT station and depot are expected to also stimulate more activity in the area and this will have positive spin-offs on future economic activity in the area.
COMMUTER COMFORT	-1	▪ As earlier mentioned limited access, topographic constraints and hospital site, fragment the proposed Hub and as a result this has a negative impact on commuter comfort for those who utilise the area. ▪ The area is imposing and not surveillanced due to the fragmented nature of the built-form which makes it unwelcoming, however the BRT may improve this.	1	▪ In terms of commuter comfort, due to the gentle topography of the area, the proposed Hub area is very open, clear and it feels very much a safe environment for its users. ▪ The converse is that the wide reserve of Edendale road does not give the area a human scale feel.	0	▪ Due to the existing pockets of informality within the area, commuter comfort would be described as currently being very low as the area does feel rather unsafe for users. ▪ However considering the future plans for the area in terms of the BRT station, Depot and supporting facilities, the proposed Hub area can be seen as having potential to become a more secure environment with more diverse facilities easily accessible to daily commuters. ▪ The key element to achieving this would be through a combination of both strategic Planning and Urban Design initiatives.
ENVIRONMENT	0	▪ There are environmental constraints associated with this Hub with respect to the floodplain of the Msunduzi River and its tributaires. However, in discussion with Msunduzi Municipality Environmental Manager, he emphasised the importance of keeping development out of the 1:50 year flood line (development can occur within the 1:100 year flood line based on engineering solutions proposed). ▪ The option of boardwalks, cycle tracks and pedestrian bridges (e.g. linking the hospital with the step down facility) can be considered. ▪ Environmental authorisation will be required for developments within 32m of a watercourse (including bulk infrastructure). Authorisation for bulk infrastructure may be required if dimensions are within the traigger values. ▪ Authorisation will be required for rezoning of land from public open space to any other use. ▪ Urban agriculture can be considered in degraded wetland areas/ floodplain areas.	-1	▪ The existing sensitive open space system around the core of the proposed Hub area presents a challenge to any expansion of the Hub to the north and south in the future. ▪ As with Hub 1, there are implications with respect to the Msunduzi River and its tributaries. However, as with Hub 1, development is permitted but outside of the 1:50 year flood line. ▪ The option of boardwalks, cycle tracks and pedestrian bridges (e.g. linking the hospital with the step down facility) can be considered. ▪ Environmental authorisation will be required for developments within 32m of a watercourse (including bulk infrastructure). Authorisation for bulk infrastructure may be required if dimensions are within the traigger values. ▪ Authorisation will be required for rezoning of land from public open space to any other use. ▪ Urban agriculture can be considered in degraded wetland areas/ floodplain areas.	0	▪ There are some MOSS areas identified within the Hub, but development will be permitted in these areas. An environmental authorisation will be required which will define the footprint of the development area as well as the measures required for rehabilitating/ maintaining open space areas. ▪ Note: The Mason's Mill site has been earmarked for development. ▪ Although not directly impacted by the proposed Hub 3, it is worth noting that south of the Hub lies a culturally/ historically significant site, namely the Moses Mabhida Memorial site. To the east of the site is the proposed Hero's Acre site.

2.2 Assessment Criteria

		POTENTIAL HUB 1		POTENTIAL HUB 2		POTENTIAL HUB 3
ASSESSMENT STRUCTURE	**EVALUATION**	**COMMENT**	**EVALUATION**	**COMMENT**	**EVALUATION**	**COMMENT**
DEVELOPMENT PROPOSALS	0	▪ The main development proposal in the area is the expansion of the Hospital. This could possibly lead to the establishment of various aligned medical services being developed within the surrounding areas. ▪ The step-down facility next to Edendale mall presents opportunities to the rest of the proposed hub. ▪ The IRPTN is another future development that will have a positive influence on the proposed area as it will make it more accessible.	1	▪ Apart from the retail centres and Police Stations, there are no new proposals. ▪ The area presents opportunities particularly on land where development is not formalised.	1	▪ The area possesses numerous development proposals that will have multiple benefits on the proposed Hub area and its surroundings. ▪ These proposals include among them, The Educational Precinct, a shopping facility along Herschensonn road, the IRPTN intermodal facility, a commercial development along Edendale road, and Depot site in the Masons Mill and Industrial Tannery site area along with the Nelson Mandela Museum. ▪ It is anticipated that each of these developments will stimulate a great deal of activity as well as possibly change the character and role of the area.
SURROUNDING FACILITIES	0	▪ Presently there are a limited range of facilities within the area. ▪ The ICT Hub is located north of Edendale road. There are no other landuses in the immediate vicinity however, 1 km down the road are the mall and education facilities.	0	▪ There are a number of facilities within this zone and they include, 2 malls, 1 Police Stations. ▪ There is also potential for improved access for the proposed Hub to the surrounding educational and health facilities to compliment the activity within the proposed Hub area.	0	▪ Currently some of the facilities surrounding the core of the proposed Hub area includes the Educational Precinct, GEDI offices, and Nelson Mandela Museum, Moses Mabhida burial site and Industry. ▪ The proposed area has the potential to offer a greater variety and concentration of facilities that are more service oriented and related uses.

HUB LOCATION

2.3 The Town Centre Concept

The table to the right reflects the findings of the analysis that was done on each of the possible Hubs. Although the scoring reflected possible Hub 1 as the least scoring area, it is important to note that this does not mean that this area has limited potential, but rather it is merely not the suitable place to locate the core of the town centre. The three potential hub areas investigated combined, make up the Urban Hub, however only one is suitable to be developed as a core.

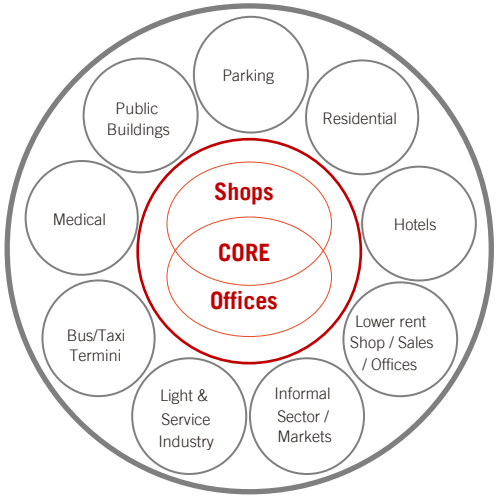
In order to conduct a meaningful and well informed investigation on were to position the Hub, it was essential to establish a firm understanding of the theory behind the location and development of town centres.

Many geographers and planners tend to differentiate the Town Centre into at least two areas, viz. the “Core” and the “Frame”. **Core**-is the highest and most intense retail and office zone. The Core is distinguished as the area containing the “first order” or best retail and office floor space or the most intensively used part of a Town Centre. The primary feature of the core is that it is pedestrian based.

Frame-is the area around the core comprised of several clusters of secondary order stores, lower rent type stores (usually those with large display areas such as furniture and motor town, residential clusters, clusters of light / service industry, civic facilities and transport nodes (such as bus, taxi and rail termini). These Mix of land uses, uses need to managed and directed, integrated. The Frame of a town centre is usually vehicular based.

It is therefore essential to understand the existing context of an area to determine how best to establish a town centre and its relationship with the surrounding uses.

The analysis reflected that the most suitable positioning of the core would be at Hub 2 i.e. the area by the Edendale mall.



CORE : High Rent Shops and Offices (10 min walking radius)

FRAME : Area of Expansion and Transition Edge / shape determined by Roads and Topography

ASSESSMENT STRUCTURE	HUB 1	HUB 2	HUB 3
THE CONTEXT	0	1	1
CATCHMENT EXTENT	1	1	1
ACCESSIBILITY	0	1	1
LAND AVAILABILITY	0	1	0
OWNERSHIP	0	1	0
HOUSING OPPORTUNITIES	1	0	1
ECONOMIC ACTIVITY	0	1	1
COMMUTER COMFORT	-1	1	0
ENVIRONMENT	0	-1	0
DEVELOPMENT PROPOSALS	0	1	1
SURROUNDING FACILITIES	0	0	0
OVERALL SCORE	1	7	6

HUB LOCATION

2.4 Findings and Application to Edendale

WHY HUB 2?

- **Accessible Location:** Hub 2 is highly accessible and currently serves as a landmark and destination oriented zone. The shopping centres have become the centres of influence and serve as a landmark for the people within this area.

- **Land Acquisition:** The recent acquisition of land by the municipality has elevated this area over the other locations as a potential zone for future investment and development.

- **Perception of Scale:** Although a large majority of land is developed and the built form is fragmented throughout the area, the limited parcels of land that are vacant offer ample opportunity for development. The existing development within this zone allows an opportunity for redevelopment and compaction of development.

- **Opportunity to Expand:** Whilst it was acknowledged that the environmental zones restricts and bottles future development at Hub 2. There are opportunities for expansion through future bridge and pedestrian connections e.g, to the Hospital and surrounding areas . The environmental zones should be seen as a positive asset that could be transformed into active recreational zones that add value to the area.

- **Established Frame Uses:** It is remarkable that a majority of the uses that make up the frame of a town centre have already been established or are in the process of being developed. Examples of this include, the Educational precinct, Hospital, Recreation, Cultural activities, Industry and Transport.

  This presents an ideal opportunity to use the core as a means of connecting these supporting uses so they collectively form a town centre for Edendale.

- **Drivers for the Economy:** Apart from the two shopping Centres, the IRPTN will offer additional economic opportunity for concentrated development at Hub 2.

- **Commuter Comfort:** The existing level and potential of commuter comfort in the area is essential to ensuring the vibrancy of the core in the future, as the more comfortable and safe people feel in a space, the more likely they are to frequent it.

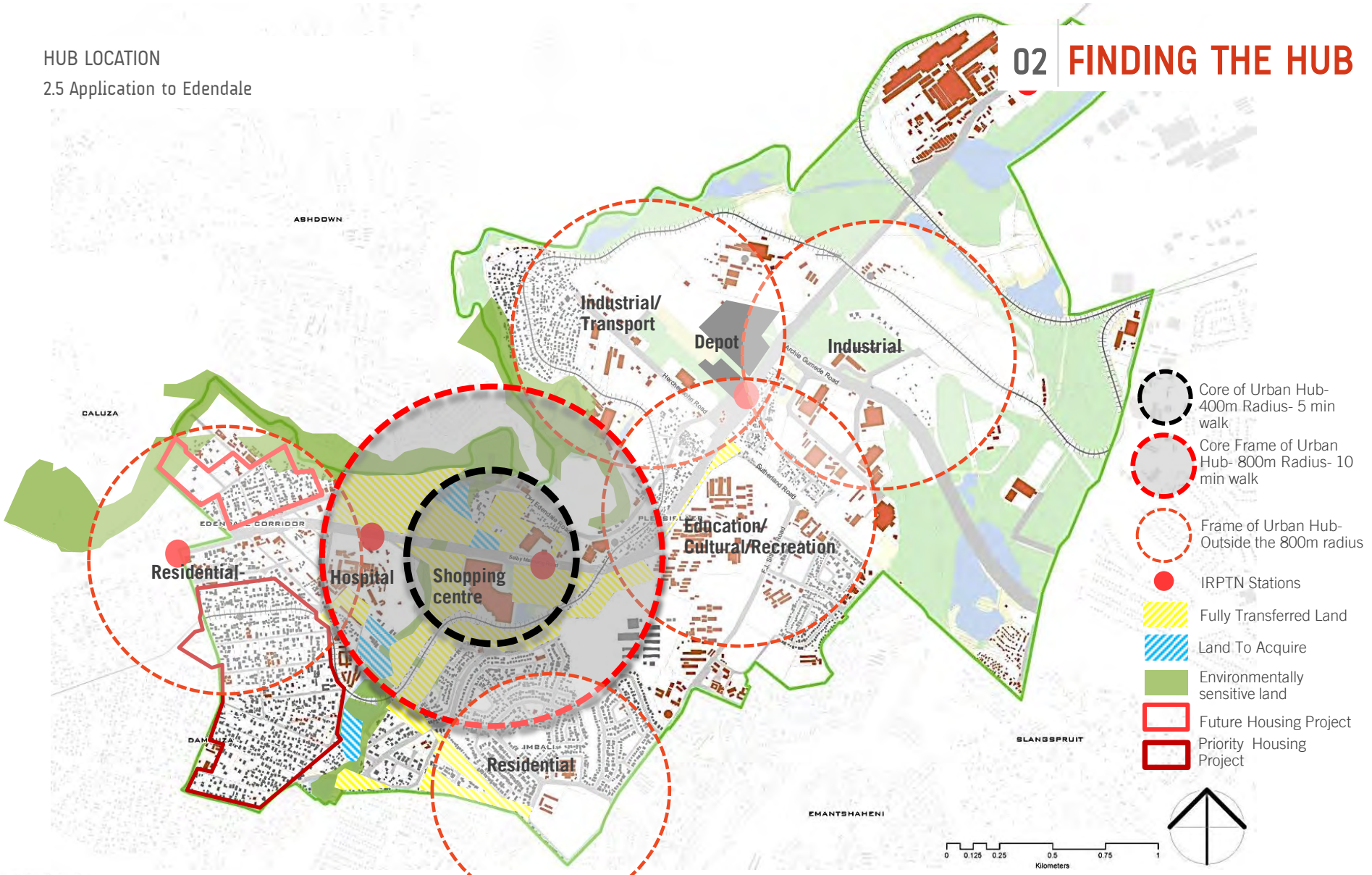
- **Housing opportunities:** The municipality has already earmarked areas for housing development within the frame. This will help promote increased densities especially along the BRT routes.

The plan on the following page reflects the application of the town centre concept in the Edendale context. The core of the centre is depicted by a 400m radius circle which is a 5 minute walk.

Although the core has been identified it must be highlighted that in the case of Edendale, the town centre is not radial but rather has the potential to expand and grow in a linear fashion along the Edendale road. The Precinct Plan design will focus only on the core however, in the longer term, consideration must be given as to how best to improve the relationships between surrounding uses and the core.

HUB LOCATION

2.5 Application to Edendale



03 DEFINING THE HUB

THE HUB

3.1 Section Introduction

The previous section of this report confirmed the preferred location of the urban hub as Hub 2 located in proximity to Edendale Mall. This section aims to define the character and extent of the hub. This will help inform the next section that will be looking at the design of the Hub.

In order to define the character and extent of the Hub, an assessment of the existing transportation needs and infrastructure within the area will be conducted. The existing ecological infrastructure will also be assessed so as to highlight the possible opportunities and constraints it may pose to the Urban Hub.

This section will also include a productive systems assessment which will identify areas of high economic potential along with, the types of opportunities to be pursued within the different areas of the Urban Hub based on GLA. The productive assessment will then provide a guide to Public Private Partnerships (PPP) and investor identification.

A Quality Urbanism assessment will also be conducted to identify the key spatial challenges within the Hub. Issues of ownership and topography as well as commuter comfort will also be covered under this assessment. The bulk infrastructure assessment that then follows, will highlight the existing capacity within the Hub area as well as the possible implications of an increase in the level of usage or load on the existing infrastructure.

Finally a swot analysis at the end of the section will consolidate the findings of each assessment, covering a range of both physical and non-physical issues, to ultimately define and justify the full character and extent of the Hub area.

SUSTAINABLE TRANSPORT

3.2 Movement Network Assessment

ROAD NETWORK- FUNCTION, QUALITY AND CAPACITY

The centroid of the proposed hub is located along the M70. The M70 (Moses Mabhida / Selby Msimang Road / Sitebhisini Road) is the main access from Pietermaritzburg CBD into the study area and is classified as a U2 (urban major arterial, according to RCAM). The road is a four-lane dual carriage. There is a minimum road reserve width of 25m with 14m (minimum) carriageway width and a design speed of 80km/h (Isibuko se Africa Development Planners, Feb 2010).

There is a pedestrian/cycle path on the southern edge on the M70; however this terminates before the proposed hub. Formal sidewalks are otherwise absent however there are formal pedestrian crossings. As part of the IRPTN project, sidewalks are to be provided over the whole length of the BRT route, which runs through the hub. A cycle path is also to be constructed along the BRT route.

Mount Partridge Road /Ndaba Road is a blacktop road and is 15m wide, with a median in places. It has good road signage, sidewalks and pedestrian crossings. It operates at a speed limit of 40km/hr near the M70. Edendale Old Main Road provides access to the northern parts of the study area. It is a blacktop road with sidewalks in places.

Currently, Edendale exhibits a loosely defined road network. While there is some structure in terms of road hierarchy, roads do not conventionally link with each other. Some of the U3 roads (urban minor arterials according to RCAM) link to the M70 in a very convoluted fashion, whereas ideally there should be more direct linkages. This would make land more accessible, promoting the attractiveness for economic development. This would bring about new interactions between economic, educational and administrative entities along the secondary routes. A resultant improvement in levels of accessibility would be achieved while a potential reduction in pedestrian-vehicle and vehicle-vehicle conflicts could improve safety with a lower probability for collisions.

There is a proposed road (Referred to as “Route 8” (Isibuko se Africa Development Planners, 2010)) which will link Mount Partridge Road/Ndaba Road in the north with Willowfountain Road/, FJ Sithole Road in the south. This road will provide more direct access to the lower Imbali and surrounding informal residential areas, and would likely result in reduced travel times. However, it does pose a constraint in the form of the railway line which will be a level crossing.

Approximately 42% of roads in Edendale are unpaved (Msunduzi Municipality’s Road Network Infrastructure Asset Management Plan, 2008 in CITP, 2011). Of the roads assessed, 30% are poor to very poor. All the roads described as “very poor” are gravel roads. According to the Msunduzi Annual Report 2012/2013, the city has made an effort to address this, however most new roads and upgrades are funded from external sources.

CONNECTIVITY, MOBILITY AND ACCESSIBILITY:

In terms of connectivity and mobility, the proposed hub is well positioned along a major arterial which connects the hub to the Pietermaritzburg CBD in the east and Vulindlela, the R617 and Bulwer in the west. Challenges may arise in catering for pedestrian demand in the context of mobility.


FUTURE BRT STATION
URBAN HUB CENTROID
Zone 1
A. COMMUNITY HALL
FUTURE BRT STATION
B. EDUCATION
Zone 2
Zone 7
EDENDALE
HOSPITAL
C. HOSPITAL
400m Buffer
(5min walk)
GREATER
EDENDALE
MALL
D. EDUCATION
Zone 3
E. CLINIC &
E. EDUCATION
Zone 6
Zone 5
Zone 4
800m Buffer
(10min walk)

SUSTAINABLE TRANSPORT

3.2 Movement Network Assessment

Table 1: Pedestrian Accessibility to Strategic Land-Uses within the Urban Hub

Residential Zone	Population in Stats Area	Population in Zone	Zone Population as % of Stat Population	Walking Travel Time from Centre of Residential Zone to Location of Municipal/Government/Social Service (Minutes)				
				A: Community Hall	B: Education	C: Hospital	D: Education	E: Clinic/ Education
Zone 1	4249	296	7%	10	13	27	25	40
Zone 2	2795	298	11%	6	4	24	22	31
Zone 3	4878	422	9%	14	19	23	0	44
Zone 4	4974	332	7%	25	23	21	35	11
Zone 5	4249	38	1%	18	17	15	29	21
Zone 6	4249	66	2%	18	17	19	33	25
Zone 7	4249	113	3%	11	9	20	27	27

Assumption: Population is evenly distributed across zone / statistical area

Table 2: Vehicle Accessibility to Strategic Land-Uses within the Urban Hub

Residential Zone	Population in Stats Area	Population in Zone	Zone Population as % of Stat Population	Vehicle Travel Time from Centre of Residential Zone to Location of Municipal/Government/Social Service (Minutes)				
				A: Community Hall	B: Education	C: Hospital	D: Education	E: Clinic/ Education
Zone 1	4249	296	7%	2	3	5	5	7
Zone 2	2795	298	11%	1	0.5	4	4	5
Zone 3	4878	422	9%	3	4	4	0	7
Zone 4	4974	332	7%	5	4	4	6	2
Zone 5	4249	38	1%	3	3	2	4	3
Zone 6	4249	66	2%	3	2	3	5	4
Zone 7	4249	113	3%	1	1	3	4	5

Assumption: Population is evenly distributed across zone / statistical area

SUSTAINABLE TRANSPORT

3.2 Movement Network Assessment

With regard to accessibility, travel times to the major centres mentioned above are facilitated by higher travel speeds and improved mobility on the M70. Within the hub, an accessibility assessment was carried out by grouping residential areas within the hub into 7 zones and calculating travel time to land-uses that attract people i.e. community halls, educational institutions, hospitals and clinics. Sports facilities were also considered, however, no facilities were found within the 800m buffer zone. From this assessment it is noted that zone 4 has the lowest levels of accessibility from all residential zones within the area considered.

NMT:

An accessibility assessment was carried out by calculating travel time to the centroid of the urban hub from each of the defined residential zones. Assuming that the NMT routes would be Class 2 or 3 (within the road reserve) rather than Class 1 (through open spaces), the shortest pedestrian route between the zones and the hub centroid is illustrated on the Movement Assessment Plan. Within the hub, most walking trips would be generated by Zone 3, assuming that all zones are equally attracted to the centroid of the hub.

In terms of provision of sidewalks, lighting, safety and security measures, areas to the north and south of Edendale Road would need to be upgraded. Although more routes converge from the north, the sum of the population from the north and south is about equal.

PUBLIC TRANSPORT:

A 500m buffer was created around the existing minibus and bus public transport routes to establish coverage. The preceding plan shows that most of the 800m buffer zone around the hub centroid is covered by public transport.

The main difference with the implementation of the IRPTN is that the coverage is further increased by new routes along:

- Edendale Old Main Road, which heads northwards towards Zone 1; and
- Mount Partridge Road / Ndaba Road, which heads southwards towards lower Imbali.

RAIL:

The railway line runs in an east-west direction across the study area. Stations, though, are not well connected to any of the main roads or to any hubs or secondary activity nodes. The line is not used by commuters and is solely used for the transportation of agricultural products.

Table 3: Pedestrian Accessibility to Centroid of the Urban Hub

Residential Zone	Population in Stats Area	Population in Zone	Zone Population as % of Stat Population	Walking Travel Time from Centre of Residential Zone to Centroid of Hub (Minutes)
Zone 1	4249	296	7%	24
Zone 2	2795	298	11%	16
Zone 3	4878	422	9%	21
Zone 4	4974	332	7%	11
Zone 5	4249	38	1%	5
Zone 6	4249	66	2%	10
Zone 7	4249	113	3%	11
Assumption: Population is evenly distributed across zone / statistical area				

ECOLOGICAL INFRASTRUCTURE

3.3 Green Structure Assessment

A centrally located hub has been defined for future development and growth within the Greater Edendale area. There are various influencing factors which will contribute towards determining the most appropriate configuration/ plan for development, the Ecological Infrastructure (Green Structure) is one of these.

As per the Urban Network Strategy Report, the Ecological Infrastructure refers to those areas that are untransformed or where people can be in contact with the natural environment, whether it is through formally or less formally protected areas, or even “green” spaces within a city structure; features that provide a “green lung”, balancing the socio-economic needs/ provisions of development.
This section of the report identifies the Ecological Infrastructure within the hub and provides an overview of the implications of development with respect to the area.

ECOLOGICAL ENVIRONMENT
The area of the proposed hub includes a number of ecologically sensitive areas, specifically the Kwa-Pata Stream in the western portion of the site, shrubland and old grasslands in the north, and wetlands to both the north and south of Edendale Road. A large proportion of these areas has, however, been impacted by development or transformation and would require rehabilitation to restore their functionality.

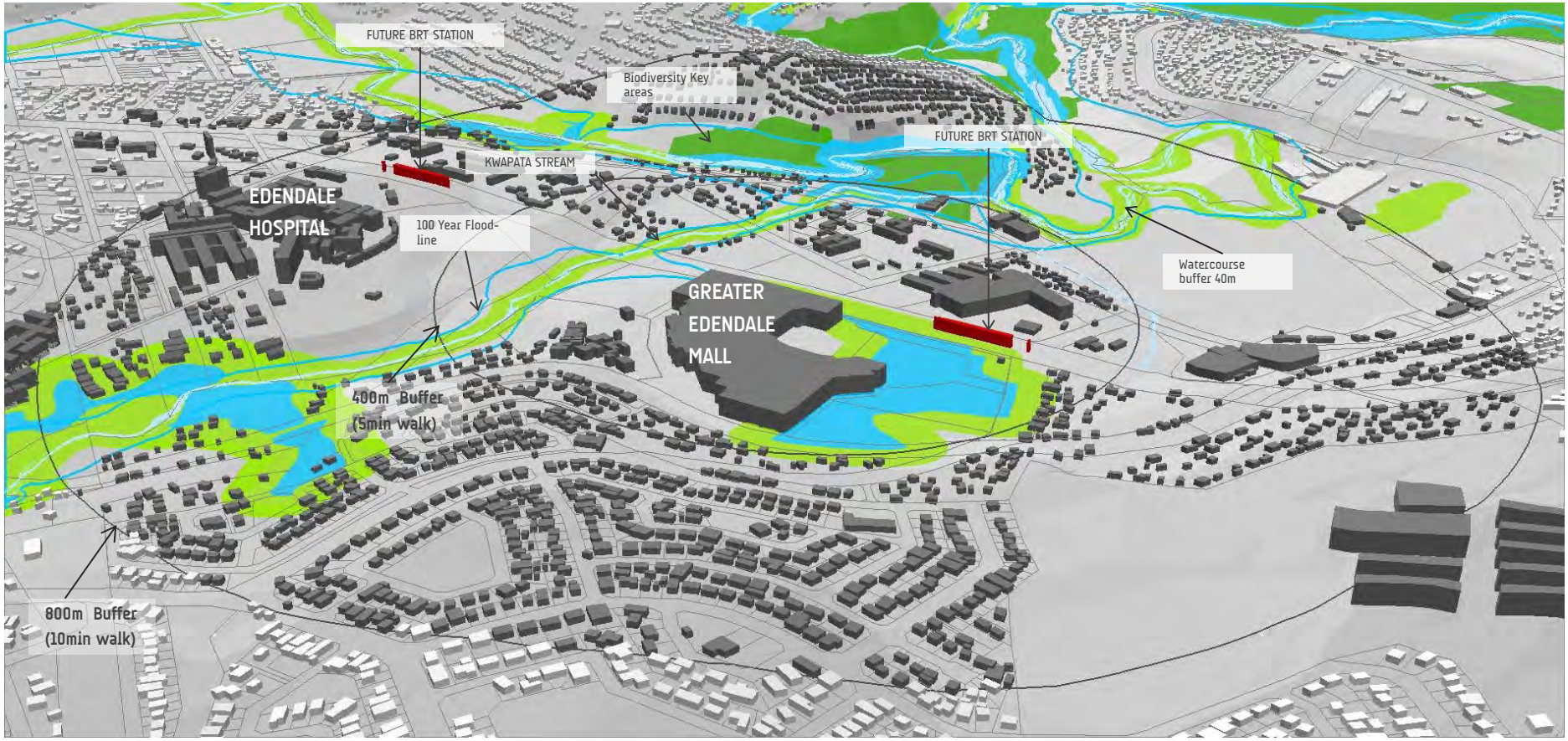
The precinct plan for the proposed hub has provided for the establishment of public open space areas which would coincide with the areas mentioned above but also provide for additional areas that would create ecological linkages across the hub and integrate the ecological infrastructure into the fabric of the hub itself.

The ecologically sensitive areas should be buffered from development by an appropriate distance, i.e. generally 40m for a wetland and outside of the 1:50 year floodline of a river. This would not preclude the use of these areas for the establishment of walking and/or cycle tracks, but the means of establishment may need authorisation.

HERITAGE/ CULTURAL ENVIRONMENT
While there are no sites of historical significance within the hub, the area does fall within the zone of historical and cultural significance. This does not preclude development from taking place, however, it may present opportunities for culturally/ historically related development within the hub and contribute to the “feel”/ aesthetics of the hub.

AGRICULTURAL POTENTIAL
The hub falls within an area of high agricultural potential. While the majority of the hub is earmarked for development, there are areas of open space, therefore this potential need not be completely lost as the possibility of urban market gardens could be explored. The establishment of market gardens would not only provide a food source and small economic base, but also encourage the establishment of active open spaces within the hard development associated with a town centre.

IMPLICATIONS FOR THE HUB DEVELOPMENT
Riparian areas are viewed as the Municipality’s most sensitive and important habitats with the highest protection status and hence there should be no net loss of these areas. The Municipality’s Environmental Department does not support interference with riparian areas and in particular “hard engineered” canalisation.


FUTURE BRT STATION
Biodiversity Key areas
FUTURE BRT STATION
KWAPATA STREAM
EDENDALE HOSPITAL
100 Year Flood-line
Watercourse buffer 40m
GREATER EDENDALE MALL
400m Buffer (5min walk)
800m Buffer (10min walk)

ECOLOGICAL INFRASTRUCTURE

3.3 Green Structure Assessment

However, depending on the type and extent of canalisation proposed and how this may impact negatively on the ecological integrity or functionality of the system, it does remain a viable option. It would, however, require authorisation as per the EIA regulations of the National Environmental Management Act, Act No. 107 of 1998 (NEMA). The authorisation process would require a greater level of detail in order to ensure a robust assessment of the canalisation and its effects and would need to provide measures to rehabilitate and enhance the riparian area to ensure no net loss. The canalisation would also require a Water Use Licence under the National Water Act (Act No. 36 of 1998) regulations.

While development within the 1:100 year floodline is not prohibited, development within the 1:50 year floodline should not be permitted. Given the potential effects of climate change and the predictions for more frequent, greater intensity flood events, the risks to developments within the 1:50 year floodline become more significant. With respect to the Kwa-Pata Stream, the proposal of canalising the stream will have up- and down-stream implications which would need to be taken into account in determining the floodlines.

As with riparian areas, wetlands are viewed as highly important ecosystems which provide a number of goods and services. The wetlands within the hub should be buffered from development and rehabilitated to improve their functionality. An environmental authorisation (as per the NEMA) will be needed for development to proceed either within the area or within 32m of the wetlands. The authorisation process will define the development footprint and should prescribe means for the safeguarding of ecologically sensitive areas (whether this is reducing the development footprint and/ or rehabilitating the area, providing offset areas, etc. would be determined through the EIA process). Apart from the need for authorisation under NEMA, the requirement for a Water Use Licence under the National Water Act (Act No. 36 of 1998) regulations will also need to be determined for developments proposed within a watercourse or particular activities within 500m of a wetland. Canalisation of the stream, the establishment of bridges across the Kwa-Pata Stream linking the western portion of the hub to the centre are two such examples that would trigger the need for a licence.

With respect to the grasslands and shrubland, these areas have been largely transformed and would require rehabilitation. The proposed to establish these areas as public open space would provide the public with an opportunity to access the ecological infrastructure and should be done in an environmentally sensitive manner. Development within key ecological areas will require environmental authorisation.

Almost the entire hub has high agricultural potential which promotes opportunities for the establishment of urban market gardens and/ or permaculture. The presence of the zone of historical and cultural significance may present opportunities for culturally/ historically related development within the hub and contribute to the “feel”/ aesthetics of the hub.

SOCIO-INCLUSIVITY & PRODUCTIVE SYSTEMS

3.4 Productive Systems Assessment

The Edendale Area is home to a large section (nearly a third) of the Msunduzi Municipality population, generally representing the poorest residents of the Municipality. With the objective of this initiative in mind the findings from the assessment of the socio-economic, local planning and LED context should inform the planning and urban design activities with a view to facilitate economic development in Greater Edendale, but more specifically to guide future economic development in the Imbali Hub.

The Status Quo assessment confirmed the desperate need for economic development, development capacity building and employment in the Imbali area. From a spatial location perspective, considering specifically accessibility and linkages, it is evident that economic development efforts should be focused in the Imbali Hub if maximum impact is to be achieved. Once this node is an established economic hub the development of decentralised neighbourhood nodes will become an extension of this hub.

THE VISION

The proposed productive systems / economic development vision for the development of the Imbali Hub is thus:

To establish Imbali as a vibrant economic node and town centre serving the population of Greater Edendale and Vulindlela as a node where economic, employment and socio-economic opportunities can be accessed. With this in mind the Imbali Hub is the preferred location for public and private sector investment in Msunduzi.

In order to achieve the above vision, the following the objectives are to use the development of the Imbali Hub to:

- Transform the spatial economic structure of the Msunduzi Municipality:
- Attract / re-direct investment to the Edendale area of Msunduzi; and
- Establish and build a vibrant local economy focused on trade, commerce and manufacturing in previously disadvantaged areas.

THE STRATEGY

It is suggested that the future social, economic and spatial vision for the Imbali Precinct should be to make it the primary investment, skills development and job creation node in the Msunduzi Municipality. The three strategies to be implemented in order to make this a reality are discussed below.

1) **Facilitate appropriate investment in the Imbali Hub**
2) **Actively support and grow the informal economy**
3) **Promote the building of a diversified manufacturing sector**

STRATEGY 1: FACILITATE APPROPRIATE INVESTMENT IN THE IMBALI HUB

The Imbali Hub must be established as the primary commercial investment destination within the Msunduzi Municipality with the objective of this investment being the complete spatial transformation of the colonial / apartheid Pietermaritzburg. This will require:

- **Public sector investment:** The public sector investment will include a government precinct providing an alternative location for provincial government offices not appropriately accommodated in Pietermaritzburg, a government service centre providing local and other government services to the people of Edendale and Vulindlela and publicly funded space for the

development of the informal economy (see Strategy 2)

- **Private sector investment:** The private sector investment will expand the existing retail offering, also providing support for informal retail activities, and will build on providing a range of social, business and financial services to the people of Edendale, Vulindlela and the larger region, services currently only accessed in the Pietermaritzburg CBD.

STRATEGY: 2 SUPPORT AND GROW THE INFORMAL ECONOMY

On a national and provincial level there is currently acknowledgement of the important role of the informal economy in terms of job creation and economic development. The Imbali Hub, located in the Provincial Capital, has the potential to become the 'laboratory' and 'showcase' of a truly integrated formal and informal economy where practitioners will develop and research approaches.

In order to achieve this the future redevelopment of the Imbali Hub will Create sufficient well-located space for the informal sector to thrive: At present space dedicated to the development of the informal economy is nearly non-existent. A range of spaces and opportunities must be created through planning, as well as public and private sector investment. The spaces to be created should include

- Trading space in close proximity to movement generators, e.g. stations, ranks, shopping centres, government facilities,
- Shelter and access to infrastructure for a range of small scale service and manufacturing industries,
- Larger market spaces for the establishment of both informal and formal markets.

Provide support for the development of business in the informal economy: At present business support is focussed on the formalisation of the informal sector rather than providing opportunities for businesses to grow within the informal economy. A range of business support and development services are to be provided aimed at developing informal economy businesses and, where appropriate, capacitate these businesses to formalise.

STRATEGY 3: PROMOTE THE BUILDING OF A DIVERSIFIED MANUFACTURING SECTOR

The larger Imbali area has historically been home to a number of manufacturing industries. A small number of large industries of national significance are still located in the area. In order for Imbali to continue to grow its role as an employment hub these industries must be supported and manufacturing activities in the larger area must be intensified.

The intensification of manufacturing activities will include:

- Improving the urban environment to retain and grow existing industry;
- Through strategic investments and incentives attract new industry to the area; and
- Providing facilities to facilitate small / informal industry development (linked to Strategy 1 and 2 above).

ESTABLISHING JOB CREATION TARGETS

THE JOB CREATION TARGETS:

In line with the vision and proposed strategies the land use implications for the future development of the Imbali Hub is to be considered. The basis for the proposals reflected on is the need to focus on job creation. For this purpose specific targets are proposed:

- Edendale workforce employment to be increased from 30% in 2011 to 50% by 2020 – this translates to an additional 28 965 people to be employed
- Vulindlela workforce employment to be increased from 23% in 2011 to 40% by 2020 – this translates to an additional 16 097 people to be employed

The target is thus for 45 061 additional employment opportunities to be created in the Imbali catchment.

MEETING THE JOB CREATION TARGETS

It is proposed that a minimum of 25% of the additional employment opportunities to be created for the Edendale and Vulindlela area should be located in the Imbali Hub. In order to achieve this the following additional land use allocations are to be considered:

The above interventions will allow for an additional 6 476 jobs (formal and SMME sector opportunities) to be created, only just more than 50% of the proposed target. The land available within Imbali is limited and the potential of accessing the required land is limited. This suggests that redevelopment of already developed land for a range of uses to ensure better land utilisation will have to be considered.

TABLE: CREATING FORMAL SECTOR JOB OPPORTUNITIES IN IMBALI

JOB SECTOR	Nett Area (ha)	Additional GLA	Area per job (m2) – see note	Additional jobs
Specialist retail	1	5,000	22	227
General retail	8	40,000	70	571
Motor trade	1	5,000	80	63
Offices	10	50,000	19	2632
Industrial	20	100,000	75	1333
TOTAL ADDITIONAL GLA / JOBS	40	200,000		4826

Note: "Area per job" figures drawn from work by Jeff McCarthy in eThekwini in 2009

TABLE: CREATING SMME SECTOR OPPORTUNITIES IN IMBALI

SMME OPPORTUNITIES	Number	Unit size (m2)	Additional GLA (m2)	Additional jobs
Incubator units for small business	50	40	2,000	150
Trading stalls for informal business	400	10	4,000	400
Market space		5,000	5,000	500
Retail space for local business	200	50	10,000	600
TOTAL ADDITIONAL GLA / JOBS			21,000	1650

CURRENT RETAIL GLA ACCESSED BY EDENDALE / VULINDLELA POPULATION

AVAILABLE RETAIL	GLA (m2)	% GLA for Study Area Population	Existing GLA (m2) available
Retail GLA Edendale Existing	37,700	90%	33,930
Retail GLA CBD	?		
Retail GLA CBD Centres	76,648	50%	38,324
Liberty Mall GLA	55,973	10%	5,597
EDENDALE AVAILABLE GLA			77,851

SOCIO-INCLUSIVITY & PRODUCTIVE SYSTEMS

3.4 Productive Systems Assessment

It must be accepted that if the space for economic development cannot be provided for, the job creation targets for the Imbali Hub will not be met.

LAND USE IMPLICATIONS OF VISION

Whereas the previous section indicates what must be done if job creation targets are to be met, the following considers sector approaches to land use planning in the Imbali Hub that will contribute to the economic development vision for the Hub being realised.

RETAIL SECTOR LAND USE

Over the past 5 years two new retail developments in the iMbali Hub came on line. With this in mind the table on the preceding page reflected the current retail facilities that can be accessed by people residing in the catchment for the Imbali Hub.

It is estimated that more than 77 000m2 of retail space is currently available / dedicated to the population of the Edendale / Vulindlela catchment.

Assuming that the majority of the 361 582 people residing in this catchment falls within the LSM 5-6 (in reality the people are in the LSM 1 to 10 categories, but LSM 5-6 is viewed as an average), and applying a standard of 0.21 m2 of retail space for this LSM category (2009 standards proposed by Prinsloo for KZN), it is suggested 75 932 m2 of retail space can be warranted for the Imbali catchment. It is then suggested that retail space for the catchment is already over supplied.

It is recommended that a further 50 000 m2 of retail space is to be provided for within the Imbali catchment, i.e. a doubling of existing retail space. This will accommodate future population growth and then also changing retail patterns (e.g. if half the people currently making use of 'outside' retail facilities can be drawn to the area). Over time the number of people accessing retail in the Pietermaritzburg CBD will be greatly reduced with these people being serviced in the Imbali Hub specifically and the larger Edendale catchment in general. The suggested additional retail space also assumes that residential densification will be prioritised in the Imbali Hub and immediate surrounds.

OFFICE SECTOR

The current office sector in the Imbali area relates primarily to government departments and existing industries in the area. The sector is therefore almost non-existent and a growth projection on the future development of the sector is not possible or will not provide accurate estimates. It is, however, suggested that the growth of the office sector is necessary in order to increase access to employment opportunities and to raise the profile of the Imbali Hub.

A total of 50 000 m2 of office space is suggested as a target for office use in the Imbali Hub. This target is assuming that Imbali develops into a strong retail and service node serving the population of Edendale and Vulindlela. It is further assumed that the node will become an alternative destination to the Pietermaritzburg CBD.

SOCIO-INCLUSIVITY & PRODUCTIVE SYSTEMS

3.4 Productive Systems Assessment

The additional 50 000m2 of office space will include:

- The substantial redevelopment and expansion of existing government offices in the Imbali node possibly within a major Thusong Centre complex;
- The introduction of private and public sector office space in multi storey, multi use buildings within the Imbali node; and
- The establishment of a new Provincial Government Precinct in Imbali (in line with the Radical Economic Transformation focus of Provincial Government).

In order to achieve this, current land use configurations will have to be radically adjusted to accommodate this sector.

MANUFACTURING SECTOR

An additional 100 000m2 of industrial space is proposed for the larger Imbali area in order to ensure the area is making a more substantial contribution to job creation. This development will, however, be located on the periphery of the demarcated hub. Space on the periphery of the hub is also limited, but it is believed that this expansion can be achieved through:

- The revitalisation of existing industrial areas;
- The development of undeveloped industrial land;
- The redevelopment (better utilisation) of specific industrial land parcels.

Considering the requirement of modern industry it will remain a challenge to attract industry away from the N3 corridor to an area such as Imbali. In this regard ensuring easy access to the N3 will be important, as well as providing incentives for industries to locate in this area. This is currently being addressed in the Msunduzi SDF.

SMME SECTOR

The provision of adequate space for the SMME and informal sector is viewed as key to the Imbali area achieving its development and job creation targets. In this regard the reservation of space for the following proposed developments is recommended:

- Incubator units for small businesses;
- Trading stalls for informal businesses;
- Market space; and
- Retail space for local businesses.

The incubators for small businesses can either be new developments on public sector land or the redevelopment of existing abandoned public or private sector facilities. Proposals already exist for converting a closed down Training Centre of the Department of Education, located on the periphery of the hub, into such an incubator.

The trading facilities, i.e. informal sector stalls, market and retail space, can be provided in a variety of ways, e.g.

In unused road reserves formalising existing activities of the informal sector but improving facilities;

- In parking areas or in close proximity to any new private sector retail development – the planning for the informal sector should be integrated into any retail / commercial / office development before the approval of land use rights is considered by Council;
- A requirement be placed for the making available of a percentage of retail space for local businesses in any formal retail development; and the establishment of dedicated periodic market / multi use space centrally located within the Imbali node.

QUALITY URBANISM

3.5 Quality Urbanism Assessment

TOPOGRAPHY/ ENVIRONMENT

The natural features such as the topography and Environment are critical in the planning and development of an area. Topography influences commuter comfort as a steeper grade makes it challenging for commuters to navigate, particularly the aged and disabled. Steep topography becomes a natural divide between the flatter portions. Topography also plays an important role as it can reinforce view-sheds of landmark buildings or areas.

In the past, the natural environment was used as a spatial tool to separate communities. Today, legislative buffers along natural systems seemingly makes integrative planning more challenging however with the appropriate response, these systems can add more value to a development and the well being of a community without effecting its ecological integrity.

Based on the above, the plan on the right identifies the topographic and environmental constraints and opportunities of the site. The map on the following page shows an 800m walkability buffer which highlights the focus area under assessment.

The area were Edendale Mall and Edendale Crossing Mall are located is the flattest areas of the site. As such it is highly visible and desirable from a pedestrian accessibility and comfort view. The hospital site on the other hand is located at a higher elevation which makes it difficult for pedestrians to access. This is clearly indicated in Image 3 which shows the elevation of the hospital in comparison to the Hub.

An important consideration in identifying the Town Centre core is that it needs to be a place that is easily visible, which is able to attract passing motorists and accessible to the people by foot. The current location is highly visible and is generally at a reasonable grade for people to walk (See Image 1, 2 and 3).

The existing green belt forms a frame, “green belt” around the proposed Hub. This would seem as if it would prevent the Town Centre from expanding. However it is important in the planning and design of the Hub, to establish ways of bridging across the green divide without impacting on its ecological function. By doing this, the town centre can over time expand beyond these boundaries and develop in a linear fashion. In this way, a better relationship between the existing uses can be forged.

Considering the above, it is important that the design of the Hub takes advantage of the natural topography by locating the core of the hub on land that is flat, visible and in essence easily accessible. The design must also ensure seamless integration of the natural environment into the development without in anyway compromising its natural ecological function.

IMAGE: 1

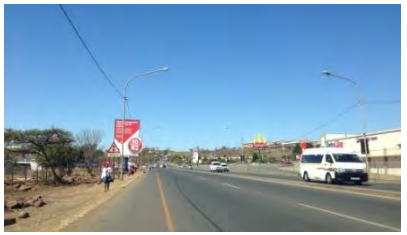


IMAGE: 2

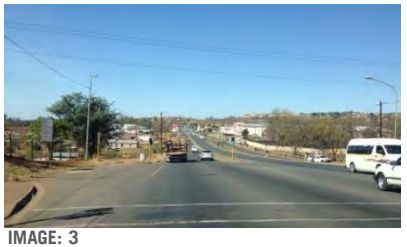
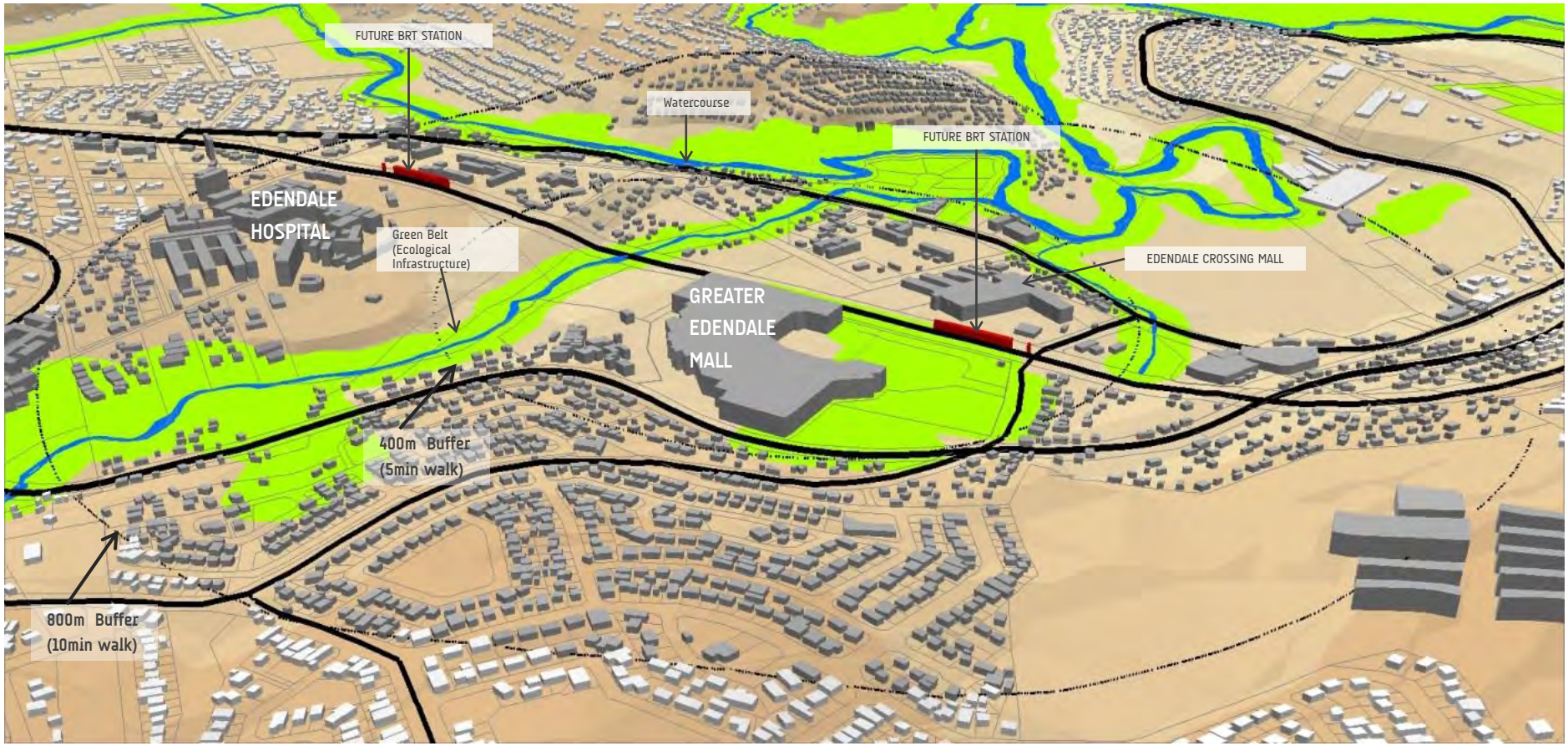


IMAGE: 3

IMAGE: 4

03 DEFINING THE HUB



QUALITY URBANISM

3.5 Quality Urbanism Assessment

MOVEMENT

An efficient and effective movement network is critical, especially when establishing a Town centre. The success of any town centre is dependent on how frequently and easily people are able to access the centre either by car or by foot. It is important to understand the current movement patterns or trends i.e. both people and cars in order to make an informed decision when planning for a future Urban Hub.

The plan to the right reflects the main movement network within the Hub Area. Edendale road is the main mobility route within the area. Being a main road with a large reserve, it serves a range of users that include, pedestrians, private motorist, public transport taxi's and soon will accommodate a proposed BRT system. However the scale of the road is of concern. With a road reserve of 35meters (42meters including the 7meters slip lane along Edendale mall), Edendale road fragments the areas north and south of the road. In order to establish a town centre that is vibrant and has a human scale/ pedestrian character and quality, the relationship of land parcels across this road is critical. The scale of Edendale road currently poses challenges to this integration and will continue to do so unless a traffic calming or a suitable urban design response/ solution can be sort to connect these areas seamlessly.

The Edendale road and Mt Partridge intersection is an area of high convergence within the Hub. This is because of the high level of commuter activity taking place at the intersection, as people access public transport as well as the malls at this intersection. It is anticipated that this area will become even more active in the future when the BRT comes on line.

The plan reflects the proposed positioning of two BRT stations as part of the future IRPTN project. There is a 700meter distance between the two bus stations which equates to approximately a 10minute walk. This reflects that the area will continue to be highly accessible and vibrant in the future.

The core of the Hub is meant to be an area that is very vibrant and easily accessible to its users. The area around the 2 shopping centres is already vibrant and has the potential to become more intense with an increased investment and development of this area.

The plan on the following page also reflects a railway line. The strategic review report highlighted the minimal use of the rail. However from a spatial point of view, the rail can be seen as a physical divide that separates the core Hub area from the neighbouring residential area. The rail should be seen as an opportunity to stitch the areas south of Edendale road with the future activities planned at the Hub by looking at innovative ways of making the rail more attractive for tourism led initiatives as well as bridging across the rail at strategic points.

Other links servicing the Hub area include Old Edendale road which runs parallel to Edendale road thus allowing access to the northern portions of the Hub area. Mt Partridge links the southern portion of the Hub areas to the core area. It is important to note that there are a number of North – South as well as East – West pedestrian movement links within the study area. However it is not necessarily along formalised movement routes. As a result the development of the Hub would need to incorporate these existing patterns of pedestrian movement links.

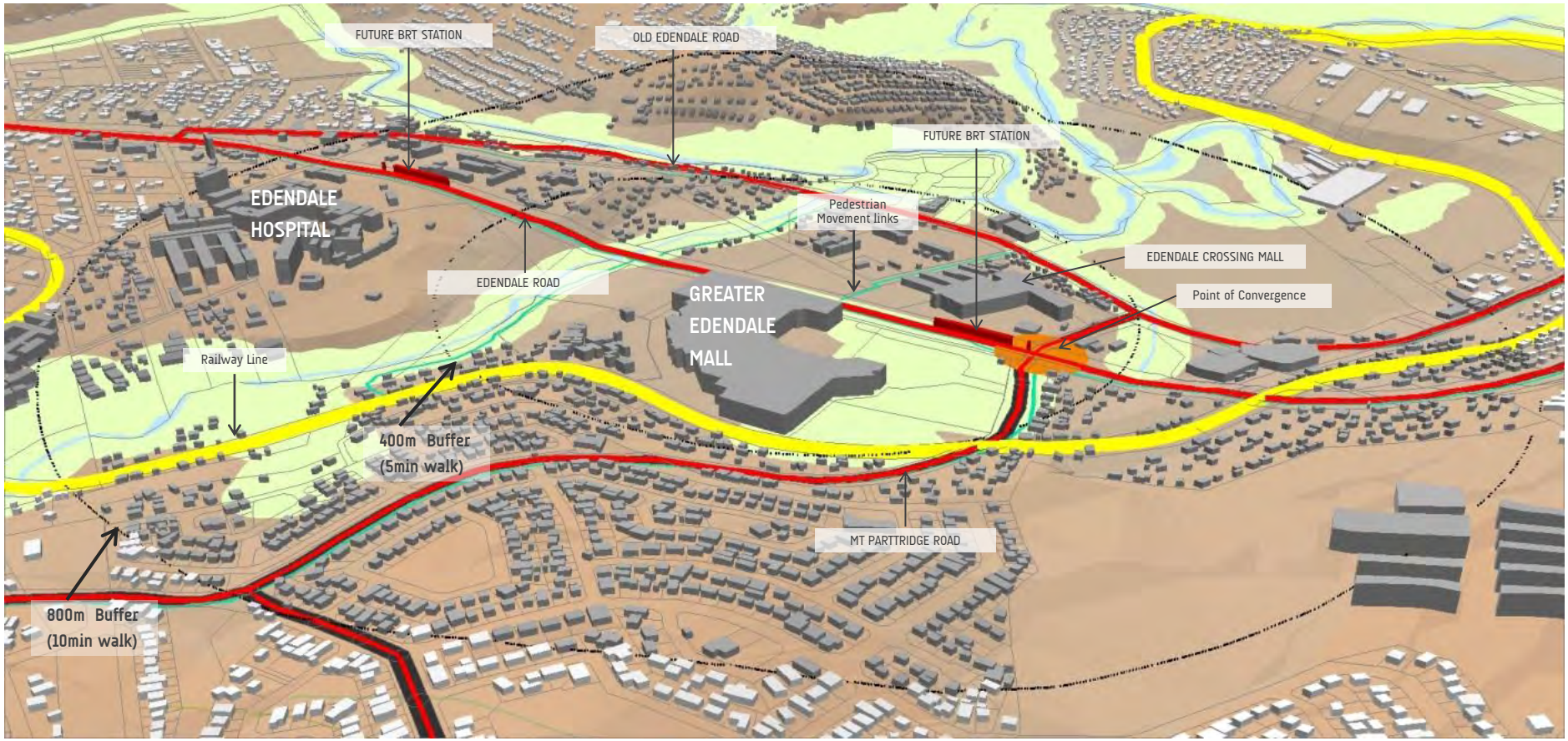
The images to the below reflect some of these frequented pedestrian routes in the area.

The need to improve on the existing movement lattice as well as formalise and improve on the desired pedestrian movement in the area is evident. The challenge is to create a permeable structure that allows for the future expansion and development of the hub, that promotes new opportunity and ultimately one which connects with the core uses within the Edendale area.

IMAGE: 1

IMAGE: 2

03 DEFINING THE HUB



QUALITY URBANISM

3.5 Quality Urbanism Assessment

LAND USE AND EXISTING FACILITIES

Mixed land uses are one of the key elements of quality urban environments. A greater mix of land uses within a walkable area means that people are able to access a wider variety of services and facilities without having to travel longer distances. A mixed land use is what characterises Town centre development.

The following assesses the existing land uses within the Hub area. The plan on the following page reflects the current land uses within the Hub area.

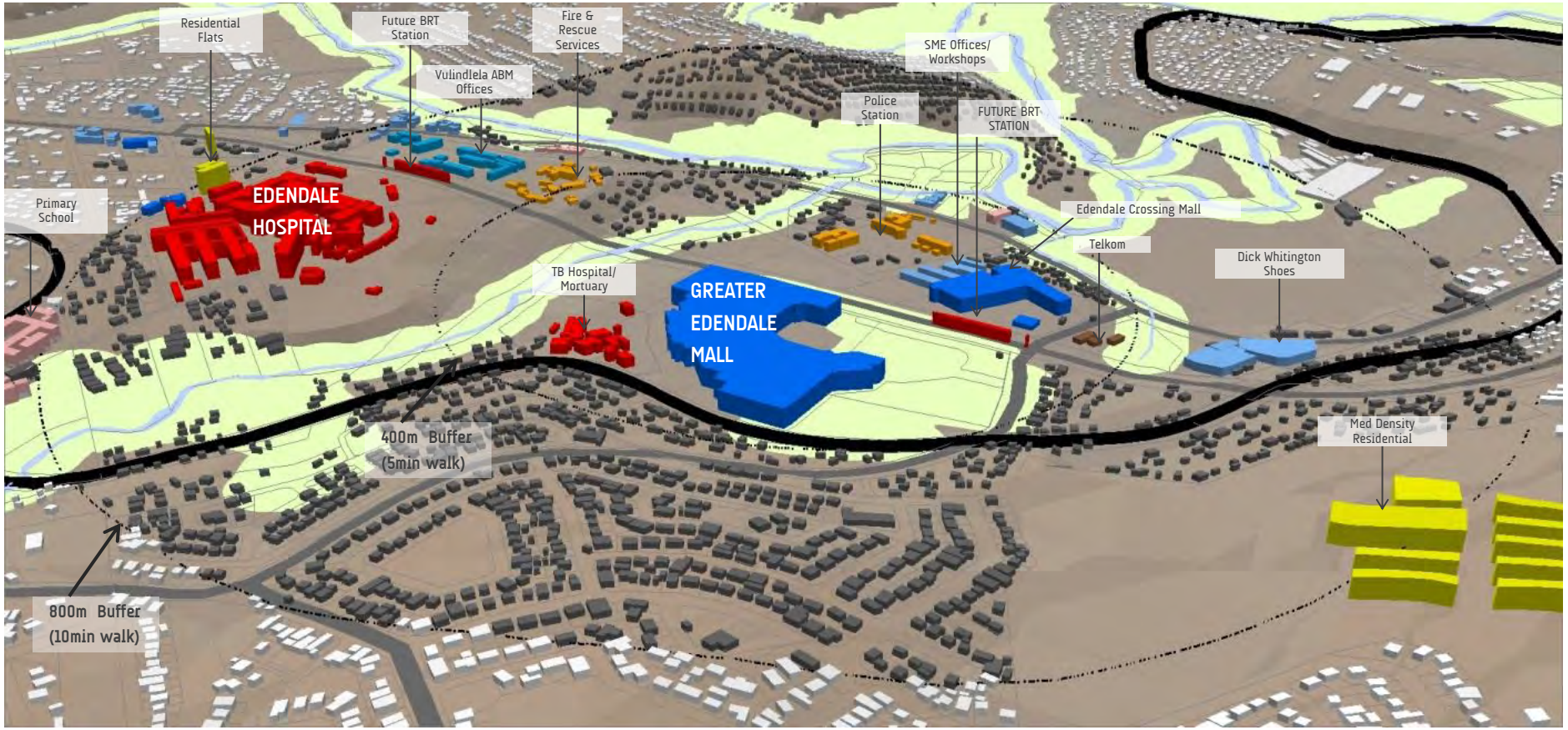
The two shopping centres represent the dominant commercial/ retail use within the Hub area and take up large parcels of land. The shopping centres each contain anchors as well as a variety of smaller shops and services within them. When considering the police station and office space located west of Edendale Crossing, it is evident that there are a variety of land uses already existing within the core area albeit some of them are contained within the shopping centres. The combination of these makes developing the area into a Hub more easy. The Shopping centres are developed as standalone buildings and therefore in order to ensure these become more integrated into a town centre concept, a more concerted effort must be made to ensure the shopping centres become key uses within the Town Centre by forging new links and creating new development along key interfaces to become key anchors within the Urban Hub.

It is important to note that there is already private investment in the area, evidenced by the two shopping malls and the existing residential, Service Industry,

Education as well as Hospital uses are all within a 1km of the hub itself . These uses will be complimentary to the core uses found at the hub.

Considering the above, the design of the Hub should take advantage of the existing land uses in the area and ensure a more seamless integration of the existing uses with the core. The design must encourage a more mixed zoning to allow a more pedestrianized core. The land uses must be flexible and adaptable to change. This would enable a more vibrant centre being formed that is flanked by larger specialised facilities.

03 DEFINING THE HUB



QUALITY URBANISM

3.5 Quality Urbanism Assessment

OWNERHIP & LAND AVAILABILITY

Ownership and land availability are crucial issues in Urban regeneration projects as they can influence whether or not a project can immediately be released for implementation without the long land legal processes required to secure the land. These processes normally restrict the momentum of strategic projects if one still has to secure land for catalytic projects and the funds are directed to another project where the development rights and land have already been secured.

It is also important that the municipality can show an immediate impact and commitment to the community of the project intentions without unduly stalling the project process if the land has not been secured. It is also important in securing investor confidence in an area and to stimulate Public Private Partnerships (PPP's)

Land that is owned by the Municipality or a few individual private owners is considered to be easier to access for development, when compared to land that is privately owned or has multiple owners, as it carry's a much larger risk for the development to stall due to the long land legal process attached to acquiring rights to it.

Msunduzi municipality has been involved in a process of identifying and acquiring potentially strategic parcels of land deemed to be suitable for development. Funding has been made available for this process and a considerable amount of land has been acquired thus far.

The plan on the following page shows land ownership within the proposed Hub area.

The land that has been acquired and fully transferred to the municipality is depicted in light orange on the plan to the right. Land that the Municipality still aims to acquire has been reflected in dark orange on the plan to the right.

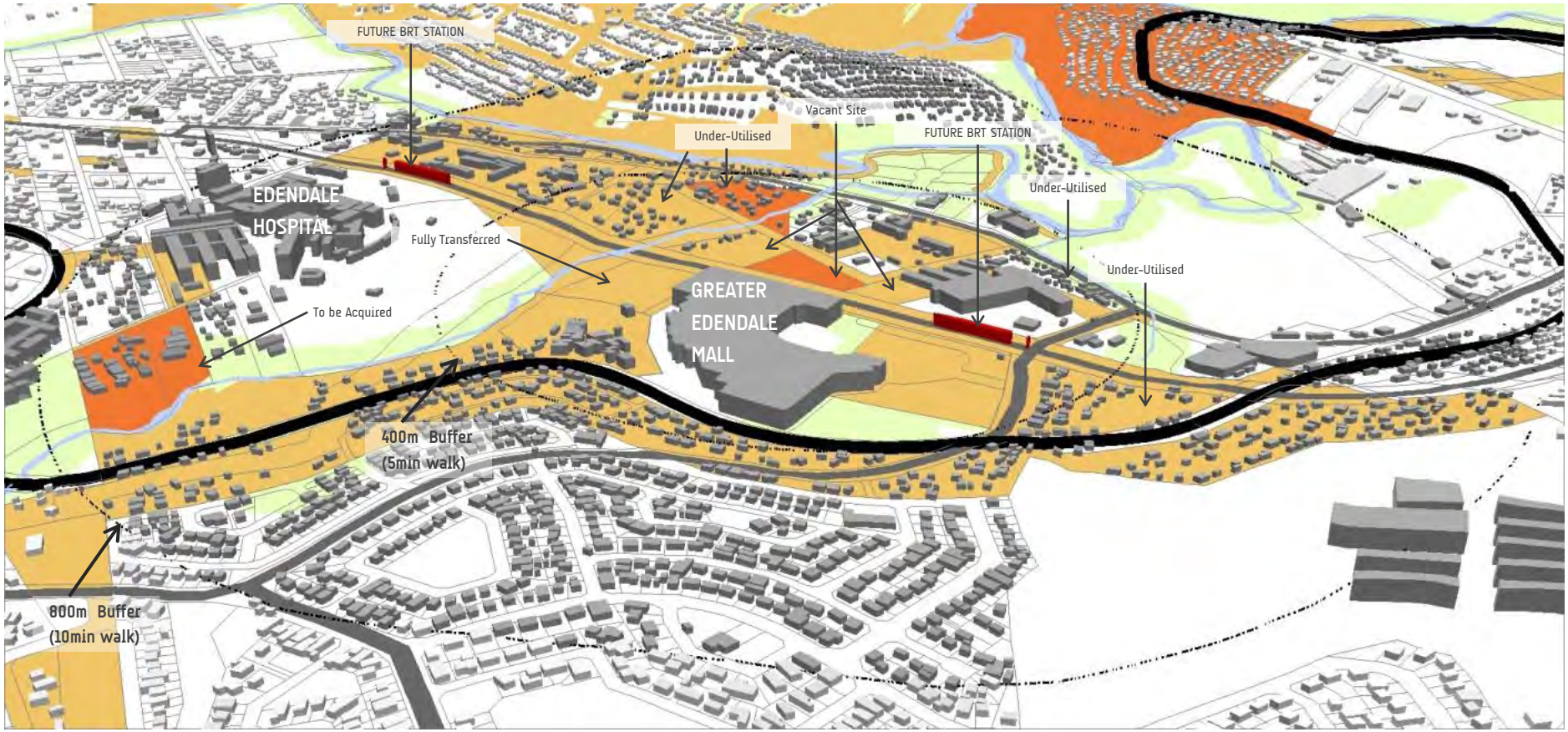
Nevertheless, the fact that the Municipality already owns a majority of the land within the proposed Hub Area, reduces the likelihood of any future development or investment being unduly held up by any land legal issues.

This is essentially important considering that there are a number of vacant and underutilised parcels within the area. Vacant parcels are those that have not been developed, and underutilised parcels are those were development is occurring informally on the land or land has the ability to accommodate greater densities or to serve a more strategic use.

When combining the area of vacant and underutilised parcels within the Hub area, there is approximately 1,7 Hectares of land available for new development.

Considering the above, it is evident that there is sufficient space for new development within the Hub area. The fact that the majority of land is owned by the Municipality and is aiming to acquire more, shows the commitment and intent by the Municipality to development in the area and thus also stimulates investor confidence in the area.

03 DEFINING THE HUB



SUSTAINABLE SERVICES

3.6 Bulk Infrastructure Assessment

Due to the nature of the development, it was necessary to conduct an assessment of the existing infrastructure located in the vicinity of the proposed node on Edendale Road. Several sources were utilised to conduct this assessment, including reviewing the latest WSDP report, liaising with the Service Provider Authorities, and viewing the Municipal GIS plans. This brief report presents the status quo of the civil infrastructure in the Edendale area at and around the Shopping Centre Hub.

The existing infrastructure that was assessed includes the following:-

Potable Water

- Bulk pipelines
- Pump stations
- Reservoirs
- Reticulation

Sanitation (Sewer)

- Sewer reticulation
- Pump stations
- Bulk sewer mains
- Sewer treatment works

Stormwater

- Culverts
- Rivers
- Bulk systems
- Reticulation

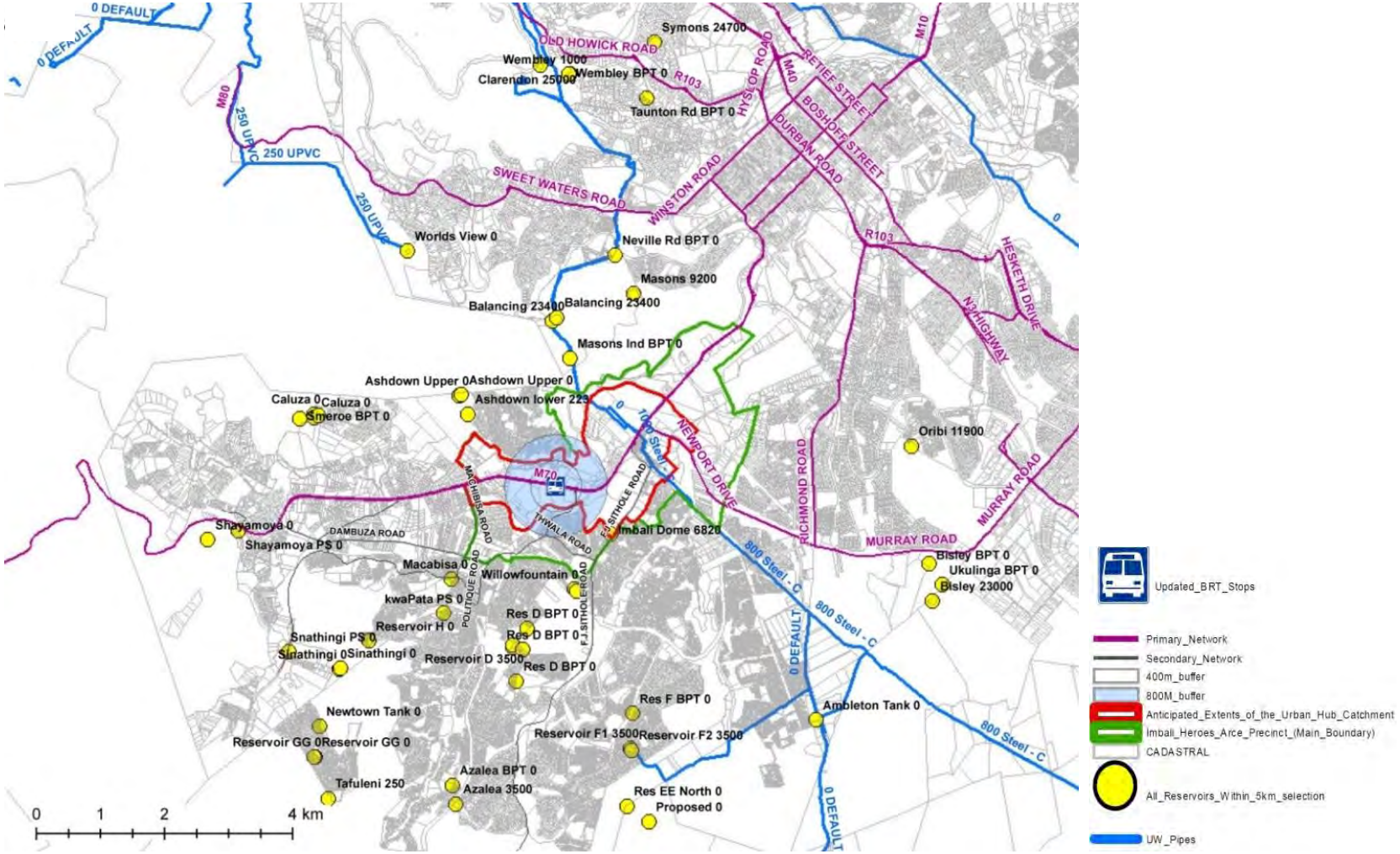
This chapter outlines this high level assessment and the findings thereof. Recommendations on the way forward have also been provided to inform the Developer on the next step in this investigation. It must be noted that this is currently a desktop study, and no topographical survey has been undertaken yet to verify the GIS information, nor has any fieldwork been conducted yet to assess the condition of the existing infrastructure that the developments is to adjoin/complement.

WATER SERVICES

At the time of this brief report, the WSDP report was still in the process of being written up by the Local Municipality (Msunduzi), with the due date indicated for 2015. In addition, the available literature is dated back several years, between 2006 and 2008. As such, the data obtained from the authorities is not the most current information. Further telecom with Mike Greatwood (Acting Manager: Water Services Authority), from Msunduzi Municipality, on 20 August 2014, indicated that, while some areas are well serviced with water, there large parts still without this commodity.

Based on the discussions, reports and GIS information, there are two reservoirs in the vicinity of the proposed development which supply the surrounding area. One is located to the south-east end of the site (Imbali Dome Reservoir), and the other towards the northwest end of the site (Ashdown-Lower Reservoir). The pipe material for the existing water mains is steel; the reason for this is unknown as the pressures are not significantly high to command this pipe material. Due to the increase in theft /vandalism for scrap metal purposes we would caution against the use of this material for future works in the area. The Shopping Centre Hub is located in a reasonable proximity to both aforementioned reservoirs. The table to the right summarises the Reservoirs in relation the proposed development.

Area	Capacity (Ml)	Distance to node (km)
Imbali Dome Reservoir	6.820	1.57
Ashdown Lower Reservoir	0.223	1.92
Reservoir D Storage	3.500	2.56
Masons Reservoir	9.200	3.25
Oribi Reservoir	11.900	5.54


0 DEFAULT
0 DEFAULT
M80
250 UPVC
250 UPVC
250 UPVC
SWEET WATERS ROAD
OLD HOWICK ROAD
Symons 24700
Wembley 1000
Clarendon 25000
Wembley BPT 0
R103
Taunton Rd BPT 0
HYSLOP ROAD
M40
RETIEF STREET
BOSHOFF STREET
DURBAN ROAD
WINSTON ROAD
M10
R103
HESKETH DRIVE
N3 HIGHWAY
Worlds View 0
Neville Rd BPT 0
Masons 9200
Balancing 23400
Balancing 23400
Masons Ind BPT 0
Ashdown Upper 0
Ashdown Upper 0
Ashdown lower 223
Caluza 0
Caluza 0
Smeroe BPT 0
0
1000 Steel - C
NEWPORT DRIVE
M70
MACHIBISA ROAD
THWALA ROAD
F.J.SITHOLE ROAD
Imbali Dome 6820
RICHMOND ROAD
Oribi 11900
MURRAY ROAD
MURRAY ROAD
Bisley BPT 0
Ukulinga BPT 0
Bisley 23000
Shayamoya 0
Shayamoya PS 0
DAMBUZA ROAD
Macabisa 0
Willowfountain 0
POLITIQUE ROAD
kwaPata PS 0
Reservoir H 0
Res D BPT 0
Res D BPT 0
F.J.SITHOLE ROAD
Snathingi PS 0
Sinathingi 0
Sinathingi 0
Reservoir D 3500
Res D BPT 0
800 Steel - C
0 DEFAULT
800 Steel - C
Res F BPT 0
Ambleton Tank 0
Newtown Tank 0
Reservoir GG 0
Reservoir GG 0
Reservoir F1 3500
Reservoir F2 3500
800 Steel - C
Azalea BPT 0
Azalea 3500
Tafuleni 250
Res EE North 0
Proposed 0
0 DEFAULT
0 1 2 4 km
Updated_BRT_Stops
Primary_Network
Secondary_Network
400m_buffer
800M_buffer
Anticipated_Extents_of_the_Urban_Hub_Catchment
Imbali_Heroes_Arce_Precinct_(Main_Boundary)
CADASTRAL
All_Reservoirs_Within_5km_selection
UW_Pipes

SUSTAINABLE SERVICES

3.6 Bulk Infrastructure Assessment

SANITATION (SEWERAGE)

A report was compiled by Sivest in 2008, which provided a status quo assessment of the wastewater in the Edendale area. From this report, it can be concluded that the area (and by extension the proposed nodes) are being served by the Darvill Sewer Treatment Works.

Furthermore, it was highlighted that this sewerage treatment works has no spare capacity and is operating at 100%. Discussions held between MMPDNA and Mr. Mike Greatwood on 20 August 2014 confirmed this situation.

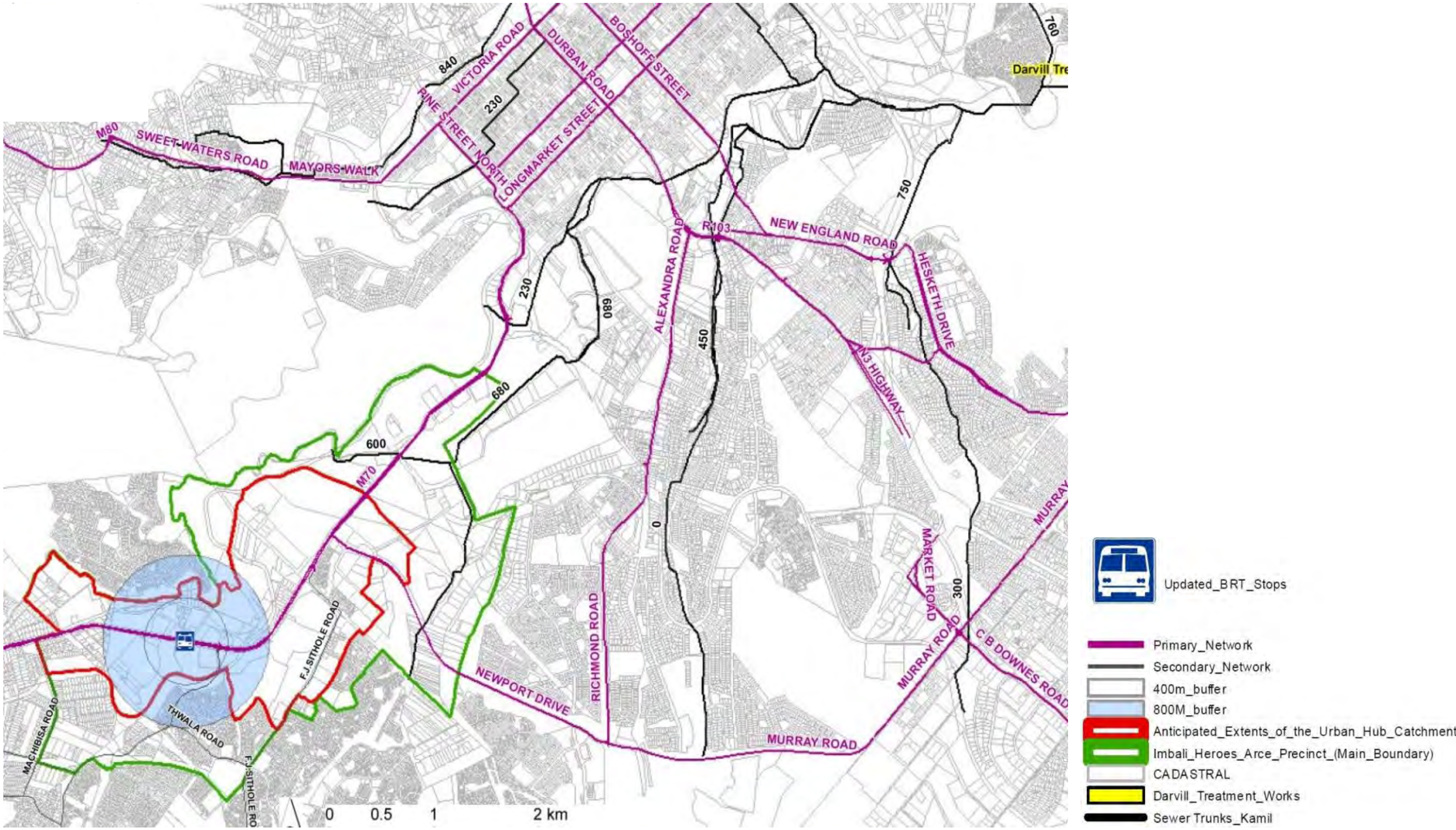
In addition, it was indicated that there is ample capacity within the bulk sewer pipeline for the proposed development areas and the Darvill treatment works is to be upgraded shortly by Umgeni Water but the proposed treatment volumes could not be confirmed at this stage as the project is still in its planning stage.

There is currently a bulk gravity sewer line situated to the northeast into which the Shopping Centre Hub could drain. Current GIS information indicates that this is a 600mm diameter pipeline; however the Municipal Department responsible for the maintenance of the sewer system in this area was not available to confirm this and the available capacity.

However, based on the assumption that there will be no major industrial development feeding into the outputs from the Hub there should be sufficient capacity in the sewerage system.

Based on the proposed land use and information collated, the sewerage demand is best estimated as 3.5Ml/day.

The map on the following page illustrates the sewer infrastructure.


M80
SWEET-WATERS ROAD
MAYORS WALK
840
VICTORIA ROAD
230
PINE STREET NORTH
LONGMARKET STREET
DURBAN ROAD
BOSHOFF STREET
760
Darvill Tre
750
R103
NEW ENGLAND ROAD
HESKETH DRIVE
ALEXANDRA ROAD
680
450
N3 HIGHWAY
680
600
M70
0
MURRAY
MARKET ROAD
300
F.J SITHOLE ROAD
NEWPORT DRIVE
RICHMOND ROAD
MURRAY ROAD
C B DOWNES ROAD
THWALA ROAD
MACHIBISA ROAD
F.J SITHOLE RO
0
0.5
1
2 km
Updated_BRT_Stops
Primary_Network
Secondary_Network
400m_buffer
800M_buffer
Anticipated_Extents_of_the_Urban_Hub_Catchment
Imbali_Heroes_Arce_Precinct_(Main_Boundary)
CADASTRAL
Darvill_Treatment_Works
Sewer Trunks_Kamil

SUSTAINABLE SERVICES

3.6 Bulk Infrastructure Assessment

STORMWATER INFRASTRUCTURE

The Edendale area is currently not well serviced in terms of stormwater infrastructure. The infrastructure is mostly limited to services along the existing surfaced roadways, which consist of kerb, channelling and catch pits which dispose runoff into the natural water courses around the sites. There is no formal Stormwater Management Plan (SMP) in place to cater for runoff from commercial sites and large hardened areas.

It will therefore be necessary that a comprehensive SMP be developed and administered by the Municipality. As a requirement the Municipality should ensure that all stormwater runoff to be attenuated such that the discharge into the watercourses does not exceed that of the pre-development flows, as required by legislation. There are various methods of attenuation ranging from individual property attenuation areas to green areas (ponds/water features, etc.) in the dandified areas.

CIVIL INFRASTRUCTURE RECOMMENDATIONS

Based on the above criteria, the Shopping Centre Hub is well situated, as it is located between two natural water courses that could be drained into easily.

Based on the engineering findings and analysis the following recommendations are made:

- Undertake a detailed topographical survey to confirm the GIS drawings and obtain levels (MSL) of the services for design purposes
- Undertake a field investigation to assess the condition of the existing infrastructure and highlight any possible shortcomings
- Obtain written confirmation from the bulk service providers regarding the current and available capacities and if any upgrades to their existing systems, are planned and the capacities thereof. Also indicate the proposed development to them and get their 'buy-in' for this proposal
- Obtain Environmental Authorisation/Consent for the proposed study and works.

ELECTRICAL INFRASTRUCTURE PROVISION

Due to the nature of the development, it was necessary to conduct a desktop assessment of the existing infrastructure located in the vicinity of the proposed node along Edendale Road in consultation with Eskom as the service provider.

The infrastructure that was assessed includes the following:-

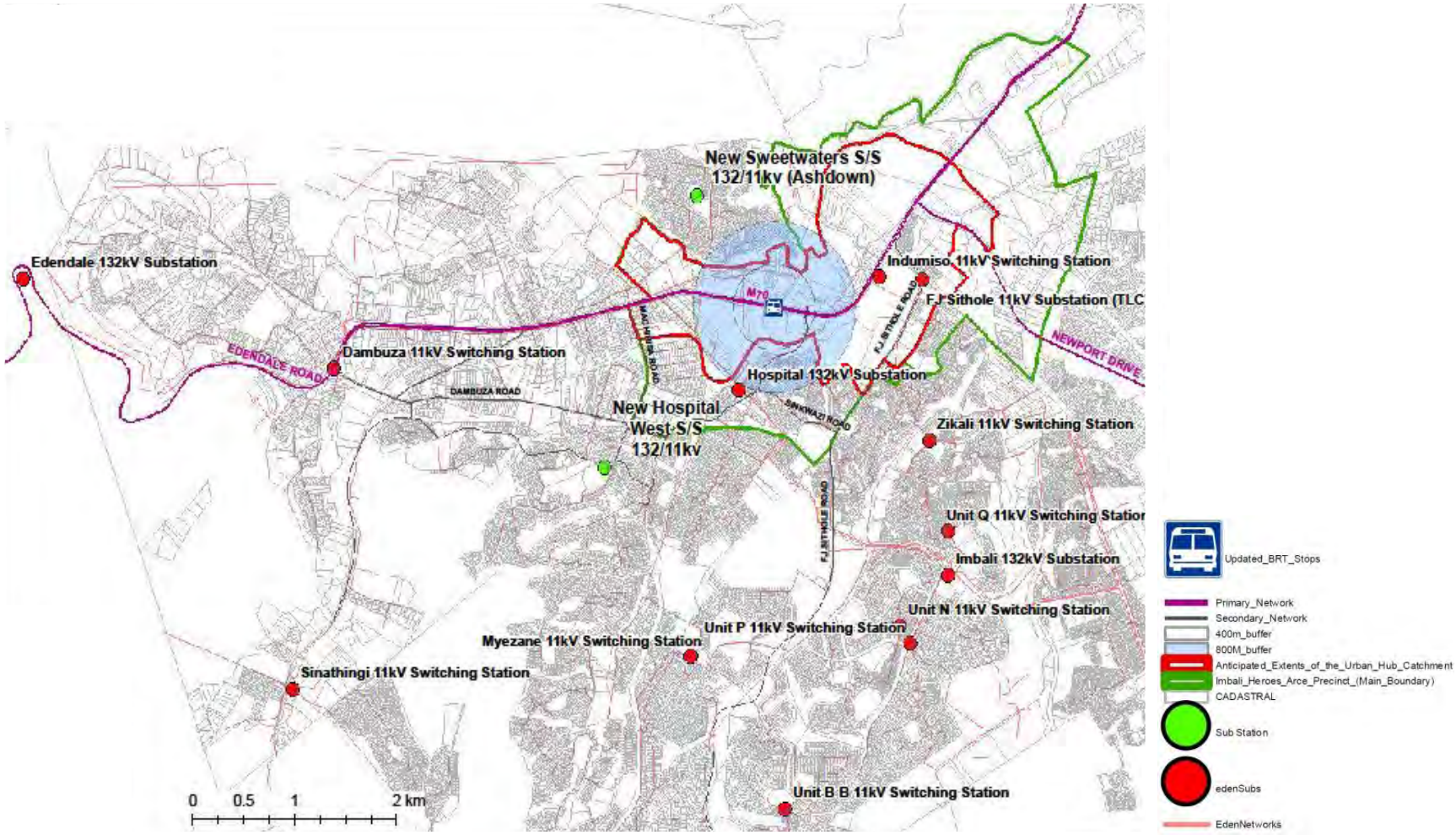
- 132kV Bulk Network / Substations
- 11kV/400V Feeder Networks / Substations

GENERAL

Eskom is the main supplier of the bulk electricity to the area using conventional generation and distribution methods.

The Edendale area is currently fed by 132kV lines with 132 / 11 kV switching sub-stations and 11 kV / 400V local switching sub-stations and mini-subs. These in turn supply the local consumers via distribution kiosks and underground or overhead service cables and connections.

The municipality is currently providing the street lighting infrastructure for the area to Eskom's standards and Eskom is currently maintaining them.


New Sweetwaters S/S
132/11kv (Ashdown)
Edendale 132kV Substation
Dambuza 11kV Switching Station
EDENDALE ROAD
DAMBUZA ROAD
New Hospital
West S/S
132/11kv
Hospital 132kV Substation
Indumiso 11kV Switching Station
F.J Sithole 11kV Substation (TLC
NEWPORT DRIVE
Zikali 11kV Switching Station
Unit Q 11kV Switching Station
Imbali 132kV Substation
Unit N 11kV Switching Station
Unit P 11kV Switching Station
Myezane 11kV Switching Station
Sinathingi 11kV Switching Station
Unit B B 11kV Switching Station
M70
0 0.5 1 2 km
Updated_BRT_Stops
Primary_Network
Secondary_Network
400m_buffer
800M_buffer
Anticipated_Extents_of_the_Urban_Hub_Catchment
Imbali_Heroes_Arce_Precinct_(Main_Boundary)
CADASTRAL
Sub Station
edenSubs
EdenNetworks

SUSTAINABLE SERVICES

3.6 Bulk Infrastructure Assessment

Assessment

Eskom has conducted an assessment and report titled : TEF Presentation - Create Edendale WDP Rev 2013 by Avinesh Ramdhin of Network Planning Department. The report highlights the infrastructure in the area and plans to upgrade the network.

The infrastructure in the area is currently under strain and Eskom has identified that certain networks needs to be strengthened and others upgraded to provide a reliability of supply.

They have identified and proposed that two new 132 / 11 kV substations be constructed adjacent but not immediately in the vicinity of the proposed development.

The following are the current status of the existing electrical network in the immediate vicinity of the proposed development including Eskom's plan for upgrades and strengthening of the existing supply.

- Mason's Mill and FJ Sithole Substation

  The in-feed from Mason's Mill substation is planned for upgrade in 2014/2015 which will strengthen the supply to Sithole substation. This will de-load the Hospital substation and Thathawe substation and provide capacity for future load growth. The Sithole substation is currently by-passed but could be re-built and brought into services if need arises.

- Hospital Substation

  This substation and its 11kV feeders are un-firm. The proposed new feeders from the Edendale sub will be upgraded/ re-built to strengthen and increase the capacity for this substation. This is planned for in the 2015 / 2016 financial year. This will further reduce the load on this substation and provide for growth here with an addition of capacity of 20MVA.

- New Hospital West Substation

  Eskom have identified the necessity to construct a new substation called Hospital West with an installed capacity of 2 x 40MVA.

- New Sweetwaters Substation

  Eskom have identified the necessity to construct a new substation called Sweetwater's substation with an installed capacity of 2 x 20 MVA. This is marginally outside the area of development although the capacity and infrastructure to bring connections closer to the point of supply could be considered.

- Other Substations

  Other major substations such as Edendale, Dambuza and Azalea will be upgraded; however these will not have a direct influence on the capacity availability for the development of the hub under consideration.

The use of future innovation in terms of green energy (solar, wind or Bio-fuel) has not been considered as yet by Eskom or independent private power producers to service the development hub in question.

From the table on the following page, it is apparent that the available capacity for future growth and development will be in the Hospital Sub due to upgrades planned of the existing substation and the planned construction of two new substations in close proximity to the development area.

SUSTAINABLE SERVICES

3.6 Bulk Infrastructure Assessment

The development of the Shopping Centre Hub is favourable in terms of available capacity as planned for by Eskom.

In a telephonic discussion with Mr Avinash Ramdhin of Eskom Network Planning on 21/22 August 2014 refers, he indicated that there will be available capacity in future as above due to upgrades and new infrastructure (substations). He indicated that the planned electricity supply in this area will be upgraded or re-built to cater for the required capacity for the development of the Hub under consideration.

There are two options, one to apply for a bulk supply and the developer reticulate the point of connection for each facility or alternatively for Eskom to make available separate connections to each facility within the hub under development. These options require negotiation between Eskom and the developer.

Based on the above desk-top assessment, the following is recommended.

- Convene a meeting with Eskom as the Service Provider and the developer to discuss the planned development.
- Undertake a detailed survey of the existing electricity services for any preliminary or detailed design purposes and confirm any GIS information where available.
- Undertake a site investigation to assess the condition and position of any existing infrastructure that may require repairing, replacement, upgrade etc. in consultation with Eskom.
- Confirm the current and future load demands for the hub under consideration and make application to the service provider for the power supplies required.
- Make application on behalf of the developer for the required capacity for Eskom's planning purposes to the points of connections.
- Proceed with conceptual design to determine the capacity and infrastructure requirements and to carry out estimates for the work involved.

It must be noted that the infrastructure from the point of supply to the point of consumption will in all likelihood be for the developer costs.

Substation Name	Action	Voltage	Current Capacity	Future Capacity	Availability	Planned Year
Mason Mill and Sithole Sub	Strengthening and Reliability	132/11kV	-	-	By-pass but could be re-built and brought back in-service	2014/2015
Hospital Sub	Strengthening / Reduce Load	132/11kV	2 x 20 MVA	3 x 20MVA	Say 15MVA	2014/2015
New Hospital West Sub	New	132/11kV	-	20 x 40MVA	Say 20MVA	2015/2016
New Sweetwaters Sub	New	132/11kV	-	2 x 20MVA	Say 20MVA	2015/2016

SUMMARY OF FINDINGS

3.7 SWOT Analysis

The SWOT analysis serves as a means of summarising some of the main opportunities and challenges the site may pose to the development of the Hub. The sketch-plan on the next page covers the issues graphically for clarity and understanding.

In terms of movement, Edendale road is a Primary route within the area and serves as a mobility route. The future IRPTN will run along this road and thus also bring about multiple benefits to the area, including an NMT route. Due to its scale, Edendale road also serves as a barrier within the Hub as it is difficult for pedestrians to traverse across it.

Mt Partridge and Old Edendale road are secondary routes that have been identified as strengths within the site considering that the two roads, are already established with sidewalks. Old Edendale road is also an edge as it separates the residential land district to the north from the more commercial, manufacturing and institutional district in the south.

The limited north south linkages within the Hub presents a weakness that must be addressed in the design stage. The evidence of informal pedestrian linkages presents an opportunity for the development of a formal NMT route that will make non-motorised access to and movement within the Hub easier in the future.

The existing railway line is considered a major barrier as it acts as a divide, separating the residential district to the south and the more retail/ commercial district to the north.

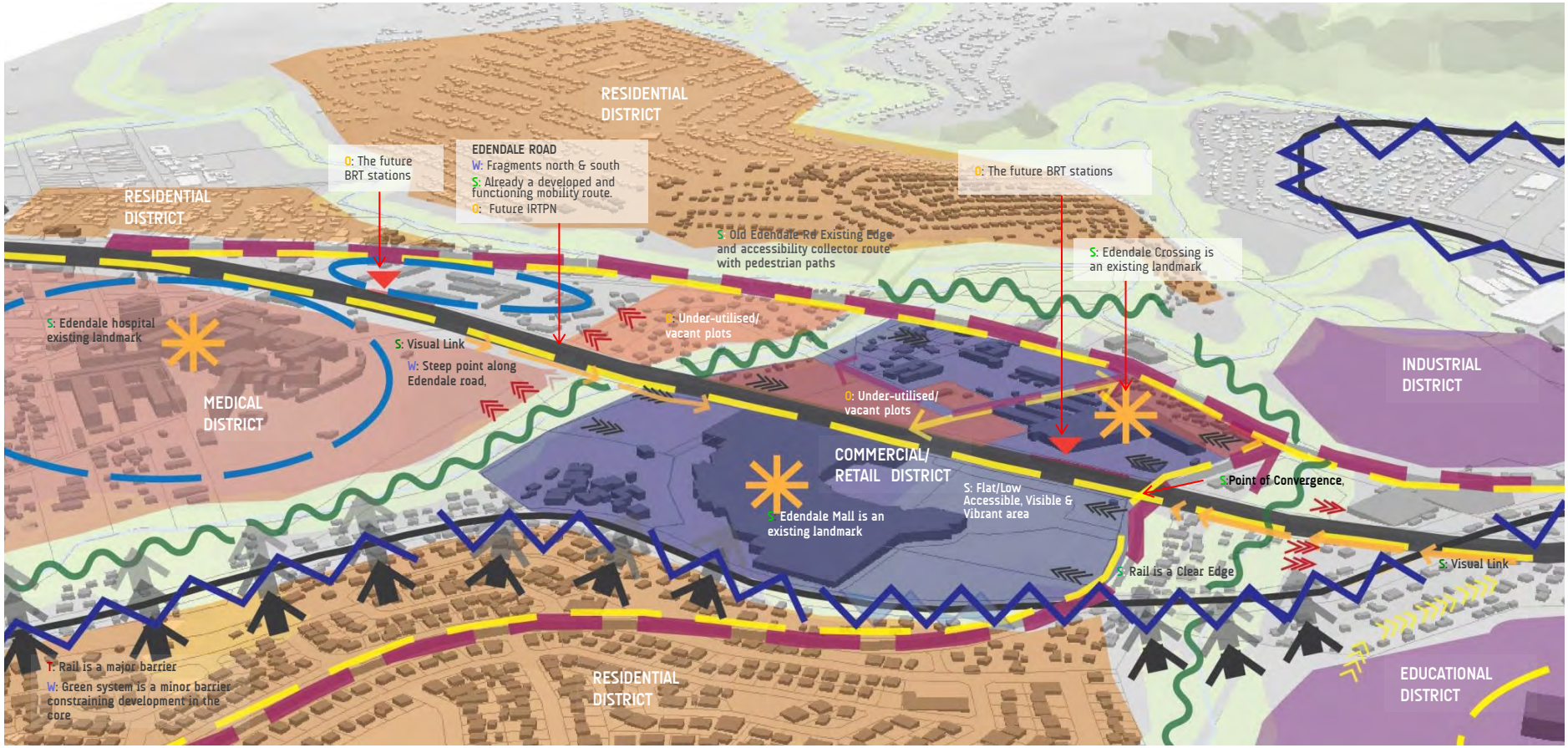
While the green belt is considered a minor barrier on the site, it is also an advantage, as there is an opportunity for its rehabilitation in a way that better integrates it into the life of the Hub as both a functional and aesthetically pleasing asset.

From a productive systems point of view, Greater Edendale Mall and Edendale Crossing mall stand out as the two landmarks of the Hubs retail/ commercial district. There is thus an opportunity to build on the existing energy in the area and create room for the informal sector and manufacturing sectors in the Hub to grow.

The plan on the following page also highlights land that has been identified as under-utilised or vacant and thus is considered to be ideal for the development initiatives that will help the Hub grow inline with the proposals highlighted as part of the productive systems section. The existing land uses within the Hub area are an advantage due to the concentration of retail and commercial and manufacturing land uses within the core area as well as other uses within the frame, inline with the town centre concept.

The plan also reflects that the main commercial and manufacturing areas are located on a low and flat area that will make the core easily visible and easier for pedestrians to access. The visibility and accessibility of the core Hub area is essential to ensuring the vibrancy and success of the Hub. As such the plan reflects one of the key strengths of the site as being that it is visually accessible. The visual links also help reinforce the 2 malls and the Hospital as primary landmarks within the Hub.

An overall summary of the SWOT analysis findings thus further emphasises on the location of the Hub. This analysis confirms reflects that all the necessary requirements in terms of quality urbanism, topography, transportation, economic and environmental opportunities are already existing within the Hub area. As such the process of establishing a town centre in the proposed area mainly entail formalising and accentuating what is already there. The following section further clarifies the character and extent of the Hub.



STRENGTH - S
WEAKNESS - W
OPPORTUNITY - O
THREAT - T

Major Landmark
Future Land Mark
Primary Path
Secondary Path

Pedestrian Network
Major Barrier
Minor Barrier
High Point / Region

Steep Area
Flat Area
Visual Link
Under-utilised/ Vacant plots

03 DEFINING THE HUB

SUMMARY OF FINDINGS

3.8 The Extent of the Hub

The extent of the Hub is established from considering the findings of the preceding analysis of the Hub area. The following plan reflects the extent of the Hub based on the a combination of the walkability assessment as well as some of the existing features of the site. As indicated in the SWOT analysis, Old Edendale road presently separates two different regions within the Hub, the northern boundary of the Hubs Core is reflected as running along this road. The southern boundary runs along the railway line as it was also identified as a barrier and edge, separating 2 different districts. The west and eastern boundaries both incorporate the ecological system as a means of trying to incorporate it into the character of the Hub.

Hub Core Boundary

SUMMARY OF FINDINGS

3.9 The Character of the Hub

The character of a place is important in guiding the direction in which development occurs. It is clear that contemporary South African Urban Centres are different to traditional town centres. As such the character of the Urban Hub within the Greater Edendale/ Imbali area must be centred around the notion of defining an **'African Urbanism**', where the planning of the Hub facilitates the development of a space that is true to the identity of the users context in which it is set. As such planning merely facilitates the development of an environment that will allow this natural growth to take place.

However there are fundamental drivers that are considered important in establishing the character of the proposed Hub. These being that South African Urban centres are driven by a range of stakeholders with the informal economy being an essential component. It is important that the hub is not seen as a traditional CBD but built around the concept of an Informal economy that will set the platform for other land uses that will grow organically and are responsive to different circumstances. In so doing the design must acknowledge;

1) The hubs dependence on public transportation,
2) That the majority of users are pedestrians,
3) The way in which economic activity needs to engage with the public realm
4) The dual identity of the centre as both a place of economic activity but also a place of social gathering.

A recurring point in the analysis of the Hub has been the way in which the area has already begun to develop into a town centre based on the existing activities. What is required is thus a means of harnessing the existing energy within the Hub and directing it in a way that will help it to fully develop into the vibrant and successful Hub it could potentially become.

Considering the guiding design philosophy above and the findings of the analysis, the character of the Hub must thus be enshrined in the following:

1) A vibrant informal economy:
Whilst acknowledging the existence and role of the formal sector, the Hub needs to be a place that promotes the development of the informal sector especially considering the demographic make up of the immediate community. By promoting the development of the Informal sector the Hub has the potential to be an example of a truly integrated economy were the informal sector is as vibrant and profitable as the formal.

2) A centre of employment:
While the Strategic review reflected that the majority of the Population within the area is unemployed, adequate strategic investment in the development of the Hub will potentially lead to it becoming a centre of employment to the Greater Edendale and Vulindlela community.

3) A diverse manufacturing sector:
The multiple derelict factory building within the Hub show that the area once had a vibrant manufacturing sector. As such there is a need to revive this sector by welcoming and promoting investment from both large investors and SMME's.

4) A place of celebrated quality spaces:
There are currently no outdoor public spaces apart from the taxi ranks within the area. The quality of the public realm plays an important role in determining whether or not people are attracted to using a space. Considering the ecological system in the area and informal NMT routes already being used by people, the Hub design must capitalise on this and develop multiple attractive, celebrated and quality public spaces.

5) A place of multiple uses:
The core must build on the existing uses and also forge new relationships surrounding uses. While there are already different uses surrounding the core such as the Hospital, Educational Precinct, Manufacturing district, the Hub as a whole must become the cornerstone that links multiple uses and feeds of the different energies to ensure its vibrancy.

6) A place of well connected spaces:
The issue of connectivity is also a key element to be addressed in the development of the Hub. The analysis showed that there were limited formal connections within the area and as such pedestrians had begun in some areas to forge informal movement routes. The Hub must thus develop into a place were spaces are connected by a clear movement network accommodating both motorised and non-motorised transportation.

7) A place building of the CBD's energy;
In order to ensure its vibrancy, the Hub must capture the energy of the larger city-scale initiatives and were possible, re-direct investment into the Hub. The IRPTN is one example in which this can be accomplished.

8) A place of innovation
Considering the challenges of access to water and sanitation within the area, coupled with global issues of climate change and global warming, the Hub has the potential of also becoming an innovation centre. By adopting green techniques of both providing services to people and also in the design and construction of buildings, the Hub would become an example for other centres across both the Province and the Country.

SUMMARY OF FINDINGS

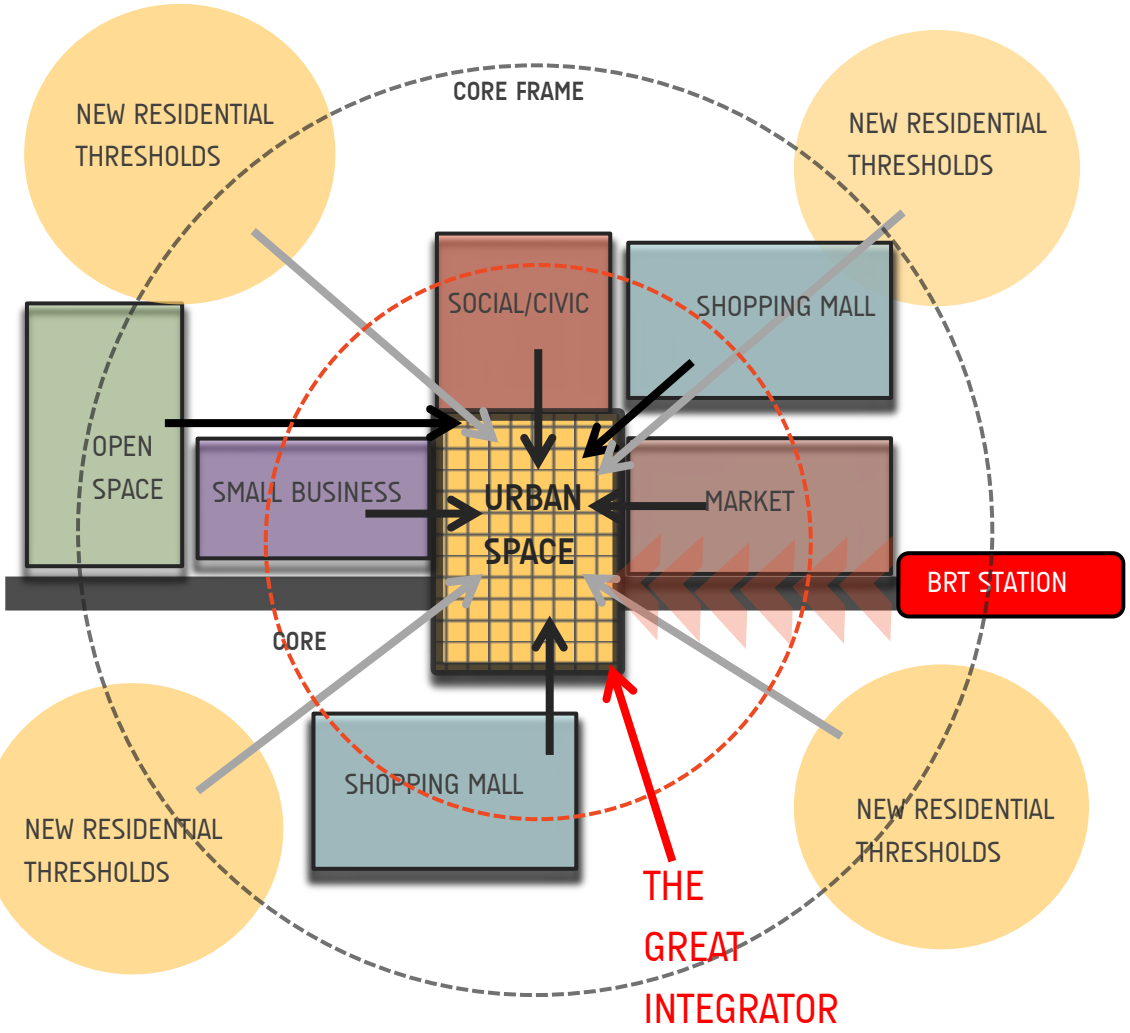
3.9 The Character of the Hub

Translating the vision into a concept…

The BRT becomes the catalyst in the area bringing in additional foot traffic in the area at regular intervals. The aim is to direct this movement into a common area namely an 'Urban Space' which becomes the centre where all uses and people start to gravitate towards. The urban space becomes the area that promotes new land uses but more importantly integrates existing land uses. In Edendale, the major land uses are already established and therefore the Hub starts to consolidate what is already there in a more structured manner. The key is to ensure that a vibrant set of land uses are proposed to activate the urban space. The creation of an informal economy is seen as the driver in which will start the development of the Urban Hub. Uses such as a Market, informal trading and the development of business hives are possibly the triggers that will open up new opportunity in the precinct. Sustaining public transportation will involve increasing densities within and around the hub to ensure the system is operating at its optimum.

The hub will then as outlined in the previous page become a place for;

- A vibrant informal economy;
- A centre of employment;
- A diverse manufacturing sector;
- A place of celebrated quality spaces;
- A place of multiple uses;
- A place of well connected spaces;
- A place building of the CBD's energy;
- A place of innovation



04 DESIGNING THE HUB

DESIGN COMPONENT

4.1 Section Introduction

The previous section defined the character and extent of the Hub. This section thus aims to undertake a Precinct Plan design for the core of the Hub, informed by the series of assessment conducted in preceding sections.

The design of the Hub will be unfolded in layers prior to providing the final consolidated precinct plan. The first layer will be the Movement structure, outlining the main access and movement framework and interventions necessary to ensure the seamless connectivity of the core and within the core and Hub as a whole.

The land use layer that follows will then go on to highlight and locate land-uses within the Hub in relation to the proposed access and movement framework. It will also highlight the proposed densities required to support the level of activity envisioned for the Hub along with the proposed typologies necessary to achieve these.

The third layer will be the Built-form framework outlining the existing building footprint as well as the desired built form. The layer will also highlight areas that will require symbolic architectural design detail in terms of the buildings, along with areas that will need specific corner design treatment.

A Public Space layer will also be provided for the existing ecological system, proposed pedestrian/ NMT zones and other proposed public areas.

DESIGN COMPONENT

4.2 The Movement Network

The movement network plays a critical role in ensuring that the Hub is active and vibrant. If designed well, the Movement Network will ensure that the Hub area is easily accessible and permeable for both motorists and non-motorists, thus attracting a wider variety of users to the area

The movement plan on the following page provides a more permeable and diverse movement network as it makes room for both motorised and none motorised means of transportation. It has also been designed with the deliberate intention of creating four visual links that have been identified on the plan.

The movement network includes a clear structure and hierarchy that sees Edendale Road serving as the Primary mobility and accessibility route linking the Hub to the Pietermaritzburg CBD in the North-east and Vulindlela in the West.

With the anticipated increase in commuters along this road due to the IRPTN, controlled pedestrian crossings and other necessary traffic calming mechanisms are proposed. The pedestrian crossings have been positioned in strategic way so as to link the different pedestrian spaces such as the Piazza and sidewalks.

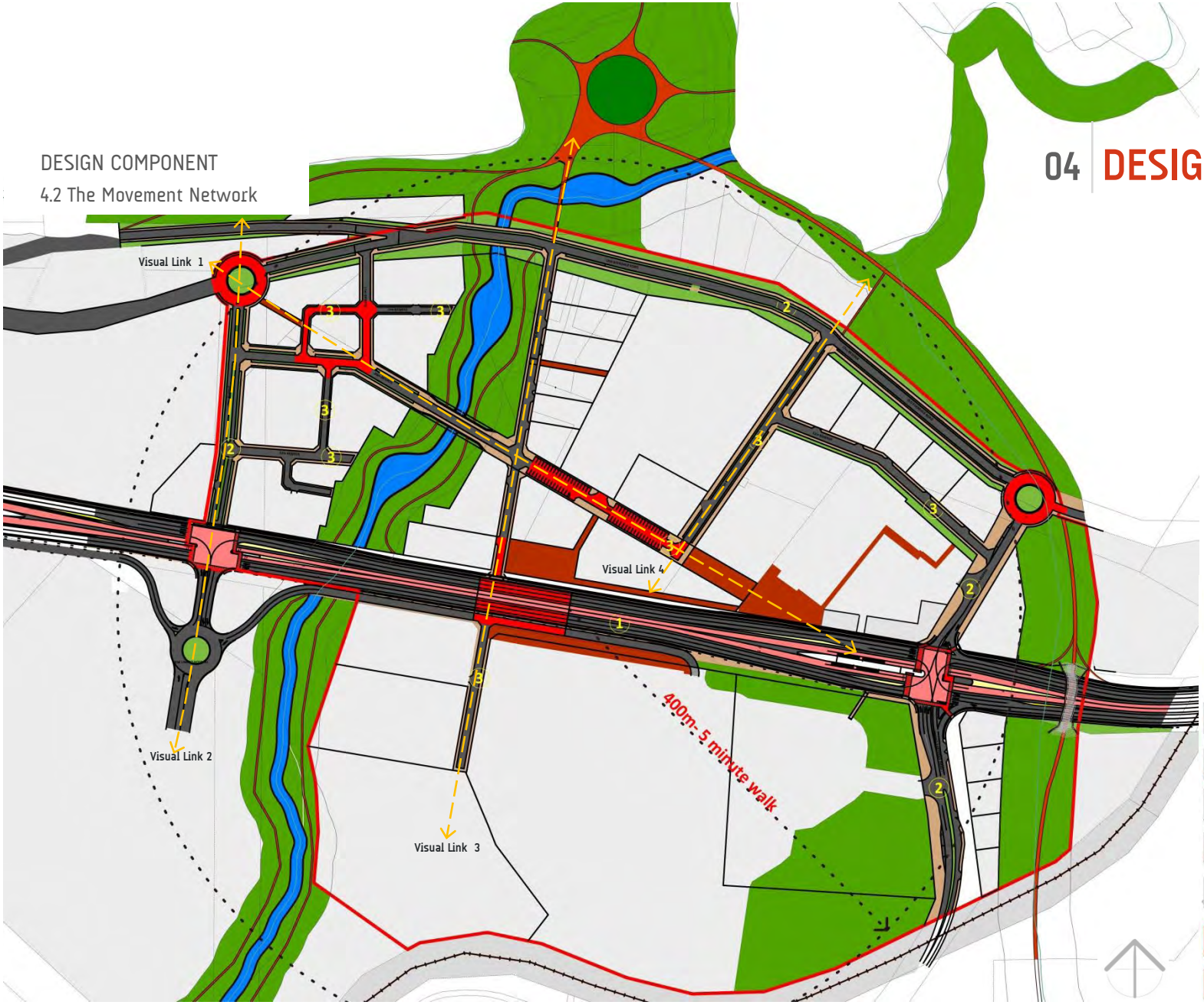
Old Edendale and Mount Partridge roads are secondary/ accessibility collector routes. A new North South linkage is proposed as a secondary route along the western boundary of the core, linking Edendale road to the Old Edendale road. It is proposed that all secondary routes are developed as boulevard roads with wide tree lined roadways along each side serving as pedestrian and cycle routes in order to ensure well defined and safer movement routes for non-motorists along with the development of aesthetically appealing streets. This will bring about multiple benefits to the Hub in terms of both commuter comfort and function.

It is important to take note of the proposed “Route 8” road aimed linking the northern portion of Mount Partridge road with Willowfountain Road/, FJ Sithole Road in the south. Although there has not been any finalisation on this road, the approval of the road would improve and enhance the design of the Hub as it would provide more people with direct access to the core.

The development of more tertiary/ local access routes is also proposed within the Hub in order to ensure that the Hub becomes more permeable and offers more choice. The proposed local access routes have 12 meter reserve that also includes sidewalks on either side of the roadway. A new north-south access route is proposed centrally of the core linking Old Edendale road to Edendale road.

The proposed movement network also incorporates an NMT route that runs along the banks of the Kwapata stream, and around the core of the Hub. It is also proposed that the Northern portion of the NMT route link up to the southern portion site by means of a raised pedestrian/ NMT bridge that would possibly also function as an iconic gateway into the core of the Hub.

04 DESIGNING THE HUB



DESIGN COMPONENT

4.3 Land Use

The land uses/ proposed activities within the core of the Hub have a critical influence on the character of the Hub as a whole.
As revealed in the Status Quo assessment, there is a desperate need for economic development and employment in the Imbali area. As such it is essential that the proposed land uses in the area are geared to establishing it as an Economic Hub.

The preceding section highlighted the need for an integrated economy and development and support of the informal sector. In line with this, the plan on the following page shows that the Hub accommodates approximately 4 000 sqm of land for the development of a market in the centre of the core area. Within the same area, Business incubator hives/ SMME are also proposed. The location of these activities in the centre of the Hub is ideal as it is anticipated that this area will become an area frequented by the public and as it is within a close proximity to the proposed BRT Station.

The Public Square space proposed also in the central area of the Hub is aimed at becoming a public area were people are drawn to. As stipulated in the preceding section, the area currently has no outdoor public spaces. The development of the Public Square that is surrounded by a market to the east, business incubator hives to the west and government office to the North will bring about a total transformation of the Core of Hubs. It is anticipated that the combination of these activities next to each other will make the area vibrant and that this energy will transfer to other areas in the Hub.
In a bid to create more economic development opportunities, the plan also proposes commercial, retail infill on existing sites along Edendale road. Although containing multiple shops, the two shopping centres have been designed in a self contained manner that see's them isolated from activity along Edendale road. As such the proposal made is for infill development which will see new shops that front Edendale Road being introduced in order to benefit from the passing commuters along the road.

Still in a bid to promote economic development in the area, the plan also proposes the development of commercial/ service industry sites along Old Edendale road. However the western end of the core reflects a different character to the rest of the site as mixed use (retail/ commercial and residential) has been proposed for the area. The ideal development for the area would comprise of commercial/ retail on the ground floor with residential on the remaining floors. In the early stages of the development, the mixed use sites could be developed exclusively for residential and over-time the ground floors could transform into retail office developments.

The proposed height restriction for the area is 4 storeys. However further detail on this will be provided under the development control section. While it is important for the Hub to be economically vibrant, the social and environmental components cannot be overlooked. Considering this, the plan proposes for the rehabilitation of the green spine and development of a town garden that will serve as both an ecological lung as well as a recreational space that beautifies the Hub.

Further design control, and zoning implications will be elaborated in the development control section.

04 DESIGNING THE HUB

DESIGN COMPONENT

4.4 Built Form

The built form of an area influences the way in which people experience a place. It helps influence whether or not a passing commuter will decide on whether to continue or stop and experience the Hub. As such the Built form plan on the following page, proposes various techniques to guide the development of the built form in the area.

The existing building footprint is shown in grey on the plan while the desired built form is shown in white. However it must be noted that desired built form footprint reflected on the plan is subject to detail design. Parking zones have also been conceptually shown on the plan. The parking zones have been purposely positioned at the rear of the site so as to ensure that the majority of buildings, open up and activate the street.

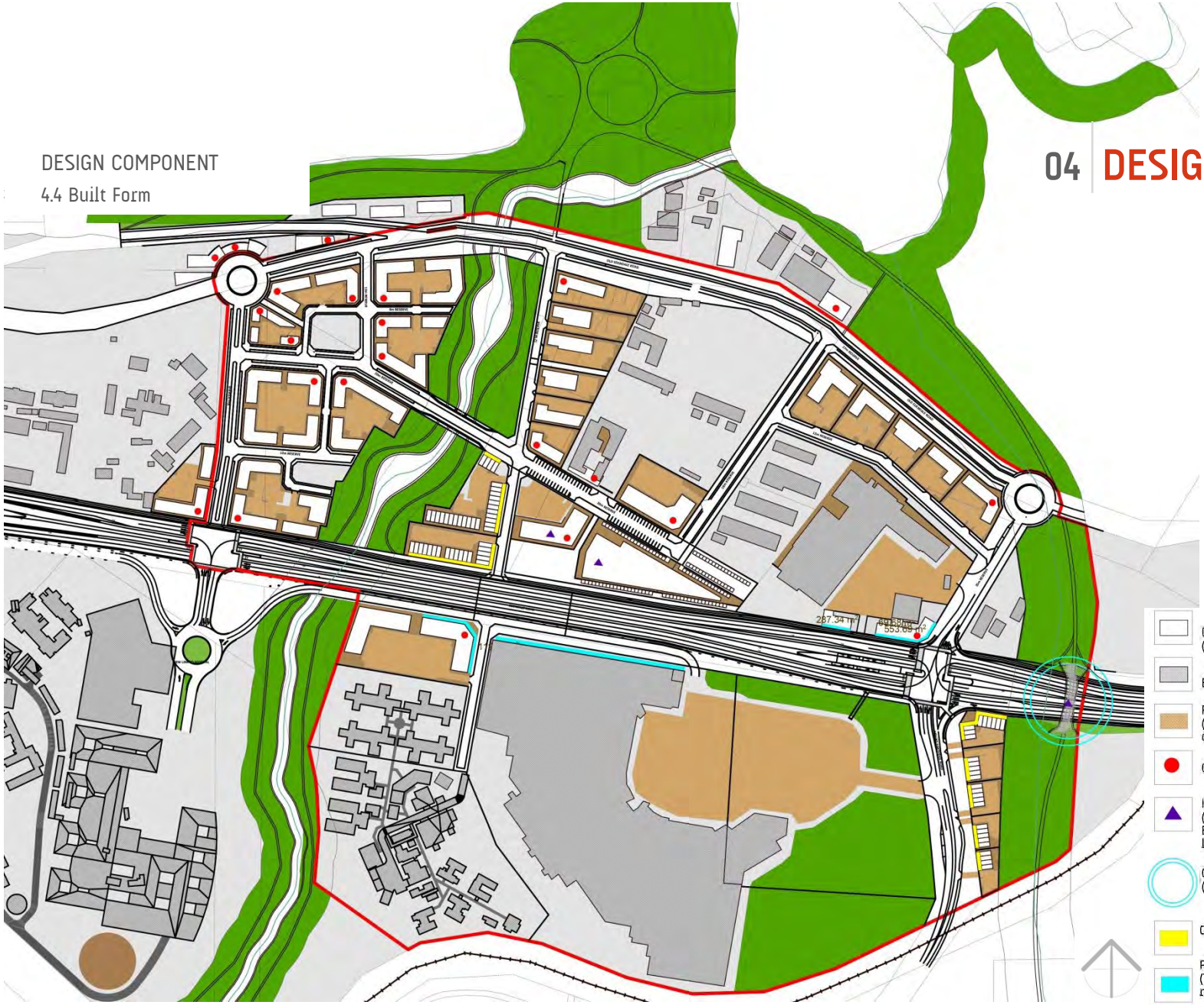
Based on the current built form pattern within the Greater Edendale area and apart from the mixed use development which has a maximum height of 4 storeys, most of the proposed buildings within the Hub have a maximum height of 3 Storeys.

The plan also identifies numerous points on the desired built form that will require specific architectural accentuation such as prominent corner treatment. This will help enhance the landmark quality and potential of particular buildings and in effect the aesthetic appeal and responsiveness of the overall Hub environment.

Three main points are highlighted for landmark design detail. This means that special attention is required for the building,/ roof/ structure, so as to create a visible landmark statement. The market and government site surrounding the Piazza in the centre of the Hub are two of these areas. The other area is the NMT bridge running over Edendale road on the eastern end of the core. It is proposed that the bridge be iconic as it will serve as a gateway portal into the core of the Hub.

The northern edge of Edendale mall is proposed as a potential active edge. The plan proposes that in time, new retail shops are introduced along this edge of the mall, fronting Edendale road. The plan also proposes a colonnade response along key roads so as to activate the interface of the built form with the public domain.

04 DESIGNING THE HUB



DESIGN COMPONENT

4.5 Typology Exploration

In order to ensure the Hub is kept vibrant and active, mixed use sites have been identified. These sites are meant to respond to market demand and therefore a mixed use zoning has been identified in order to allow this flexibility. Whilst the intension is for the mixed use sites to allow a multitude of various uses from retail, office and residential, it is important to illustrate what the potential of the mixed use sites could achieve.

Therefore the potential exists for these sites to be developed for 3 to 4 storey walk-up buildings that are framed around a common courtyard. This desired builtform pattern is a condition which should as far as possibly be achieved along these sites as it is a deliberate design intervention. In some cases certain sites have narrow frontages. In these cases, the footprint will be built along the longest length of the site boundary.
The two typical conditions are proposed which is reflected on the plans on the next page.

Condition 1 consists of a 4 storey building which has ground floor retail and residential above. The ground floor retail will activate the spaces at the ground level. This will create an active façade or edge along the length of the buildings. In some cases the buildings could be recessed in order to provide a colonnade or arcade edge. The activities could spill into concession areas where restaurants, cafes could utilise the outside areas for dining etc. It is proposed that residential apartments are located above the retail use with an average unit size of 55m2. The inclusion of residential will increase the thresholds, “foot traffic” into the Urban Hub. It will also increase the level of surveillance over the precinct and create a 24 hour live, work and play precinct.

Condition 2 is comprised of a 3 or 4 storey building which is predominantly residential. Whilst it is preferred that the condition within the hub has a retail base, this option allows the flexibility in the medium and long term for the ground floor to be transformed into retail as when the need arises. The key is to ensure that the ground floor has a minimum floor to ceiling height clearance of 4.5m.

As indicated at the start of this section, these conditions are for illustrative purposes only, the zoning is flexible to permit a variety of different uses and building conditions and should not be restrictive to drive away potential investors.

The conditions illustrated on the following pages are indicative and respond to a mixed zoning or purely residential option. The average unit size for both conditions are 55m2 however the examples reflected on the following pages show a typical 57m2 apartment which yield approximately 66 units in the mixed use retail option and 88 bays in the residential only option. The proposed ratio of residential and retail is 80% and 20% is purely to determine the yield and should not be prescriptive. There may be circumstances where a developer wants to develop only an office, retail or residential building. In these instances, the municipality must evaluate each application on a site by site basis.

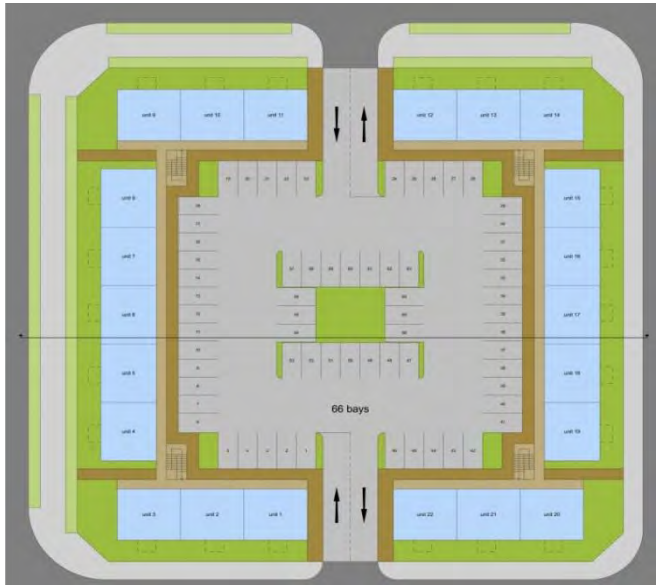
In respect to parking the norm for residential is 1 bay per unit and retail 5 bays per 100m2 however the municipality should consider reduced parking standards for all proposed land-uses across the hub particular in light of the BRT station within close proximity. See the development control section for further comment on parking.

The municipality have acquired additional land which lies just outside the Urban Hub Boundary. Consideration should be given in developing these high density typologies particularly the land south of the railway line. Consideration should be given to developing Social Housing development in proximity to the hub. Also portions of land along the corridor and in proximity to the BRT station must be considered for high density residential development in order to increase the patronage of people using the BRT as well increasing the thresholds along the activity route.

Ultimately higher densities need to be pursued in order to create more compact sustainable developments. These typical conditions needs to be explored in greater design detail at the Implementation stage.

CONDITION 1 : MIXED USE SITE- RETAIL GROUND FLOOR WITH RESIDENTIAL ABOVE.

Typical section taken across a Mixed use site. Retail ground floor base with residential above.



Plan View of Mixed use site showing ground floor retail.

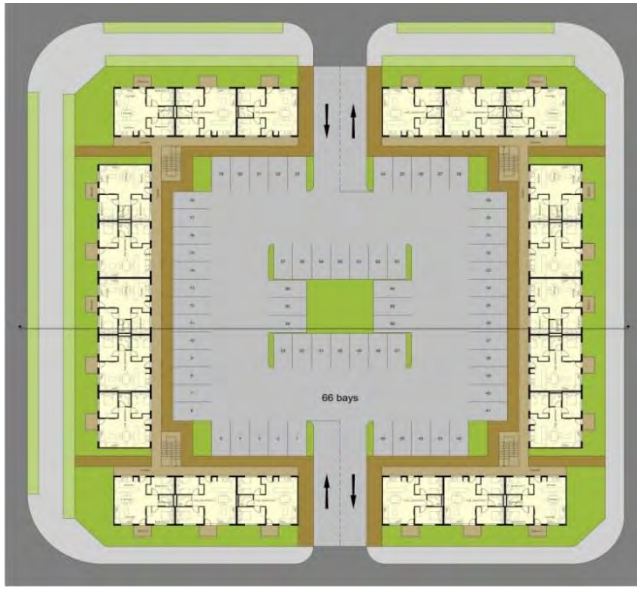
Typical example of a 57m2 residential apartment

Retail on ground floor	
Site Area	4,749.82
No. of units	66
Density	139
Unit size	57.5m²
No. of retail units	22
Parking	66 Bays

The condition reflected above are for illustrative purposes only, the zoning is flexible to permit a variety of different uses and building conditions and should not be restrictive.

CONDITION 2 : MIXED USE SITE- ONLY RESIDENTIAL (RETAIL COULD BE DEVELOPED WHEN THE NEED ARISES.)

Typical section taken across a Mixed use site which shows a 4 storey residential walk-up unit.



Plan View of Mixed use site showing residential unit layout.

4 Storey Walk-up	
Site Area	4,749.82
No. of units	88
Density	185
Unit size	57.5m²
Parking	66 Bays

The condition reflected above are for illustrative purposes only, the zoning is flexible to permit a variety of different uses and building conditions and should not be restrictive.

DESIGN COMPONENT

4.6 Public Space

While the main objectives of the Hub is for it to be an economic Hub that is vibrant and helps improve the quality of lives of the surrounding communities, the provision of space for specific land uses is not the only element that will bring this about. Public space is also considered a critical element to the success of the Hub. This is because the physical design of the spaces in between shops, offices and other activities within the Hub area have the ability to either attract or repel the public from activating the spaces and in turn accessing the different uses within the area. Considering the above, the following proposals are made for the development of the public realm within the Hub.

If the channels along which people move are appealing, people will tend to frequent their movement along these channels. In line with this, the following plan proposes tree planting, and improved lighting along the majority of pedestrian sidewalks, roads and parking areas. The plan also proposes for the landscaping of two proposed traffic circles. As a result, movement channels begin to serve multiple functions as channels of movement, recreational spaces and aesthetically pleasing elements within the Hub.

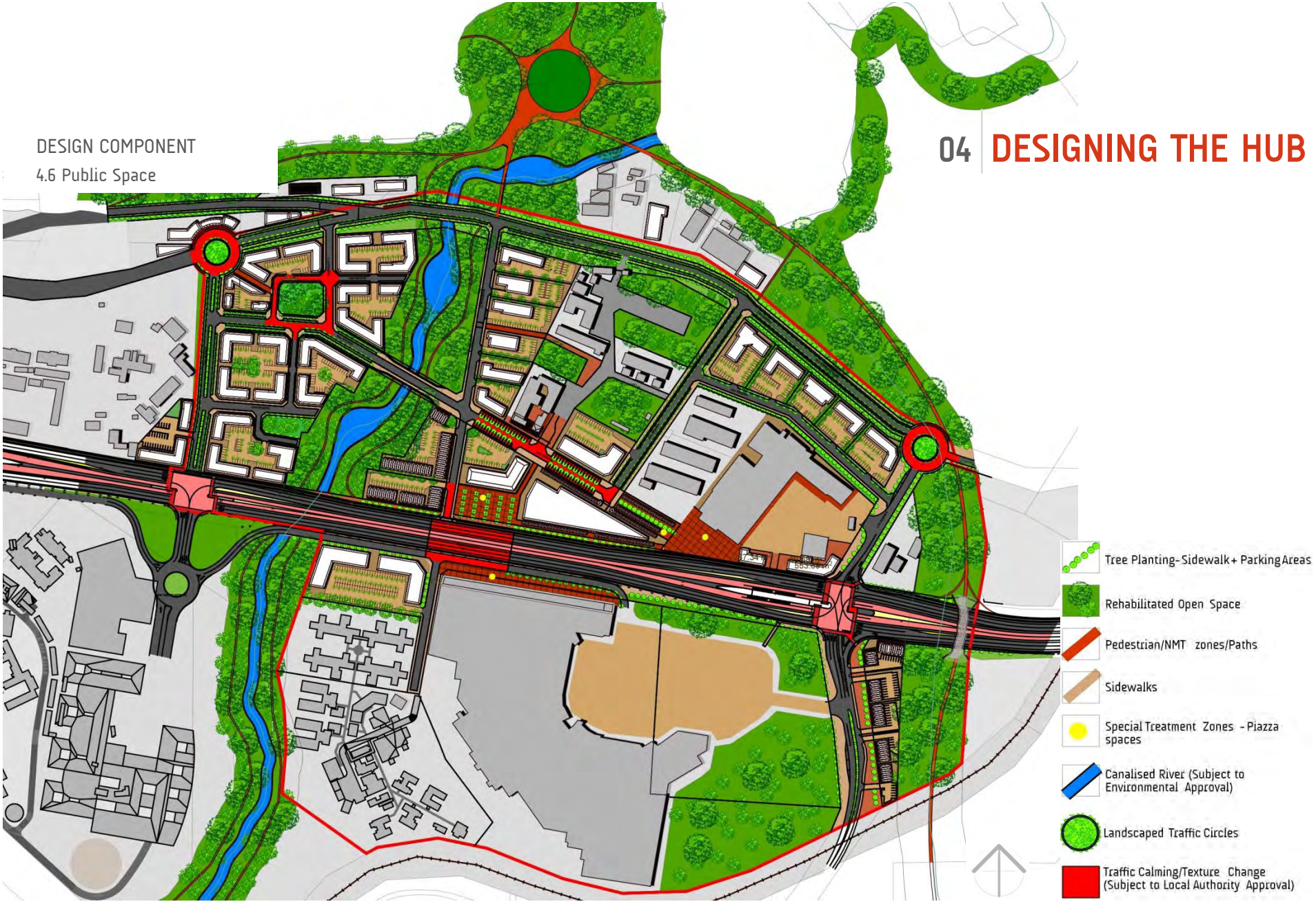
As stipulated in the earlier sections of the report, the “green belt/ lung” (made of ecologically sensitive areas) should serve more than just a conserved asset. As such the plan proposes for the rehabilitation of this green belt into a formal open space that is accessible for all people within the Greater Edendale area and particularly the Hub. The rehabilitation should include in it the development of an NMT route that traverses the entire open space network, linking into a District Park located just outside the Northern boundary of the site. The sites within the Hub should be developed as Town Gardens.

As part of the rehabilitation, the canalisation of Kwapata stream in the western portion of the site is proposed. However this is subject to necessary Environmental approval. It must however be noted that the implementation of this proposal would have a significantly positive impact on the identity and character of the Hub.

Instead of merely being a restricted green space that is isolated from people, it will become a valuable asset that the public can daily identify with as a recreational space. These spaces could consist of benches, walkways, outdoor gymnasium equipment etc, for the community to utilise.

One of the earlier characteristics of the Hub is, ‘A place of celebrated quality spaces’. This should be emphasised on the spaces that have been depicted on the plan as special treatment zones. These spaces are to be developed into Piazza spaces that are given special urban design treatment that includes street furniture provision, lighting and landscaping to make them more appealing as public spaces.

The plan also proposes to incorporate traffic calming measures on specific roads in order to promote the safety of pedestrians. In order to achieve this, texture changes of the road surface at the points on the map is proposed. However this is subject to local Authority approval.


Tree Planting- Sidewalk + Parking Areas
Rehabilitated Open Space
Pedestrian/NMT zones/Paths
Sidewalks
Special Treatment Zones - Piazza spaces
Canalised River (Subject to Environmental Approval)
Landscaped Traffic Circles
Traffic Calming/Texture Change (Subject to Local Authority Approval)

DESIGN COMPONENT

4.7 Development Controls

The preceding sections have presented the current state of the Hub and this helped inform the establishment of the extent and envisioned character of the Hub. Nevertheless in order to ensure that the development of the Hub takes place as envisioned, it is important to establish a set of development controls and guidelines that will guide the implementation of the plans presented.

The following guidelines are proposed for the Core of the Hub. It is important to note that more site specific guidelines and regulations are provided on the 'Edendale Hub Density Controls Table' that is provided in the following pages. The tables reflect the desired activity for each site along with the site area and existing ownership details. Other development control regulations for each site have also been included as well as the proposed GLA.

The main public spaces proposed for the site are the Market and the main Public square covering a combined area of 7000 m2 and a proposed GLA of 5000 in regard to the market and 557 on the Public Square. A height restriction of 1 storey has been proposed for both the Market and Piazza sites along with an FAR of 1 and 0.2 respectively.

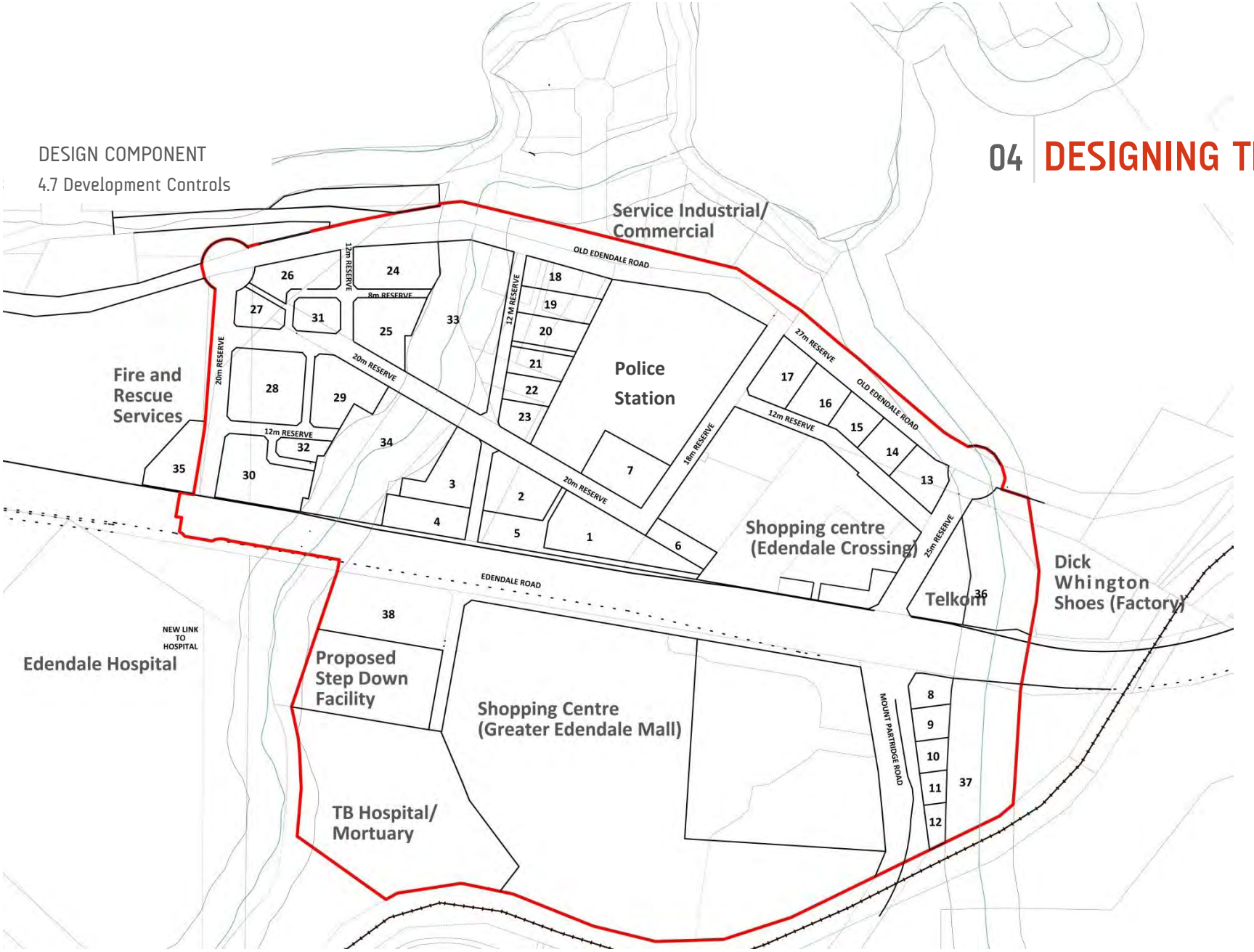
The Productive system assessment highlighted the need to improve SMME opportunities through incubator units for small businesses, the precinct plan provided approximately 2600 GLA (m2) of incubate Hives/ SMME's. The Controls table reflects that all of these are located on land that is currently owned by the Municipality and a height limit of 2 storeys has been assigned to development on these sites.

Over 3,2 Hectares of land have been allocated for Mixed use (Retail/ Commercial/ Residential) activity within the Hubs core. This translates to a proposed total GLA of 43 327. A height restriction of 4 storeys is also proposed as well as FAR of 1.5 on each individual site. However it must be noted that the majority of the parcels that have been identified for this use, are currently privately owned.

In terms of commercial service industry (sites numbers 13- 17 which are currently privately owned), a proposed GLA of 5499 is expected. The sites are along the Old Edendale road and have been assigned a height restriction of 2 storeys along with an FAR of 0.6.

Site number 2 on the plan to the right is partially owned by the Municipality. The development of Government/ Civic/ Municipal offices is proposed on this site however with a height restriction of 3 storeys and 1.0 FAR. Approximately a total of 4 Hectares of land within the Hub covering sites 31-34 along with 36 and 37 make up the ecological infrastructure for the Hub. These parcels have not been assigned height restrictions as their uses would prohibit the development of and buildings.

04 DESIGNING THE HUB



Edendale Hub Density Controls Table- Based on Precinct Plan

Site No (Town Planning nos)	Proposed Site Area(M2)	Desired Activity Patterns	Existing Ownership Details	Proposed height (max storeys)	Proposed FAR	Proposed GLA	SMME/ Informal Sector	Commercial (Formal)	Residential	No of Residential units @ at 55m2 per unit
								20% (Mixed Use only)	80%	
1	4,813.00	Market	Portion of the site Municipal owned however large portions still under private ownership- Municipality have identified for acquisition.	1	1	5000	5000			
2	3,017.00	Government/Civic/ Municipality	Portion of the site Municipal owned however large portions still under private ownership- Municipality have identified for acquisition.	3	1.0	3017		3017		
3	3,019.00	Business Incubator Hives/ SMME	Municipal	2	0.6	1811	1811			
4	2,373.00	Business Incubator Hives/ SMME	Municipal	2	0.6	1424	1424			
5	2,784.00	Piazza- Urban Space (May contain Informal Trading)	Portion of the site Municipal owned however large portions still under private ownership- Municipality have identified for acquisition.	1	0.2	557	557			
6	1,267.00	Piazza- Urban Space (May contain Informal Trading)	Municipal	1	0.2	253	253			
7	3,171.00	Government/Civic/ Municipality	Private	2	0.8	2537		2536.8		
8	1,139.00	Business Incubator Hives/ SMME	Municipal	2	0.6	683	683			
9	1,048.00	Business Incubator Hives/ SMME	Municipal	2	0.6	629	629			
10	852.00	Business Incubator Hives/ SMME	Municipal	2	0.6	511	511			
11	703.00	Business Incubator Hives/ SMME	Municipal	2	0.6	422	422			
12	712.00	Business Incubator Hives/ SMME	Municipal	2	0.6	427	427			
13	1,952.00	Commercial/ Service Industry	Private	2	0.6	1171		1171.2		
14	1,539.00	Commercial/ Service Industry	Private	2	0.6	923		923.4		
15	1,385.00	Commercial/ Service Industry	Private	2	0.6	831		831		
16	1,930.00	Commercial/ Service Industry	Private	2	0.6	1158		1158		
17	2,360.00	Commercial/ Service Industry	Private	2	0.6	1416		1416		
18	1,964.00	Mixed Use (Retail/Commercial/Residential)	Private	4	1.5	2946		589.2	2356.8	43
19	1,826.00	Mixed Use (Retail/Commercial/Residential)	Private	4	1.5	2739		547.8	2191.2	40
20	1,782.00	Mixed Use (Retail/Commercial/Residential)	Private	4	1.5	2673		534.6	2138.4	39

Edendale Hub Density Controls Table- Based on Precinct Plan

Site No (Town Planning nos)	Proposed Site Area(M2)	Desired Activity Patterns	Existing Ownership Details	Proposed height (max storeys)	Proposed FAR	Proposed GLA	SMME/ Informal Sector	Commercial (Formal)	Residential	No of Residential units @ at 55m2 per unit
								20% (Mixed Use only)	80%	
21	1,395.00	Mixed Use (Retail/Commercial/Residential)	Private	4	1.5	2093		418.5	1674	30
22	1,207.00	Mixed Use (Retail/Commercial/Residential)	Private	4	1.5	1811		362.1	1448.4	26
23	1,243.00	Mixed Use (Retail/Commercial/Residential)	Private	4	1.5	1865		372.9	1491.6	27
24	3,309.00	Mixed Use (Retail/Commercial/Residential)	Site is Privately owned however the Municipality have identified for acquisition	4	1.5	4964		992.7	3970.8	72
25	3,117.00	Mixed Use (Retail/Commercial/Residential)	Site is Privately owned however the Municipality have identified for acquisition	4	1.5	4676		935.1	3740.4	68
26	2,506.00	Mixed Use (Retail/Commercial/Residential)	Portion of the site Municipal owned however some portions still under private ownership- Municipality have identified these areas for acquisition.	4	1.5	3759		751.8	3007.2	55
27	1,360.00	Mixed Use (Retail/Commercial/Residential)	Portion of the site Municipal owned however some portions still under private ownership- Municipality have identified these areas for acquisition.	4	1.5	2040		408	1632	30
28	4,749.00	Mixed Use (Retail/Commercial/Residential)	Municipal	4	1.5	7124		1424.7	5698.8	104
29	3,275.00	Mixed Use (Retail/Commercial/Residential)	Municipal	4	1.5	4913		982.5	3930	71
30	4,313.00	Mixed Use (Retail/Commercial/Residential)	Municipal	4	1.5	6470		1293.9	5175.6	94
31	1,389.00	Park	Portion of the site Municipal owned however some portions still under private ownership- Municipality have identified these areas for acquisition.			0				
32	879.00	Park	Municipal			0				
33	10,942.00	Rehabilitated Open space- Town Gardens	Municipality have identified a portion of the site for acquisition however some areas are still privately owned			0				
34	10,367.00	Rehabilitated Open space- Town Gardens	Municipal			0				
35	2,408.00	Mixed Use (Retail/Commercial/Residential)	Municipal	4	1.5	3612		722.4	2889.6	
36	8,052.00	Rehabilitated Open space	Parastatal							
37	8,460.00	Rehabilitated Open space	Municipal							
38	6,488.00	Commercial/ Retail	Municipal	3	1	6488		6488		
TOTAL GLA BASED ON PRECINCT FRAMEWORK	**115,095.00**					**80940**	**11718**	**27878**	**41345**	**699**
NOTES:							Population estimate at an average of 4 people per household			2797

1. Incubator Units for Small Business's average 40m2 units
2. Trading Stalls for informal Business average 10m2
3. Residential units average 55m2 at an average density of 200du/ha
4. Bulk excluded from the table above is the new retail opportunities within the Shopping centres;
For the Edendale Crossing mall- additional opportunities around the KFC building equate to ±1800m2 for fast food / retail opportunities;
For the greater Edendale Mall, the existig Taxi holding areas can be converted to small scale retail shops along the interface of Edendale Road and potentially can increase the retail opportunity to ±2000m2
5. The Mixed use split is indicative for the Quantification of Bulk only.
6. The above table is subject to detail design and therefore the Bulk Quantities are only indicative.

DESIGN COMPONENT

4.7 Development Controls

It is important to emphasise that Edendale is a dynamic area and in order to develop the area into an Urban Hub and stimulate new development and investment opportunity, the process needs to recognise the normal set of controls controlling development needs to be reviewed or managed in a different way. The process should allow for controls however also to facilitate development through engagement. Possibly a Design Review Committee needs to be established in order to manage development at the Hub and in this forum enable a greater flexibility in controlling development at the hub. Rigid development controls applied in other areas should not be strictly applied in developing the hub but rather evaluate development on a site by site basis without compromising the Hub vision.

Bearing this in mind, the following suggestions below are merely to serve as a guide for the municipality however a more facilitative discussion is required to move away from these regulatory controls in order to facilitate and attract investment at the hub.

Scheme Implications

When the existing land use is overlaid over the current proposals, there is a difference in the existing versus the proposed. One of the reasons for the difference in land uses is due to the rework of the existing cadastral where the proposed layout and structure is now more suited for a Town centre-Urban Hub development. The other key reason is that the uses proposed are more in keeping with town centre development.

The areas identified for mixed use development is currently zoned for residential. Whilst the mixed use does permit residential, it possibly does not permit mixed use development or permit the densities proposed. The areas identified for informal activity, market, government building and the urban space is currently zoned as commercial. The areas proposing commercial/ service industrial is currently zoned for industrial and is possible the only closest match to the proposed use.

Notwithstanding the above, there will be a need to review the scheme bearing in mind the comments made at the start of this section that these controls must allow a degree of flexibility when applied in the Hub. There are potentially two recommendations;

1) Consider the creation of a **Special Zone: Edendale Hub** within the Msunduzi Town Planning Scheme. Special Zones have been used quiet extensively in Ethekwini municipality as they permit a wide range of mixed uses with varying controls such as recreational, entertainment, residential, shopping, business, commercial, community, service industrial and related activities and any other activities that would ordinarily be accommodated within a city environment, in such a way that the uses contribute
towards the creation of a dynamic, harmonious and well balanced city precinct of the highest aesthetic, landscaping and urban design quality. Normally in the creation of special zones , the introduction of Form based codes(FBC) are controlled through the creation of Precinct Plans. Once a scheme includes a special zone, specific FBC are contained in the precinct plans in order to direct the private developers. In the case of Msunduzi, precinct plans would need to be prepared for each sub precinct defined. These would involve detailed information such as ground surveys, infrastructure engineering details and traffic road layouts. (see table on the following page for contents of a Precinct plan).

The precinct plans become statutory plans that the municipality refers to in order to approve a development. The process could be taken one step further by establishing a **Design Review Committee(DRC**) made up of members of the professional team and line departments of the municipality who evaluate the designs prior to the plans being submitted to the municipality for approval. In this way the design philosophy and vision is not compromised and there is scope for the DRP to work with the architect to ensure the correct response is achieved and permit the flexibility required for this area.

2) The second option is to **amend the Msunduzi scheme**, either by creating new zones or amending existing ones that includes FBC as additional controls. This is a more challenging scenario and it will involve considerable time to develop but the advantage is that once established it could be used in other areas in the Municipality that have similar characteristics. This option will not necessarily involve the preparation of a Precinct plan as the controls will be established and set out in the scheme but may be difficult to interpret without a set of plans to illustrate the intensions. An example of how this could be applied is reflected in the table on the following page which was prepared by Iyer Urban Design Studio in 2014 for the eThekwini municipality for the Shongweni area. The introduction of the FBC controls in the scheme was pioneered by Iyer and introduced in this project as part of preparing a scheme for the Shongweni area. The table below reflects typical guidelines for mixed use developments.

The application of which option to utilise will require further engagement with the municipality and the land use management consultants.

DESIGN COMPONENT

4.7 Development Controls

FORM	ACCESS AND CIRCULATION	LANDUSE DISTRIBUTION	PUBLIC ENVIRONMENT
Building Placement Site Planning: Perimeter Buildings Site Planning: Build-To-Lines and Set-Backs Site Planning: Block Sizes Site Planning: Defining Space Site Planning: Consider the local context **Building Envelope** Building Envelope **Building Edge Conditions and Frontage Types** Build-To-Lines and Front Setbacks Semi-Public and Public Realm Relationships Frontage Types **Special Architectural Features and Responses** Architectural Features Corner Expressions Landmark Quality Expression	**Access** Access: Visibility Access: Stacking Space and Access Points **Parking and Circulation** Parking Lot Size Pedestrian Movement Alignment and Aisle Management Pedestrian Movement Alignment and Road Crossing Loading Links to Adjacent Properties and Buildings	Land-Use distribution: Vertical Mix of Uses	The Public Environment: Landscaping Issues The Public Environment: Tree Planting Approaches Public Environment Screening

TYPICAL FORM BASED CODE GUIDELINES FOR MIXED USE DEVELOPMENTS[1]

Form Based codes (FBC)

Form-Based Zoning Codes are a method of regulating development to achieve a specific urban form. Form-based codes place an emphasis on the relationship between the street and buildings, pedestrian and vehicles, public and private spaces, and the relationship between multiple buildings, a block, a neighbourhood and transitions in scale. They create a predictable public realm by controlling physical form of private developments, with a secondary focus on land use regulations.

Goals of Form-Based Zoning:

- Mixed-use activities within buildings and blocks of the city—that are walk-able distances of offices and residences
- Promote walk-ability through a greater emphasis on the pedestrian spaces
- Promote transit by establishing nodes of greater intensity concentrations

Precinct Plan Contents
Max FAR Per Site Max Height Per Site Coverage Details Parking Provision/Requirements Primary/Secondary Ingress/Egress Points Building Lines/Mandatory Build within Zones Side/Rear Space Provision Road Network Pedestrian Circulation Landscaping + Streetscape Servitudes Architectural Response Landmarks/Sensitive Features Street Trading Areas Public Transport /Lay Byes Public Parking Taxi Stops Site Specific Design/Planning Controls Linkages to Adjacent Precincts

DESIGN COMPONENT

4.7 Development Controls

ZONE: FBC BUSINESS PARK			
SCHEME INTENTION: A zone which provides for commercial, industrial, higher residential densities and office development as the development focus in peripheral locations adjacent to shopping centre's or a mixed use core or as independent zones			
MAP COLOUR REFERENCE:			
PRIMARY	**CONSENT**		**PRECLUDED**
RESIDENTIAL: NA **COMMERCIAL:** Office Office – Medical Commercial Workshop Shop **COMMUNITY FACILTIES:** Educational Establishment Place of Public Assembly Place of Public Entertainment **INDUSTRY:** Warehouse Industry – Light **RECREATION:** Private Recreation Area **AGRICULTURE:** NA **OTHER:** NA	**RESIDENTIAL:** Caravan Park Chalet Development Extended Residential Building Flat Residential Building Mobile Home Mobile Home Park & Camping Ground **COMMERCIAL:** Arts and Crafts Workshop Health & Beauty Clinic/Health Studio Funeral Parlor Garden Nursery Fuelling and Service Station Display Area Betting Depot Convention Centre Hotel Laundry Parkade Restaurant / Fast Food Outlet Tavern Motor Garage Motor display Area **COMMUNITY FACILTIES:** Government/Municipal Creche Institution Place of Public Worship Veterinary hospital	**INDUSTRY:** Industry – Extractive industry – General Motor Workshop **RECREATION:** Conservation area **AGRICULTURE:** Agricultural Activity Animal facility **OTHER:** BTTS Drive-in cinema Restricted Building Special Building	Boarding House Chalet Development Container Depot Convention Centre Dwelling House Industry – Noxious **RESIDENTIAL:** NA **COMMERCIAL:** Action Sports Bar Adult Premises Bar Builder's Yard Car Wash Direct Access Service Centre Escort Agency Flea Market Motor Display Area Night Club **COMMUNITY FACILTIES:** NA **INDUSTRY:** NA **RECREATION:** NA **AGRICULTURE:** Agricultural Land Riding Stables **OTHER:** Airport Correctional Facility Crematorium Cemetery Landfill Mortuary
ADDITIONAL CONTROLS			
1. BTTS shall mean Base Telecommunications Transmission Station. 2. Accommodation for motor vehicles to be provided on the erf as per Section 9 3. Subject to the provision of a sewerage disposal system to the satisfaction of the Municipality **REFER TO FORM BASED DEVELOPMENT GUIDELINES FOR MIXED-USE ZONES**			

FBC DEVELOPMENT PARAMETERS		
DESIRED FORM	Commercial design Shop fronts on street Residential to intermediate heights	
BUILDING PLACEMENT	FAR	0.50
	Coverage	50%
	Build-to-Line (BTL)	of MAX 1m on front street
	Side Space	3m / 4.5 for office purposes
	Rear Space	3m / 4.5 for office purposes
	Street facade	Must be to BTL
	Loading Docks	Must not be located on front street facing facades
BUILDING FORM	Height	4
	Distance between entrances	15m max
	Buildings wider than 30m	Must be designed as a series of buildings
	Ground floor	Should be in the form of colonnades/awnings
ARCHITECTURAL CHARACTER	Ground floor	Should be in the form of colonnades / awnings
	Landmark Building	Located at major intersection

A FBC FACILITATION TABLE[1]

[1]Shongweni LUF, Iyer Urban Design Studio, 2014

DESIGN COMPONENT

4.7 Development Controls

Parking Guidelines

Parking is one of the key informants in the feasibility of a scheme and often developers walk away from a potential development as the parking requirements are too onerous. It is therefore recommended that the parking standards for the Urban Hub be reduced due to the proximity of the Hub to the proposed BRT station. Edendale Road has been considered for the first phase of the IRPTN project and therefore there will be an efficient transport network in the area in the short term. The hub has been designed on the principles of walkability and all key uses are within a 5 minute walk of the proposed BRT station. The reduced parking standards below are merely indicative and as indicated earlier in this section, development must be evaluated on a site by site basis.

Mixed Use:	1.5 bays per 100m2
Commercial/office:	2.5 bays per 100m2
Civic/institutional:	1 bay per 100m2
Light/Service industry:	1 bay per 100m2
Residential:	0.5 bays per unit

Building Guidelines

The buildings lines and coverage below should also be evaluated on a site by site basis. The following building lines below are merely indicative and can vary dependent on the nature and type of development ;

Front space:	0m
Side Space:	3m
Rear Space:	3m

Coverage is on average 60%

Basement Coverage (if applicable) is 100%

Sustainable Design Guidelines

An important aspect of the concept of sustainability for this project is the integration of sustainability across a range of sectors. These include architecture, landscape, infrastructure design and the social environment.

Architecture

Key aspects that would form part of the architectural ethic include:

- Orientation and solar control,
- Rainwater collection for irrigation,
- Solar energy utilisation,
- the re-use of “grey” water,
- insulation of roofs and roof landscaping,
- the use of materials with a low embodied energy and from sources as close as possible to the site,
- harvesting of rainwater,
- the use of alternative technology such as heat pumps, LED lights and other “green technology”.

Landscape and Public Environment

Issues to be addressed in the terms of landscape include:

- the use of indigenous and endemic landscape materials;
- the creation of a good quality public environment through appropriate street planting, signage, lighting, litter bins and seating areas;
- the creation of an environment which encourages pedestrian movement and provides safe sidewalks and public open spaces;

Services

In considering infrastructure, amongst other aspects the following will be considered:

- the management of storm water runoff;
- the use of permeable paving materials;
- the use of permeable paving materials;

Additional controls/ criteria are reflected on the table on the following page. These could be used in the building approval stage and a point system or incentives could be awarded for Green Buildings within the Urban hub or the municipality could enforce the sustainable measure criteria as mandatory controls on all future buildings within the Urban Hub.

	SUSTAINABILITY MEASURES CRITERIA		Mandatory	Encouraged
Towards Zero Carbon	**1.1**	**Lighting**		
	1.1.1	Maximise use of natural light in design and operation of all buildings	*	
	1.1.2	Use only low energy / LED/CFL/induction lighting light bulbs	*	
	1.1.3	Ban use of halogen downlighters, thinking of more creative alternatives eg. uplighters using CFLs, LED spots if necessary	*	
	1.1.4	Motion sensor light switches	*	
	1.1.5	Use of solar for external lighting		*
	1.2	**Heating/Cooling**		
	1.2.1	Solar thermal/photovoltaic hot water heating or the use of heat pumps	*	
	1.2.2	Install timer switchers on existing conventional geysers	*	
	1.2.3	Insulation/Geyser blankets on conventional geysers	*	
	1.2.4	Set geyser thermostat to 50°C in summer and 60°C in winter	*	
	1.2.6	Ensure most efficient orientation of building to maximise positive use of sun, wind, etc	*	
	1.2.7	Roof Space insulation	*	
	1.2.8	Use of gas stoves is encouraged as much as possible		*
	1.3	**Transport**		
	1.3.1	Use of public transportation encouraged		*
	1.3.2	Car pools encouraged for trips to work		*
	1.3.3	Purchase company vehicles with lowest carbon emissions and fuel consumption		*
	1.3.4	Implement a shuttle/pool car system for guests travelling to attractions/destinations		*
	1.4	**Other**		
	1.4.1	Ensure use of timers for pool motors and run during non peak hours	*	
Towards Sustainable Water Use	2.1	Use of dual flush toilets mandatory	*	
	2.2	Rainwater harvesting for irrigation/garden use	*	
	2.3	Separation of grey water for use for irrigation	*	
	2.4	Timer switches on irrigation such that watering happens at appropriate times (not midday) and for minimum necessary time periods	*	
	2.5	Tap aerators on sinks and basins (not baths, takes too long to fill with concurrent heat loss of the water)	*	
	2.6	Use of low flow shower heads	*	
	2.7	Low energy / low water use appliances	*	
Towards Zero Waste	3.1	Implement policy of 3Rs – reduce/reuse/recycle	*	
	3.2	**Reduce** the demand for products, packaging	*	
	3.3	**Reuse** containers, packaging, bags etc	*	
	3.4	**Recycle** paper, plastics, glass, cans	*	
Towards Sustainable Food	4.1	Purchase locally produced foods		*
				*
Towards Natural Habitats and Wildlife	5.1	Use of indigenous landscaping and planting palettes (providing for use of food plants)	*	
Towards Local & Sustainable Materials	6.1	Encourage use of natural and local materials in building design and construction		*
	6.2	Encourage procurement of all goods and services from local suppliers		*

05 ACTION PLAN

IMPLEMENTATION OVERVIEW

5.1 Implementation Plan

The preceding section of the report outlined the proposed design of the Hub and various controls to guide its development. The action plan section is thus aimed at identifying and defining specific projects to be implemented as part of the development of the Hub. It is a road map highlighting the necessary steps to follow to ensure the development of the Hub.

The Hub is divided into 6 main phases guiding the way in which development is expected to unfold. These are depicted in the plan on the following page. Each of these phases will involve the implementation of specific projects.

The implementation of each is geared toward realisation of one of the following strategies:

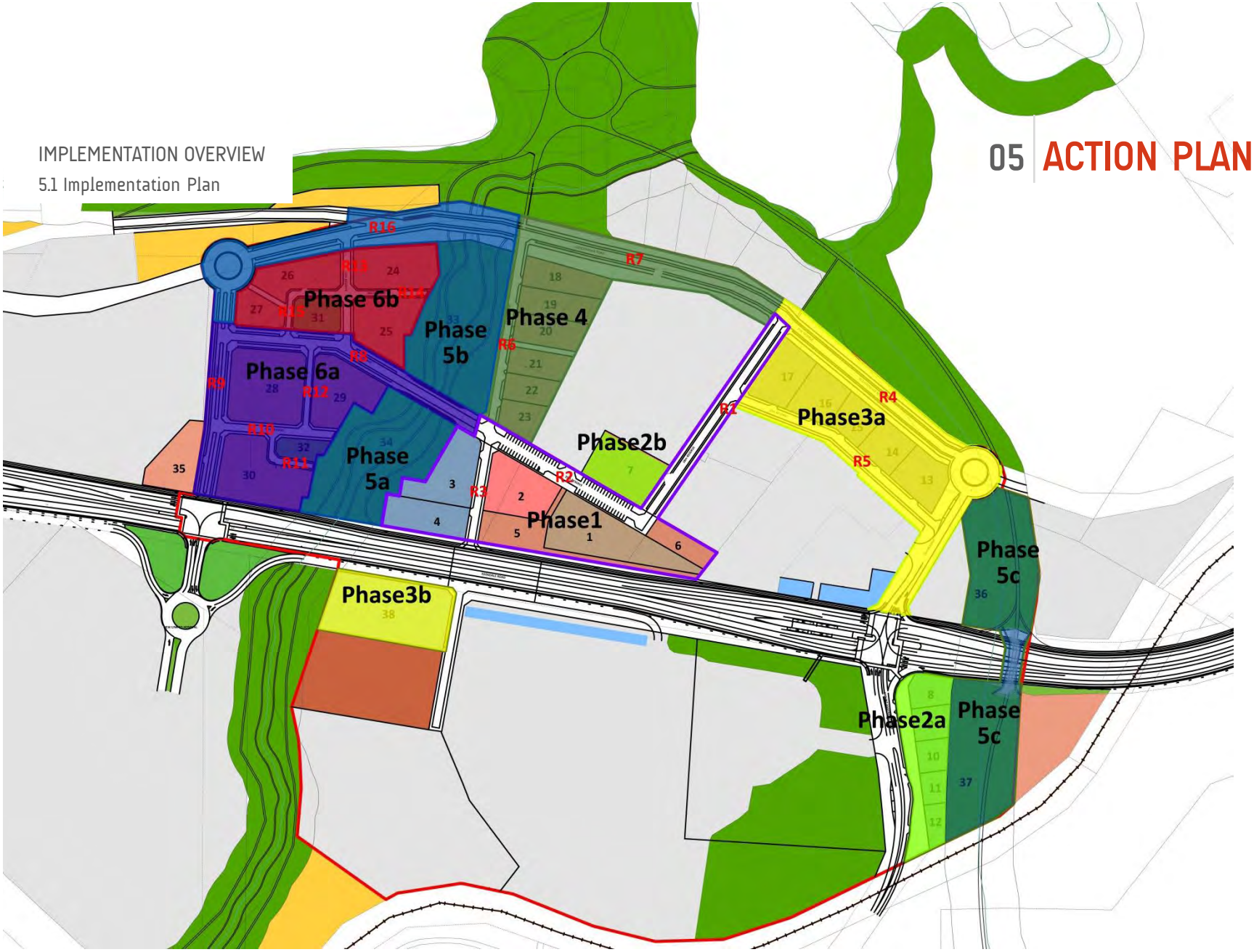
1) Planning approval and Implementation Set up,
2) Establishing the HUB- Support and grow the informal economy and government precinct,
3) Promote the building of a diversified service industrial/ manufacturing sector,
4) Develop mixed-use retail/ office and residential opportunity
5) Enhance the quality of life of the Hub by rehabilitating existing open spaces,
6) Address infrastructure capacity.

Each of the projects proposed under the strategies above, has been assigned a proposed timeframe by which it must be implemented. The time frames have been set to range between, Immediate and Long term. The classification of these timeframes is provided as follows:

- **Immediate:** these are actions or projects that require immediate action/ implementation.
- **Short-term:** this would be considered to be by the end of the 2014-2016 financial year, thus a one year period.
- **Medium-term:** would thus be considered to be by the end of the 2016-2021 financial year.
- **Long-term:** this is the longest timeframe and is considered to reach 2021 and beyond.

This section of the report will also provide a summary sheet of all of the proposed projects for the Hub. This will lead into a more detailed sub-precinct plan that will also include 3D visual images reflected the intended vision the Sub- Precinct. More detailed project sheets that include the description of each project along with an estimated budget will be provided as the conclusion for the section.

In considering the implementation of the different proposed projects within the Hub, the need for labour intensive construction techniques to be used in all construction processes must be emphasized.


Phase 6b
Phase 6a
Phase 5b
Phase 4
Phase 5a
Phase2b
Phase1
Phase3a
Phase 5c
Phase3b
Phase2a
Phase 5c
R16
R7
R6
R3
R9
R12
R10
R11
R2
R3
R1
R4
R5

Project No	Strategy and Project	Type	Timeframe/ Priority	Responsibility	Phases	Budget estimate (Excl. VAT and Disb. Budget reflects construction cost only, excludes site preparation costs, Pand G's, Contingencies, Escalation and Professional fees, additional ±60% to total- varies)
STRATEGY 1: PLANNING APPROVAL AND IMPLEMENTATION SET UP						
1.1	Edendale Precinct Plan Approval	Planning	Immediate	GEDVI	None	
1.2	Engaging with Relevant Provincial and Local Departments	Facilitation	Immediate	GEDVI	None	
1.3	Acquisition of Strategic Parcels of land	Land Legal	Immediate	Rates, Legal Department, GEDVI	None	
1.4	Survey, consolidation, sub-division and rezoning of land (PDA)	Planning	Short Term	GEDVI, Infrastructure, Planning and Survey	Nil	R 850,000
1.5	Engaging with Business Partners (PPP)	Facilitation	Immediate	GEDVI, PPP specialists	Nil	R 200,000
1.6	Marketing available Edendale Sites	Facilitation	Short Term	Real Estate	Nil	
STRATEGY 2: ESTABLISHING THE HUB -SUPPORT AND GROW THE INFORMAL ECONOMY AND GOVERNMENT PRECINCT						
2.1	Upgrade Road (R1)	Infrastructure	Short Term	Infrastructure, Planning and Survey	Phase 1	R 2,260,000
2.2	Construct New Road (R2)	Infrastructure	Short Term	Infrastructure, Planning and Survey	Phase 1	R 1,549,900
2.3	Develop a Market	LED	Short Term	Market Manager, GEDVI	Phase 1	R 23,060,000
2.4	Develop a Government/ Institutional Building	Capital	Short Term	GEDVI, Public Works, Health and Social Services	Phase 1	R 20,610,000
2.5	Develop support Government/ Institutional Building	Capital	Medium Term	GEDVI, Public Works, Health and Social Services	Phase 2a	R 20,700,000
2.6	Establish a Public Piazza Space and pedestrian spaces	Capital	Short Term	GEDVI, Infrastructure, Planning and Survey	Phase 1	R 2,000,000
2.7	Develop Informal Trading Stalls/ Shelters	LED	Short Term	Market Manager, GEDVI	Phase 1	R 1,500,000
2.8	Construct New Road (R3)	Infrastructure	Short Term	Infrastructure, Planning and Survey	Phase 1	R 678,900
2.9	Develop Business Incubator/ SMME Hives	LED	Short Term	Market Manager, GEDVI, Private	Phase 1	R 15,470,000
2.10	Develop additional Business Incubator/ SMME Hives	LED	Medium Term	Market Manager, GEDVI, Private	Phase 2b	R 9,970,000
STRATEGY 3: PROMOTE THE BUILDING OF A DIVERSIFIED SERVICE INDUSTRIAL/MANUFACTURING SECTOR						
3.1	Upgrade a portion of Old Edendale Road (R4)	Infrastructure	Medium Term	Infrastructure, Planning and Survey	Phase 3a	R 2,112,000
3.2	Construct New Road (R5)	Infrastructure	Medium Term	Infrastructure, Planning and Survey	Phase 3a	R 1,672,800
3.3	Establish Commercial/ Service Industrial Development	Capital	Medium Term	GEDVI, Private	Phase 3a	R 46,086,400
3.5	Develop additional Commercial Opportunity	Capital	Long-term	GEDVI, Private	Phase 3b	R 41,150,000

NOTE: Budget estimate figures have been rounded off. For more detailed estimates refer to detailed project tables.

5.2 Summary of Projects

Project No	Strategy and Project	Type	Timeframe/ Priority	Responsibility	Phases	Budget estimate (Excl. VAT and Disb. Budget reflects construction cost only, excludes site preparation costs, Pand G's, Contingencies, Escalation and Professional fees, additional ±60% to total- varies)
STRATEGY 4:	**DEVELOP MIXED USE RETAIL/ OFFICE AND RESIDENTIAL OPPORTUNITY**					
4.1	Upgrade a portion of Old Edendale Road (R7)	Infrastructure	Medium Term	Infrastructure, Planning and Survey	Phase 4	R 2,144,000
4.2	Construct New Road (R6)	Infrastructure	Medium Term	Infrastructure, Planning and Survey	Phase 4	R 1,354,000
4.3	Unlock Mixed Use Development Opportunity	Capital	Medium Term	GEDVI, Private	Phase 4	R 115,399,000
4.4	Construct New Road (R8)	Infrastructure	Long Term	Infrastructure, Planning and Survey	Phase 6a	R 2,215,000
4.5	Construct New Road (R9)	Infrastructure	Long Term	Infrastructure, Planning and Survey	Phase 6a	R 1,550,000
4.6	Construct New Road (R10, R11 and R12)	Infrastructure	Long Term	Infrastructure, Planning and Survey	Phase 6a	R 1,596,700
4.7	Unlock Mixed Use Development Opportunity	Capital	Long Term	GEDVI, Private	Phase 6a	R 150,388,000
4.8	Construct New Road (R13, R14 and R15)	Infrastructure	Long Term	Infrastructure, Planning and Survey	Phase 6b	R 1,440,000
4.9	Unlock Mixed Use Development Opportunity	Capital	Long Term	GEDVI, Private	Phase 6b	R 125,407,600
STRATEGY 5:	**ENHANCE THE QUALITY OF LIFE OF THE HUB BY REHABILITATING EXISTING OPEN SPACES**					
5.1	Canalise and rehabilitate existing open space into a Town Gardens	Capital	Medium Term	GEDVI, Park	Phase 5a	R 23,078,000
5.2	Canalise and rehabilitate existing open space into a Town Gardens	Capital	Medium Term	GEDVI, Park	Phase 5b	R 24,920,000
5.3	Upgrade a portion of Old Edendale Road (R16)	Infrastructure	Medium Term	Infrastructure, Planning and Survey	Phase 5b	R 2,863,000
5.4	Establish a Pedestrian NMT bridge across Edendale Road as well as Rehabilitate existing open space	Infrastructure	Medium Term	Infrastructure, Planning and Survey	Phase 5c	R 2,600,000
STRATEGY 6:	**ADDRESSING THE INFRASTRUCTURE CAPACITY**					
6.1	Civil Infrastructure: Undertake detailed topographical survey	Planning	Immediate	Infrastructure, Planning and Survey		TBD
6.2	Civil Infrastructure: Conduct Field Investigation	Planning	Immediate	Infrastructure, Planning and Survey		TBD
6.3	Civil Infrastructure: Approval by service providers	Facilitation	Immediate	Infrastructure, Planning and Survey		TBD
6.4	Civil Infrastructure: EIA approvals/Studies	Planning	Short Term	Infrastructure, Planning and Survey		TBD
6.5	Electrical Infrastructure: Meeting with service providers	Facilitation	Immediate	Infrastructure, Planning and Survey, Electricity		TBD
6.6	Electrical Infrastructure: Detailed survey	Planning	Immediate	Infrastructure, Planning and Survey, Electricity		TBD
6.7	Electrical Infrastructure: Site investigation	Planning	Immediate	Infrastructure, Planning and Survey, Electricity		TBD
6.8	Electrical Infrastructure: Make application to the Service provider	Planning	Short Term	Infrastructure, Planning and Survey, Electricity		TBD
6.9	Electrical Infrastructure: Application on behalf of the developer	Planning	Short Term	Infrastructure, Planning and Survey, Electricity		TBD
6.10	Electrical Infrastructure: Conceptual Designs	Planning	Short Term	Infrastructure, Planning and Survey, Electricity		TBD

NOTE: Budget estimate figures have been rounded off. For more detailed estimates refer to detailed project tables.

IMPLEMENTATION OVERVIEW

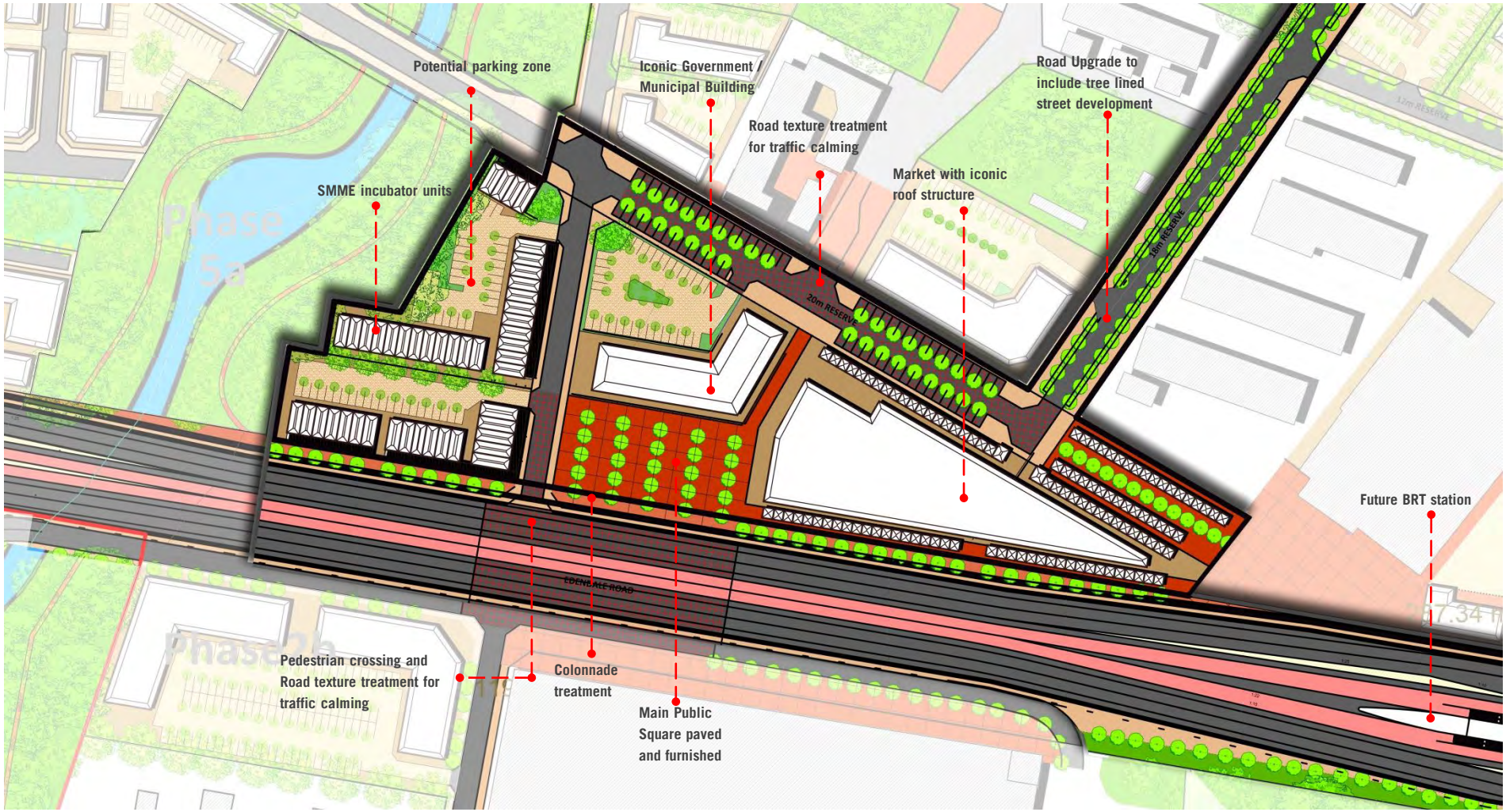
5.3 Lead Project

The following page shows the first phase of the development of the Hub and the various projects that make up the phase. The selection of this area as the lead project/ phase is a deliberate decision in anticipation that the successful development of this area will trigger investment and development of the rest of the Hub area.

The area reflected on the plan clearly highlights the intended character of the Hub through the different project planned for it. The Market and SMME incubator sites, show the importance of the informal economy and the efforts being put in place to grow this economy within the Hub.

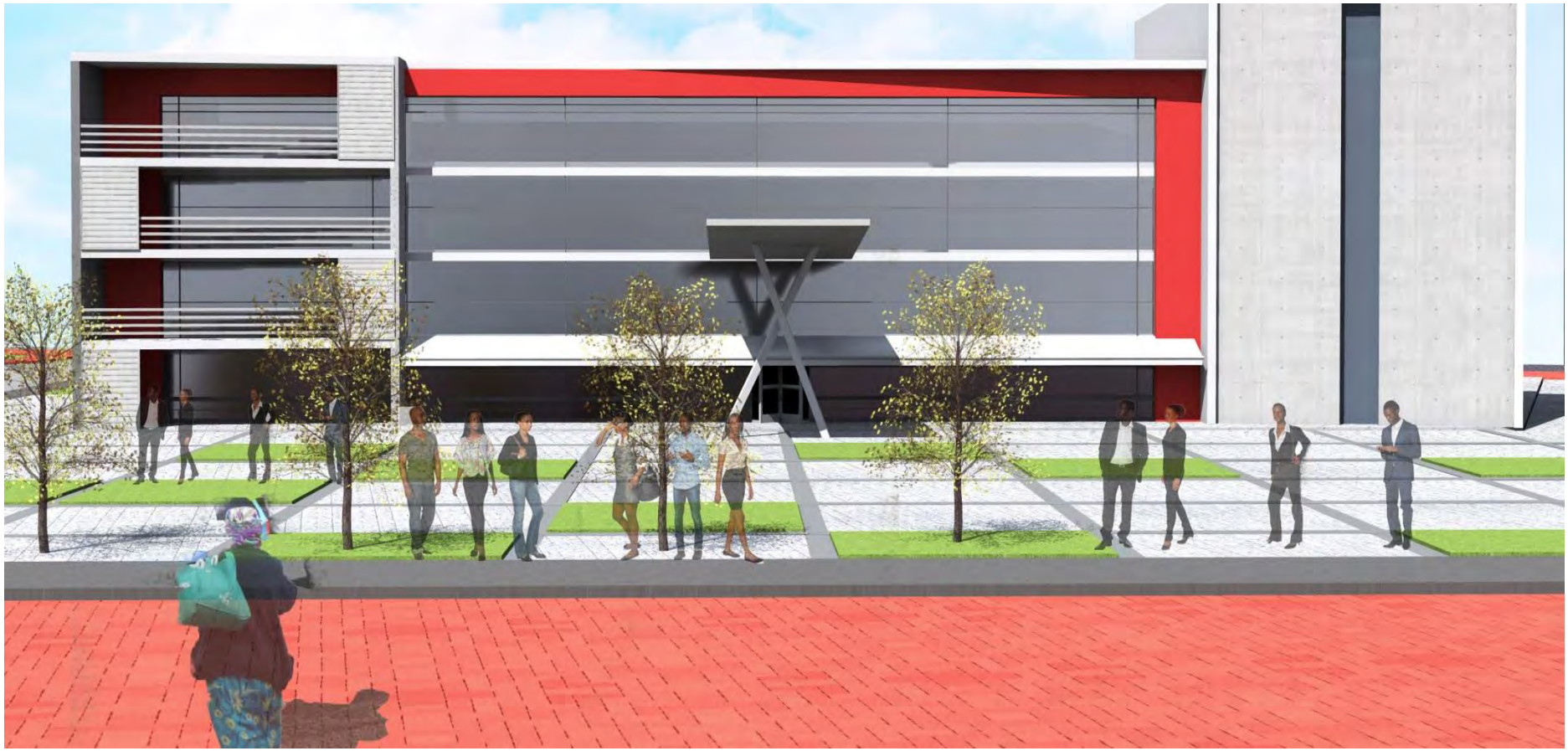
The Government building relates to the already existing police station and will stand a symbol of the role the Public sector. The Public Square emphasises the notion of the Hub being a place of public gathering, were people interact. The different traffic calming initiatives proposed highlight the importance of promoting pedestrian safety, while the landscaped streets help the Hub become a place of celebrated spaces with quality streets.

However as stipulated in preceding sections of the report, there are some parcels of land that are still privately owned but the Municipality aims to acquire. Considering this, it is imperative that the acquisition of these parcels of land is secured as soon as possible in order to allow for the development of this phase to commence.


Potential parking zone
Iconic Government / Municipal Building
Road texture treatment for traffic calming
Road Upgrade to include tree lined street development
SMME incubator units
Market with iconic roof structure
Future BRT station
Pedestrian crossing and Road texture treatment for traffic calming
Colonnade treatment
Main Public Square paved and furnished
Phase 5a
Phase 5b
20m RESERVE
EDENDALE ROAD

Artists Impression: Government Building, Main Public Square and Market

Artists Impression: Main Public Square and Market



Artists Impression: Government Building and Public Square

Artists Impression: Government Building, Main Public Square, Market and SMME Incubator Units

Artists Impression: SMME Incubator Units and Proposed Town Gardens with Canalised river

Artists Impression: SMME incubator units

5.4 Full Project Details

Project No	Strategy and Project	Description	Proposed Site No.	Type	Timeframe/ Priority	Responsibility	Quantity/ Approximate size of Building/elements	Rate/m2	Phases	Budget estimate (Excl. VAT and Disb.) Budget reflects construction cost only, excludes site preparation costs, Pand G's, Contingencies, Escalation and Professional fees, additional ±60% to total- varies) Construction budgets are indicative and subject to change once more detailed Implementation plans are prepared.
STRATEGY 1: PLANNING APPROVAL AND IMPLEMENTATION SET UP										
1.1	Edendale Precinct Plan Approval	The Edendale Precinct Plan proposes the establishment of an Urban Hub within Greater Edendale Area. This redevelopment will require substantial capital investment. In order to access capital funding it will be essential that Council structures support and approve the plan. The proposed plan must be approved by Council and Executive Committee before implementation can proceed. GEDVI will take responsibility for obtaining the required approvals.		Planning	Immediate	GEDVI			None	
1.2	Engaging with Relevant Provincial and Local Departments	The public sector investment will include a government precinct providing an alternative location for provincial government offices not appropriately accommodated in Pietermaritzburg, a government service centre providing local and other government services to the people of Edendale and Vulindlela and publicly funded space for the development of the informal economy. Further engagement would need to occur to determine the type of facility required.		Facilitation	Immediate	GEDVI			None	
1.3	Acquisition of Strategic Parcels of land	The municipality have been acquiring strategic parcels of land for development at the Hub. Two potential parcels that the Municipality have not yet acquired and have shown interest in is Erf 13690, Portion remainder 19 as well as Erf 1297, Portion remainder 5.This parcel of land is critical in unlocking the first phase of the development.		Land Legal	Immediate	Rates, Legal Department, GEDVI			None	Dependent on the cost to acquire the said piece of land from the private individual
1.4	Survey, consolidation, sub-division and rezoning of land (PDA)	The planning proposals recommend the subdivision of existing parcels of land in the Hub. The feasibility of these subdivided parcels of land must be considered, in light of the planning proposals, and a planning process (PDA) to formalise the subdivision must get underway. A tache Survey of the Hub will be required for the detailed design and Implementation of the identified projects.		Planning	Short Term	GEDVI, Infrastructure, Planning and Survey		This process could be undertaken in accordance with the potential Phases therefore budget may vary.	Nil	R 850,000
1.5	Engaging with Business Partners (PPP)	It is crucial that in the early stages of the process, PPP's are forged between business owners, retail centres and the municipality in order for them to buy into the vision and see the value of redevelopment opportunities. It may be essential for the municipality to acquire the services of PPP specialists who can start to develop these relationships to come on board in particular stages in the development of the Urban Hub. The private sector investment will expand the existing retail offering, also providing support for informal retail activities, and will build on providing a range of social, business and financial services to the people of Edendale, Vulindlela and the larger region, services currently only accessed in the Pietermaritzburg CBD.		Facilitation	Immediate	GEDVI, PPP specialists			Nil	R 200,000
1.6	Marketing available Edendale Sites	The Imbali Hub must be established as the primary commercial investment destination within the Msunduzi Municipality with the objective of this investment being the complete spatial transformation of the colonial / apartheid Pietermaritzburg. The subdivision of existing parcels of land will make land available specifically for private sector commercial development. These opportunities must be marketed by the Real Estate Department and the development of these sites must be facilitated.		Facilitation	Short Term	Real Estate			Nil	
TOTAL FOR STRATEGY 1										**R 1,050,000**

IMPLEMENTATION OVERVIEW

5.4 Full Project Details

Project No	Strategy and Project	Description	Proposed Site No.	Type	Timeframe/ Priority	Responsibility	Quantity/ Approximate size of Building/elements	Rate/m2	Phases	Budget estimate (Excl. VAT and Disb.) Budget reflects construction cost only, excludes site preparation costs, Pand G's, Contingencies, Escalation and Professional fees, additional ±60% to total- varies) Construction budgets are indicative and subject to change once more detailed implementation plans are prepared.
STRATEGY 2: ESTABLISHING THE HUB -SUPPORT AND GROW THE INFORMAL ECONOMY AND GOVERNMENT PRECINCT										
2.1	Upgrade Road (R1)	The existing dirt road must be formalised in order to gain appropriate access into the new development		Infrastructure	Short Term	Infrastructure, Planning and Survey	1. Road Carriageway area- Asphalt: 2.Sidewalk- Paving area: 3. Kerb and Channel 4. Landscaping Trees: 5. Street Furniture (bins, benches, lighting):	1. 1600m2 @R500 2.2500m2 @R300m2 3.440m x350 4.44 trees (10m Spacing) @R5000 (150litre) 5.Lighting 18 (24m Spacing) @ R15000 pole Bins 22 @R3000 (20m spacing)	Phase 1	R 2,260,000
2.2	Construct New Road (R2)	Develop a new road which consists of a parking court. This will serve the police station as well as the new development proposed in this phase.		Infrastructure	Short Term	Infrastructure, Planning and Survey	1. Road Carriageway area- Paved 2.Sidewalk- Paving area: 3. Kerb and Channel 4. Landscaping Trees: 5. Street Furniture (bins, benches, lighting):	1.2671m2 @R300 2. 800m2 @R300m2 3.356m@350 4.34 Trees @ R5000 (150litre) 5.Lighting 14 (24m Spacing) @ R15000 pole Bins 18 @R3000 (20m spacing)	Phase 1	R 1,549,900
2.3	Develop a Market	Establish a market as a key catalytic project in the Urban Hub. The market structure must be aesthetically pleasing as it lies adjacent to Edendale Road and will become one of the areas landmark buildings.	1	LED	Short Term	Market Manager, GEDVI	1.Structure-Roof (Metal sheeting) and structure- I-beams and supports 2. Paving area:	1.4600m2 @R5 000m2 2. 200m2 @R300m2	Phase 1	R 23,060,000
2.4	Develop a Government/ Institutional Building	Develop a government building that consolidates all activities under one roof. The building should also serve as a landmark within the precinct due to its location.	2	Capital	Short Term	GEDVI, Public Works, Health and Social Services	1. Building 2. Paving /parking areas: 3. landscaping	1. 2500m2 @R8 000per m2 2. 1700m2 @R300m2 3. 20trees @R5000	Phase 1	R 20,610,000
2.5	Develop support Government/ Institutional Building	Develop a support government/civic building as the need arises. This will consolidate all government /social or institutional buildings within this precinct.	7	Capital	Medium Term	GEDVI, Public Works, Health and Social Services	1. Building 2. Paving /parking areas: 3. landscaping	1. 2500m2 @R8 000per m2 2. 2000m2 @R300m2 3. 20trees @R5000	Phase 2a	R 20,700,000
2.6	Establish a Public Piazza Space and pedestrian spaces	Develop an urban space that allows people to congregate and reinforces the market and government building within this precinct.	5 & 6	Capital	Short Term	GEDVI, Infrastructure, Planning and Survey	1. Paving /parking areas: 2. landscaping 3.Lighting 4.Street Furniture	1. 4051m2 @R300per m2 2. 38 trees @ R5000 3. 25 Feature Lighting @R15 000 4.12 Benches @R7000 10 bins @ R 5000	Phase 1	R 2,000,000
2.7	Develop Informal Trading Stalls/ Shelters	Establish informal trading stalls/ shelters in order to cater for the informal needs within the area.	5 & 6	LED	Short Term	Market Manager, GEDVI	1. Trading Stalls (10m2)	1. 100 @R15000per stall	Phase 1	R 1,500,000

5.4 Full Project Details

Project No	Strategy and Project	Description	Proposed Site No.	Type	Timeframe/ Priority	Responsibility	Quantity/ Approximate size of Building/elements	Rate/m2	Phases	Budget estimate (Excl. VAT and Disb.) Budget reflects construction cost only, excludes site preparation costs, Pand G's, Contingencies, Escalation and Professional fees, additional ±60% to total- varies) Construction budgets are indicative and subject to change once more detailed implementation plans are prepared.
STRATEGY 2: ESTABLISHING THE HUB -SUPPORT AND GROW THE INFORMAL ECONOMY AND GOVERNMENT PRECINCT										
2.8	Construct New Road (R3)	Develop a new road to improve the connectivity and provide better access to the government and market sites within the precinct. Depending on the nature of the approvals, this road could be developed prior to R1.		Infrastructure	Short Term	Infrastructure, Planning and Survey	1. Road Carriageway area- Asphalt/paved : 2.Sidewalk- Paving area: 3. Kerb and Channel 4. Landscaping Trees: 5. Street Furniture (bins, benches, lighting):	1.520m2 @R500 + 263m2 @R300 2. 500m2 @R300m2 3.200m@350 4.n/a 5.Lighting 8 (24m Spacing) @ R15000 pole	Phase 1	R 678,900
2.9	Develop Business Incubator/ SMME Hives	As indicated in the economic assessment, the area must cater for SMME development and or incubator industry hives. A series of business units catering for the local requirements must be developed. This will reinforce the government and market uses proposed in this phase.	3 & 4	LED	Short Term	Market Manager, GEDVI, Private	1. SMME unit (40m2) 45units 2. Paving /parking areas: 3. landscaping	1. 1800 @R8000 m2 2.3200m2 @ R300m2 3. 22 Trees @R5 000	Phase 1	R 15,470,000
2.10	Develop additional Business Incubator/ SMME Hives	The opportunity exists to establish additional incubator industry hives as and when there is a demand.	8 to 12	LED	Medium Term	Market Manager, GEDVI, Private	1. SMME unit (40m2) 28units 2. Paving /parking areas: 3. landscaping	1. 1120 @R8000 m2 2.3000m2 @ R300m2 3. 22 Trees @R5 000	Phase 2b	R 9,970,000
2.11	Appointment of a Hub Emerging Business Manager	The Municipality should appoint a full time Business Manager who will be responsible to manage the informal sector space, the market and the incubators. This is a specific specialised management task and therefore the appropriate experienced individual must be employed.		Operational	Short Term	GEDVI			Phase 1 **salary per annum	**R400,000
TOTAL FOR STRATEGY 2										**R 97,798,800**
STRATEGY 3: PROMOTE THE BUILDING OF A DIVERSIFIED SERVICE INDUSTRIAL/MANUFACTURING SECTOR										
3.1	Upgrade a portion of Old Edendale Road (R4)	Upgrade Old Edendale road, to support the new development within the area- the upgrade could be phased or could be undertaken for the length of Edendale Road i.e. (R7, R16)		Infrastructure	Medium Term	Infrastructure, Planning and Survey	1. Road Carriageway area- Asphalt/ circle paved: 2. Sidewalk- Paving area: 3. Kerb and Channel 4. Landscaping Trees: 5. Street Furniture (bins, benches, lighting):	1.1594m2 @R500 +1250m2 paved (circle)@R300 2. 1200m2 @R300m2 3.400m @350 4.40 trees @ R5000 5.Lighting 16 (24m Spacing) @ R15000 pole	Phase 3a	R 2,112,000
3.2	Construct New Road (R5)	Construct a new road to provide better connectivity into the hub as well as provide access to the new development.		Infrastructure	Medium Term	Infrastructure, Planning and Survey	1. Road Carriageway area- Asphalt: 2.Sidewalk- Paving area: 3. Kerb and Channel 4. Landscaping Trees: 5. Street Furniture (bins, benches, lighting):	1.1600m2 @R500 2. 1120m2 @R300m2 3.448m@350 4.22trees @ R5000 5.Lighting 18 (24m Spacing) @ R15000 pole	Phase 3a	R 1,672,800
3.3	Establish Commercial/ Service Industrial Development	Develop Commercial and service industrial opportunity along Edendale Road. These buildings will start to compact development along this spine and offer additional opportunities for new offerings within the Hub.	13 to 17	Capital	Medium Term	GEDVI, Private	1. Buildings (13 -17) 2. Paving /parking areas (13-17): 3. Landscaping (13-17)	1. 5476m2 @R8 000per m2 2. 6428m2 @R300m2 3. 70trees @R5000	Phase 3a	R 46,086,400

5.4 Full Project Details

Project No	Strategy and Project	Description	Proposed Site No.	Type	Timeframe/ Priority	Responsibility	Quantity/ Approximate size of Building/elements	Rate/m2	Phases	Budget estimate (Excl. VAT and Disb.) Budget reflects construction cost only, excludes site preparation costs, Pand G's, Contingencies, Escalation and Professional fees, additional ±60% to total- varies) Construction budgets are indicative and subject to change once more detailed Implementation plans are prepared.
3.4	Develop additional Commercial Opportunity	Consider commercial development fronting the step down facility in order to reinforce the hub. The building must be designed in a fashion in order to serve as a landmark building.	36	Capital	Long-term	GEDVI, Private	1. Building 2. Paving /parking areas: 3.Landscaping	1. 5000m2 @R8 000per m2 2. 3000m2 @R300m2 3. 50trees @R5000	Phase 3b	R 41,150,000
TOTAL FOR STRATEGY 3										**R 91,021,200**
STRATEGY 4: DEVELOP MIXED USE RETAIL/ OFFICE AND RESIDENTIAL OPPORTUNITY										
4.1	Upgrade a portion of Old Edendale Road (R7)	Upgrade Old Edendale road, to support the new development within the area- the upgrade could be phased or could be undertaken for the length of Edendale Road i.e. (R4, R16)		Infrastructure	Medium Term	Infrastructure, Planning and Survey	1. Road Carriageway area-Asphalt: 2. Sidewalk- Paving area: 3. Kerb and Channel 4. Landscaping Trees: 5. Street Furniture (bins, benches, lighting):	1.1938m2 @R500 2.1500m2 @R300m2 3.500m @350 4.50 trees @ R5000 5.Lighting 20 (24m Spacing) @ R15000 pole	Phase 4	R 2,144,000
4.2	Construct New Road (R6)	Construct a new road to provide better connectivity into the hub as well as provide access to the new development.		Infrastructure	Medium Term	Infrastructure, Planning and Survey	1. Road Carriageway area-Asphalt: 2. Sidewalk- Paving area: 3. Kerb and Channel 4. Landscaping Trees: 5. Street Furniture (bins, benches, lighting):	1.1286m2 @R500 2. 900m2 @R300m2 3.360m @350 4.18 trees @ R5000 5.Lighting 15 (24m Spacing) @ R15000 pole	Phase 4	R 1,354,000
4.3	Unlock Mixed Use Development Opportunity	Develop support Retail/ office and residential development to increase population thresholds and economic opportunity within the hub.	18 to 23	Capital	Medium Term	GEDVI, Private	1. Buildings(18-23) 2. Paving /parking areas: 3.Landscaping	1. 14 126m2 @R8 000per m2 2. 6770m2 @R300m2 3. 72 trees @R5000	Phase 4	R 115,399,000
4.4	Construct New Road (R8)	Construct a new local access roads to provide better connectivity into the hub as well as provide access to the new development.		Infrastructure	Long-term	Infrastructure, Planning and Survey	1. Road Carriageway area-Asphalt: 2. Sidewalk- Paving area: 3. Kerb and Channel 4. Landscaping Trees: 5. Street Furniture (bins, benches, lighting):	1.1815m2 @R500 2. 1602m2 @R300m2 3.534m @350 4.14 trees @ R5000 5.Lighting 38 (24m Spacing) @ R15000 pole	Phase 6a	R 2,215,000
4.5	Construct New Road (R9)	Construct a new local access roads to provide better connectivity into the hub as well as provide access to the new development.		Infrastructure	Long-term	Infrastructure, Planning and Survey	1. Road Carriageway area-Asphalt: 2. Sidewalk- Paving area: 3. Kerb and Channel 4. Landscaping Trees: 5. Street Furniture (bins, benches, lighting):	1.1600m2 @R500 2. 984m2 @R300m2 3.328m @350 4.32 trees @ R5000 5.Lighting 12 (24m Spacing) @ R15000 pole	Phase 6a	R 1,550,000
4.6	Construct New Road (R10, R11 and R12)	Construct a new local access roads to provide better connectivity into the hub as well as provide access to the new development.		Infrastructure	Long-term	Infrastructure, Planning and Survey	1. Road Carriageway area-Asphalt: 2. Sidewalk- Paving area: 3. Kerb and Channel 4. Landscaping Trees: 5. Street Furniture (bins, benches, lighting):	1.1555m2 @R500 2. 1180m2 @R300m2 3.472m @350 4.n/a 5.Lighting 20 (24m Spacing) @ R15000 pole	Phase 6a	R 1,596,700

Project No	Strategy and Project	Description	Proposed Site No.	Type	Timeframe/ Priority	Responsibility	Quantity/ Approximate size of Building/elements	Rate/m2	Phases	Budget estimate (Excl. VAT and Disb.) Budget reflects construction cost only, excludes site preparation costs, Pand G's, Contingencies, Escalation and Professional fees, additional ±60% to total- varies) Construction budgets are indicative and subject to change once more detailed Implementation plans are prepared.
STRATEGY 4: DEVELOP MIXED USE RETAIL/ OFFICE AND RESIDENTIAL OPPORTUNITY										
4.7	Unlock Mixed Use Development Opportunity	Develop support Retail/ office and residential development to increase population thresholds and economic opportunity within the hub.	28 to 30 & 32(park)	Capital	Long-term	GEDVI, Private	1. Buildings (28-30) 2. Paving /parking areas: 3.Landscaping	1. 18506m2 @R8 000per m2 2. 7000m2 @R300m2 3. 48 trees @R5000	Phase 6a	R 150,388,000
4.8	Construct New Road (R13, R14 and R15)	Construct a new local access roads to provide better connectivity into the hub as well as provide access to the new development.		Infrastructure	Long-term	Infrastructure, Planning and Survey	1. Road Carriageway area-Asphalt: 2. Sidewalk- Paving area: 3. Kerb and Channel 4. Landscaping Trees: 5. Street Furniture (bins, benches, lighting):	1.1440m2 @R500 2.675m2 @R300m2 3.450m @350 4.18 trees @ R5000 5.Lighting 18 (24m Spacing) @ R15000 pole	Phase 6b	R 1,440,000
4.9	Unlock Mixed Use Development Opportunity	Develop support Retail/ office and residential development to increase population thresholds and economic opportunity within the hub.	24 to 27 & 31(park)	Capital	Long-term	GEDVI, Private	1. Buildings(24-27) 2. Paving /parking areas: 3. Landscaping	1. 15438m2 @R8 000per m2 2. 5662m2 @R300m2 3. 41 trees @R5000	Phase 6b	R 125,407,600
TOTAL FOR STRATEGY 4										**R 401,494,300**
STRATEGY 5: ENHANCE THE QUALITY OF LIFE OF THE HUB BY REHABILITATING EXISTING OPEN SPACES										
5.1	Canalise and rehabilitate existing open space into a Town Gardens	The opportunity exists to develop a town gardens and canalise the existing river to open up previous unhabited areas to the broader community.	34	Capital	Medium Term	GEDVI, Park	1. Rehabilitated Area 2. Canalised portion 3. Street Furniture (bins, benches, lighting):	1.8289M2 @R2000m2 2.2000m2 @R3000m2 3.20 bins @ R3000 20 benches @R7000 Lighting 20 @ R15000 pole	Phase 5a	R 23,078,000
5.2	Canalise and rehabilitate existing open space into a Town Gardens	The opportunity exists to develop a town gardens and canalise the existing river to open up previous inhabited areas to the broader community.	33	Capital	Medium Term	GEDVI, Park	1. Rehabilitated Area 2. Canalised portion 3. Street Furniture (bins, benches, lighting):	1.8160M2 @R2000m2 2.2700m2 @R3000m2 3.20 bins @ R3000 20 benches @R7000 Lighting 20 @ R15000 pole	Phase 5b	R 24,920,000
5.3	Upgrade a portion of Old Edendale Road (R16)	Upgrade Old Edendale road, to support the new development within the area- the upgrade could be phased or could be undertaken for the length of Edendale Road i.e. (R4, R7)		Infrastructure	Medium Term	Infrastructure, Planning and Survey	1. Road Carriageway area-Asphalt/ circle paved: 2. Sidewalk- Paving area: 3. Kerb and Channel 4. Landscaping Trees: 5. Street Furniture (bins, benches, lighting):	1.2100m2 @R500 +1200m2 paved (circle)@R300 2. 2000m2 @R300m2 3.580m @350 4.58trees @ R5000 5.Lighting 24 (24m Spacing) @ R15000 pole	Phase 5b	R 2,863,000
5.4	Establish a Pedestrian NMT bridge across Edendale Road as well as Rehabilitate existing open space	It is proposed a NMT pedestrian bridge be constructed over Edendale road to connect the areas north and south of the development as well as connect the sports fields and recreational areas. The bridge is meant to serve as a gateway into the hub. The design of the bridge enables a visual connection between adjacent buildings and the public realm below	36 and 37	Infrastructure	Medium Term	Infrastructure, Planning and Survey	1. Bridge (65m X 4m wide)-lightweight membrane steel structure 2. NMT path:	1.260m2 @R8000 2. 2000m2 @R300m2	Phase 5c	R 2,600,000
TOTAL FOR STRATEGY 5										**R 53,461,000**

5.4 Full Project Details

Project No	Strategy and Project	Description	Proposed Site No.	Type	Timeframe/ Priority	Responsibility	Quantity/ Approximate size of Building/elements	Rate/m2	Phases	Budget estimate (Excl. VAT and Disb.) Budget reflects construction cost only, excludes site preparation costs, Pand G's, Contingencies, Escalation and Professional fees, additional ±60% to total- varies) Construction budgets are indicative and subject to change once more detailed Implementation plans are prepared.
STRATEGY 4: ADDRESSING THE INFRASTRUCTIRE CAPACITY										
6.1	Civil Infrastructure: Undertake detailed topographical survey	Undertake a detailed topographical survey to confirm the GIS drawings and obtain levels (MSL) of the services for design purposes		Planning	Immediate	Infrastructure, Planning and Survey				TBC
6.2	Civil Infrastructure: Conduct Field Investigation	Undertake a field investigation to assess the condition of the existing infrastructure and highlight any possible shortcomings		Planning	Immediate	Infrastructure, Planning and Survey				TBC
6.3	Civil Infrastructure: Approval by service providers	Obtain written confirmation from the bulk service providers regarding the current and available capacities and if any upgrades to their existing systems, are planned and the capacities thereof. Also indicate the proposed development to them and get their 'buy-in' for this proposal		Facilitation	Immediate	Infrastructure, Planning and Survey				TBC
6.4	Civil Infrastructure: EIA approvals/Studies	Obtain Environmental Authorisation/Consent for the proposed study and works		Planning	Short Term	Infrastructure, Planning and Survey				TBC
6.5	Electrical Infrastructure: Meeting with service providers	Convene a meeting with as the Service Provider (Eskom and the developer to discuss the planned development)		Facilitation	Immediate	Infrastructure, Planning and Survey, Electricity				TBC
6.6	Electrical Infrastructure: Detailed survey	Undertake a detailed survey of the existing electricity services for any preliminary or detailed design purposes and confirm any GIS information where available.		Planning	Immediate	Infrastructure, Planning and Survey, Electricity				TBC
6.7	Electrical Infrastructure: Site investigation	Undertake a site investigation to assess the condition and position of any existing infrastructure that require repair, replacement, upgrade etc. in consultation with Eskom.		Planning	Immediate	Infrastructure, Planning and Survey, Electricity				TBC
6.8	Electrical Infrastructure: Make application to the Service provider	Confirm the current and future load demands for the hubs under consideration and make application to the service provider for the power supplies required.		Planning	Short Term	Infrastructure, Planning and Survey, Electricity				TBC
6.9	Electrical Infrastructure: Application on behalf of the developer	Make application on behalf of the developer for the required capacity for Eskom's planning purposes to the points of connections.		Planning	Short Term	Infrastructure, Planning and Survey, Electricity				TBC
6.10	Electrical Infrastructure: Conceptual Designs	Proceed with conceptual design to determine the capacity and infrastructure requirements and to carry out estimates for the work involved.		Planning	Short Term	Infrastructure, Planning and Survey, Electricity				TBC
TOTAL FOR ALL PROJECTS										**R 644,825,300**

IMPLEMENTATION OVERVIEW

5.5 Public Private Partnership

The Neighbourhood Development Partnership Grant (NDPG) focus has been on public investment and funding that can be used creatively to attract private and community investment to unlock the social and economic potential within the target areas, such as Townships that were originally created as separate areas for non-white citizens generally located on the periphery of towns and cities, Low income housing estates, which are generally not fully functional neighbourhoods and Informal settlements.

This report has presented a plan for the development of an Urban Hub in the Greater Edendale/ Imbali area. The plan has been designed with the aim of attracting both Public and Private investors into the area and as such the projects identified have also been aligned to specific stakeholders.

It is understood that the Greater Edendale area is exploring the PPP procurement option; however, there are a number of points to remember as to whether or not a project is in fact suitable to be a PPP:

- does the project provide an **essential public service**;
- **not possible / desirable to privatize** the project (e.g. road, hospital)
- public sector is **directly accountable** for the public service;
- the project is **self-contained**, i.e. it can be built and operated as one or more units, with a separately identifiable cash flow;
- the project has a **long life** (if not, there is no point in signing a long-term contract);
- little **risk of technological obsolescence**;
- **risk-transfer** to private sector is possible;
- the project involves significant **capital expenditure**, and also requires long-term **maintenance**;
- the capital cost of the project should be high enough to justify the **higher set-up costs** for this more complex type of procurement; (traditional PPP have been over R150million in capex costs)
- evidence that **similar projects have been procured as PPPs**;
- evidence of **private-sector interest** in providing the project as a PPP.

Should some of or at least one of the above criteria complement the envisioned project then it is possible that it could be procured as a PPP.

Once specific projects have been identified, a team will need to be developed and feasibility studies completed which will allow for the initial understanding of the needs of the community and the projects identified, incorporating strategic & operational benefits to meet the required goals and indicate what the anticipated value for money and affordability of the various options will be. Information gathered during this strategic stage of the assessment will serve as key for the feasibility study.

Developing a well-structured Feasibility Study is a critical part of the planning phase of the project life cycle as it Enables the public sector to identify critical constraints, which may cause the project to be halted. Structuring debt, innovative approaches to risk transfer and application of appropriate levels of competitive pressure will be explored as part of a procurement programme. The desired effect will be to maximize the economic impact, whilst limiting Government commitment to the underwriting of debt and direct capital investment, if required.

06 CONCLUSION

Final Remarks

6.1 Report Conclusion

The report has provided a Strategy for The Greater Edendale/ Imbali precinct. The combination of the extensive research provided in this report as well as the Phase 2 Strategic Review report served as the basis for the Design of the Hub.

While the report and plan may have provided a clear direction and vision for the development of the Urban Hub, a critical component still remains that of implementation. It is important the recommendations that were made regarding the way in which development should be rolled out, are taken into consideration.

The Hub does have the advantage of established existing activities in the form of the two shopping centres, however the way in which this plan is implemented is critical in ensuring that the Hub transforms into a vibrant town centre.

Phase one of the development is a catalyst for the development of the rest of the Hub. Its successful development within a reasonable timeframe is what will induce public/ private investment and enable the local community to identify with Edendale Hub as a place of basic Services and Activity.

Considering the above, it is evident that the proposed design of the Greater Edendale/ Imbali Urban Hub is consistent with the initial objective of the NDPG of stimulating and accelerating investment in poor, undeserved areas. There is already significant private investment in the area and thus public investment will merely serve as a catalyst to draw more investment and employment opportunities for the people within the Greater Edendale Vulindlela Areas.

06 CONCLUSION

1 Primary Route- Mobility + accessibility (Edendale Road)
2 Secondary Route- Accessibility- Collector (Old Edendale Road, Mt Partridge Road, New Links)
3 Tertiary Route- Local Access Roads
4 Railway
5 BRT Stations and Dedicated lanes
6 Raised Pedestrian/NMT bridge (Subject to detail design)
7 Controlled Pedestrian Crossing Points (Subject to Local Authority Approval)
8 Pedestrian Spaces (Piazza)
9 Market with Iconic Roof
10 Government/Civic/ Municipality
11 Business Incubator Hives/ SMME
12 Commercial/ Service Industry
13 Mixed Use (Retail/Commercial/Residential)
14 Commercial + Retail infill- Existing sites
15 Local Park
16 Institution (Proposed Step- down Facility)
17 Residential (Medium- High Density)
18 Edendale Crossing Mall
19 Greater Edendale Mall
20 TB Hospital
21 Edendale Hospital
22 Informal Trading
23 Rehabilitated Open space- Town Gardens
24 Rehabilitated Open space- District Park
25 Canalised River (Subject to Environmental Approval)
26 Landscaped Traffic Circles
27 Paving Treatment
28 Parking Court(90 degree Parking)