GEORGE

ILISOLETHU

INVESTMENT PLAN

2023-09-29

GEORGE ILISOLETHU

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Date	29 September 2023	
Cadre reference	Prop/George LM/ Thembalethu node	

Abbreviations

ACSA	Airports Company South Africa
ATNS	Air Traffic & Navigation Services
BPO	Business Process Outsourcing
BoD	Board of Directors
CBA	Critical Biodiversity Areas
CBA	Cost Benefit Analysis
CBD	Central Business District
CEO	Chief Executive Officer
CID	City Improvement District
Cllr	Councillor
DBSA	Development Bank of South Africa
DEADP	Department of Environmental Affairs and Development Planning
EIA	Environmental Impact Assessment
FLISP	Finance Linked Individual Subsidies Programme
GIPTN	George Integrated Public Transport Network
GLM	George Local Municipality
GTI	GeoTerraImage
IDC	Industrial Development Corporation
IDP	Integrated Development Plan
IID	Ilisolethu Improvement District
LED	Local Economic Development
MIG	Municipal Infrastructure Grant
NDPG	Neighbourhood Development Partnership Grant
NGO	Non-Proft Organisation
NHFC	National Housing Finance Corporation
NMB	Nelson Mandela Boulevard
NMT	Non-Motorised Transportation
NPC	Non-Profit Company
PA	Personal Assistant
PMC	Project Management Committee
PSC	Project Steering Committee
PT1	Public Transport 1 area
PT2	Public Transport 2 area
SANRAL	South African National Roads Agency
SDF	Strategic Development Framework
SDP	Site Development Plan
SMME	Small Medium and Micro Enterprise
SRA	Special Ratings Area
USDG	Urban Settlement Development Grant

Table of contents

1. The setting we

Ilisolethu in

1.1 Introduction

Cadre Connect (Pty) Ltd was appointed by the George Local Municipality to develop a Development Plan, Investment Plan, and Area Management Strategy for the primary node of Thembalethu.

The boundaries of the project area are demarcated with the yellow dotted line over the aerial photo below. The main spine central to the node is Nelson Mandela Boulevard (NMB). NMB is also the only access road into Thembalethu.

The purpose of the project is to develop an implementable plan that will be linked to an area management strategy and investment plan to create economic development opportunities and promote social infrastructure improvements in the Thembalethu "CBD" node.

This document presents the spatial development and design proposals for the development of the node.

During participation sessions with the community through the ward committee, a name for the precinct was proposed to be

Ilisolethu - "Our Eye".

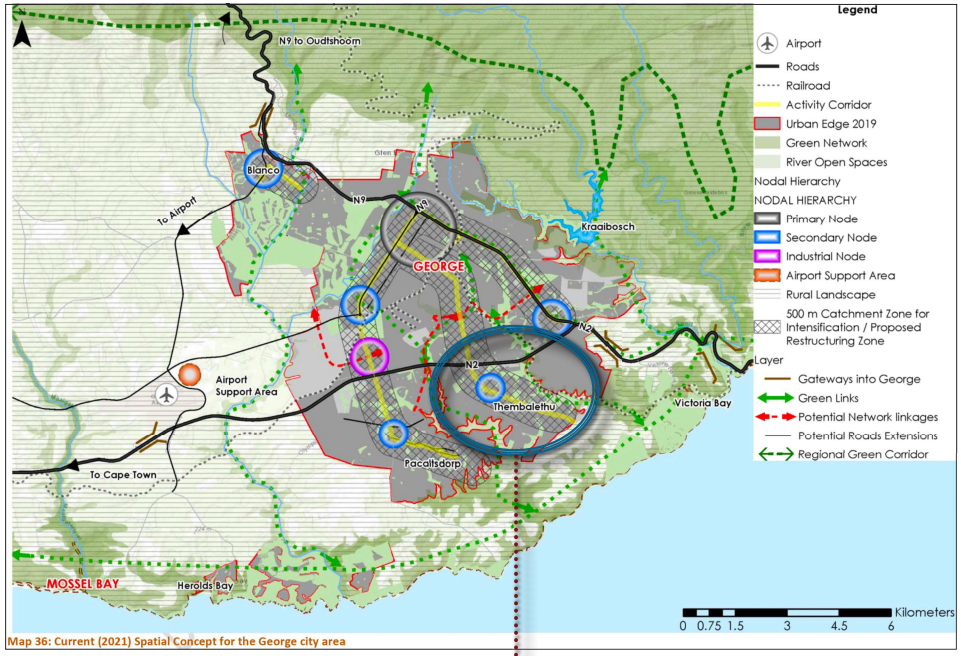
A logo was designed to be used in the branding of the node.

GEORGE
ILISOLETHU

1.2 Ilisolethu in the context of George

Thembalethu is located in the centre of the three intensification/ restructuring zones extending outwards from the George CBD, as proposed in the George Draft SDF, 2022 (see below).

The restructuring zone is concentrated around NMB running as a central spine through the zone. NMB begins at the intersection with York Street, where it continues southwards towards Thembalethu. As NMB crosses the N2, it forms the only access route into Thembalethu. This single access into the area has been identified as one of the biggest challenges increasing the vulnerability and decreasing the resilience of the whole of Thembalethu. Identification and future implementation of alternative access routes are constantly investigated and proposed.



Map 36: Current (2021) Spatial Concept for the George city area

The strengthening of linkages through these three restructuring zones towards the CBD is conceptually illustrated in the Thembalethu Precinct Plan, 2016 (see below).

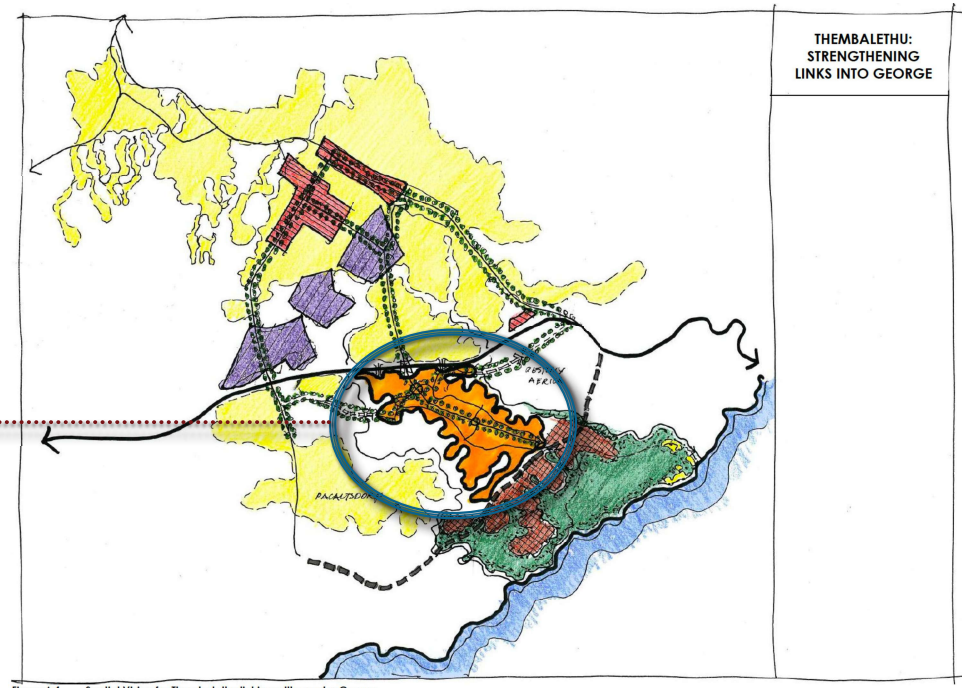
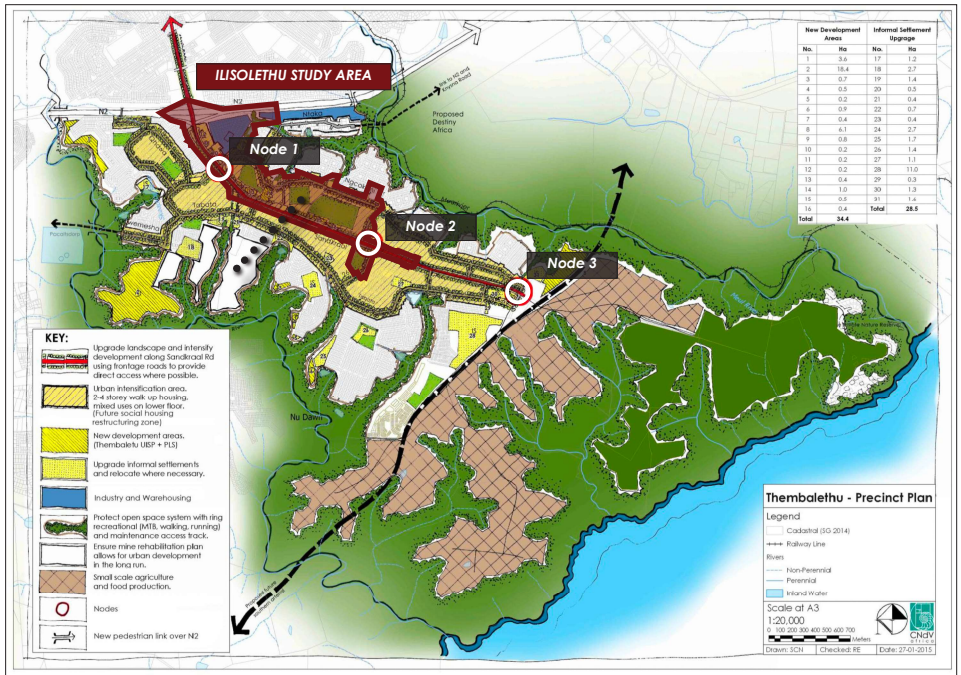


Figure 6.4 Spatial Vision for Thembalethu linking with greater George

1.3 Ilisolethu and the Thembalethu Precinct Plan

The Thembalethu Precinct Plan was compiled in 2016. The conceptual spatial structure is illustrated below. The following three points from the precinct plan relate directly to the Ilisolethu study area (indicated on the map below) and are herewith briefly described: Nodes; Urban intensification area; and Open space system with ring recreational track.



New Development Areas		Informal Settlement Upgrage	
No.	Ha	No.	Ha
1	3.6	17	1.2
2	18.4	18	2.7
3	0.7	19	1.4
4	0.5	20	0.5
5	0.2	21	0.4
6	0.9	22	0.7
7	0.4	23	0.4
8	6.1	24	2.7
9	0.8	25	1.7
10	0.2	26	1.4
11	0.2	27	1.1
12	0.2	28	11.0
13	0.4	29	0.3
14	1.0	30	1.3
15	0.5	31	1.4
16	0.4	Total	28.5
Total	34.4		

Figure 6.6 Thembalethu: Conceptual Precinct Plan

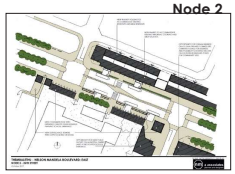
NODES

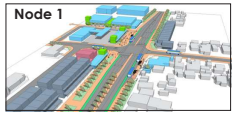
The precinct plan identifies 3 nodes within Thembalethu along NMB (see plan above). The following two are located in the study area:

- Node 1 towards the northern entrance to the study area at the intersection of NMB and Tabata / Ngcakani Streets (this intersection is often referred to as "Fourways"); and
- Node 2 towards the southern end of the study area around the dogleg street pattern where 26th Street and Zabalaza Street link up with NMB.

The precinct plan proposes that urban design frameworks be prepared for each of these nodes. It states the following: "These are important structuring nodes or growth points that offer the perfect location for mixed use development, local business, retail, government services and public transport interchange areas Instead of allowing these to take shape informally, prepare urban design frameworks that will inform planning and land use allocation in the nodes."

As part of the George IPTN: Universal Accessibility and Urban Considerations study (2017), more detailed proposals for these nodes were made (images to the right).



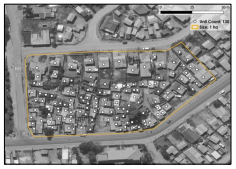


It is, however, arguable whether each of these in reality functions (and should function) as a node. Based on the analysis for this project, it was concluded that NMB acts as a linear spine with activity all along the route, rather than as a road with activity at nodes. There are already a lot of informal activities that have shaped (and are busy shaping) the development of the area. Many built structures speak of permanency. It is believed that a plan should work within this reality - rather guiding what is 'taking shape informally', instead of 'fighting' what is already happening.

URBAN INTENSIFICATION AREA

As a first point, the precinct plan states the following: "Reverse the 'doughnut' like, low density settlement pattern that currently exists between Tabata and Ngcakani Street by classifying this area as an urban intensification zone. Encourage higher residential densities and the development of mixed use apartment buildings."

Whilst there are large portions of vacant land and many portions of underutilised land north of NMB (between NMB and Ngcakani Street), the southern side of NMB is already densely built up. Although the township was originally laid out with single residential erven, the majority of properties now accommodate multiple residential units and thus multiple families on one property. Residential densities in the order of 90 units/ha are achieved. Where informal settlements are built on a bigger portion of land, densities can increase to 130 units/ha and often even more. The graphic below illustrates densities over aerial photos of extracts from areas south of NMB.



Apart from already high densities on the southern side of NMB, properties are also owned by small landowners. Many of these are often barely surviving, with limited means to explore other opportunities such as the development of a block of flats. Proposals for higher densities often conjure up appealing images of rows of 4-storey walkups. However, this would require relatively large properties and/or block developments driven by external developers. Although these larger, more formal opportunities should be identified in the plan, it could not be pursued as a "blanket" statement for the area. It is important to take cognisance of the fact that there is already a large population living at high densities. The focus should first be to improve the quality of their lives.

However, where larger portions of vacant land at the right locality are available, higher density 3/4-storey residential buildings (mixed-use with retail on the ground floor along activity spines) are appropriate and should be pursued (see pink blocks proposed on vacant land).

As a second point under this section, the precinct plan states the following: "Houses whose backyards currently turn their back onto Nelson Mandela Boulevard and other main roads should be encouraged to front-up to them." In general, when looking at areas where the layout does not allow for access to properties from the main road, houses turn their backsides to the road, thereby creating a dead street. Although this is true for the layout of houses along NMB with vehicle access from the back street, the tendency of this causing a dead street is completely wrong. Houses might have their backyards fronting onto NMB, but the edge of the property and the street space is for the biggest part of the road so busy with pedestrians and informal trading activities, that this statement is not really relevant. It is important to take cognisance of the fact that there is already a lot happening on the edge of the street and even encroaching into the street space. The focus should be to address and maintain this active interface amidst rules and regulations that make traders contributing to the activation of the space, illegal to be there.

OPEN SPACE SYSTEM WITH RING RECREATIONAL TRACK

The precinct plan proposes the following: "Public open space network comprising the river valleys lined with a recreational/ maintenance track that also helps to manage urban encroachment into the river valleys and helps with stormwater management and water quality." Conservation and management of green areas is critical as it has ecological benefits. This should be pursued through the environmental management plan as proposed.

Apart from ecological advantages, the benefits of natural areas for health reasons and social interaction are just as important. Bringing people in close contact with nature is thus a critical component of quality of life.

As much as the ideal is to build a safe recreational track around all natural areas, one has to accept the reality of limited funds. Minimal capital availability means that developing winding footpaths and pedestrian bridges across the river and valleys in an attempt to beautify the open spaces is unrealistic. A massive effort will be required to make these areas safe and enjoyable for the local community to actually use, whilst the capital constraints are enormous to overcome. There are other more pressing critical priorities for projects to be funded. However, the need to bring people in contact with nature and provide opportunities for interaction should be acknowledged. The focus should be to find creative ways to achieve this without waiting for funds to implement the big plan.

1.4 Approach to planning for the Ilisolethu Gateway Node

Planning often starts with population projections. How many people are there currently staying in the area? How many people will there be at a specific point in time in future based on a specific set of growth parameters and assumptions?

From this basis, answers are provided to questions such as: What type of land uses will support this population? How many houses will be needed? Which community facilities and how many of each will be required?

This approach makes sense for strategic planning providing an overview of a bigger area (a city itself or even regions of a city) to strategically plan for citywide functions such as landfill sites, to get an idea of the order of houses and facilities required, to plan for bulk services, etc. When compiling a plan for a neighbourhood, a precinct, or an even smaller area, it is good to have an idea of the population size and what the growth patterns and trends are. However, the effectiveness and relevance of defining all these needs based on detailed population projections on this scale is disputed.

The reality is:

- The market provides for commercial uses as and when it is economically feasible. It is irrelevant to provide projections based on population growth. There are numerous other factors at play.
- There is always a demand for low-income housing. The size of the demand is virtually irrelevant and stays a theoretical exercise as the goal can almost never be met. What matters is the type of housing that should be focused on based on financial affordability (e.g., subsidised, social, gap, FLISP, bonded). Another critical point here is the typology of housing based on the context and locality (e.g. freestanding houses, duets, walk-up flats, apartment blocks).
- There is never enough space for sufficient community facilities when the standards are applied to the projected population (and in most cases not even when applied to the existing population). The CSIR Guidelines for the Provision of Social Facilities in South African Settlements (2015) provide standards for the provision of community facilities required for the population of an area or city. However, the guidelines give an indication of what should in general be provided as a standard in an "ideal" situation (e.g. in a large greenfields development a school stand of 4,8ha could be accommodated). This is not viable, and simply not possible, in an urban area that is already established and almost fully built up.

The above follows a demand-based approach, which is argued to often provide theoretical answers.

IN COMPILING THE ILISOLETHU GATEWAY NODE DEVELOPMENT FRAMEWORK, A MORE PRAGMATIC, SUPPLY-BASED APPROACH WAS FOLLOWED.

Although an overview of population size, etc. is provided, this merely assists in painting the picture, rather than establishing the basis for further planning. The planning was based on the following analysis:

- Identification of land available for development;
- Identification of specific challenges and needs in the node (e.g. encroachment, poor public spaces, lack of formal SMME trading spaces, lack of sports facilities); and
- Identification of opportunities presenting itself in the node (e.g. existing developer interest specifically from NGOs).

A decision was then taken on what the best use for a specific portion of developable land would be. The ideal was to provide solutions to challenges and needs and to accommodate opportunities on existing available land as far as possible. Together with the use, the intensity of development (with the definition of spatial form where appropriate) on that portion of land was then defined. Most of these were accommodated on smaller portions of land. Large portions of developable land were earmarked for large-scale mixed-use development giving the node a major future economic impetus.

2. Characteristics we

in Ilisolethu

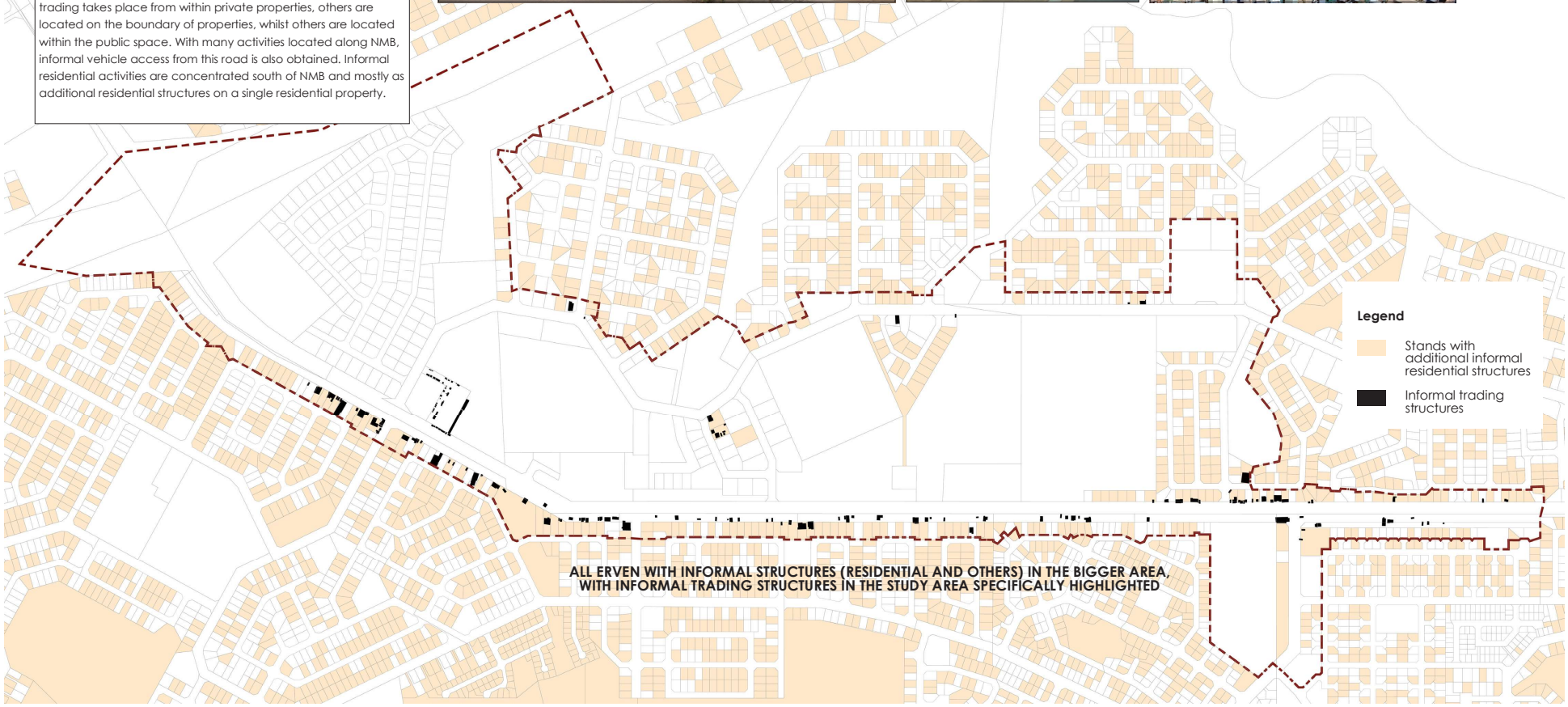
2.1 Informality

Informality in activities

The precinct is characterised by informal activities. Informal residential activities are mostly visible as additional residential structures on single residential properties. Various types of informal trading activities take place throughout the node. In general, informal trading plays a critical role in the township economy as it provides an income and livelihood for many people who do not have access to formal employment opportunities.

Type: Trading activities include retail, restaurants, fast foods, services, vehicle-related businesses, light manufacturing, repairs, etc.

Locality: There are a few informal activities in the northern part of the precinct, but the majority of activities are spread out along NMB where masses of pedestrians walk on a daily basis. Some trading takes place from within private properties, others are located on the boundary of properties, whilst others are located within the public space. With many activities located along NMB, informal vehicle access from this road is also obtained. Informal residential activities are concentrated south of NMB and mostly as additional residential structures on a single residential property.



Informality in built form

The precinct is characterised by built structures not following cadastral boundaries in many places. Encroachment of buildings and structures takes place between adjoining private properties. Private structures are also encroaching into the public space, including the street reserve or stands zoned for parks.

Type: Buildings encroaching on other properties range from informal structures that could easily be removed or moved, to large formal brick structures that are often constructed entirely within the public domain.

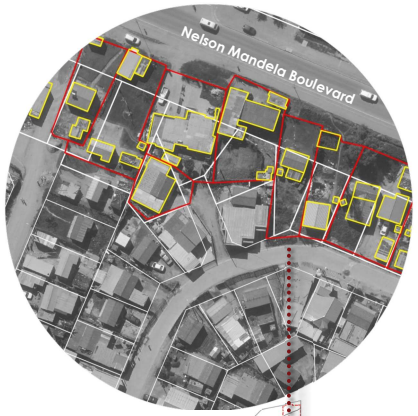
Locality: Almost all of the encroachment in the precinct takes place along NMB where the smaller residential properties are located.

The following are indicated on the plan:

- The red dotted lines indicate all the boundary walls or fences. It is clear that almost none of them follow cadastral lines.
- Yellow - encroaching residential structures
- Blue - encroaching trading structures

The following are indicated on the extracts of the aerial:

- White lines - cadastral boundaries
- Yellow - encroaching built structures
- Red - boundary walls or fences



encroaching into a public park

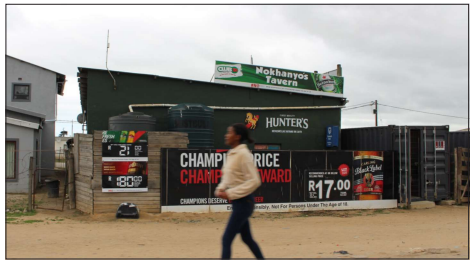
ALL INFORMAL STRUCTURES ALONG NMB ENCROACHING INTO THE PUBLIC DOMAIN

Informality in building materials

The precinct is characterised by various types of informal built structures distributed throughout the precinct.

Type: Informal trading structures are made of a range of building materials. Some are small wooden structures, other structures are made of sheet metal, whilst many trading activities are conducted from refurbished containers.

Locality: Formal developments in the northern portion of the precinct have mainly brick structures. Almost all residential properties contain at least one brick structure, but most erven, specifically along NMB, have multiple informal residential units and/or informal trading structures on the property.



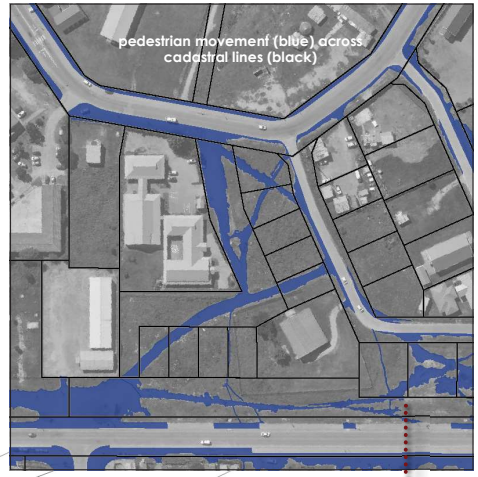
ALL INFORMAL TRADING STRUCTURES IN THE PRECINCT AS WELL AS OTHER STRUCTURES ENCROACHING INTO NMB

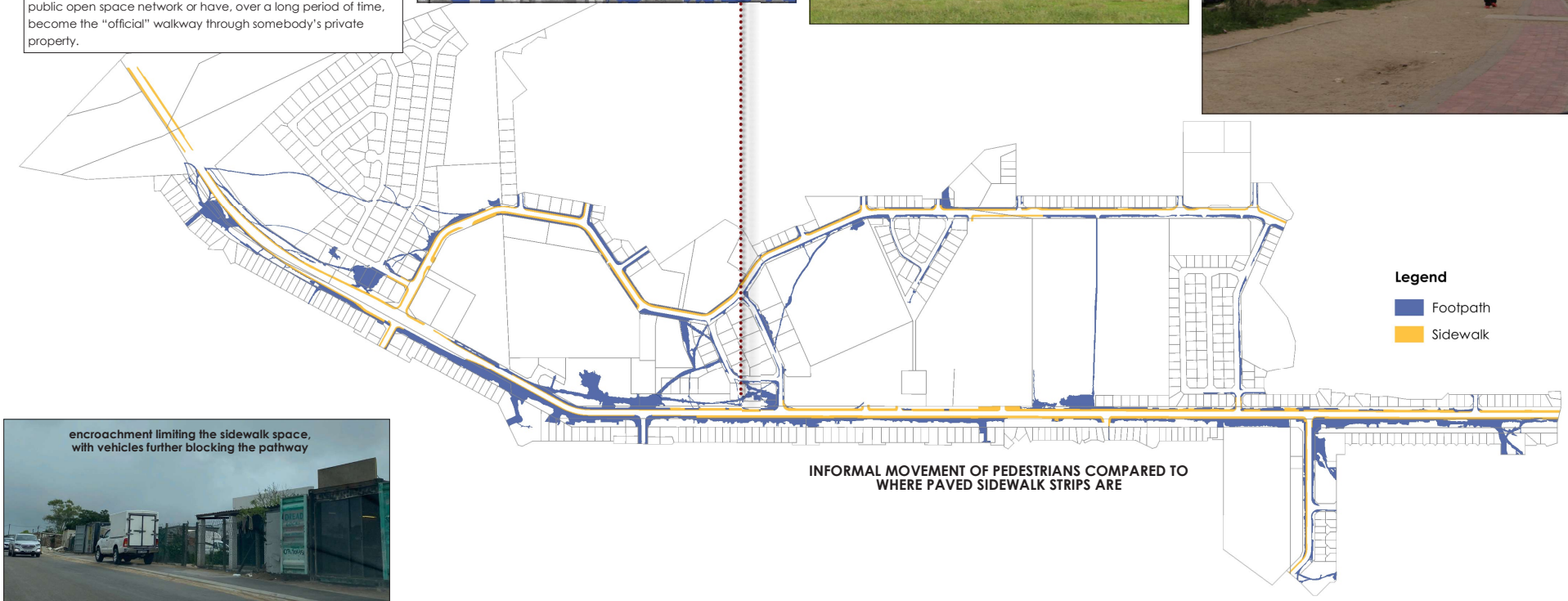
Informality in movement

The formal paved sidewalk strips are typically between 1,5m and 2,5m wide. The map below indicates in yellow the formal paved sidewalks, whereas the blue indicates the left-over space in the road reserve that serves as informal walking surfaces for pedestrians.

Type: The surfaces of the paved strips on sidewalks are typically brick pavement that are semi-intact. Due to problems often experienced with brick paving, the latest policy of George Municipality provides for the construction of walkways with tarmac strips. The remainder of the walking surface on the sidewalk is gravel/dirt. On aerial photos, informal routes as gravel lines are clearly visible running through grass patches.

Locality: Movement lines in general do not follow cadastral boundaries. These are mostly shortcuts used by pedestrians, but also apply to vehicles not necessarily following legal roads but creating their own access points and thoroughfares in the area The majority of shortcuts are running towards and from NMB. Pedestrians are crossing large portions of land diagonally to get to the main road from the north. From the south, pedestrians are converging at walkways through the first row of erven towards NMB. These walkways have either been designed as part of the public open space network or have, over a long period of time, become the "official" walkway through somebody's private property.





INFORMAL MOVEMENT OF PEDESTRIANS COMPARED TO WHERE PAVED SIDEWALK STRIPS ARE

2.2 Cluster of social facilities

The majority of social facilities in Thembalethu are concentrated in the precinct, increasing the need for improved walkability and accessibility to this area for the wider Thembalethu community. Also noteworthy is the number of social facilities that are concentrated in the area – which is often much more than what is typically present in a traditional township in South Africa.

The social facilities are located on large portions of land, with the buildings and activities not covering the entire property. A lot of land is therefore lying dormant, which could be put to better use. Though these are public facilities that should be available and accessible to all, their physical presence on big portions of land, and the fencing off of the land impedes the permeability of the area and makes these facilities so much more difficult to reach via walking.

M.M. Mateza Primary School

Masaziwe Disabled Group

Iholo Loluntu Community Hall

Inkcubeko Youth and Science Centre

Thembalethu Thusong Service Centre

The stand of the Thusong centre is underutilised. The parking area is acting as the reception space of the building, with pedestrians, not always feeling as welcomed as they should through the manner in which the building is used.

Thembalethu iHub

Thembalethu Fire & Emergency Services

Thembalethu Community Day Centre

More than 40 clubs are making use of the one central sports facility. There is a dire need for more, a bigger variety, and well-managed, sports facilities.

Legend

- Cemetery
- Church
- Clinic
- Community Hall
- Day Care Centre
- Eductional Facility
- Fire Station
- Library
- Police Station
- School
- Sports Field
- Thusong Centre

2.3 Economic activities

The majority of economic activities in the node are informal. Although there are a few traders located on Ngcakani Road, the majority are spread out along NMB. The only formal economic facilities are the shopping mall and the filling station at the Fourways intersection.

As much as formal retailers bring money into townships and provide access to franchises and national retailers, it is important to acknowledge the role that informal traders play in supporting the economy. Some trade out of necessity given the unavailability of employment opportunities. Many informal traders often have entrepreneurial skills but lack the funds or support to formalise their business.

Informal economic activities cover a whole range of services as indicated on the plan and in the list. The basic form of trading is where goods are displayed directly on the street, followed by mobile structures such as tables, fryers and umbrellas. A bit more permanent is some form of structure on which to display goods, followed by enclosed structures made from temporary building materials. Lastly, there are permanent brick structures - even though the economic activity is informal.

Informal trading with more mobile structures (e.g. meat fryers on NMB in front of the filling station, and small tables with umbrellas) are not indicated on the plan and included in the counts.

A few traders are provided for on the stand of the mall. Informal traders are also located in the taxi rank, specifically flanking the pedestrian route through the rank towards the mall.

ALL TRADING ACTIVITIES TAKING PLACE IN THE PRECINCT

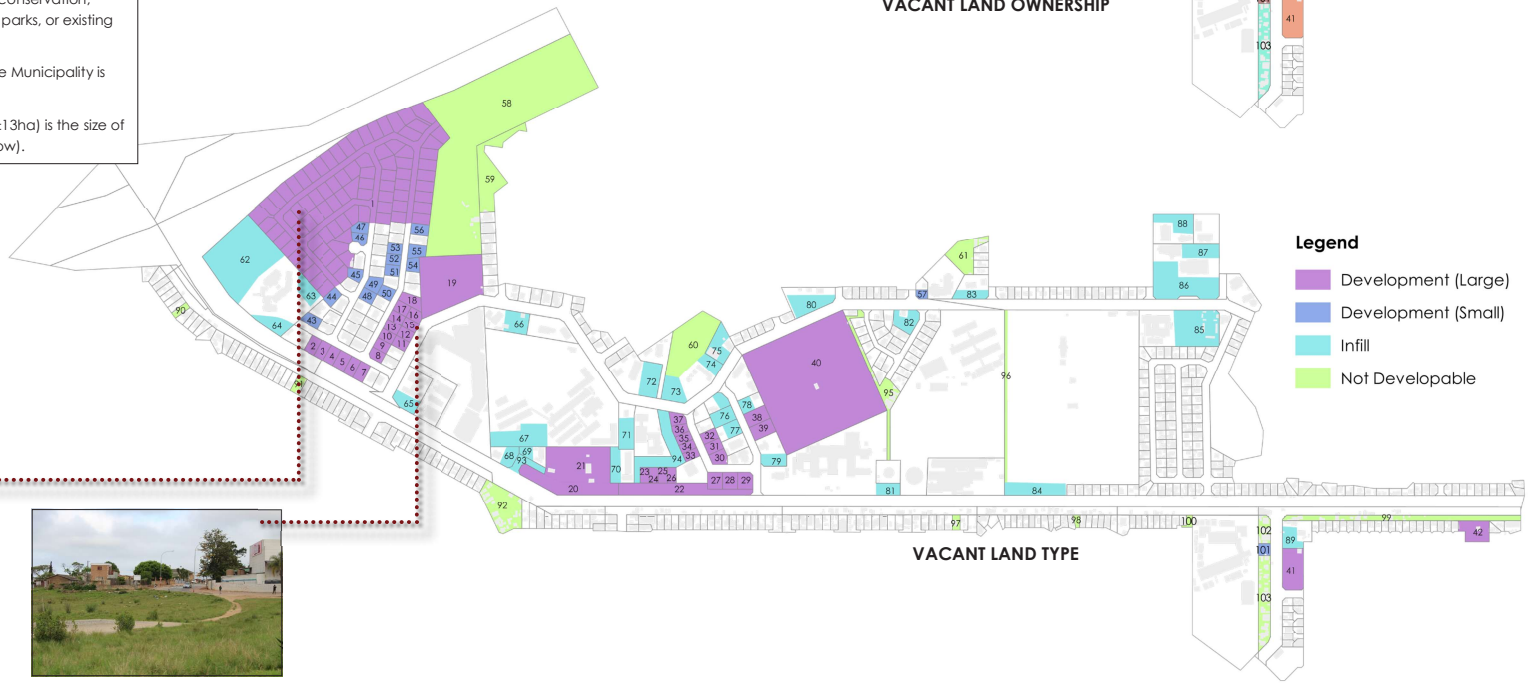
2.4 Vacant land

Vacant land in the node is divided into the following - with total sizes indicated for each:

- Small parcels: (8 018m²) These are mostly vacant residential erven. Stands will most probably be kept for residential development and may be used for land exchange to unlock more ideally located properties for economic opportunities.
- Large parcels: (129 881m²) These are large tracts of vacant land available for mega-developments. Where a few small parcels are grouped together, they are considered to form part of a large parcel. These larger developments are most likely to bring in formal economic activities which would have the potential to employ members of the local community.
- Infill areas: (54 276m²) Some properties have existing structures, but relatively large open spaces with potential for infill development of the same or another appropriate use (e.g. shared parking). Infill land will be more difficult to unlock for development. These parcels have mostly been identified from social facilities where there is potential to support more social activities. Some parcels will need to be subdivided and bought from private owners, whilst others can be negotiated for public use.
- Not developable land: (69 030m²) These include areas that might be seen as vacant land, but which contain ecologically sensitive areas or areas of environmental importance. It is important that dedicated public uses be allocated to these areas to 1) protect them from future encroachment, and 2) increase recreational opportunities with a minimal ecological impact. When perceived as no-man's land, it becomes prone to be misused. Apart from conservation, not developable land also includes land zoned for parks, or existing walkways that need to be kept open.

Developable land (large, small, infill) owned by George Municipality is 104 617m² (±10,5ha).

For comparison, the sum of the large parcels of land (±13ha) is the size of almost seven stands of the existing mall (illustrated below).



Data on vacant land

Par	Vacant Type	Ownership	Zoning	Size (sqm)
1	Development (Large)	George Municipality	Single Residential Zone 1	52 496,65
2	Development (Large)	George Municipality	Business Zone 2	544,13
3	Development (Large)	George Municipality	Business Zone 2	556,92
4	Development (Large)	George Municipality	Business Zone 2	539,20
5	Development (Large)	George Municipality	Business Zone 2	624,99
6	Development (Large)	George Municipality	Business Zone 2	517,29
7	Development (Large)	George Municipality	Business Zone 2	538,74
8	Development (Large)	George Municipality	Business Zone 2	437,30
9	Development (Large)	George Municipality	Business Zone 2	450,16
10	Development (Large)	Privately owned	Single Residential Zone 1	450,03
11	Development (Large)	George Municipality	Business Zone 2	451,16
12	Development (Large)	George Municipality	Business Zone 2	450,99
13	Development (Large)	Privately owned	Single Residential Zone 1	450,64
14	Development (Large)	Privately owned	Single Residential Zone 1	449,31
15	Development (Large)	George Municipality	Business Zone 2	449,60
16	Development (Large)	George Municipality	Business Zone 2	449,68
17	Development (Large)	Privately owned	Single Residential Zone 1	473,93
18	Development (Large)	Privately owned	Single Residential Zone 1	697,47
19	Development (Large)	Privately owned	Business Zone 2	8 649,98
20	Development (Large)	George Municipality	Open Space Zone 3	3 562,02
21	Development (Large)	George Municipality	Open Space Zone 3	6 156,92
22	Development (Large)	George Municipality	Open Space Zone 1	3 702,48
23	Development (Large)	George Municipality	Business Zone 2	396,51
24	Development (Large)	George Municipality	Business Zone 2	391,32
25	Development (Large)	George Municipality	Business Zone 2	391,27
26	Development (Large)	George Municipality	Business Zone 2	387,12
27	Development (Large)	George Municipality	Industrial Zone 1	699,34
28	Development (Large)	Privately owned	Industrial Zone 1	698,67
29	Development (Large)	Privately owned	Industrial Zone 1	704,42
30	Development (Large)	Privately owned	Industrial Zone 1	601,11
31	Development (Large)	George Municipality	Industrial Zone 1	530,01
32	Development (Large)	George Municipality	Industrial Zone 1	518,44
33	Development (Large)	George Municipality	Business Zone 1	390,41
34	Development (Large)	George Municipality	Business Zone 2	392,12
35	Development (Large)	Privately owned	Business Zone 2	391,86
36	Development (Large)	George Municipality	Business Zone 2	426,86
37	Development (Large)	George Municipality	Business Zone 1	512,09
38	Development (Large)	Privately owned	Community Zone 2	927,82
39	Development (Large)	Privately owned	Industrial Zone 1	928,85
40	Development (Large)	Privately owned	Utility Zone	33 488,14
41	Development (Large)	Privately owned	Community Zone 3	2 397,66
42	Development (Large)	Privately owned	Open Space Zone 1	1 608,23
43	Development (Small)	Privately owned	Single Residential Zone 1	534,49
44	Development (Small)	George Municipality	Single Residential Zone 1	521,47
45	Development (Small)	Privately owned	Single Residential Zone 1	473,36
46	Development (Small)	George Municipality	Single Residential Zone 1	466,81
47	Development (Small)	George Municipality	Single Residential Zone 1	488,29
48	Development (Small)	Privately owned	Single Residential Zone 1	500,16
49	Development (Small)	Privately owned	Single Residential Zone 1	615,57
50	Development (Small)	Privately owned	Single Residential Zone 1	491,46
51	Development (Small)	Privately owned	Single Residential Zone 1	450,01
52	Development (Small)	Privately owned	Single Residential Zone 1	450,32

Par	Vacant Type	Ownership	Zoning	Size (sqm)
53	Development (Small)	Privately owned	Single Residential Zone 1	450,39
54	Development (Small)	Privately owned	Single Residential Zone 1	491,40
55	Development (Small)	Privately owned	Single Residential Zone 1	634,87
56	Development (Small)	Privately owned	Single Residential Zone 1	539,76
57	Development (Small)	Privately owned	Business Zone 2	284,94
58	Not Developable	George Municipality	Open Space Zone 3	40 632,93
59	Not Developable	George Municipality	Open Space Zone 1	4 052,69
60	Not Developable	George Municipality	Open Space Zone 1	5 520,73
61	Not Developable	George Municipality	Open Space Zone 3	2 259,97
62	Infill	George Municipality	Community Zone 3	9 919,09
63	Infill	George Municipality	Community Zone 3	1 116,25
64	Infill	George Municipality	Community Zone 3	1 206,14
65	Infill	Privately owned	Business Zone 4	982,19
66	Infill	George Municipality	Utility Zone	1 404,56
67	Infill	Department of Education	Community Zone 1	2 961,27
68	Infill	George Municipality	Community Zone 1	757,12
69	Infill	George Municipality	Community Zone 1	399,81
70	Infill	Privately owned	Community Zone 2	1 026,68
71	Infill	Privately owned	Community Zone 2	1 343,05
72	Infill	Privately owned	Community Zone 2	1 825,95
73	Infill	George Municipality	Open Space Zone 1	1 403,37
74	Infill	George Municipality	Open Space Zone 1	785,83
75	Infill	Privately owned	Community Zone 2	1 499,97
76	Infill	Privately owned	Industrial Zone 1	1 474,17
77	Infill	Privately owned	Industrial Zone 1	651,52
78	Infill	George Municipality	Industrial Zone 1	526,35
79	Infill	Privately owned	Community Zone 2	863,10
80	Infill	Privately owned	Community Zone 2	1 885,64
81	Infill	Department of Public Works	Utility Zone	801,53
82	Infill	Privately owned	Community Zone 2	1 188,19
83	Infill	Privately owned	Community Zone 2	834,43
84	Infill	George Municipality	Open Space Zone 2	2 111,89
85	Infill	George Municipality&RSA	Community Zone 3	4 463,58
86	Infill	George Municipality	Community Zone 3	4 848,39
87	Infill	George Municipality	Community Zone 3	1 472,62
88	Infill	Privately owned	Community Zone 2	1 549,35
89	Infill	Privately owned	Business Zone 1	981,81
90	Not Developable	Privately owned	Open Space Zone 1	329,78
91	Not Developable	Privately owned	Open Space Zone 1	478,97
92	Not Developable	George Municipality	Open Space Zone 1	4 003,44
93	Infill	No data	Community Zone 1	819,43
94	Infill	No data	Transport Zone 2	3 173,31
95	Not Developable	Privately owned	Open Space Zone 1	2 392,86
96	Not Developable	George Municipality	Open Space Zone 2	1 354,72
97	Not Developable	Privately owned	Single Residential Zone 1	325,18
98	Not Developable	George Municipality	Single Residential Zone 1	191,58
99	Not Developable	George Municipality	Open Space Zone 1	3 566,70
100	Development Small	George Municipality	Single Residential Zone 1	225,188
101	Development Small	Telkom SA SOC LTD C/O	Single Residential Zone 1	399,496
102	Not Developable	George Municipality	Business Zone 2	914,95
103	Not Developable	George Municipality	Business Zone 2	3005,327

2.5 A poor pedestrian environment

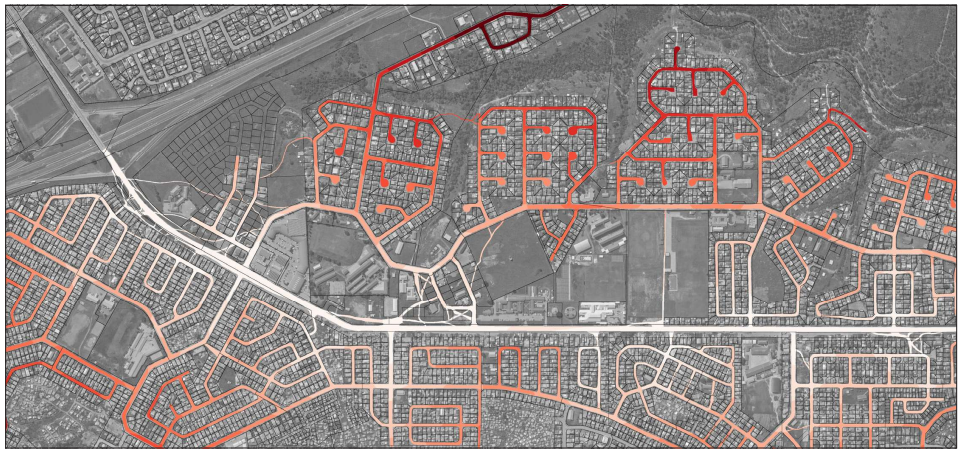
No priority in the road layout and road design

Even though walking is a major mode of transport in Thembalethu, the township layout, as with many residential layouts in South Africa, favours motor vehicle mobility over that of pedestrians. Adding to this are the fenced social facilities on large parcels that do not allow any thoroughfare for pedestrians, thereby adding to the lack of permeability of the area.

The maps below illustrate the pedestrian movement network in Thembalethu by indicating the walking distance from anywhere in the area to reach NMB. The lighter the colours are, the closer the walking distances are, getting darker as the distances increase. The first map only takes into account the formal road layout, whilst the second map takes into account the informal walkways that illustrate desire lines. Opportunities for informal walking routes will become less as the vacant land is developed. The need to build permeability into the future development and design parameters of the area is thus critical.

Legend

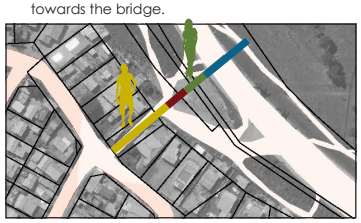
- 100m
- 200m
- 300m
- 400m
- 500m
- 600m
- 700m
- 800m
- 900m
- 1000m
- >1000m

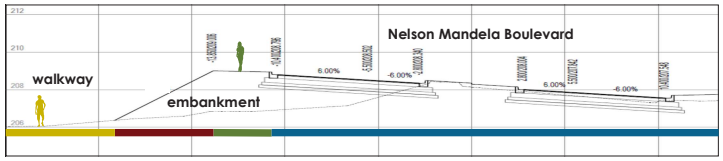


The extracts further illustrate this point by showing how an informal walking route makes NMB accessible within 100m to 400m, whereas the formal walking routes only allow access up to one kilometre away.

With the upgrading of the NMB bridge over the N2, another example came to the fore where pedestrian needs are not a priority (and sometimes even ignored) in road designs. As an example, the adjacent images illustrate this for the informal walkway as depicted in the extracts above.

- The first photo illustrates how this walkway previously linked up with NMB.
- With the upgrading of the bridge, NMB has been raised, resulting in an impassable embankment for pedestrians and cyclists in its new state. This is illustrated in the two photos to the right.
- As illustrated in the section below, people have to walk from the walkway up the embankment of almost 3m high with a steep slope to reach the top from where they can walk along NMB towards the bridge.





Suburban sidewalk design inadequate for urban intensity

A study was done by Techso in 2021 whereby all traffic crossing the N2 on NMB bridge during the two peak periods (6:00-9:00 and 15:00-18:00) of a typical working day was counted. The results from the study are indicated on the table to the right, with figures provided for various types of vehicle traffic, pedestrians, and cyclists.

As illustrated through the study, walking is by far the biggest mode of transport. There are about 10 000 pedestrians crossing the bridge over the N2 on NMB during the two peak periods. Bicycles are approximately 8% of pedestrians, giving about 800 cyclists daily over the peak periods. The traffic between peak periods has not been counted, but would further contribute to a higher daily figure. Since this is the only entry point into Ilisolethu, the counts provide a sense of the number of people using NMB - at least along the first part of the street.

	AM Peak period (6:00-9:00)	PM Peak period (15:00-18:00)	TOTAL (Peak periods)
Light vehicles	3 207	2 905	**6 112**
Minibus-taxis	1 050	542	**1 592**
Buses	46	8	**54**
Heavy vehicles	171	113	**284**
Pedestrians	6 411	3 603	**10 014**
Cyclists (±8% of pedestrians)	512	288	**800**

Despite the large number of people walking along NMB, the design of the street is still treated as a suburban road with a 1-2m paved strip next to the kerb. Although this is helpful to people with prams, wheelchairs and people with walking difficulties, the size of the strip is completely inadequate to accommodate masses of pedestrians typical of a highly urban environment.

The pedestrian environment also lacks pedestrian-scale street lighting, and any form of coverage (trees, canopies) that could protect pedestrians from the elements (sun, rain).

Recreational facilities and safe play spaces for children are also absent, even though enough space is available in the area.

Spatial design not on a human scale

Formal commercial developments tend to create large, introverted buildings with dead façades and no active interface with the street. This alienates the pedestrian and reduces safety in the street, as it reduces informal surveillance from the inside of properties. As more economic developments are attracted to the area, streets that have no human-scaled elements and are defined by long, dead walls will become more prevalent. This should be managed through design guidelines.

On the other hand, social developments also tend to be located in the middle of large, fenced-in stands. This also alienates pedestrians walking in the street from any on-site activities. Large, fenced-in stands furthermore create mega-blocks that hamper permeability for pedestrians. Although a transparent fence is already better than a solid wall, alternative ways should be found to bring activities (at least at some points) closer to the street.

3. Development we

for Ilisolethu

3.1 Premise for development & planning approach

Nelson Mandela Boulevard as street or road?

CHARACTERISTICS & CHALLENGES OF NMB

NMB is more than just an access road into Thembalethu, or more than just a road that should provide mobility (either for cars or buses) from one point to another. NMB is also a vibrant spine along which various economic and recreational activities are concentrated to the benefit of the local people.

With more than 10 000 pedestrians walking daily along NMB, and economic activities serving them for the largest part of the road, there is constant activity in the public space. To fulfil its role successfully, NMB should function (and be defined) as a 'street' (see graphic below for characteristics) with slow speed where a sense of place and a sense of community is experienced and prioritised. A street is not an ideal typology for a mobility spine.

On the other hand, being the only access route into Thembalethu, NMB experiences daily traffic congestion. It needs to move people via vehicles into and out of Thembalethu. To fulfil its role successfully, NMB should function (and be defined) as a 'road' (see graphic below for characteristics) with continuity in movement and fewer stops where mobility is prioritised. A road is not an ideal typology for an activity spine.

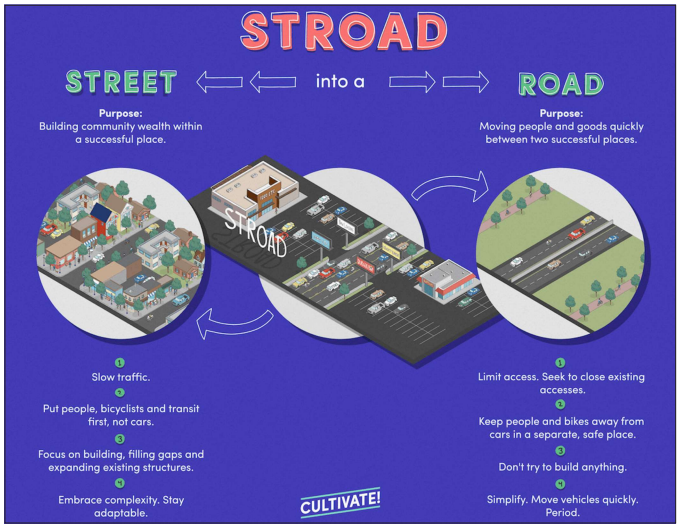
Due to this dual function, with no other option, NMB is neither a good functional street, nor a good functional road. This is globally referred to as a 'stroad' (see graphic below) and is often, in general, considered to be a typology that is not feasible.

APPROACH AND PRINCIPLES

The current reality is that there is only one spine. This is accepted as a given, thus supporting the notion that NMB will be a 'stroad' compromising on both activity ánd mobility. The ***approach*** to the design of NMB is thus to provide for vibrant economic activities, recreational opportunities, and public transport mobility.

The following ***principles*** are supported:

- Preserve activity
  - Preserve as many built structures as possible, taking into account functionality and safety.
  - Fill in vacant portions of land with people-oriented uses.
- Support mobility
  - Support continuity in movement along NMB whilst reducing speed through design.
  - Approach road design without destroying livelihoods of existing traders.
- Accommodate accessibility
  - Facilitate vehicle access into properties along NMB from alternative streets to limit the impact on mobility.
  - Maximise NMT access to and across NMB.
- Enhance identity
  - Design engineering elements (e.g. traffic circles) to also act as identity features.
  - Involve the local community in placemaking.
- Promote sustainability
  - Prioritise innovative green infrastructure.



Informality as reality

CHARACTERISTICS & CHALLENGES OF THE PRECINCT

Informality is an integral part of the identity of many townships. Informality is evident in the manner in where and how people move around, in how trading takes place, in how structures are constructed, and also in where trading and residential structures are put up. Encroachment of informal (yet often permanent) structures into the public domain is one of the biggest challenges that must be dealt with.

PRINCIPLES & APPROACH

The following ***principles*** are supported:

- Accept the fact that informality supports/sustains livelihoods. Don't destroy this, but protect it as far as possible.
- Accept the fact that Informality is a reality and will probably always be prevalent in our cities. Don't fight this, but aim to create synergy with formal interventions.
- Accept the fact that informality contributes to vibrancy in the public domain. Don't kill this, but build on it through creative actions.
- Accept the fact that informality creates identity. However, do not romanticize this, but think creatively about how to - as a priority - improve people's lives whilst keeping identity in mind.

The following is supported as an overall **approach**:

Do not formalise the informal.

Formalise AROUND the informal.

3.2 Development plan

The development concept of the node envisions a well-designed central mobility and activity spine on Nelson Mandela Boulevard. Although cars are accommodated, the emphasis is on public transport, pedestrian movement, and cycling (the latter two are jointly known as NMT – non-motorised transport). As activity spine, the plan provides for economic activities along the route, thereby sustaining the livelihoods of SMMEs.

With a range of community facilities already present in the area, the node as a focus point for community activities for the entire Thembalethu will be expanded and strengthened.

With more than 10 000 people walking in the area on a daily basis, a permeable layout that fosters better access to Nelson Mandela Boulevard from the adjacent residential areas is critical. This is of specific importance to facilitate easy access to community facilities.

Development proposals further allow for the integration of a diverse economic and residential opportunities. Mixed-use residential and commercial opportunities are proposed for the large portions of vacant land, supporting a sustainable live-work-play node for the entire Thembalethu community. Infill development is proposed on underutilised smaller properties.

Opportunities for larger scale commercial development (with a specific niche focus on retail warehousing) are provided along the N2. The aim with this is to increase job opportunities in Thembalethu, and also to bring in people from other areas to spend money in the node. Various types of inclusionary SMME economic opportunities are also accommodated at various localities in the node.

Land use
- Community Facilities
- Commercial Use
- Residential Mixed-Use
- Recreational Use
- Conservation Areas
- SMME Trading Spaces
- SMME Trading on Streetfront

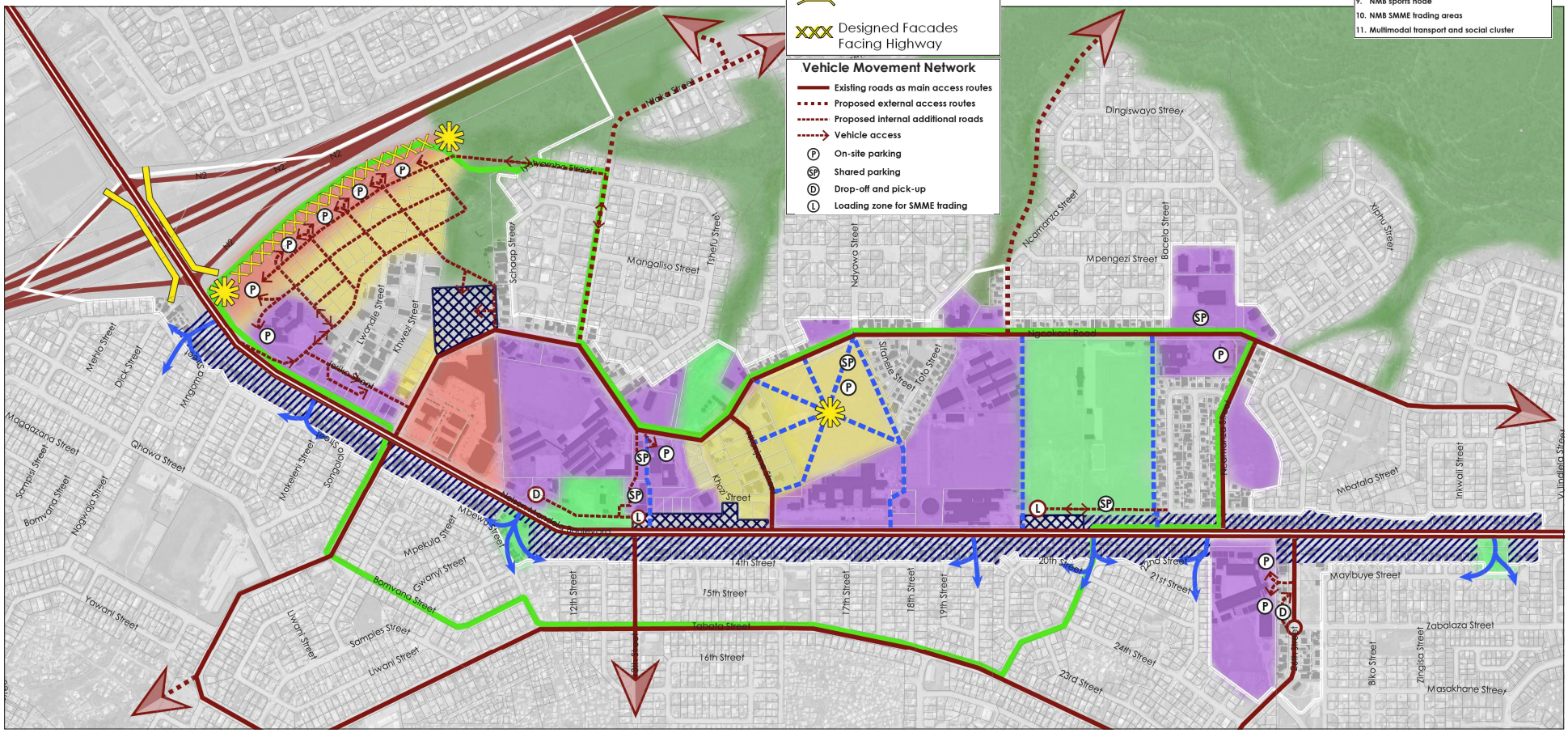
Identity Elements
- Landmark Elements
- Gateway Feature
- Designed Facades Facing Highway

Vehicle Movement Network
- Existing roads as main access routes
- Proposed external access routes
- Proposed internal additional roads
- Vehicle access
- (P) On-site parking
- (SP) Shared parking
- (D) Drop-off and pick-up
- (L) Loading zone for SMME trading

Pedestrian Movement Network
- Existing Walkway
- Proposed Walkway
- Recreation Route

The development concept addresses the development of the whole node, with proposals (to a lesser or greater extent) made for development on all properties. The focus is, however, on 11 priority projects (see Section 5). Detailed investment packages were prepared for these projects. Although the development plan covers the whole node, calculations for the land use budget, social facilities, and engineering capacity and costs were only done by taking the 11 projects into account and not the areas outside the project areas. It might be possible that an area not currently falling within any of the 11 project areas is developed first. This is not an issue. It should only be noted that potential development of these areas is not reflected in any of the figures presented in the report.

PROPOSED PROJECTS
1. NMB multipurpose identity route
2. Ilisolethu interchange gateway development
3. BPO village (ATNS land)
4. DLab call centre (Old Hospital/clinic)
5. Inkcubeko Youth and Science Centre extension
6. SMME and recycling hub
7. Park Run and Trimpark recreation route
8. NMB multipurpose public open spaces
9. NMB sports node
10. NMB SMME trading areas
11. Multimodal transport and social cluster



3.3 Proposed land use budget

The land use budget for the Ilisolethu node is set out in the adjacent table. The budget calculates the land allocated to a specific use, and the total building area based on the floor factor allocated to that use at that locality.

The calculations are based on the following premise:

- The land uses as defined in the George Zoning Scheme were used for categorisation. Two categories were added, namely:
  - "Informal Structures" referring to land occupied by a residential shelter(s), which is of a temporary nature that does not comply with the provisions of the Act of National Building Regulations and Building Standards (Act 103 0f 1998) and any amendments thereof.
  - "Vacant Land" referring to different types of unutilised or underutilised land parcels in public or private use / ownership. It can either be within a built-up area, on the city's periphery, or within a rural setting. It can also be proclaimed erven that might be serviced (with, e.g. water/sewer) but have to be developed yet. Based on the subcategories identified for "vacant land", it might be possible that building sizes are shown in the table under the vacant land use. This might, for example, include temporary structures for a weekend market.
- The table uses the areas of land uses existing in the node as a basis and adds areas for that specific use based on the proposed development concept. However, only additional uses linked to the 11 projects were added to the land use budget. The extent of development contained in other proposals in the plan (e.g. residential mixed-use behind the mall and along Khozi Street, as well as infill development proposed as a principle on underutilised properties) is not reflected here and was not included in the calculations.

Land uses as defined in the George Zoning Scheme were used for categorisation. Two categories were added.

"Informal Structures" refers to land occupied by a residential shelter(s) which is of a temporary nature that does not comply with the provisions of the Act of National Building Regulations and Building Standards (Act 103 0f 1998) and any amendments thereof.

"Vacant Land" refers to different types of unutilised or underutilised land parcels which can be in public or private use /ownership. It can either be within a built-up area, on the periphery of the city, or within a rural setting. It can also be proclaimed erven that might be serviced (with, e.g. water/sewer) but is not developed yet. Based on the subcategories identified for "vacant land", it might be possible that building sizes are shown in the table under the vacant land use. This might, for example, include temporary structures for a weekend market.

	LAND AREA			BUILDING FLOOR AREA		
	Land area currently taken up by the land use in the node.	Land area that would be added to this land use once all 11 projects are fully developed.	Total land area taken up by the land use in the node once all 11 projects are fully developed.	Building area currently being used for this land use in the node.	Building area that would be added once all 11 projects are fully developed.	Total building area to be used for this land use in the node once all 11 projects are fully developed.
George Land Use	**Existing Area (ha)**	**Additional Area**	**Total Area (ha)**	**Existing Buildings (m^2)**	**Additional Buildings**	**Total Buildings (m^2)**
Authority Use	4,03	0	4,03	9 700	0	9 700
Boarding House	0,46	0	0,46	1 600	0	1 600
Business Premises	2,07	0,30	2,37	12 700	5 700	18 400
Cemetery	1,05	0	1,05	0	0	0
Clinic	0,8	0,6	1,40	5 000	5 300	10 300
Creche	0,35	0	0,35	700	0	700
Dwelling House	5,81	0	5,81	22 500	0	22 500
Factory Shop	0	2,12	2,12	0	7 400	7 400
Farmer's Market	0	0,22	0,22	0	200	200
Flats	0,16	9,62	9,78	1 900	28 700	30 600
Guest House	0,03	0	0,03	400	0	400
Home Childcare	0,03	0	0,03	100	0	100
Home Occupation	0,09	0	0,09	600	0	600
Industrial Hive	0	0,64	0,64	0	1 500	1 500
Industry	0	0,08	0,08	0	400	400
Informal Structures	12,07	0	12,07	31 600	0	31 600
Informal Trading	1,88	2,31	4,19	3 200	1 800	5 000
Institution	1,42	0,23	1,65	2 300	2 300	4 600
Light Industry	0	0,08	0,08	0	400	400
Medical Consulting Room	0,04	0	0,04	200	0	200
Motor Repair Garage	0	0,08	0,08	0	400	400
Neighbourhood Shop	0	0,39	0,39	0	7 500	7 500
Neighbourhood Shop	0	0,39	0,39	0	0	0
Occasional Use	0	0	0	0	7 900	7 900
Office	0	0,42	0,42	0	400	400
Open Air Motor Vehicle Display	0	0,08	0,08	0	2 000	2 000
Outdoor Trading and Dining	0	1,09	1,09	600	0	600
Place of Assembly	0,26	0	0,26	27 700	4 000	31 700
Place of Instruction	12,36	0,53	12,89	5 700	500	6 200
Place of Worship	2,58	0,08	2,66	100	0	100
Power Plant and Heat Pumps	0,03	0	0,03	0	0	0
Public Open Space	4,10	2,58	6,68	0	0	0
Public Street	22,5	2,63	25,13	400	400	800
Scrapyard	0,08	0,08	0,16	900	0	900
Second Dwelling	0,3	0	0,3	800	0	800
Service Station	0,3	0	0,3	900	4 000	4 900
Sport and Recreation Centre	6,68	0,9	7,58	1 500	0	1 500
Supermarket	0,18	0	0,18	1 500	1 800	3 300
Transport Use	4,02	0,15	4,17	300	0	300
Utility Service	0,15	0	0,15	3 100	0	3 100
Vacant	12,78	0	0	0	7 500	7 500

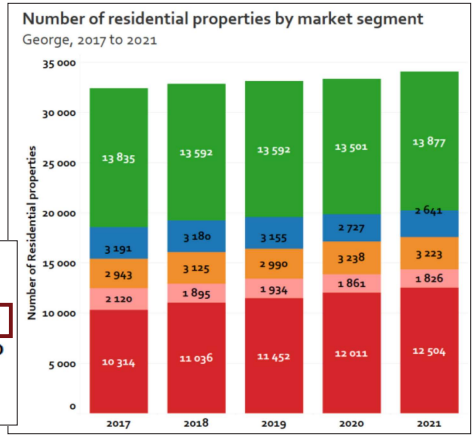
3.4 Residential market

South Africa's urban landscape still suffers from the spatial legacy of apartheid. Many problems need to be addressed to reshape our cities. Unemployment, rapid urbanisation and an expanding population are problems which all affect the provision of housing and the quality of our cities (DoHS 2008: 2). Among these problems is addressing the gap market in the residential market.

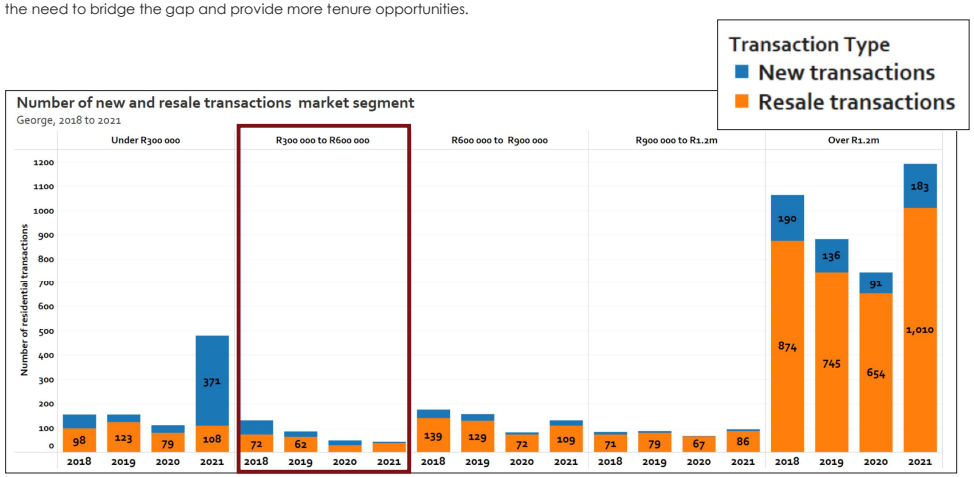
Across the country, the greatest number of households without adequate housing earn between R4 001 and R22 000 monthly. The demand is most acute for those earning between R4 001 and R9 000 a month. This market is known as the gap market as they battle to secure housing. Currently, the housing market makes provision for the low-income group through government interventions and subsidies, and the middle to high-income group is catered for through developers and investors (with the potential access to commercial home loans). The group in between needs to be addressed, as it implies that they are too "rich" to qualify for a housing subsidy but too "poor" to afford a newly built house available on the market.

George Local Municipality is no exception to this national dilemma. The Western Cape Department of Environmental Affairs and Development Planning published a report, 'Housing Market Studies for Intermediate Cities / Larger Towns in the Western Cape - George City Area'. The report focuses on the housing demand and supply in George Local Municipality.

The report highlights the extent of the gap market in the municipality. With an estimated municipal population of 221 538 in 2021, George Municipality has a total of 60 162 households. 72% are estimated to be part of the working population earning approximately R 12 000 or less per month, as analysed by GeoTerraImage (GTI). This income group can afford houses at R 300 000 - R 600 000 or even less. However, in analysing the housing market in 2021, only 12% of this income group was catered for in existing residential properties. This income group experienced a 17% decline in housing count in the market between 2017 and 2021 (see graphic to the right).



Moreover, data also revealed this income group had the least new and resale market activity (see graphic below). This further emphasises the need to bridge the gap and provide more tenure opportunities.



It is estimated that in 2023, the municipality will need approximately 28 000 new residential opportunities. On average, the government supplies 230 houses per year, which indicates the housing supply is moving significantly slower than the need (Centre for Affordable Housing Finance in Africa, 2022). Although the housing gap is evident, developers and investors avoid this income group due to perceived risks (Centre for Affordable Housing Finance in Africa, 2022). Developers and investors gravitate towards the higher-end market where affordability is guaranteed.

To counteract the current dilemma, Project 2: Ilisolethu Interchange Gateway Development and Project 3: BPO Village (ATNS land) could be a place of intervention and a great opportunity to provide housing which will cater for this income group. Apart from rental accommodation for this income group, a drive to facilitate and access the Finance Linked Individual Subsidies Programme (FLISP) is a key to unlock this market.

3.5 Proposed social facilities

ADDRESSING THE NEED FOR SOCIAL FACILITIES

The CSIR Guidelines for the Provision of Social Facilities in South African Settlements (2015) provides standards for the provision of community facilities required for the population of an area or city. However, the guidelines indicate what should generally be provided as a standard in an "ideal" situation (e.g. in a large greenfields development, a school stand of 4,8ha could be accommodated). This is not viable, and simply not possible, in an urban area that is already established. In general, limited vacant land is available and most large portions are often used for residential densification - even amplifying the dilemma with more people requiring more facilities. Ilisolethu has large portions of a total of around 13ha of developable land. Due to the node's limited residential and commercial activities, these portions will be developed with high-intensity mixed-use to support the node as the live-work-play core of Thembalethu. However, the aim is also to strengthen the node as a focus for providing community facilities in Thembalethu. To provide for the increased population ánd to strengthen the social function, another approach towards the provision of facilities needs to be investigated. The following alternatives should be pursued:

- *Infill development:* There are many underutilised properties in Ilisolethu, with portions of land that can be used for infill development. These portions combined add up to approximately 5ha. Many of these properties already contain community facilities. Infill with suitable or supporting uses could be considered and negotiated.
- *Different typology:* When we think about a school, we picture a facility with spread-out buildings on a large site with sports fields. However, the more urban an environment becomes, the less opportunity there is to establish this typology. Government departments and developers should sternly pursue establishing community services as an integral part of a large residential or commercial development. This supports the concepts of, for example, urban schools (accommodated on one or two floors of a building), a police station occupying office space in a building and urban sports facilities, playgrounds and gardens on the podium deck or rooftop of a building.
- *Improved capacity:* A facility is often not used to its full capacity. Sometimes, facilities should be better managed to increase capacity. At other times, a facility might require alterations to the design of the building or space to make it more efficient and increase its capacity.
- *Shared space:* Different facilities should be combined on one stand and in one building to provide a one-stop centre for various community services. For instance, a community hall could be designed with upper floors containing a library, clinic, Home Affairs Offices, etc. Providing a dedicated site for each of these facilities is simply not viable. Cooperation and coordination between various national, provincial and local municipal departments are critical for implementing an integrated facility successfully. Sharing of sports fields between the community and different schools should also be undertaken, even though this will require more management and coordination from all stakeholders.
- *Improved quality:* Often, new facilities are not necessarily needed, as a service's improved quality and efficiency would already support the node in serving more people.

CALCULATING THE NEED FOR SOCIAL FACILITIES

Even though the above mentioned concern is raised, the need for social facilities was nevertheless calculated based on the future growth of the population of Thembalethu. However, the calculation of the projected population is, in itself, a task that should be approached with caution.

In projecting population figures for the years 2025, 2030 and 2050, three primary datasets were used:

1. Municipal population figures on the municipal level for 2021, sourced from the 2011 and Mid-year Population Estimates StatsSA 2002-2018,
2. Subplace population figures for 2011, obtained from the Census data in 2011, and
3. Municipal population figures for 2011, 2030, and 2050, acquired from the CSIR Green Book.

As a start, the assumption was adopted that the population growth within the subplace area would mirror that of the municipality. The initial phase of the calculations involved determining the 5-year and 10-year average municipal population growth rates, extrapolated from the available census data.

In the second phase, these growth rates were applied to the 2011 subplace population figures (data set number 2) to project the population figures for 2023, 2025, 2030, and 2050. Specifically, the 5-year average growth rate was used for projecting figures to 2025, while the 10-year average growth rate was employed for projecting figures to 2030 and 2050.

The Green Book projections were also integrated into the calculations to enhance accuracy, The Green Book provides projections for population figures in 2030 and 2050 on the municipal level, using both high and medium growth rates. These growth rates were extrapolated from the provided figures and subsequently applied to the subplace figures (Census 2011 figures) to project the population figures for 2030 and 2050 on the subplace level.

Cautiously approaching population projections, the average between the following three population figures was determined:

- The census projection figure;
- The Green Book medium growth rate projection figure; and
- The Green Book high growth rate projection figure.

The average population figures derived from the Community Profile data and the Green Book growth rates generated a projected average population of 59 279 by 2050. This figure was used to determine the number of facilities required in 2050 (see table to the right).

In the table, the red items are those facilities identified by George Municipality using various sources to determine the facilities required in 2031. The difference in the number of facilities calculated with the CSIR tool can thus be compared to the facilities as determined by George Municipality.

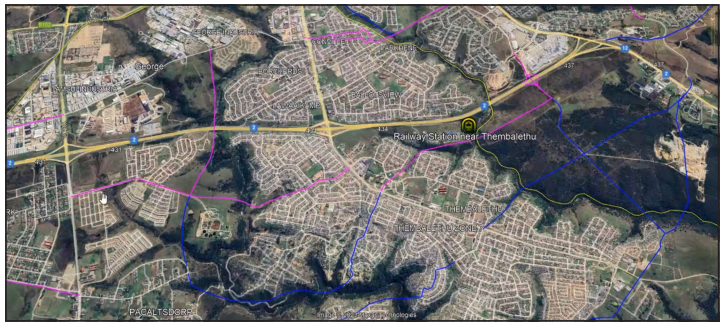
Facilities	Population threshold	2050 facilities required Thembalethu (CSIR space planner)	2031 max facilities required Thembalethu (George LM)	Current supply Thembalethu (George LM source)	Deficit /surplus Thembalethu	Facilities already in Ilisolethu
Primary Health Clinic	70 000	1	11	3	2	1
Police Station	Variable	Discretionary	1	1		1
Community Performing Arts Centre	50 000	1		0	-1	0
Local Library	70 000	1	2	3	2	1
Home Affairs – small office	40 000	1		0	-1	0
Mobile/eGov Integrated Service	2 000	30		0	-30	0
Community Hall – large	60 000	1	11	4	3	0
Community Hall – medium/small (fringe areas)	15 000	4		4	0	1
ICT Access Point	10 000	6		0	-6	1
Post Office/Agency with post boxes	20 000	3	6	1	-2	0
SASSA Office (Social Service Office)	40 000	1		0	-1	0
Cemetery (large)	100 000	1		1	0	1
ABET/Skill Training	Variable	Discretionary	6	3		
Secondary School	12 500	4	4	3	-2	1
Primary School	7 000	8	8	3	-5	2
Grade R Class at Primary School	1 000	59			-59	TBD
Small Crèche/Early Childhood Development Centre	3 000	20	25	28	-15	TBD
Level surface playing fields	3 000	20		0	-20	0
Gravel/grassed surface (2 football fields equivalent)	15 000	4		0	-4	0
Sports Complex (Grouping of fields and/or sports complexes (0.5ha/1000)	60 000	1		1	0	1
Grassed field (2 football fields equivalent) with 500-seat stand (0.5ha/1000)	30 000	2		0	-2	0
Cricket Oval (0.5ha/1000)	60 000	1		0	-1	0
Athletics/Cricket Stadium (grassed field and athletics track and stand – 3 000+ seats) (0.5ha/1000)	60 000	1		0	-1	0
Combi-court surface (x2) (0.5ha/1000)	15 000	4		0	-4	0
Combi-court surface (x4) (0.5ha/1000)	60 000	1		0	-1	0
Community Pool	50 000	1		0	-1	0
Community Park with play equipment (0.5ha/1000)	60 000	1		0	-1	0
Local/Neighbourhood Park (includes play equipment (0.5ha/1000)	15 000	4		0	-4	0

3.6 Proposed movement network

External linkages

One of the biggest concerns regarding movement networks in Ilisolethu is that there is only one access road, namely Nelson Mandela Boulevard. This needs to be addressed as a matter of urgency. Based on a traffic modelling study done by Techso, potential connection routes were conceptually drawn over an aerial photo (see blue and pink lines to the right). The biggest challenge is the prevalence of rivers and valleys, making it difficult and costly to improve connectivity. Most of these proposed lines run right next to rivers and/or cross rivers in relatively big valleys at many points. The fact that these are conceptual lines is acknowledged. However, it is proposed that a pragmatic approach is followed as opposed to (only) working towards an ultimate visionary ideal. From a pragmatic point of view, three principles are proposed to guide the alignment of roads:

- Providing linkages is about *improving connectivity, not maximising mobility*. Roads need not be new roads with large road reserves, but movement can be accommodated on existing roads. The importance is that linkages are made where dead ends are encountered. A few strategic routes can be larger to support mobility, but most can even become activity routes - especially where new connections to existing activity areas are made.



- In a built-up, fine-grained area such as Thembalethu, *connectivity is more important than continuity*. Long continuous roads are good for mobility, but might require many informal residential structures to be demolished or natural areas to be spoilt. It might also lead to speeding. Linking existing roads (even through dogleg or T-junctions as opposed to straight crossings, and even using roads made through informal settlement processes) improves connectivity more cost-effectively than construction of long, continuous new roads.
- The ideal is to provide continuous linkages to all sides in a large gridlike pattern. However, this would require many bridges and large sums of money to execute. As a pragmatic approach, it is proposed that *existing informal crossings over rivers be formalised* for the interim. Where the highway is crossing rivers, connections at these points could also be investigated as an interim solution.

From a pragmatic point of view, a conceptual deformed grid is proposed and illustrated over the aerial photo above.

With higher densities and more environmentally conscious planning, the efficient usage of rail as an alternative mode of transport becomes more important. Future planning for a railway station is thus commendable. However, given the current thinking around transit-oriented development (TOD), the locality of a station (as indicated on the aerial photo above left) on the periphery of the node where nobody is working or living close by needs to be reconsidered.

Road planning in the node

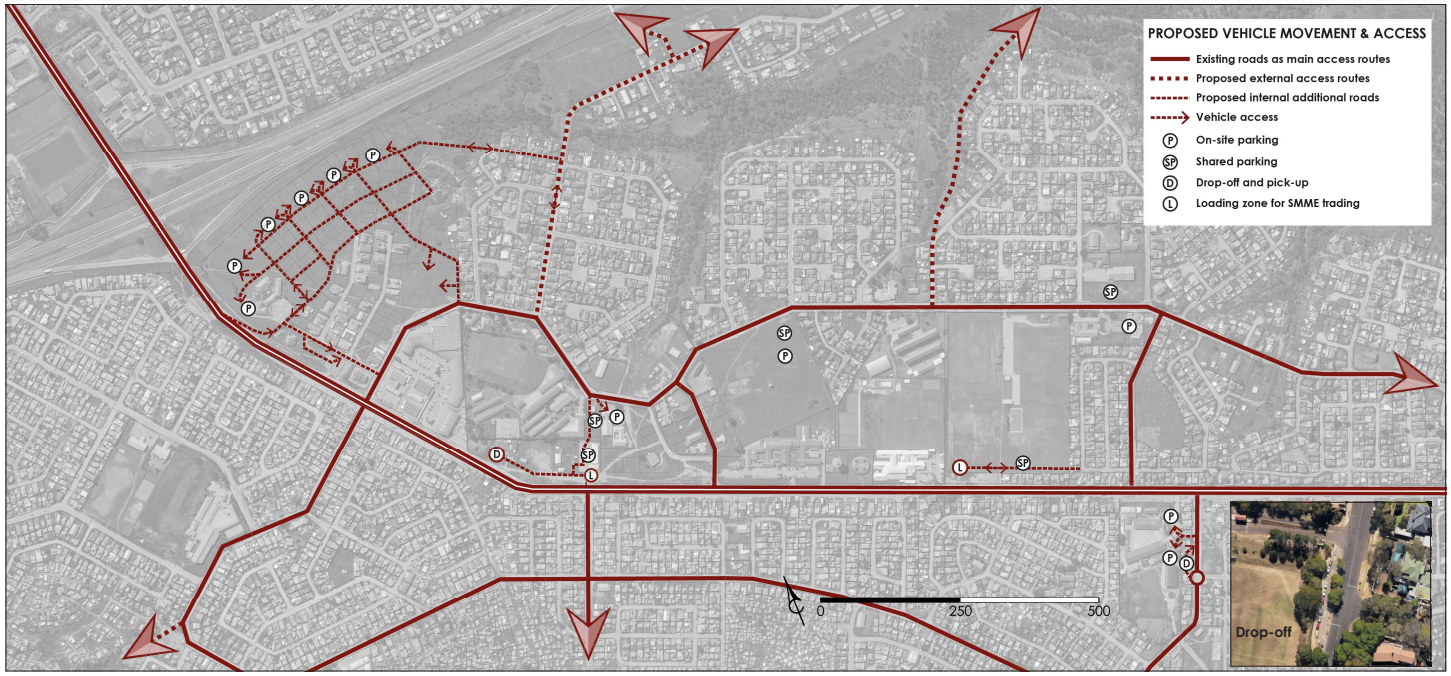
One of the aspects that needs to be addressed jointly is the parking issue. The Thembalethu area, and specifically the Ilisolethu node, is considered to be a PT2 Area, referring to an area "where the use of public transport is to be promoted, and the Council considers the provision of public transport sufficient enough to justify the reduced parking requirements". Although the rollout of Go George in this area is still in its early days, one should take into account the high number of people walking, cycling, and using taxis as a form of public transport.

Given that this node houses many community facilities serving the whole of Thembalethu, and given the fact that the majority of people are daily walking to their destination, a reduced parking ratio in comparison to other areas in town could be argued for.

Parking requirements are addressed as part of the guidelines in each project investment package. However, shared parking should, as a principle, be promoted throughout the node. This is specifically proposed in some localities, such as on the church sites between the NMB sports node and the Inkcubeko Centre (see plan).

A road layout based on a walkable grid (approximately 50m X 50m) should be implemented on the Interchange Gateway Development site. A slip lane for access from NMB is critical, with other access roads also to be investigated and implemented.

Details are provided in the investment packages for each project. On the plan, only Tyholora Primary School does not form part of a project. Vehicular access is moved to 26th Street through the vacant portion of land. A linear drop-off lane is provided just south of the entrance.



4. Urban design we

for Ilisolethu

design principles & proposals

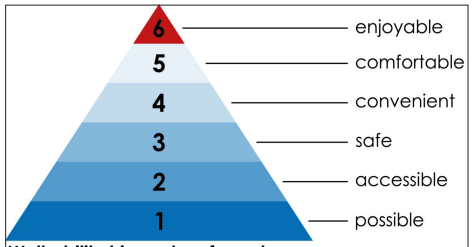
4.1 Improved walkability

Design principles and design parameters

Walkability refers to how user-friendly an area is for pedestrians to walk in.

More than 10 000 pedestrians are crossing the bridge into and out of Ilisolethu on NMB per day. Most of these trips are undertaken out of necessity and not necessarily by choice. The poor do not often have a choice but to walk. Supporting access, safety, convenience, and comfort for them is critical. However, a truly walkable area is a place where people chóóse to walk – even once people who couldn't afford a car but can now afford to drive one. This requires much more than safety and convenience. The walking experience should be comfortable and enjoyable.

Enhanced walkability is based on the hierarchy of needs as indicated in the diagram. To support people who have no other choice but to use NMT, the first three levels of needs are critically important. However, creating a truly walkable space requires planners and designers to look at levels 4 to 6 to plan beyond just an adequate walking space, but to make it a recreational and enjoyable experience. These are further described to the right.

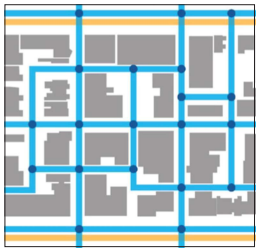


Walkability hierarchy of needs
(adapted from Pedestrians first: Tools for a walkable city)

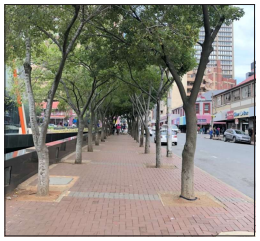
POSSIBLE – refers mainly to the pedestrians' physical ability to walk and the environmental features that might inhibit movement. Factors that might have an influence include the pedestrian's age, health and physical mobility, and whether there is an impassable environmental feature (like a wide highway or a steep hill).

The need for **ACCESSIBILITY** looks into whether destinations are within a reasonable walking distance. More often than not, the "reasonable walking distance" factor relates to income and the financial means to afford motorised transport. Factors influencing accessibility include the number of destinations pedestrians need to visit and the distance between these destinations. Similarly, the quality of the walking surface and the number of barriers that need to be crossed are also important factors.

SAFETY is the last fundamentally important need to create bare minimum walkability. Safety specifically refers to pedestrians being safe from crime, and whether there is a safe separation between non-motorised and motorised transportation. Factors that can improve pedestrian safety include pedestrian-scale street lighting, traffic management – including traffic calming measures, an unrestricted line of sight, and the absence of grime (litter, graffiti, abandoned buildings, etc.).



Even though the basic needs for walkability are met with the previous 3 levels of needs, to make an area more walkable, walking should be more **CONVENIENT** than other modes of transport. I.e. the time it takes to reach the intended destination should be shorter by walking than, for instance, driving a car. This can be achieved by creating pedestrian shortcuts along desire lines, or making an area more permeable by limiting the size of blocks to around 80m by 80m. An absolute maximum for walkability where there is no other choice, would be 150m. Walking can also be made more convenient by increasing the width of sidewalks.



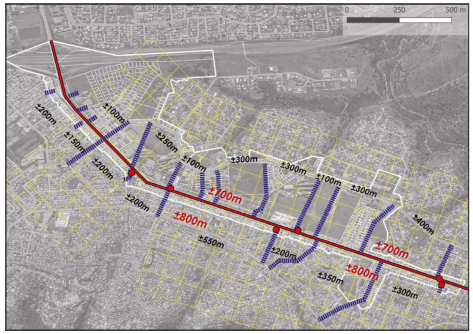
The need for **COMFORT** describes the spatial features along the way that provide relief from the discomfort of walking – whether due to physical discomfort such as fatigue or overcrowding, or due to discomfort relating to environmental elements such as the weather or darkness. Factors that impact comfort include covered walkways or trees to offer protection from the weather, pedestrian-scale lighting and intact walking surfaces, or the presence of public amenities and the availability of street furniture.

The last level in the hierarchy of needs for walkability relates more to the recreational value of walking than the exact need to get from one destination to another. Well-designed public spaces that prioritise pedestrians, spaces that are defined by buildings with varied streetscapes and quality architecture, lively spaces where adjacent land uses support the activity on the street, planned and managed informal and formal trading activities, and the presence of public art and other people all make for more **ENJOYABLE** spaces.

Overview proposals

Walking is already **POSSIBLE** in Thembalethu, as shown by the thousands of pedestrians walking along Nelson Mandela Boulevard on any given day. The area is relatively flat, with minimal environmental barriers that could impede movement. Upgrading the bridge over the N2 highway to include a pedestrian walkway also makes it possible for pedestrians to move between Thembalethu and George CBD or the Industrial area. Universal access design elements will further address the needs of the disabled community. With a clustering of social facilities in close proximity to each other and at a relatively good locality within Thembalethu, **ACCESSIBILITY** is relatively good.

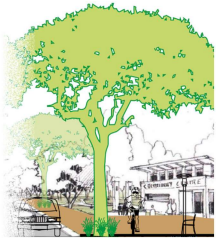
Permeability of the area for pedestrians is, however, greatly reduced with the layout favouring vehicle mobility over the movement of pedestrians, together with the fenced social facilities on large parcels that do not allow any thoroughfare for pedestrians. To increase permeability for more **CONVENIENT** walkability, pedestrian walkways should (ideally) be created every 100m apart (see conceptual linkages below) to reduce walking distances to reach NMB. Future developments should take place under the condition of providing adequate pedestrian access and passage. Negotiations with land owners at strategic positions should be held to establish new pedestrian walkways.



Creating new pedestrian walkways through superblocks might pose a challenge to the **SAFETY** of pedestrians. Given the current circumstances regarding crime in the country, it is understandable that social facilities need fences and walls to keep assets and visitors safe. This, however, creates unsafe conditions on the street, decreasing the visibility of walkways and creating potential crime hot spots.

Safety should specifically be addressed concerning the design of the proposed walkways. Where possible, landowners should take responsibility for the adjacent footpaths. Social facilities can reorient their security measures to not only focus on the safety inside the facility, but to also look at the safety on the street (more conceptual detail is provided on the following page).

Improving the **COMFORT** for pedestrians along NMD is not seen as a nice-to-have but as a necessity. The number of people walking along the street necessitates the expansion of the physical walking surface from a narrow strip to a fully paved area from the kerb to the street reserve boundary. Thembalethu functions with the intensity of an urban (not suburban) area and needs to be designed for that. Creating wider, uniformly paved walking surfaces will make walking more comfortable by decongesting narrow sidewalks and keeping pedestrians from walking in the mud. Further designing for comfort can be achieved by providing more trees and street furniture. Partnerships can be entered into with community organisations to launch a "plant-a-tree" programme to increase tree coverage in walking areas to create shade and some protection from the elements. Street furniture would also contribute to providing relief from the physical discomfort of walking long distances.

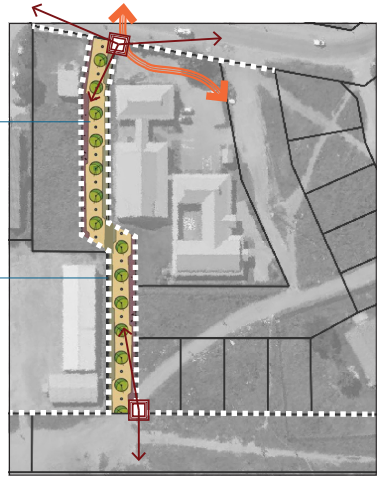


Design of public access routes

Public access routes provide more frequent thoroughfares and access points to NMB, thereby creating shortcut routes for pedestrians through large blocks.

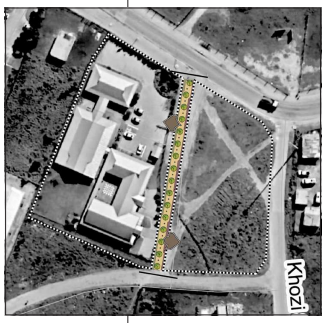
The access route must not look like an alley merely provided to fulfil the function of a through route. This approach quickly leads to through routes becoming unsafe alleyways filled with crime and grime. To prevent this, a public access route should be designed as a linear park or linear square that also serves a recreational purpose. To be functional, safe and enjoyable to use, it should:

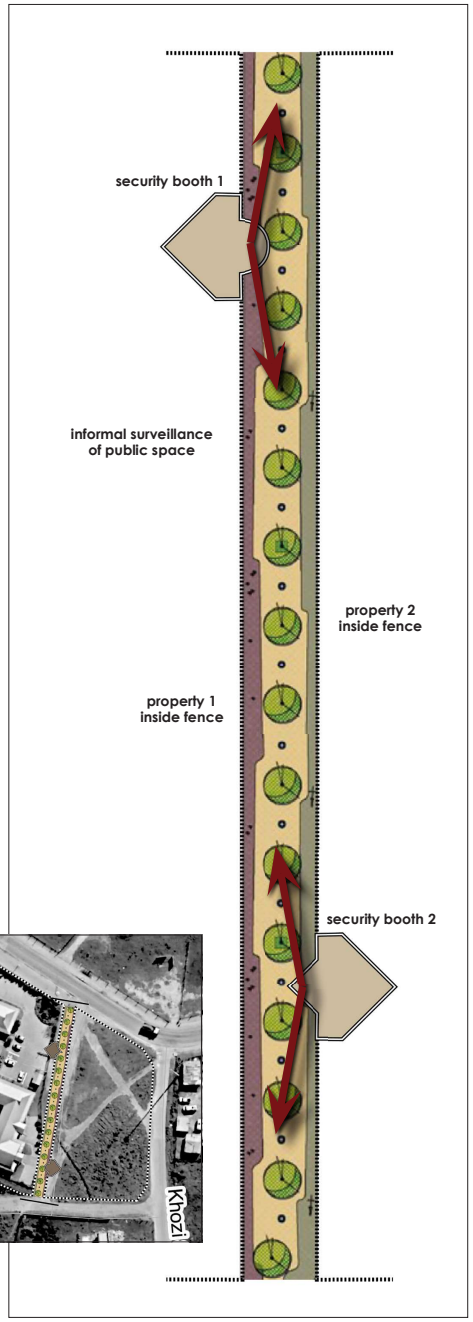
- Be wider than the combined width of a mere functional pedestrian walkway and cycleway;
- Be flanked by transparent fences, not solid walls (activities on the edge would even be better than fences); and
- Include seating areas, trees, landscaping, pedestrian lighting, and informal playing equipment in the design.



Security booth protruding with a transparent design feature 1m into the walkway space and 1m into the street reserve to assist with surveillance of the public space

and providing security for vehicular access



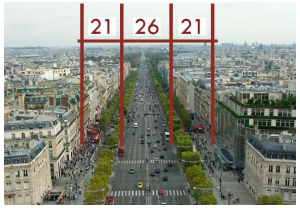


4.2 A well-designed boulevard

Design principles and design parameters

Note on boulevards. Ideally, a boulevard space should be designed in thirds, with approximately two-thirds for pedestrians and one-third for vehicles. Out of scale from the context of this project, but illustrating this principle, is the example of the Champs-Élysées in Paris as an "ideal" boulevard in terms of its proportions. The vertical height of buildings defining the space also plays a role in the definition of a boulevard, but given the context of this project, only the horizontal distance between buildings has relevance.

Given the above, it should be noted that the dimensions under 'design parameters' as specified below, compromise the spatial quality for pedestrians. This situation thus leaves no choice but to design and implement paving over and above the paved strip on the road's verges - described in Section 4.3 (NMB as linear public space).

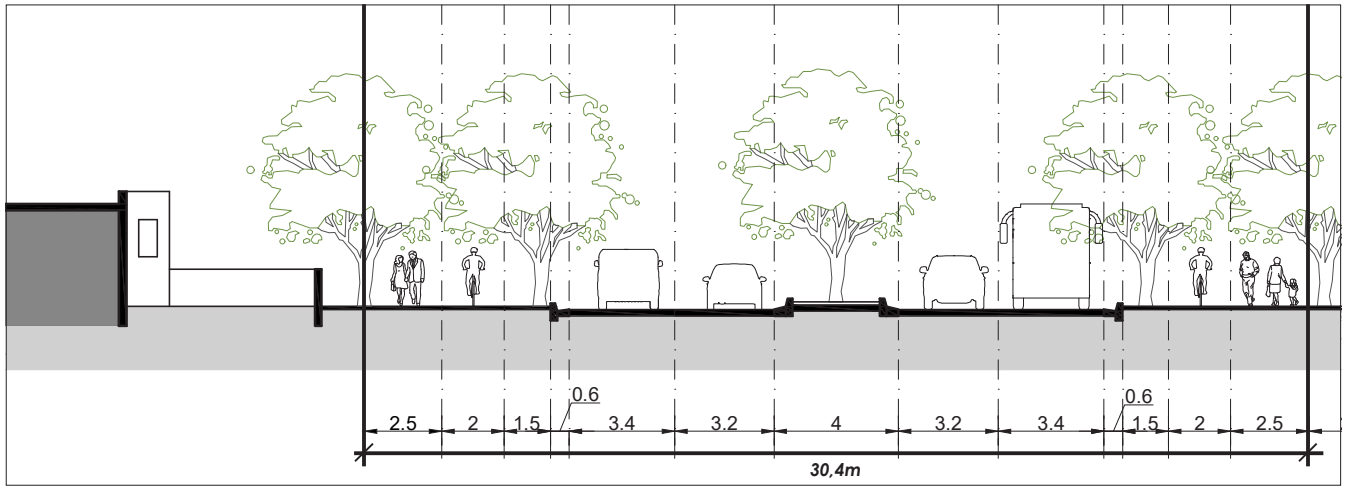


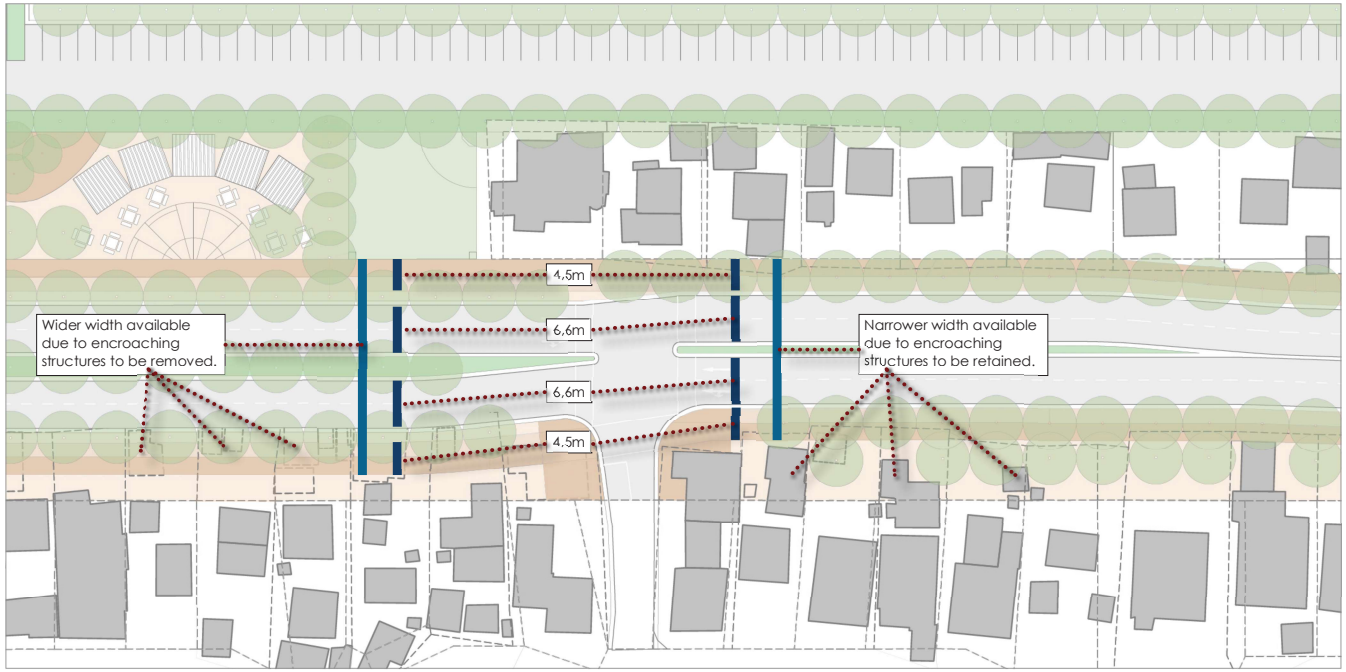
The design of the road is based on the following two ***design principles***:

- Continuity in and continuous width of the four vehicle lanes, the two pedestrian lanes, and the two cycle lanes are prioritised and not compromised. This principle would allow for the mobility of vehicles, cyclists, and pedestrians to coexist safely in the space.
- Flexibility in the design of the rest of the road space is guided by the placement of encroaching structures, with the aim to keep as many of those identified to stay intact. This principle would support the sustenance of the livelihoods of the people in the area. It would also contribute to the sense of identity through the sustenance of a lively and active economic and social public environment.

The following ***design parameters*** were applied in the design of NMB:

- Full width of the surfaced road (vehicles and NMT) of 30,4m as indicated in the image to the right.
- Dual carriageway with the outside lanes 3,4m wide and the middle lanes 3,2m wide.
- Separation of pedestrians, cyclists, and vehicles, with pedestrians and cyclists accommodated on the sidewalk.
- Continuous cycling lane 2m wide for cyclists on the sidewalk along the kerb.
- Continuous walking lane 2,5m wide for pedestrians on the sidewalk closer to the street reserve edge.
- Two rows of trees on each sidewalk where possible - one row on the verge along the sidewalk, and one row between the cycling lane and the walking lane, or between the walking lane and the property boundary.
- 4m wide median with trees, tapering down to 0,8m at intersections to provide for turning lanes.
- Preservation of as many structures as possible based on identified criteria, with road design working within this constraint.
- Reduction in median width and/or tree verge where full width cannot fit in whilst identified encroaching structures are retained.
- Remove encroaching structures where minimum basic design can still not be achieved.
- Limit access to individual properties to main facilities and not individual households - investigate alternatives where the official layout currently provides access.





N2

Project 1: NMB multipurpose identity route

The road design provides a conceptual design based on the principles. Although it aimed to apply certain engineering standards, it is not a technical concept plan that necessarily meets engineering specifications.

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Ilisolethu Gateway Node
Sheet 2 21 March 2023

4.3 Quality public spaces

Design principles and design parameters

The design and implementation of quality spaces is based on the following ***design principles***:

- NMB should be seen as a ***linear public space*** and not as a mere road with the main function of efficiently moving people (either through vehicles or through non-motorised transport). This requires that the whole space be designed and developed as one unit from the one edge of the road reserve up to the other edge. Through this, it becomes a multifunctional public space; not just a road. Upgrading includes the small pedestrian access routes linking to NMB, where pedestrian walkways are also celebrated as public spaces.
- All ***nodal public spaces*** in the area should be seen as opportunities for enhanced social life and community interaction. This requires that each space be designed and developed as a multipurpose space where people can move through and go to for various reasons. A space may have a dominant use, but other uses should be incorporated into the design, function, and management of the space.
- All ***leftover spaces*** often ignored in any design for any specific function or often ignored in regular maintenance tasks should be seen as part of public space and treated as such. A space that does not have a clear function and is not managed and maintained to fulfil that function, is left vulnerable to illegal occupation, further contributing to the encroachment controversy.

Billboard as climbing wall

Project 7: Park Run and Trimpark recreation route

With relatively large road reserves, leftover spaces (e.g. where a road curves) often lie bare and neglected. Using this as an opportunity to create an open-air gym with equipment all along a route could assist in supporting the lack of recreational facilities in the area. Management of individual training equipment at different localities could be cared for and maintained by local community groups (e.g. a street association) or specific businesses in the area. This approach could potentially assist in the management of open spaces, because spaces tend to be looked after more if specific uses are attached to them.

Registering an official parkrun route could also assist the community in utilising public spaces for recreational purposes. The approach would be to establish the 5km running route within the road reserve of existing roads. At some points, detours to and across natural areas could be built into the route. Linking the starting and ending points to where the weekend market would be held would further support the attractiveness of this event.

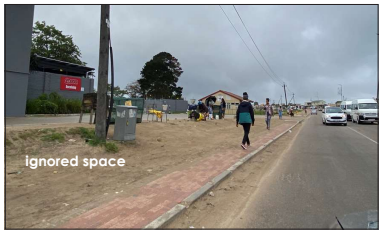
The weekend market is proposed to be linked to the Rondavels site in the longer term, which also provides adequate space for a park with picnic facilities and recreational facilities for children. The park could be linked to the natural stream area behind the Rondavels site.

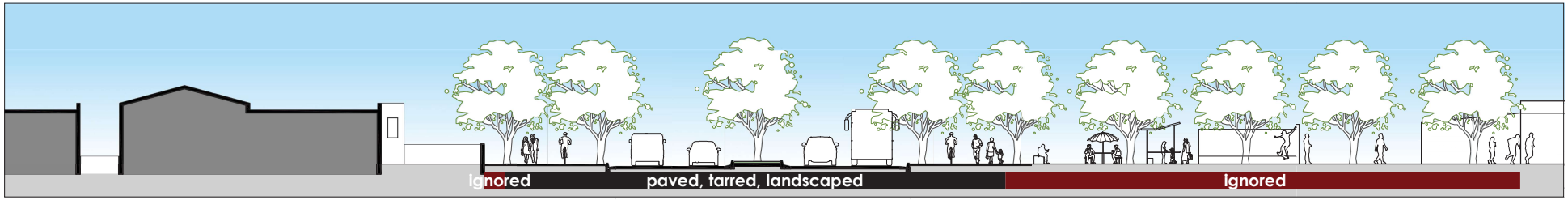
Since the site is privately owned, this move would depend on negotiations and the plans of the owner, In the interim it is proposed that market facilities and parkrun facilities are established and managed by the municipality on the ATNS site.

Examples pedestrian walkways through natural areas

Project 1: NMB multipurpose identity route

In general, road reserves in South Africa are over-designed and often much wider than what is required to fulfil the function of a specific road. Even though this is the case, the road is then, in most cases, designed with the vehicle lanes, the kerb line and then a strip of paved walkway (with or without trees) on the road verges. This leaves small strips of gravel, or sometimes even large portions of dirt surfaces, on the sidewalks on the outer sides of the paved walkways. These areas become the "ignored" spaces of the city (see section below and photos right) where rubble is gathering, weeds are growing, and pools of water and mud are found when it rains. In general, these become portions of no-man's land with nobody taking responsibility for the cleaning of it. This wasteland is even more problematic in an area with such a high number of pedestrians where the paved sidewalk is clearly inadequate.

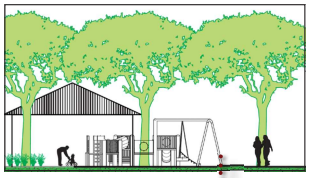


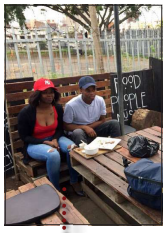


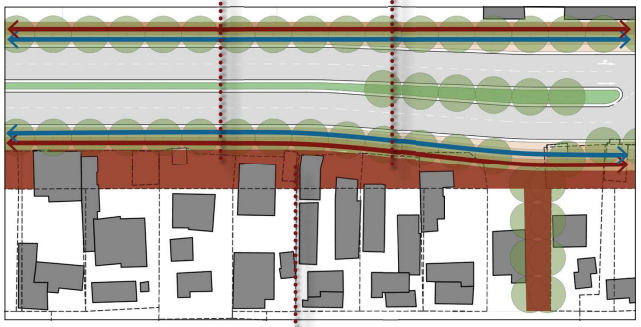
To address this problem, it is critical that the whole reserve be designed and upgraded as one unit. Paving with landscaping (trees and street furniture) up to the edge of the street reserve (property boundary) should be implemented. Through this, the street becomes a linear public space that could accommodate various activities (see example below in Medellín, Colombia).

Apart from improving the public space for pedestrians, this would also support the approach that informality creates identity (Section 3). Leaving certain SMME structures (Section 4.4) creates the opportunity to establish a staggered space between existing trading stalls and the paved walkway and cycleway. These spaces could become small pocket parks, pocket squares, areas with tables and chairs for outdoor eating, play areas, etc. (see images to the right).

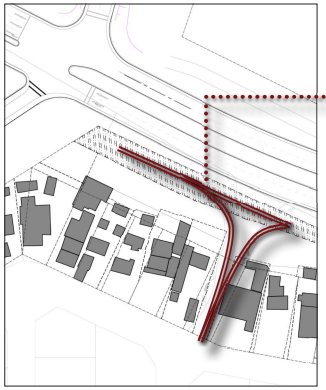
With this design, the cycle lane (blue) and pedestrian lane (red) are uninterrupted and run right through, all along NMB. The paving width beyond these lanes varies as the location of structures differs.







The design and landscaping of the median as gateway feature into Thembalethu is of specific importance. Another critical issue that needs to be addressed is the access from the walkway onto the embankment, as discussed in Section 2.5. The images below illustrate an example in Durban where a similar challenge was experienced and addressed through a ramp (supporting universal access principles) incorporated into the design of the embankment. This situation should be seriously addressed to improve the lives of people who need to connect daily between the walkway and road.



TO ADDRESS:

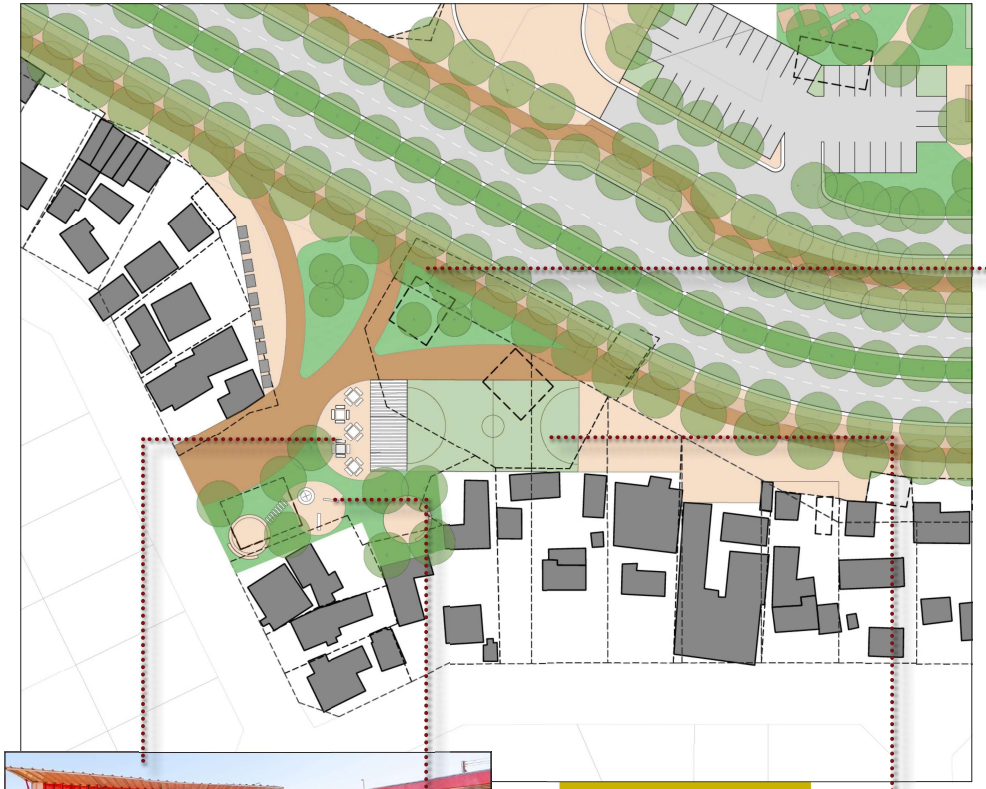
- Stormwater & embankment stabilisation
- Pedestrian & cycle movement position and treatment
- Steps / ramp up from neighbourhood to pedestrian walkway
- Walkway from Mngoma street – bollards
- Lighting, paving , landscaping (fruit trees)
- Landscaping on island

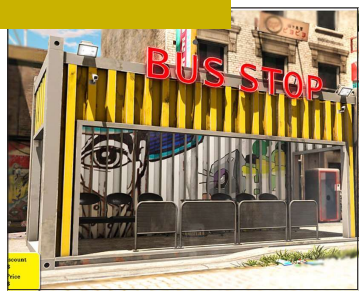
Project 8: NMB multipurpose public open spaces

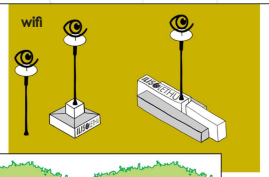
The adjacent graphic illustrates how a public park – which has been almost completely encroached on – can be designed to work with informality, while simultaneously:

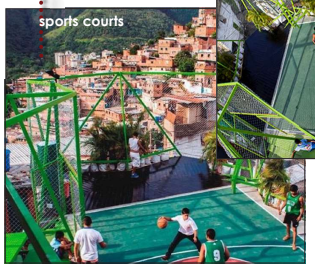
- Improves pedestrian access to Nelson Mandela Boulevard;
- Provides space where NMT transport can access public, motorised transport (bus stop);
- Increases the recreational space in the area through providing public seating and sports facilities (e.g. basketball facilities or small soccer kick-abouts); and
- Supports sustainable livelihoods by placing well-designed and managed informal trading stalls in areas with activity and visibility.

The intention is that all public spaces become multifunctional socialisation spaces where economic activities are integrated with recreational activities, functional public amenities, transport facilities, and entertainment opportunities. These spaces should be safe and accessible at all times.





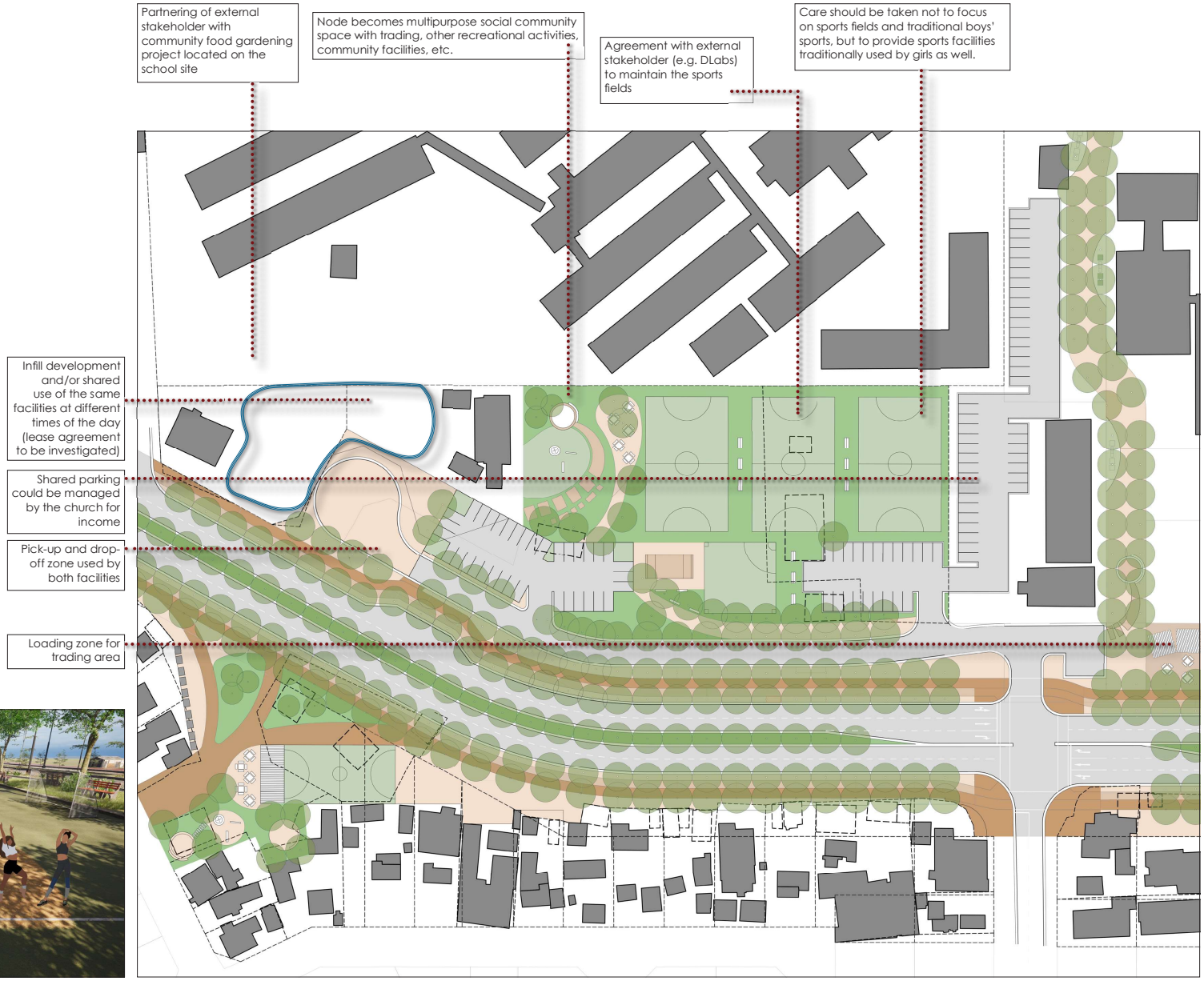




Project 9: NMB sports node

Purpose of the project: The adjacent graphic illustrates the potential design of the proposed NMB sports node. This project responds to the dire need for more sports and recreational facilities (given the overused Thembalethu Stadium). Though the main focus of this project is to provide more sports facilities, the true nature of this node will be multi-purpose, integrating additional social services and SMME trading spaces within a well-designed public open space.

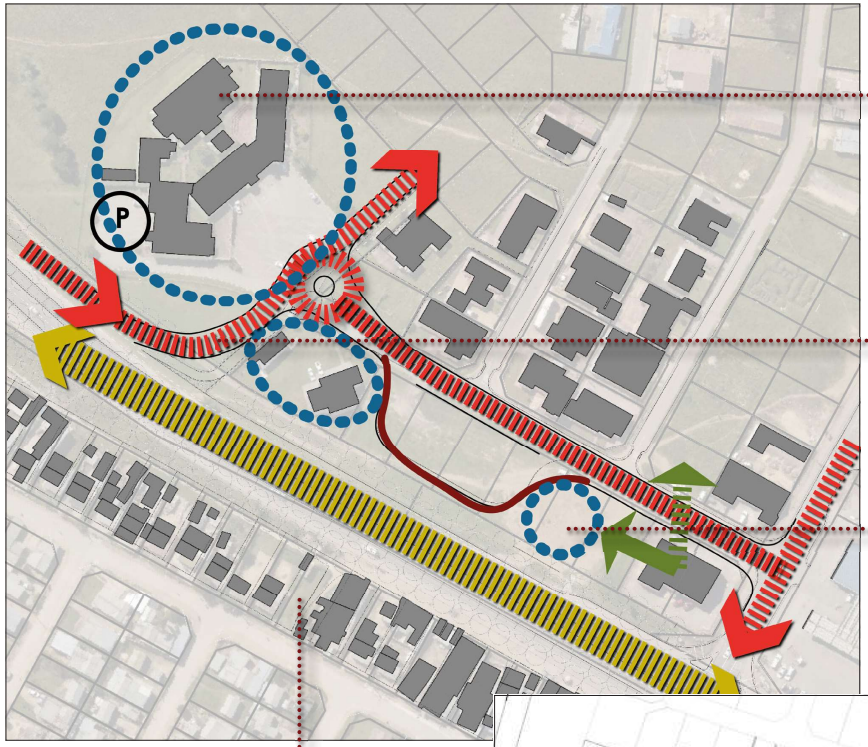
Concept proposals: Infill development of social facilities is proposed on the western side of the node – creating a social cluster to be accessed via a service road with a pick-up /drop-off turning circle at the end. The establishment of community food gardens on the vacant portion of the school site north of these facilities should also be investigated. The main sports facilities are to be provided on the eastern part of the vacant land, with shared parking proposed on the southern part of the site next to the service road, and developed as a shared facility on the existing church sites on the eastern side of the node.



Project 11: Multimodal transport and social cluster

Purpose of the project: The vision for the Ilisolethu node is to serve as a concentration point for a variety of social and community services. The development of the multimodal transport and social cluster will ensure that more diverse social services are made available to the community of Thembalethu and that these services are more accessible by including a multimodal transport station. With the cluster accessible via all modes of transport, the space should serve as a well-designed, pedestrian-scaled and pedestrian-prioritised public space.

Concept proposals: The cluster is proposed to be developed as a shared space (an urban design concept that removes the distinction between pedestrians and motorised transport), prioritising pedestrian-scaled development. The parking lot in front of the Thusong Centre will be moved towards the back of the site, and a public square will act as a reception space for the various social services that will be concentrated in the centre (to be intensified by including more social facilities). The bus facility will be a bus station with constantly moving vehicles and will not act as a holding facility. No fencing should be provided around the bus station, as the area should have the feel of a permeable and open pedestrian space.



THUSONG CENTRE

- Refurbish as multipurpose Community Centre
- Move and add parking to back
- Orientate main entrance towards Jeriko Street with a square as reception space that is not fenced in
- Add community hall
- Add sports fields (amphitheatre)

ROADS DESIGN

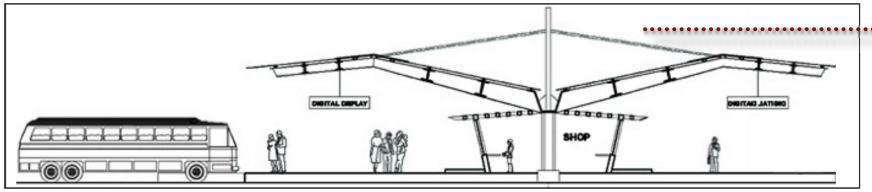
- Confirm access of slip lane (in principle approval in terms of distance)
- Design of safe pedestrian and cycling lanes to cross slip lane
- Traffic circle main role as identity element with landscaping and public art
- Widening of Jeriko Street towards the south side, swerving around the circles over the corner property opposite the iHub before it extends southwards
- Quick, short-term projects: bollards, lighting, landscaping, UA

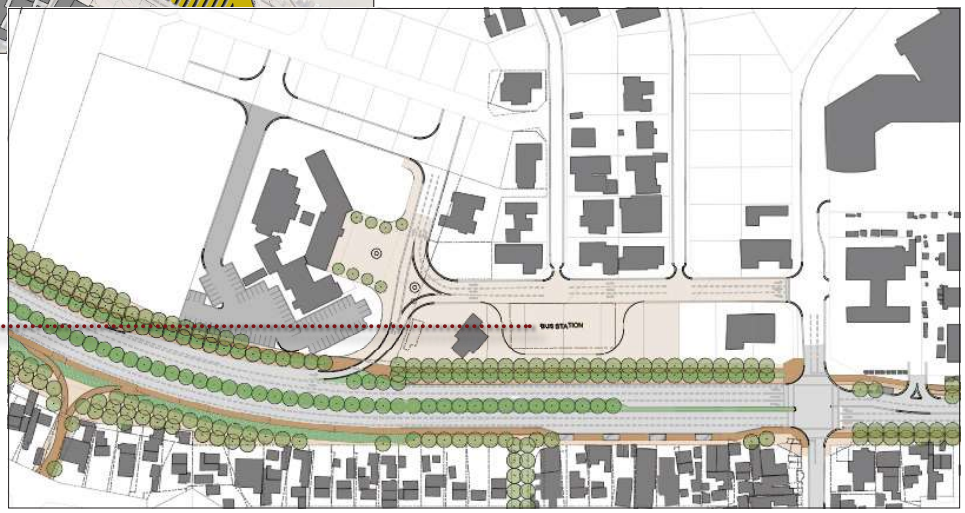
SOCIAL FACILITIES

- Mobile clinic approval and site allocation
- Approval of other temporary uses while waiting for construction of bus station
- Bus station as multistorey and multipurpose facility with social uses, ticket offices, ablution facilities
- Options for expansion of fire station are proposed for (1) second storey (preferred), (2) use iHub facilities for training, (3) expand to properties opposite Jeriko Street

ERF 5065

- Widen walkway from Songololo
- Subdivide Erf 5065 and sell part to plumber
- Relocate barbershop
- Trader can remain (can acquire part of property) - beautify space around shop (benches)
- Paving/tar to allow pedestrian access to businesses (all are in properties)





4.4 Supported SMME trading

Types of trading facilities

Given the vast array of goods and services provided by the traders and the range of formality in which they trade, different typologies of SMME trading opportunities should be provided. Five typologies have been identified, with different proposed localities for each type indicated on the map below. Each of these has different implications regarding the type of activity it can accommodate, the type of services it could provide, the impact it might have on the surrounding environment, etc. The types include the following:

- Type A – Trading on the Boundary of Residential Properties
- Type B – Informal Trading Stalls
- Type C – Refurbished Containers
- Type D – Garage Stores
- Type E – SMME Hub

TYPE C – REFURBISHED CONTAINERS

A lot of trading in Ilisolethu takes place in containers as a handy alternative for dilapidated temporary or fixed permanent structures. Containers are specifically beneficial in providing solid temporary shelter. It should, however, be cautioned that this should be used for a specific reason (e.g. to activate a dead wall until development takes place) and should be done in such a way as to create well-designed spaces and contribute to a strong sense of place. Due to the temporary nature of this typology no locality has been earmarked for this. The Municipality would not engage in providing for this typology, but would acknowledge and support this as a viable alternative should other landowners want to make use of it. Containers could accommodate a wide variety of activities and services, such as small-scale service trades (tailors), selling of larger articles (furniture), cooking (for take-away) or services (hairdresser). It integrates the retail service with on-site storage and can be linked with individual services such as water and electricity. Communal ablution facilities would be required.



TYPE E – SMME HUB

Larger manufacturing and vehicle-related activities often have a bigger impact on the surrounding environment. An SMME Hub provides small units and adequate outdoor spaces that are grouped together on one site within a well-designed structure. A recycling component could be built into the development. Permanent workshops for manufacturing (e.g. small-scale brick making), light engineering works (welding), or car-related services (tyre service, car wash) could be accommodated. Individual water points and electricity points could be provided to individual units. Units could also be of varying sizes.

TYPE B – INFORMAL TRADING STALLS

In some spaces coherently designed open trading stalls are provided by the municipality to rent from, whilst other spaces are demarcated as trading spaces where individuals can put up their own structure to trade. Demarcated spaces on general pedestrian movement lines have been identified. Potential trading spaces are both provided at some nodal localities and within the road reserve along NMB. Selling of general goods (e.g. fruits and vegetable, clothes, small electronic ware) and providing services aimed at people are allowed. Off-site storage facilities, communal water points and ablution facilities are catered for in the vicinity of these spaces.

TYPE D – GARAGE STORES

Small formal spaces (the size of a standard garage or smaller with roller doors) could be integrated into the design of a building, thereby contributing towards an active interface. Bigger private developers should be encouraged to provide formal small trader facilities as part of their developments. Different localities along NMB have been identified where garage-type trader stalls would be constructed. These formal spaces could accommodate a wide variety of activities and services, such as small-scale service trades (tailors), selling of larger articles (furniture), permanent display and retail, cooking (for take-away or sit-down) or services (hairdresser). It integrates the retail service with on-site storage and can be linked with individual services such as water and electricity. Communal ablution facilities would still be required.








TYPE A – TRADING ON THE BOUNDARY OF RESIDENTIAL PROPERTIES

Informal trading takes place directly from residential properties through a fence or a hatch in the wall. This typology is for the smallest scale trading, selling sweets or cold drinks to the public, or providing takeaway meals with no on-site seating arrangements. Traders are to provide their own engineering infrastructure services from the residential property.

PROPOSED LOCALITIES OF DIFFERENT SMME TRADING TYPES

Relocation of traders

The approach to informal trading in the area (to a large extent encroaching into the public space) is based on the following ***principles***:

- The livelihoods of people with limited other income streams should be protected. Informal traders are located along pedestrian walking routes and are thus mainly concentrated along NMB. To move them to a piece of vacant land in an attempt to formalise them would be to rob them of their livelihoods. This principle requires as many traders as possible to be allowed to trade at the spot, or in the vicinity of, where they are currently trading.
- The identity and vibrant character created by informal trading activities should be acknowledged and enhanced. This principle requires the design to include the informal activity and the informal and unique spatial attributes that SMME trading brings into the street space.

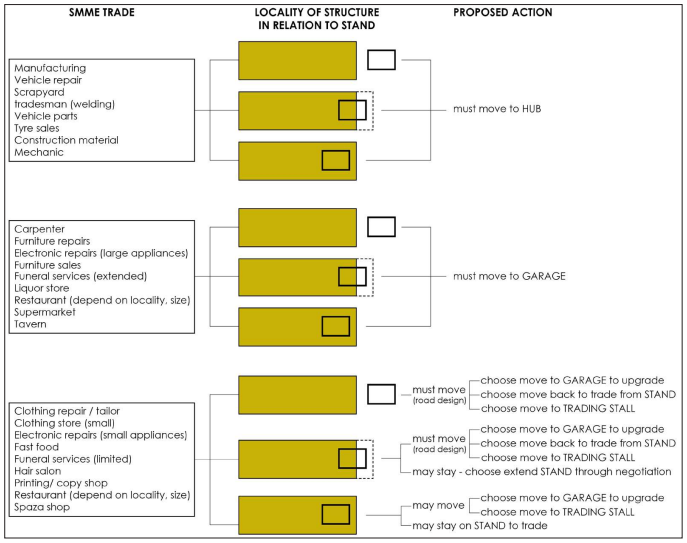
Almost all small trading activities that need to be accommodated elsewhere in the precinct (mainly because of encroachment, but also due to a specific activity) are taking place along NMB. The focus has thus been placed on this street.

The ***approach to decision-making*** regarding the removal of a specific informal trading structure is set out in the flow diagram below.

- Firstly, the use was assessed and dealt with as follows:
  - If a manufacturing/industrial type of use or car-related use was identified, it was decided that a trading stall must be moved to the SMME Hub. These uses are focused on and dependent on cars and often generate truck traffic that is not conducive to a living environment. NMB also limits (and mostly prohibits) vehicle access from the street.
  - Where an activity is not necessarily disturbing for the surrounding environment, but also relies on trucks and vehicles to load and offload merchandise and equipment, a trading stall must be moved to an allocated garage type of facility.
  - Where a trading stall supports people (either the surrounding residents, or pedestrians passing by) and does not cause a nuisance to the area, the stall could stay in that vicinity.
- Secondly, the decision was based on where the trading stall is located and whether it encroaches into the street space. A trading stall could be located completely within the road reserve, partly in the road reserve, or completely on the property. The different choices within each of these scenarios are indicated in the diagram.
- As a third consideration, other factors have also been taken into account, as illustrated with the following two examples. Where it was decided that a structure could stay, but it is in the way of the road alignment as planned, the structure was proposed to be removed. Where a use that is in line with the approach above is proposed to be moved to a garage, but is housed in a large brick structure, it was decided that the structure could stay. In this instance, specific access arrangements and other requirements should be negotiated.

Based on these criteria, the following traders have to be accommodated:

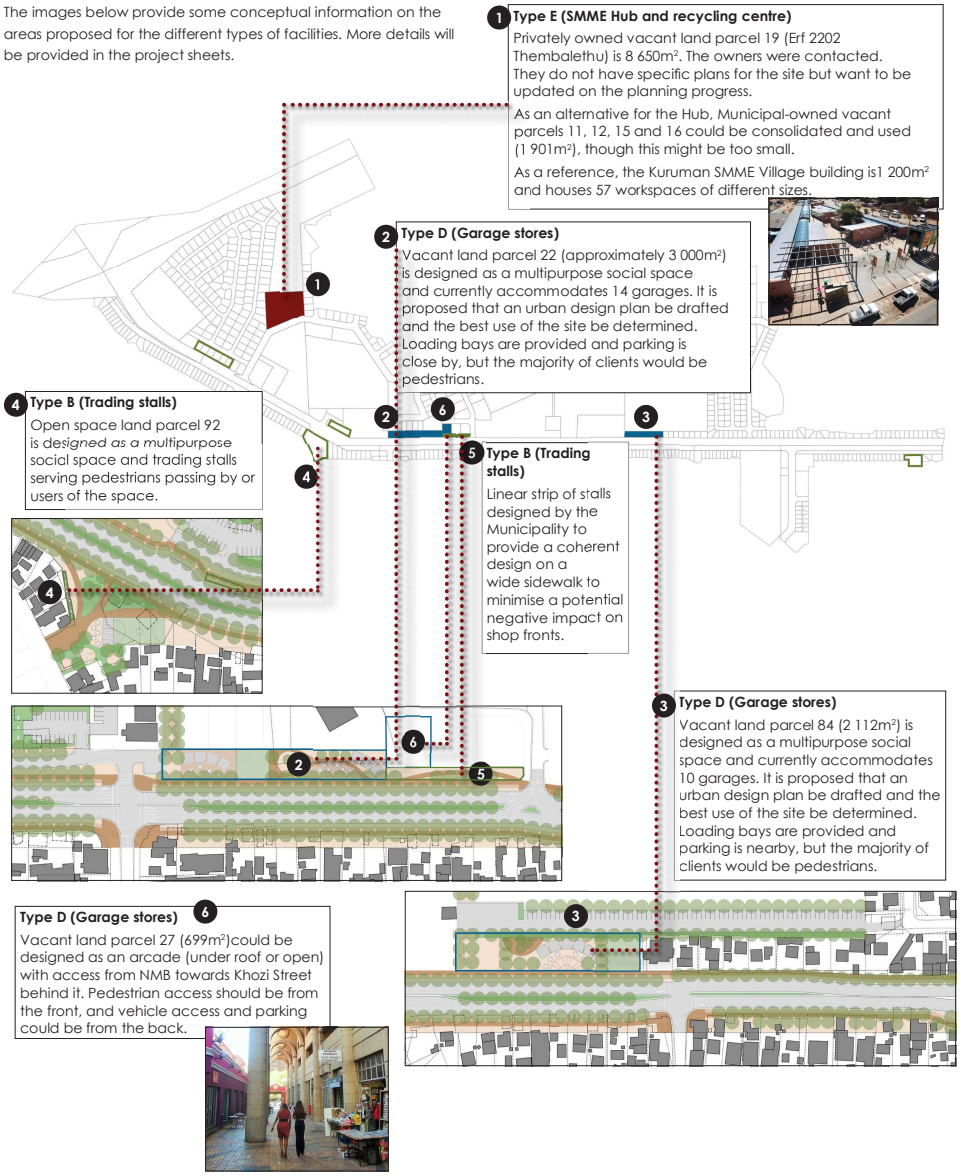
- 20 traders have to be accommodated in the SMME Hub.
- A minimum of 15 traders should be accommodated in garage-type stalls.
- 96 traders could stay in their current locality in the precinct, whilst 52 traders should move to one of the following: the adjacent stand, a trading stall elsewhere, or a garage-type stall.



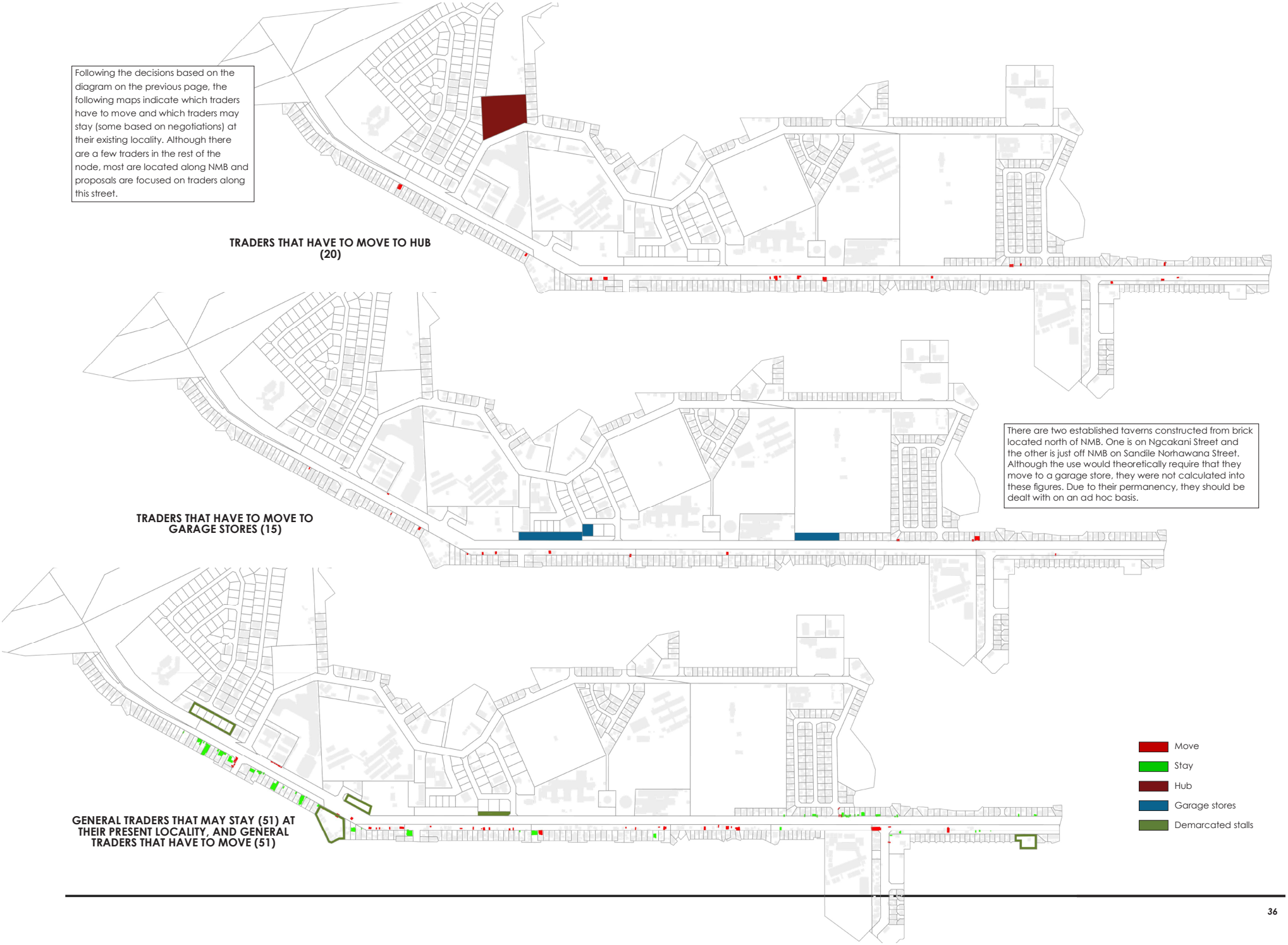
Project 10: NMB SMME trading spaces and Project 6: SMME & recycling Hub

All trading stalls (identified to be moved or to stay) are illustrated on the plans on the following page.

The images below provide some conceptual information on the areas proposed for the different types of facilities. More details will be provided in the project sheets.



Following the decisions based on the diagram on the previous page, the following maps indicate which traders have to move and which traders may stay (some based on negotiations) at their existing locality. Although there are a few traders in the rest of the node, most are located along NMB and proposals are focused on traders along this street.



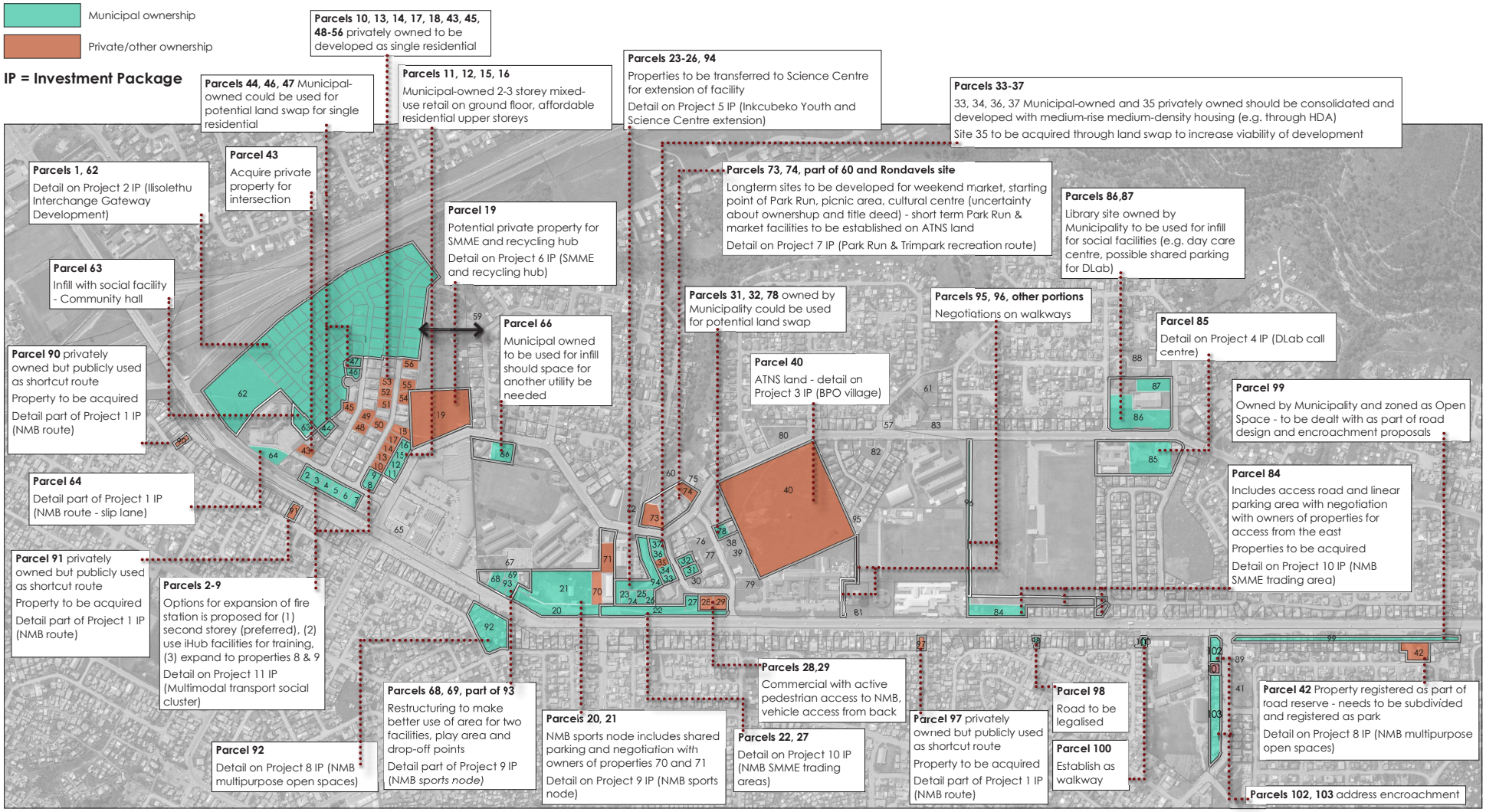
There are two established taverns constructed from brick located north of NMB. One is on Ngcakani Street and the other is just off NMB on Sandile Norhawana Street. Although the use would theoretically require that they move to a garage store, they were not calculated into these figures. Due to their permanency, they should be dealt with on an ad hoc basis.

4.5 Optimised development potential

Development proposals for vacant land

The map below illustrates the proposals for the various parcels of vacant land in the node. The following should be noted:

- The parcel numbers refer to the numbers used in the table for vacant properties (***Section 2.4***).
- The project numbers refer to the numbers for identified projects on the map (***Section 5.1***) and in the investment packages.
- The proposed uses for all Municipal-owned vacant properties are identified.
- Where the use for a privately owned property is identified, the property should preferably be developed with the mentioned use. Where nothing is indicated for either a privately owned vacant property, or an infill area that is privately owned, an appropriate use as dictated by market (or other applicable) forces can be developed.



Project 2: Ilisolethu interchange gateway development

Purpose of the project: The purpose is to identify the best use for the land at the entrance into Thembalethu. The portion of land was originally laid out as single residential erven. It is, however, believed that the development could assist in bringing more economic opportunities into the township. The manner in which the development will take place also provides an opportunity to announce the entry point into Thembalethu and create a memorable gateway feature at this point.

Concept proposals: Factory outlets are proposed to be located along the highway for high visibility. Towards the south, affordable residential units in a higher density development are proposed.

Details are provided in the project sheets.

NOTES FOR PROJECT SHEET

- Stormwater plan
- No informal trading
- No signage along N2 on building - signage treated like business park
- Landscaping along N2
- Alternative access road (1) linking across green area to Ntaka Street
- Alternative access road (2) over Erf 2022

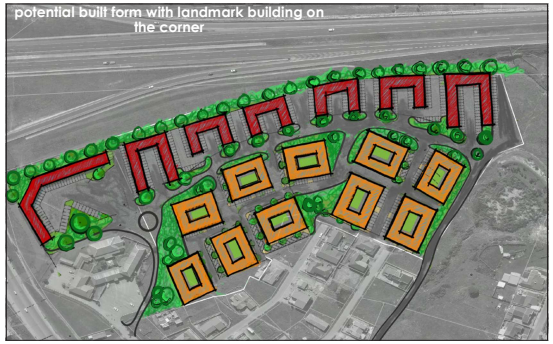
Parcel 1 (large): 52 497m²

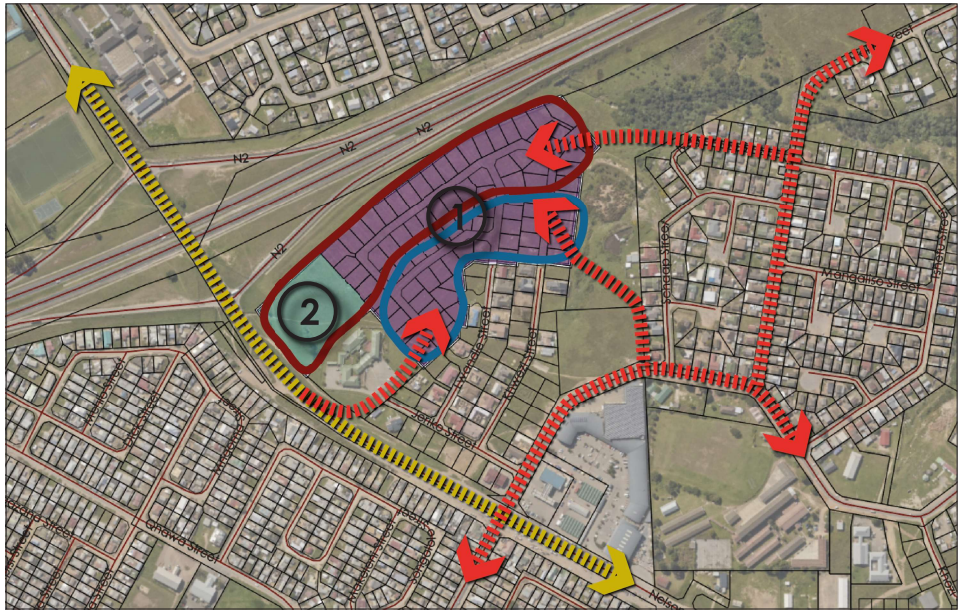
Parcel 2 (infill): 9 919m²

Factory outlets (potential bulk 11 000m² @ FAR 0,35)

Affordable housing (3,1ha potential 1 200 units @ 400 units/ha, 2-4 storeys)

Access roads (including slip lane from NMB)



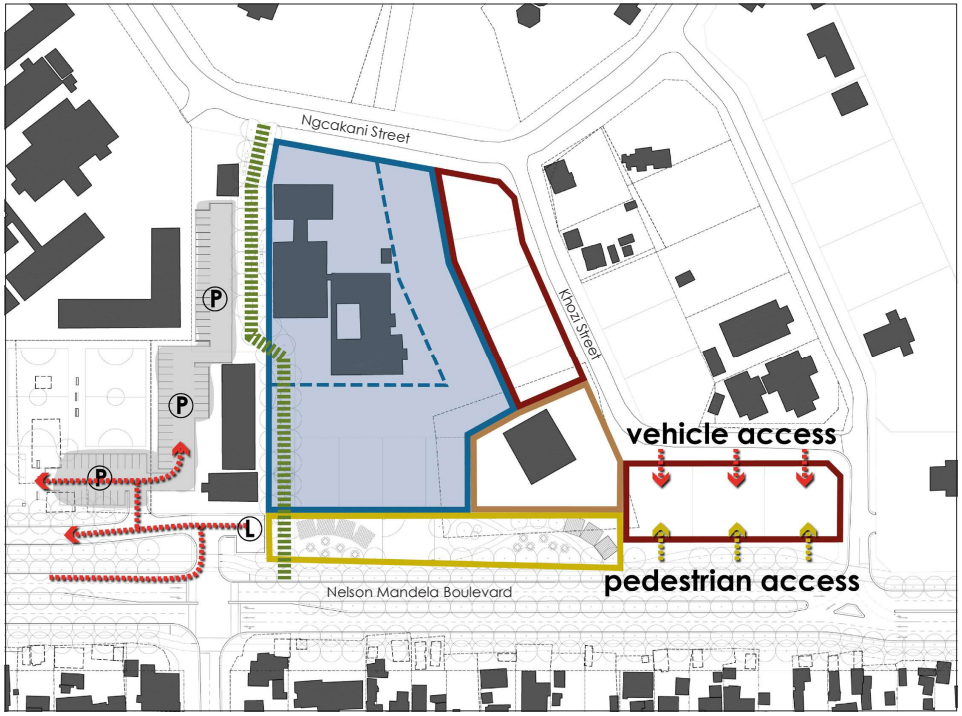


Project 5: Inkcubeko Youth and Science Centre extension

Purpose of the project: The purpose is to identify land that could be transferred (preferably through a lease agreement) to the Science Centre to extend their facilities.

Concept proposals: An extension towards the south is proposed where facilities could extend towards the backside of future developments. This is preferable to an extension eastwards up to Khozi Street where a long fence would further sterilise the edge of the street, whilst another residential or mixed-used development could assist in activating the street space. A public through route should be developed as part of the agreement for pedestrians to have shorter movement routes between Ngcakani Street and NMB.

Details are provided in the project sheets.



Project 3: BPO mixed-use village (ATNS land)

Purpose of the project: The purpose is to identify the best use for the 3,35ha portion of land lying vacant central to the node. The land belongs to ATNS and would be made available for development through an unsolicited bid.

Concept proposals: The municipality receives many requests for call centres (BPOs). This area provides an ideal opportunity to establish such a facility as it is centrally located in the node and close to the main public transport routes. Conceptually it should be designed as a mixed-use village with buildings around a square. Affordable residential units (including student accommodation) should be provided on upper storeys, with commercial retail activities on ground floor. BPO activities (although the main commercial focus of the development) would still be only one of many economic activities taking place on the site.

Land will be secured by the Municipality. Development and design parameters will be defined as part of a tendering brief. Developers would be expected to tender with a conceptual proposal, together with a financial proposal. The land will be made available through a long-term lease.

Pedestrian access through municipal property should be provided. If possible, an access through the south western property (privately owned) should also be negotiated.

Negotiation to provide walkway - explore alternative access to police station.

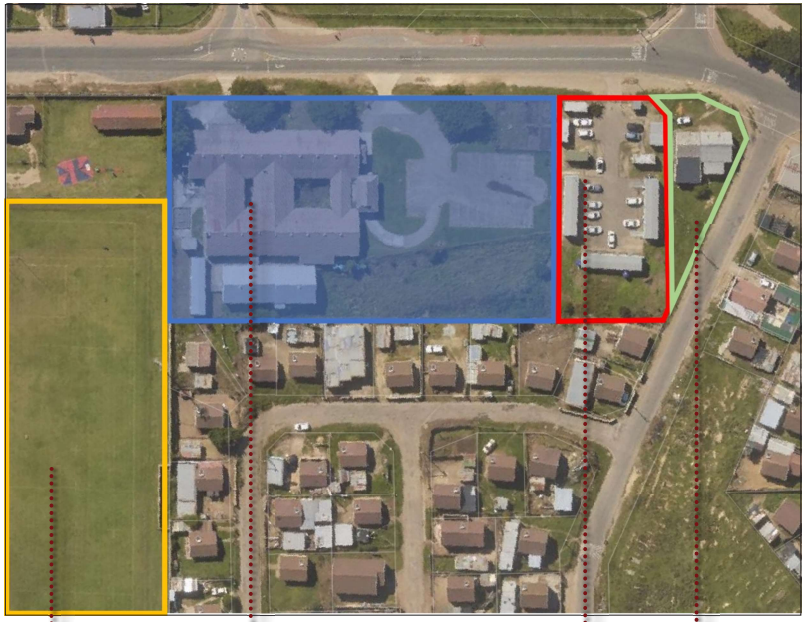
Conceptually, pedestrian accesses should be provided through the site in all directions. Where direct access is not available, a servitude over property should be registered.

Conceptually buildings should be designed around an accessible 'village square" that could become the commercial heart of the Ilisolethu node.

Project 4: DLab Call centre

Purpose of the project: The DLab precinct model endeavours to address community needs in a way that is inclusive, builds resilience, fosters social cohesion, and stimulates economic development. The project in and of itself is not so much concerned with the development of the site, but rather the acquisition of land for the project. Apart from the establishment of the call centre on the old clinic, the following s additional elements might also be included: (1) Negotiations regarding the inclusion or relocation of the existing Ithemba Lobomi facilities; (2) Design and development of Erf 7255; and (3) Potential maintenance of part of the sports fields and provision of a pedestrian through route. The facility further has the potential to be developed as a Safe Hub in partnership with National Treasury.

Concept proposals: The project sheet does not provide detailed guidance on the design and development of the facilities, but rather design concepts that should be incorporated to ensure that the DLab facilities strengthen the character of Ilisolethu and form an integrated part of the node.



Refurbishment of old day clinic building for a Call Centre.

Should the DLab project take ownership of a portion of the Thembalethu Stadium, a mandatory throughroute has to be provided on the eastern edge of the Stadium, providing NMT access between Ngcakani Road and NMB.

Negotiations on the inclusion or relocation of the Ithemba Lobomi facilities.

Erf 7255 needs detailed planning given that it is located on an important corner and has the potential to serve as a landmark feature in the node – strengthening the Ilisolethu identity and providing a sense of place.

5. Implementation we

for Ilisolethu

5.1 Project identification and design

Projects identified are cross-cutting projects (see table below) and 11 investment projects (see map on following page. An Investment Package has been compiled for each of the 11 projects (attached as an Addendum).

Cross-cutting projects

Cross-cutting projects include Enabling Capital Projects and Technical Assistance as described in the following two tables.

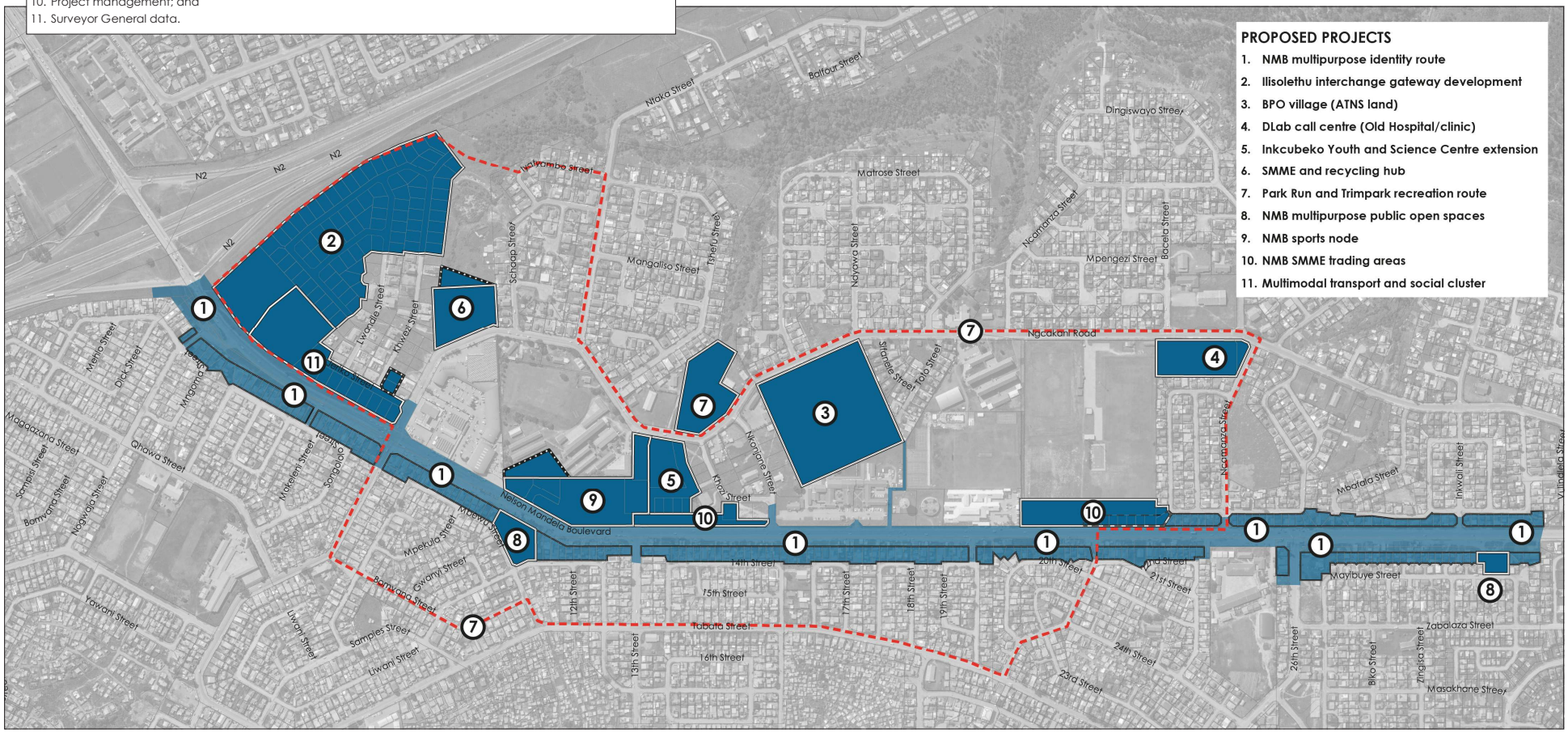
Enabling Capital Projects	Component	Activities as part of the component
Ilisolethu interchange gateway development	Access study and road linkage design	▪ Technical studies to identify and evaluate alternatives for an additional access point(s) to the Ilisolethu node (using CITP model). ▪ Route determination, detailed survey, EIA and other technical analysis of selected alternatives to advise detailed design and costing of preferred road alignment.
Ilisolethu: Nelson Mandela Boulevard (NMB) multipurpose identity route	Complete integrated urban design and engineering design of Nelson Mandela Boulevard	▪ NMB urban design of complete public space including the whole reserve and any left-over spaces adjacent to it. ▪ Survey of new road reserve and detailed road design, including NMT, and public transport, within the NMB road reserve, relating to the Ilisolethu urban design concept, including design to integrate revised locations for public transport stops (based on new NMB road design), pedestrian thoroughfares and linkage to the proposed public realm and open spaces. ▪ Secondary access provision to priority project components included in the design (Implementation costing). ▪ Planning of final road network (linkages to east and west) based on transport modelling and other technical studies (EIA).
Cross-cutting technical assistance for the entire Ilisolethu	Urban design and detailed design interventions	▪ Draft Urban Design Plan for the design and best use of the Type D informal trading typology - proposed to be located on a portion of the Thembalethu stadium and next to the Inkcubeko Science Centre. ▪ Urban and landscape architectural design of robust street furniture incorporating Ilisolethu branding (The design of the bus stops should also be reconsidered to limit the utilisation of glass and make more use of Ilisolethu branding in conjunction with GoGeorge branding). ▪ Architectural design of SMME trading typologies incorporating Ilisolethu branding. ▪ Facilitate the negotiation of potential walkways and security booth designs where these should be provided in line with the principles in the development plan and are not part of any of the 11 projects. ▪ Agreement on the detailed design of project components.

Technical Assistance	Component	Activities as part of the component
Cross-cutting technical assistance for the entire Ilisolethu	Land use and environmental statutory rights applications (including specialist studies), completion of overlay zone and development charge policy	▪ Fees for land use applications (overlay). ▪ Traffic impact assessment. ▪ Subdivide the Thusong Centre parcel to be consolidated with the vacant land redesign. ▪ Application to close the remainder of Erf 1773 as a street, and to transfer/sell all applicable properties (Inkcubeko Youth and Science Centre extension). ▪ Environmental impact studies to open a recycling centre (SMME cluster & recycling facility). ▪ "Cut off" a portion of land from the Thembalethu stadium to extend the existing road and provide access to properties adjoining the stadium's southern border. ▪ Finalisation of policy on development charges and incentives to be linked to the packaging of land. ▪ Completion of overlay zone process.
Cross-cutting technical assistance for the entire Ilisolethu	Implementation management support (bid specifications, partnership negotiations and formalisation of contracts). Facilitate the establishment of the section 21 company and the incubation of management and community activities	▪ Project preparation and contracts for individual project components (Project management). ▪ Project coordination for stakeholder inclusion, chairing the interim steering committee and obtaining input and participation of municipal departments. ▪ Assistance with formalising a Management Entity (possible Section 21 company) and formalising and gazetting an overlay zone in terms of the zoning scheme by-law. ▪ Assistance with land release and project-driven partnership deal process (Ilisolethu interchange gateway development). ▪ Assistance with land acquisition/availability from ATNS & Provincial Government and release to market in a project-driven partnership deal process (BPO Village (ATNS land) and DLab (old day clinic)). ▪ Assistance with the tender procurement process. ▪ Negotiations with landowners (potential land swap/purchase) to acquire land for access road development (internal and external). ▪ Bulk service calculations for the proposal to upgrade infrastructure to accommodate proposed development (various projects). ▪ Registering a formal Park Run and annual race and securing a name sponsor. Identify portions of left-over land in the road reserve that can serve as trim park recreation sites - which could be included in the "adopt-a-spot" policy. ▪ Registration of the SMMEs. ▪ Negotiations with informal traders to move to formal trading spaces. The representative case for negotiations around traders: Choose a portion along NMB where some traders need to be removed and others could stay based on certain conditions and embark on negotiations and legal procedures for implementation. ▪ Community-driven urban acupuncture opportunities. ▪ Programme management of implementation projects. ▪ Finalisation and facilitation of relocation strategy to address encroaching structures. ▪ Drafting of final SDP for the node to allocate a complete basket of rights & compile land assembly strategy and programme. ▪ Cleaning up and sustainable management of illegal dumping in natural areas. ▪ Facilitate and support the development of a local radio station. ▪ Facilitate the installation of WIFI hotspots at agreed localities. ▪ Proclamation of all trading zones (areas linked to 11 projects and other areas). ▪ Facilitation of possible land swaps/leases of all other George properties not part of any of the specific 11 projects.

Investment projects

11 detailed projects for capital investment in Ilisolethu are proposed. These are mapped below and listed to the right. Each of these projects has different items, including small projects and quick wins that can be done quicker and larger items that are more complex to budget for over the longer term. An investment package has been compiled for each of these projects. The investment package can be used to facilitate and monitor the development progress of the project. The following are addressed in each package:

1. Ilisolethu context (Thembalethu, Ilisolethu, Ilisolethu Gateway Node Development Framework);
2. Project description & Development potential (Purpose of the project, Project potential);
3. Project context (Locality, Public transport context, Environmental features, Local context);
4. Property information;
5. Project design (NMT through routes, Interface guidelines, Parking guidelines, Placemaking);
6. Project implementation;
7. Procurement plan;
8. Potential investment partners;
9. Communication management approach;
10. Project management; and
11. Surveyor General data.



Most projects have been addressed at some point in Section 4 of the document. For completeness sake, an overview of each project is provided below.

PROJECT 1: NELSON MANDELA BOULEVARD MULTIPURPOSE IDENTITY ROUTE

The redesign and upgrade of the NMB Multipurpose Identity Route will serve a dual purpose. Firstly it will improve mobility for the existing traffic load and make provision for public transport services to support the growing node. Secondly, it will act as an activity spine fostering mobility of pedestrians and cyclists, supporting livelihoods of SMME traders, safeguarding existing public open spaces from further encroachment, and increasing open spaces through the creation of pocket parks where space permits.

The project therefore pertains to the widening of NMB to accommodate a dual carriageway, with wider external lanes to support public transport movement. Together with this, the entire remaining space between the tarred road surface and the adjacent property lines, will be designed and paved as complete pedestrian-priority space to support high NMT traffic, and create opportunities for more recreational quality open spaces and dedicated spaces for SMME facilities. Integral to this is the integration of commercial activities on residential properties adjacent to NMB, or even in some existing structures currently encroaching into the road reserve, based on specific conditions and guidelines.

PROJECT 2: ILISOLETHU INTERCHANGE GATEWAY DEVELOPMENT

The purpose of the Ilisolethu Interchange Gateway Development is twofold. Firstly it will provide formal economic opportunities through the development of factory outlets with high visibility from the N2 highway. Secondly, it will add residential opportunities within a rapidly growing area to create a mixed-use, live-work-play node. A catalyst project will serve as a landmark feature at the entrance of Thembalethu and will start to establish a sense of place through the use of the Ilisolethu branding.

The investment package sets out the rationale and approach to the development of the factory outlets and mixed-use residential area, with further detail on site access and land packaging detailed in the implementation items.

PROJECT 3: BPO VILLAGE (ATNS LAND)

The ATNS land is a large portion of ideally located vacant land, that has immense potential to support the economy of Thembalethu and create a mixed-use activity core for the node. This core will support economic opportunities and provide housing for working class young adults and students in the gap market.

The purpose of the project is to create a high-intensity, high-density activity core, that supports a range of housing typologies and commercial buildings structured along a pedestrian-scaled walking grid and a central community square.

PROJECT 4: DLAB CALL CENTRE (OLD HOSPITAL/CLINIC)

The DLab precinct model endeavours to address the community's needs through community-based solutions that builds resilience, fosters social cohesion and stimulates economic development. The establishment of a Safe Hub in partnership with National Treasury is a viable opporunity that needs to be investigated.

The investment package aims to support the DLab project team with land negotiations to occupy and refurbish the old day clinic site. Additional negotiations on; (1) The use of a portion of the Thembalethu Stadium (with the creation of a pedestrian throughroute linking the facility to Nelson Nandela Boulevard); (2) The establishment of shared parking facilities on the library site; and (3) The accommodation or relocation of the Ithemba Lobomi facilities.

PROJECT 5: INKCUBEKO YOUTH AND SCIENCE CENTRE EXTENSION

The Inkcubeko Youth & Science Centre has been in operation since 2018 and has had a remarkable impact on the youth of Thembalethu through providing exposure to science, art and technology. The Centre wants to expand their services to include sports and recreational programmes, and has therefore expressed the need for more land.

This investment package aims to identify suitable land for the expansion of the Centre's facilities, with a mandatory NMT through route to be implemented as part of the project.

PROJECT 6: SMME AND RECYCLING HUB

The redevelopment of Nelson Mandela Boulevard as a pedestrian prioritised boulevard means that vehicle-oriented and small industrial/manufacturing-type trading is no longer suitable in support of the character of the area. Therefore, a decision was taken to concentrate these types of traders within a well-designed SMME Hub that has adequate accessibility to NMB, but that does not adversely impact on the new pedestrian-prioritised activity character of the area. A recycling facility is further incorporated in the hub.

The project is aimed at the development of a trading space that can accommodate vehicle and urban manufacturing orientated traders, as well as recycling facilities. As a part of this, relevant traders along NMB have been identified to be moved, and negotiations for their relocation need to be facilitated.

PROJECT 7: PARK RUN AND TRIMPARK RECREATION ROUTE

The recreation route serves as an answer to the expressed need for more recreational facilities. The purpose of this project is to integrate the area through a recreational route and, instead of clustering exercise equipment in one space, make use of small left-over spaces to spread these all along the route. Pocket parks with trim gym equipment will be placed along a 5km recreational route – which in future can support a registered Park Run.

The project further entails the development of a weekend market facility that will serve as both the start and end point for the recreation route, as well as a multifunctional public open space. Pocket parks and sidewalk upgrades along the entire length of the recreation route should be undertaken.

PROJECT 8: NMB MULTIPURPOSE PUBLIC OPEN SPACES

Thembalethu lacks quality public open space facilities, and faces the additional challenge of encroaching residential and trading structures onto the only existing public open spaces. Therefore, the aim of the project is to safeguard the left-over public open spaces through creating formal, multipurpose spaces that support a range of activities including recreation, SMME trading, public transport access, and sports facilities.

The purpose of the project is to package the land according to two development types: (1) the formalisation of the remaining open space into parks, and (2) the redevelopment of encroaching residential structures into micro-flat development (future vision). Two sites were identified to act as pilot projects, with the remaining public open space environment to follow a similar trend once success of the concept has been proven.

PROJECT 9: NMB SPORTS NODE

The community expressed a dire need for additional sports facilities to reduce the pressure on an already over-utilised sports stadium. As such, the sports node is proposed to fulfil the need for more sports facilities, with additional community services and SMME trading facilities also provided as part of the project.

The project will therefore provide sport and recreation facilities within a multifunctional and well-designed open space node, supporting additional community services and SMME trading facilities. An access road from NMB is a critical component of the project, with shared parking facilities required to support the additional traffic generated by the node.

PROJECT 10: NMB SMME TRADING AREAS

SMME trading within Thembalethu is a livelihood strategy for a large portion of the population, and is thus an important component (also contributing to the identity of the area) that needs to be incorporated in the design and implementation. Although the road has been designed to retain many informal trading structures, the upgrade of NMB as a multipurpose identity route also necessitated the removal of a number of encroaching trading structures. To minimise the impact on livelihoods, two dedicated trading spaces have been identified adjacent to NMB to accommodate identified traders that need to move.

The purpose of the project is to negotiate acquisition of land to establish the integrated and well-designed trading spaces. The creation of access roads and shared parking and loading facilities are critical to support the function of these trading spaces.

PROJECT 11: MULTIMODAL TRANSPORT AND SOCIAL CLUSTER

The vision for the Ilisolethu node is to serve as the concentration point for social and community services for the entire Thembalethu township. The envisioned multimodal transport social cluster will enable more diverse social facilities to be clustered within a pedestrian-orientated and public transport node with well-designed quality spaces.

The purpose of the project is to identify land parcels eligible for redevelopment into social facilities. The creation of a slip lane from NMB, the establishment of a bus station integrated with social facilities, and the subsequent widening and re-orientation of Jeriko Street into a one-way road designed as a shared space, will aid the prioritisation of pedestrian-priority development. The establishment of a square as pedestrian reception space in front of the Thusong Centre is also a critical component in enhancing the legibility and identity of this cluster.

Generic design guidelines

As part of the Investment Packages, design for each project is also addressed. Project-specific design guidelines are provided where applicable, and reference is made to generic design guidelines. The set of generic guidelines includes the following:

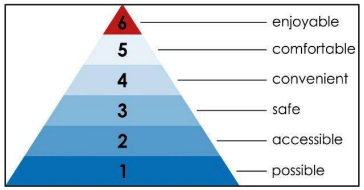
- NMT through routes design guidelines;
- Interface design guidelines;
- Parking design guidelines;
- Placemaking design guidelines;
- SMME trading spaces; and
- Open space design guidelines.

These are included in the Investment Packages, but also illustrated on the following pages.

NMT through routes design guidelines

Walking and cycling (referred to as non-motorised transport- NMT) together with public transport create more sustainable urban spaces by providing movement options beyond individual motorised transport.

Walkability refers to the user-experience of walking and how conducive an area is to NMT movement. Adjacent is the hierarchy of needs for walkability. The following spatial factors impact on walkability and should be kept in mind when implementing NMT through routes:



Possible
- Human factors (age, health, mobility)
- Spatial factors (barriers – wide highways, steep slopes)

Accessible
- Reasonable walking distance between destinations
- Number of environmental barriers
- Completeness of pedestrian network

Safe
- Pedestrian-scale lighting
- Absence of grime (litter, graffiti, broken windows)
- Traffic management
- Unrestricted line of sight
- Public-private interfaces that support pedestrian safety

Convenient
- Permeable, pedestrian-scaled walking grid
- Wide sidewalks
- Shortcuts through large areas

Comfortable
- Covered walkways or shade
- Pedestrian-scale lighting
- Intact walking surfaces
- Public amenities (ablutions)
- Street furniture

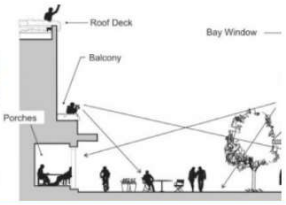
Enjoyable
- Public art and design elements
- Active spaces supported by land uses activating the street
- Buildings defining the space
- Presence of people without overcrowding

Width	▪ Through routes should at a minimum be 7m wide, increased to 10m when walkways are longer than 70m.	
Security	▪ Pedestrian-scale lighting – ensuring the through route is adequately lit at night. ▪ Security booths may protrude 1m into the through route to assist with surveillance of both the private property and the through route. ▪ Landscaping should not impede line of site.	
Adjoining property interface	▪ Through routes should predominantly be flanked by transparent fencing or buildings with active interfaces. ▪ Where solid walls are however required to provide privacy, no solid wall may be longer than 7m before it is altered with transparent fencing.	
Hard space design	▪ Some walkways are small and only serve to make the area more permeable. These spaces should be completely paved, including public furniture, art and landscaping to soften the space.	
Soft space design	▪ Some walkways will serve more than one purpose, providing permeability as well as additional public space. In those instances, the through route should be designed to include linear park guidelines as proposed in generic guidelines sheet "public open space design guidelines".	

Interface design guidelines

The purpose of interface guidelines is to ensure that a building has a responsive street edge that could support passive surveillance and safety of/in the street. The rationale behind the proposed interface guidelines is to ensure building edges that activate the public space, or at least provide a visual connection between the inside of the building and the public space on the outside.

A responsible design of a building façade is critical, as the façade is not only part of the individual building but also part of the bigger urban whole. The aim of the façade is to weave the building and the street space together and not to act as a barrier between the inside and outside. A good public-private interface supports activity and transparency.



Below an illustration on how interface guidelines are incorporated into the development of an area:

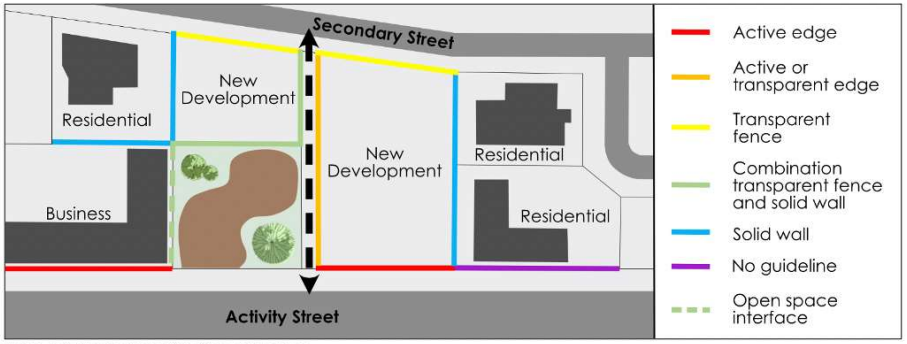


Figure 5-2: Application of interface guidelines

Active edge

Intention is to ensure that buildings contribute to the activity in the public space. To create an active edge:

- At least 75% of the ground floor should have openings (doorways or shop windows).
- No solid wall should be longer than 5m.
- One building entrance per every 10m length of building.
- A covered walkway provided along the edge of the building.
- Upper storeys should have balconies looking out onto the adjacent space (street/open space).

Active or transparent edge

Where buildings do not provide an active edge, the intention of a transparent edge is to still provide a visual connection between the inside of the building and the outside space. To create a transparent edge:

- At least 75% of the ground floor should have visual openings (windows).
- No solid wall should be longer than 10m.
- Balconies on upper storeys are encouraged.

Transparent fence

Although it is preferred that buildings frame the public space, the intention with a transparent fence is to improve security of the site, while also supporting environmental-design-for-safety principles with a visual connection between the erf and the public space.

Combination transparent fence and solid wall

The intention with solid walls is to screen off loading zones and service yards and create privacy for facilities involving vulnerable communities. The combination of solid walls and transparent fencing should be provided accordingly:

- Solid walls may not be longer than 30m where it should be altered with transparent fencing.
- Walls should have articulated features to create visual interest.
- No precast concrete structures are allowed.

Solid wall

The intention with a compulsory solid wall is to screen off private areas facing another property. Solid walls should be provided accordingly:

- Walls should be at least 2m high.
- No precast concrete structures are allowed.
- In the case of adjacent residential properties, see additional residential design interface guidelines.

No guideline

No specific guidelines for these interfaces are required. Property owner can choose.

Open space interface guidelines

The purpose of this open space interface guidelines is to ensure that a new, higher density development provides passive surveillance over the public open spaces, and that the design of buildings incorporate design-for-safety elements.

Open space interface

Intention is to increase the safety of public spaces through passive surveillance offered by the intended development. Building designs should adhere to the following:

- A building should front onto the public space and no building should have any backside turned to any part of the public space.
- Entrances into buildings should be provided directly from the public space.
- Security measures should be located at building entrances (e.g., biometric access) and not property boundaries.
- Windows and balconies should look out onto the public space.
- No solid wall or palisade fence may be erected in front of the building.

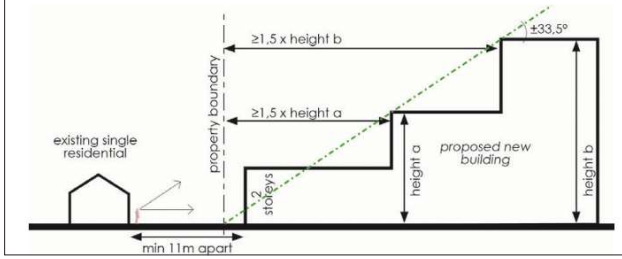
Residential design interface guidelines

This interface refers to the transition line between new developments and existing residential properties behind and adjacent to it. The purpose of this residential interface guidelines is to ensure that a new, higher density development minimises the potential negative impact on adjacent single residential properties, by respecting the privacy and solar access of these properties.

Residential interface

The graphic illustrates how buildings adjacent to residential properties should be constructed. In summary:

- A 2m high boundary solid wall with a row of trees should be provided on the shared boundary.
- No service yards should be closer than 5m from the shared boundary.
- No balconies may be provided on the sides facing the single residential property.
- Height of new buildings should step up from the shared boundary.
- New buildings should be located at least 1,5 times the height of the new building away from the shared boundary.



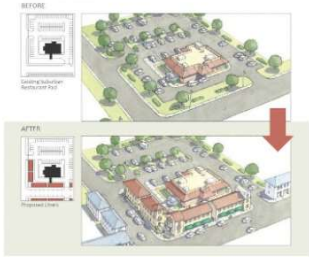
Parking design guidelines

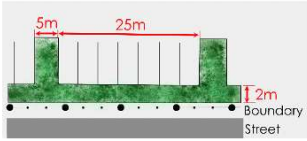
OP

Parking on-grade

To enhance pedestrian quality, on-grade parking should not be provided in front of buildings, along important routes, or adjacent to public spaces. The following should also be adhered to:

- At least one indigenous, drought resistant tree/landscaped patch per every four parking bays.
- Parking to be provided at the back of buildings.
- Larger parking lots should be divided into parking pockets with ample trees/landscaping to soften the space.
- Parking provided along transparent fences facing the street should be provided in pockets with a 2m strip of landscaping along the boundary.
- Parking pockets should not be longer than 25m and should be separated by a minimum 5m width landscaped patch.



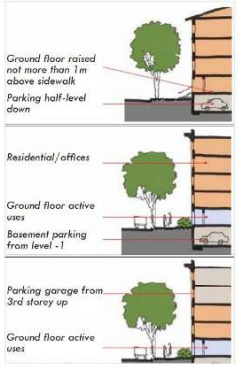


BP

Parking in/on building

It is preferred that parking be provided inside, underneath or on top of buildings. Where this is possible, the following should be kept in mind:

- Only active uses are to be provided on ground floor – not parking.
- Where parking is provided in a raised basement, the ground floor should not be raised more than 1 meter above the sidewalk.



SP

Shared parking

Due to the proposed functioning of the node as a pedestrian-prioritised environment, creative thinking around a shared parking system is proposed. The following guidelines are therefore proposed:

- As a site is developed, a reduced ratio of parking spaces is provided.
- Overflow parking can then be designated to a close-by vacant piece of land.
- When the overflow parking lot is developed, additional parking is provided at a different site.
- It is believed that as the node becomes more developed, the public transport and pedestrian character will dominate, and less parking would be required.
- Shared parking lots should be designed according to the "parking on-grade" guidelines above.

Placemaking design guidelines

Sense of place (or identity) refers to the intrinsic distinctiveness of a place and the meaning people give to that place. Certain unique characteristics can make a place distinctively different and thus more interesting and memorable. When there is a sense of place, residents feel a connection and a sense of belonging. This has both social advantages (residents love their area and therefore take better care of it) and economic advantages (businesses are attracted to that area).

Questions around a sense of place should be structured around private developments and the design of buildings, the interface between public and private spaces, and the design and functioning of public environments. It's the collaboration and mutual support between public and private that create vibrancy within spaces.

Private developers should think about a sense of place in terms of how does the building/development (1) respond to and reinforce the locally distinctive character; (2) create a sense of significance to the local community, and (3) respond to and reinforce the locally distinctive activity structure and spirit.

The public realm should be designed in such a way that developers can easily read the sense of space within a community. The public realm should: (1) set the standard of development, (2) be responsive to local character, (3) be respectful of heritage, and (4) protect the natural environment.

CHARACTER OF THE PLACE

- Built form
- Patterns of development
- Streetscape
- Interface design
- Heritage elements
- Landmark elements
- Public art
- Environmental elements

QUALITY OF THE PLACE

- Quality of public spaces (hard and soft; linear and nodal)
- Architectural quality
- Infrastructure services
- Vehicular movement and parking
- Non-motorised movement
- Universal design
- Public facilities

SPIRIT OF THE PLACE

- Sense of community
- Sense of safety
- Community events
- Vibrancy in public spaces

Street furniture and lighting

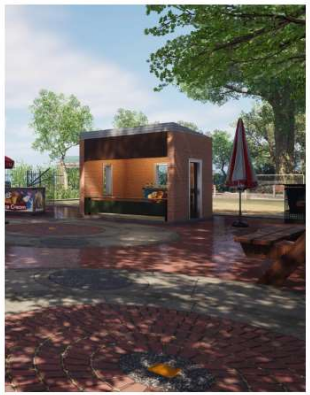
- To be provided along all NMT through routes, public open spaces and the NMB pedestrian priority route.
- Furniture should be designed to be robust and low maintenance, using materials such as concrete or steel.
- Seating should be orientated to provide passive surveillance within the public space.
- Where possible, the branding of the Ilisolethu node should be incorporated into the design of street furniture.
- The design and placement of furniture should keep design principles such as rhythm, texture, form and colour in mind to establish a sense of place.

- Lighting should be pedestrian scale and adequately illuminate public spaces.
- Lighting should not adversely impact adjacent properties.
- Public transport facilities should be well lit at all times.
- Solar lights should be explored to reduce the load on the electrical grid.

Hard and soft landscaping

Hard landscaping (such as paving) plays a critical role in defining and creating continuity between different public spaces. The following should be kept in mind with hard landscaping:

- Paving should "spill out" onto public open spaces where pedestrian walkways connect.
- Design principles such as texture, form and patterns should be used to differentiate between different activities.
- Paving intersections to serve as traffic calming measures and prioritise pedestrian movement.
- Follow universal accessibility principles, ensure that hard landscaping is non-slip and even.



Soft landscaping is necessary to soften public spaces and incorporate nature back into cities. Vegetation and tree cover can also greatly increase the attractiveness of open spaces by providing shade and a sense of enclosure. Soft landscaping guidelines include:

- Indigenous and drought resistant vegetation should be encouraged.
- Care should be taken when planting low shrubs as to not impede visibility and to avoid creating concealed spaces.
- Design principles such as rhythm and harmony can be incorporated into the planting of trees to better enhance the character of public spaces.

PUBLIC ART AND URBAN ACUPUNCTURE OPPORTUNITIES include the following:

Community sidewalk mosaic

Mural painting

Community gardens

Painted parking lots

Pocket play spaces

Commissioned public art

SMME trading spaces

The Ilisolethu Gateway Node (and in fact the entire Thembalethu township) consists of a number of SMME traders. The purpose of these guidelines is to attempt to provide some structure within the informal economy and to provide traders with formalised trading structures in designated trading spaces that offer them exposure to Nelson Mandela Boulevard and the numerous pedestrians and cyclists that travel along this road. The intention is also to provide vibrancy and activity within public spaces to improve the overall walkability of the node and support the character of Ilisolethu.

TA

Type A
Trading on boundaries

Trading takes place directly from the boundary of residential properties – through the fence or a hatch it the wall. Typology is intended for:

- Small-scale trading (sweets, cold drinks, take-aways).
- No on-site seating provided.
- Use existing on-site services.

TB

Type B
Trading stalls

Coherently designed open trading stalls, either specifically provided by the municipality or allowed within designated trading spaces:

- Selling general goods (clothes, small electronics, food stuffs).
- People-centred services.
- Off-site storage facilities, communal water points and ablution facilities are catered for within the vicinity.

TC

Type C
Refurbished containers

A lot of trading already takes place within containers. Although no containers will be provided by the municipality, SMMEs may place containers on private properties.

- Small scale service traders, selling of larger products, cooking (for take-away) and services.
- Integrates retail services with on-site storage.
- Use of existing on-site services.
- Communal ablution facilities would be required.

TD

Type D
Garage stores

Small spaces the size of a standard garage, which can be integrated into buildings to contribute to active interfaces.

- Designated trading spaces are identified, and private developers are encouraged to incorporate this design into their buildings.
- Can support small-scale service traders, food services (take-away and sit-down), permanent display and retail.
- Integrates retail services with on-site storage facilities.
- Individually serviced with water and electricity.
- Communal ablutions facilities would be required.

TE

Type E
SMME hub

Clustered small units of trading facilities within a well-designed structure with adequate open space.

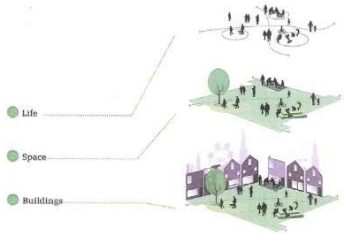
- Larger manufacturing and vehicle-related activities.
- Permanent workshops for manufacturing, light engineering works, and car-related services.
- Individually serviced with water and electricity.
- Varying sized units can be provided to suite different trading needs.

Open space design guidelines

Components of good public spaces

An urban space can be defined in terms of the following components:

- The walls defining the space (e.g. buildings enclosing the space, a continuous row of trees);
- The floor covering the space (e.g. paved patterns, grass);
- The roof covering the space (e.g. a built structure, sky);
- The elements arranged in the space (e.g. street furniture, landscaping, trees, public art); and
- The activities taking place in the space (e.g. formally organised, informal and spontaneous).



Shared space

Shared space is a relatively new urban design concept with the aim to minimise the segregation between vehicles, pedestrians, and bicycles through continuous paving over the street and sidewalk. The theory is that it creates a sense of uncertainty, making it difficult to read who has priority in the space. This in turn would lead drivers to slow down, engage with the environment, and make eye contact with pedestrians.

Walls	Preferred that adjacent properties have active interfaces, or at least a transparent interface
Floors	Paving of entire space, removing distinction between streets and walkways.
Ceilings	Covered walkways along buildings are encouraged. Street trees to provide shade.
Elements	Removal of street clutter (kerbs, road surface markings, traffic signals). Incorporating street furniture, public art, and amenities.
Activities	Adjacent properties should provide appropriate land uses to activate the public realm (restaurants, social services, retail, etc).

Less shared design ←		→ More shared design
Kerbs	Low kerbs, chamfered kerbs	No kerbs
Pedestrian barriers		No pedestrian barriers
Vehicles restricted to parts of street, e.g. by bollards, street trees, etc.	Implied vehicle paths using surface materials, for example	No barriers to vehicle movement
Poor quality or unwelcoming public space characteristics	A few places where people can rest and chat	Presence of features such as cafes, markets, abundant seating, planting, public art, etc.
Conventional road markings	Limited road markings	No road markings
Traffic signals		No traffic signals
Signal controlled crossings	Zebra crossings	Courtesy crossings or no crossings

Public squares

A square is provided to act as focal point for social and cultural life in the node. In general, a square draws its vibrancy from the activities and uses in the buildings surrounding the space, from the interaction between the buildings and the space, as well as activities taking place within the space itself. A public square also provides an opportunity to establish a unique mix of commercial and social services to establish a distinct identity. A setting facing onto a square also provides the opportunity for a civic building where the square acts as a reception space for people to sit and wait to be served.

Walls	Preferred that adjacent properties have active interfaces, or at least a transparent interface. Buildings should frame the space.
Floors	Hard and soft landscaping within a well-designed public space.
Ceilings	Covered walkways along buildings are encouraged. Street trees to provide shade.
Elements	Central public art feature around which the public space is orientated. Incorporating street furniture, public art, and amenities.
Activities	Adjacent properties should provide appropriate land uses to activate the public realm (restaurants, social services, retail, etc).

Sports facilities

Where possible, multi-sport sports fields should be incorporated into all public open spaces. Where appropriate, transparent fencing around sports fields may be provided. The sports fields should however form an integrated part of the entire open space, and the design of the space should therefore follow the guidelines of soft and hard public spaces. Varying ages should be catered for – providing bigger and smaller versions of the fields.

Soft public spaces

Soft public spaces are well-designed with ample soft landscaping elements to soften the space and integrate natural elements.

- Space preferably defined by active building interfaces, however transparent fencing or a line of trees can also define the space.
- Paved areas with interspersed soft landscaping.
- Ample trees to provide shade.
- Public art, street furniture, pedestrian-scaled lighting, formal and informal trading activities.

Hard public spaces

Hard public spaces include the network of pedestrian sidewalks and bicycle lanes, as well as the dedicated trading spaces and public open spaces that are spread along NMB. Trees, street furniture and public art must be incorporated to soften the space.

- Space preferably defined by active building interfaces, however transparent fencing or a line of trees can also define the space.
- Paving patterns to define different activity spaces.
- Trees to soften the space.
- Public art, street furniture, pedestrian-scaled lighting, formal and informal trading activities to create a sense of place and vibrancy.

Linear parks

Applicable to pedestrian walkways and through routes. Depending on the length of the walkway, might be hard or soft spaces.

- Transparent fencing to border the space.
- Paved areas with interspersed soft landscaping.
- Ample trees to provide shade.
- Public art, street furniture, pedestrian-scaled lighting, formal and informal trading activities.

5.2 Engineering infrastructure requirements

Bulk services required for each of the projects have been calculated. Water, sewer, and electricity capacities for 20% completion of each project and 100% completion of each project have been calculated. The 20% capacity requirements are indicated in the table to the right, whilst the 100% capacity requirements are indicated in the table on the following page. It is proposed that (specifically in the case of private developments) at least 20% of the development should be implemented in the first phase.

ENGINEERING SERVICES CAPACITY REQUIREMENTS - 20% DEVELOPMENT

SERVICE		PROJECTS												TOTAL
		2	3	4	5	6	7	8A	8B	9	10A	10B	11	
Water	Water Consumption (based on latest Red Book standards)	0,50	0,45	0,65	0,65	0,40	0,65	0,48	0,48	0,63	0,40	0,40	0,65	**0,53**
	Estimated Water Demand (kl/d)	19,09	32,45	11,21	5,25	2,65	1,16	1,23	0,39	2,26	0,55	0,77	9,49	**86,51**
	Total AADD(kL/d)	19,09	32,45	11,21	5,25	2,65	1,16	1,23	0,39	2,26	0,55	0,77	9,49	**86,51**
	Total AADD (L/d)	19090	32451	11210	5251	2650	1164	1225	391	2264	555	769	9488	**86509**
	Total AADD (L/h)	795	1352	467	219	110	49	51	16	94	23	32	395	**3605**
	Total AADD (L/min)	13,26	22,54	7,78	3,65	1,84	0,81	0,85	0,27	1,57	0,39	0,53	6,59	**60,08**
	Total AADD (L/sec)	0,22	0,38	0,13	0,06	0,03	0,01	0,01	0,00	0,03	0,01	0,01	0,11	**1,00**
	Peak Flow (l/s)	0,85	1,36	0,43	0,20	0,10	0,04	0,06	0,02	0,09	0,02	0,03	0,36	**0,30**
	Average minimum Pipe Size Required Under Peak Conditions	154	147	171	170	170	120	120	120	145	170	170	171	**152**
	Average required Bulk Water Connection Pipe Size	187	180	200	200	200	160	160	160	180	200	200	200	**186**
Sewer	Sewerage Outflow (based on latest Red Book standards)	0,42	0,43	0,52	0,52	0,32	0,52	0,38	0,38	0,50	0,32	0,32	0,52	**0,43**
	Estimated Sewerage Outflow (kl/d)	16,80	29,29	8,97	4,20	2,12	0,93	0,98	0,31	1,81	0,44	0,62	7,59	**74,06**
	Total AADD (kL/d)	16,80	29,29	8,97	4,20	2,12	0,93	0,98	0,31	1,81	0,44	0,62	7,59	**74,06**
	Peak Flow (l/s)	0,49	0,85	0,26	0,12	0,06	0,03	0,03	0,01	0,05	0,01	0,02	0,22	**0,18**
	Minimum Pipe Size Required Under Peak Conditions and Minimum Slope	160	160	160	160	160	160	160	160	160	160	160	160	**160**
Electricity	VA/m² and kVA/Unit	40	80	80	80	40	20	60	60	50	40	40	80	**56**
	Electrical demand	161,21	375,75	137,97	64,63	26,50	3,58	52,46	14,24	12,94	5,55	7,69	116,78	**979,3**

ENGINEERING SERVICES CAPACITY REQUIREMENTS - 100% DEVELOPMENT

SERVICE		PROJECTS												TOTAL
		2	3	4	5	6	7	8A	8B	9	10A	10B	11	
Water	Water Consumption (based on latest Red Book standards)	0,50	0,48	0,65	0,65	0,40	0,65	0,48	0,48	0,63	0,40	0,40	0,65	**0,53**
	Estimated Water Demand (kl/d)	203,63	431,26	56,05	26,26	13,25	5,82	33,36	9,25	11,32	2,77	3,8	47,4	**844,26**
	Total AADD(kL/d)	203,63	431,26	56,0	26,3	13,3	5,8	33,4	9,2	11,3	2,8	3,8	47,4	**844,26**
	Total AADD (L/d)	203629,73	431258,23	56048	26256	13251	5821	33364,6	9247,5	11320	2774	3847	47442	**844258**
	Total AADD (L/h)	8484,57	17969,09	2335	1094	552	243	1390,2	385,3	472	116	160	1977	**35177**
	Total AADD (L/min)	141,41	299,48	38,9	18,2	9,2	4,0	23,2	6,4	7,9	1,9	2,7	32,9	**586,29**
	Total AADD (L/sec)	2,36	4,99	0,6	0,3	0,2	0,1	0,4	0,1	0,1	0,0	0,0	0,5	**9,77**
	Peak Flow (l/s)	0,85	10,09	2,1	1,0	0,5	0,2	0,8	0,2	0,4	0,1	0,1	1,8	**1,53**
	Average minimum Pipe Size Required Under Peak Conditions	172	173	174	172	171	121	122	121	146	170	170	173	**157**
	Average required Bulk Water Connection Pipe Size	200	200	200	200	200	160	160	160	180	200	200	200	**188**
Sewer	Sewerage Outflow (based on latest Red Book standards)	0,42	0,43	0,52	0,52	0,32	0,52	0,38	0,38	0,50	0,32	0,32	0,52	**0,43**
	Estimated Sewerage Outflow (kl/d)	186,77	361,66	44,84	21,01	10,60	4,66	26,69	7,40	9,06	2,22	3,08	37,95	**715,92**
	Total AADD (kL/d)	186,77	361,66	44,84	21,01	10,60	4,66	26,7	7,4	9,06	2,22	3,08	37,95	**715,92**
	Peak Flow (l/s)	5,40	10,46	1,30	0,61	0,31	0,13	0,8	0,2	0,26	0,06	0,09	1,10	**1,73**
	Minimum Pipe Size Required Under Peak Conditions and Minimum Slope	160	160	160	160	160	160	160	160	160	160	160	160	**160**
Electricity	VA/m² and kVA/Unit	40	80	80	80	40	20	60	60	50	40	40	80	**56**
	Electrical demand	1887,82	4568,78	689,83	323,16	132,51	17,91	262,30	71,20	64,69	27,74	38,47	583,90	**8668,3**