



VOORTREKKER MONUMENT

FORT SCHANSKOP

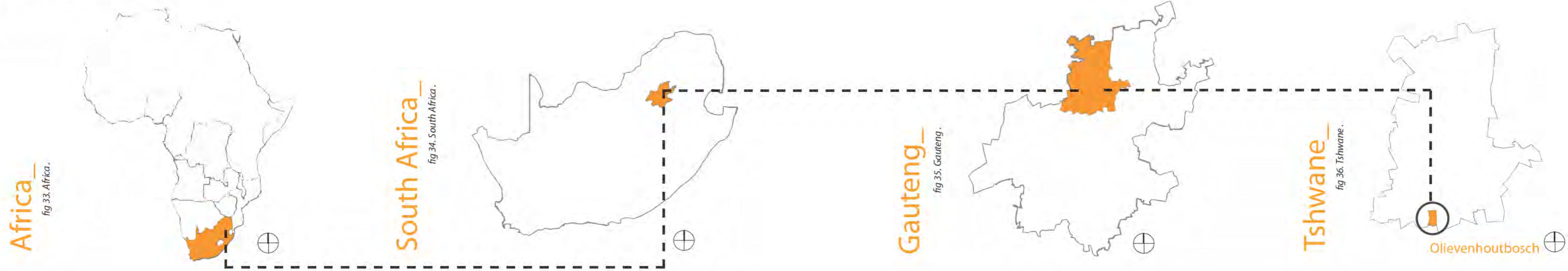
TELKOM TOWER

FORT KLAPPERKOP

STREEKS[TAAL]  
URBAN ALYSIS + CONTEXT + FRAMEWORK

02

# URBAN ANALYSIS



## LOCATION



fig 37. Immigrants (UNHCR 2006)

According to the United Nations High Commission Of Refugees, the lack of structured and democratic governments, insufficient use of natural resources and low employment opportunities drives hundreds of immigrants over South African borders every day in the hope of finding a better livelihood (United Nations High Commission of Refugees 2012).

Currently, Olievenhoutbosch houses international immigrants from Nigeria, Malawi, Somalia, the Democratic Republic of the Congo, Zimbabwe and Mozambique (UNHCR 2012). This vast diversity of cultures partnered with a very high crime rate caused the xenophobic reaction in 2005 and 2006. However, it is not only the international immigrants that cause the diversity of cultures

within Olievenhoutbosch. A multitude of refugees from the East Coast of South Africa are currently living with family and friends within the township due to droughts in 2010 and 2011 (Shikwambane 2012).

According to Mr. Shikwambane, local school principal, this has particularly made the educational system very difficult. Schools have to tender for a variety of languages, including: isiZulu, siPedi, Tswana, Xhosa and Zulu. Also, children are not forced to play with one another across cultural boundaries. It is the opinion of the author that the lack of sport programs at schools could provoke prejudice between cultural groups. Sport is a language that transgresses cultural and linguistic barriers and it is of cardinal

## Gauteng

fig 35. Gauteng .

importance to enforce intercultural exchange among scholars from a young age.

Olievenhoutbosch, in Tshwane, South Africa will be the ideal setting for the proposed sport-for-development architectural intervention. NGO's such as Telkom Learn to Swim, The United Nations High Commission of Refugees, Grassroots Soccer and Netball South Africa are all situated within Gauteng and within range of the proposed facility.

Touring international teams will be able to use the facilities for training and competing against local talent.

## Tshwane

fig 36. Tshwane .

The proposed development will also tie into and where necessary adapt the Tshwane Municipality and Absa DevCo's proposed urban development framework, which recognises the need for formalised sport in Olievenhoutbosch.

# HISTORIC SUMMARY

Pretoria CBD



fig 38 a. Nolli map of Pretoria CBD. (Pienaar, M 2002)



Olievenhoutbosch



fig 38b. Nolli map of Olievenhoutbosch.



fig 39. 2005 map.



fig 39b. 2007 map.

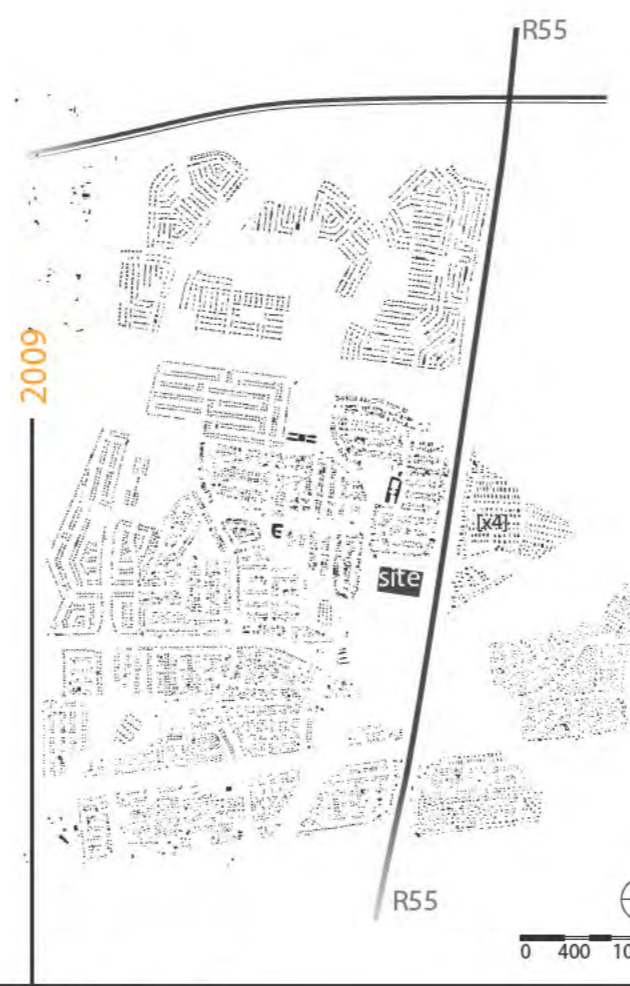


fig 39 c. 2009 map.

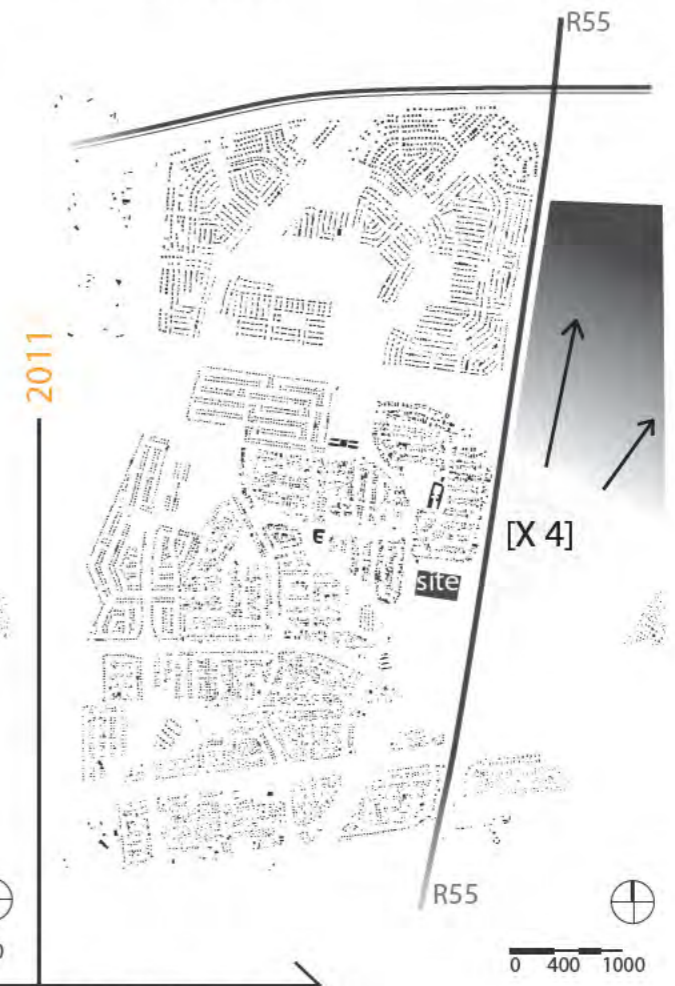


fig 39 d. 2011 map.

# EXPANSION + DEVELOPMENT

The illustration clearly depicts the morphological nature of Olievenhoutbosch from 2005 to 2011. This is due to the sudden development of informal housing on the western side of the R55 in 2007 to 2009 followed by the relocation of those residents to RDP houses on the Eastern side of the R55 between 2009

and 2011. Currently, the only permanent residential area on the Western side of the R 55 is Extension 4, as indicated.

For further analysis, the author will focus on the developing areas and their influence on the proposed site for intervention and architectural response.

# HERITAGE



fig 40 a. First house in Choba.



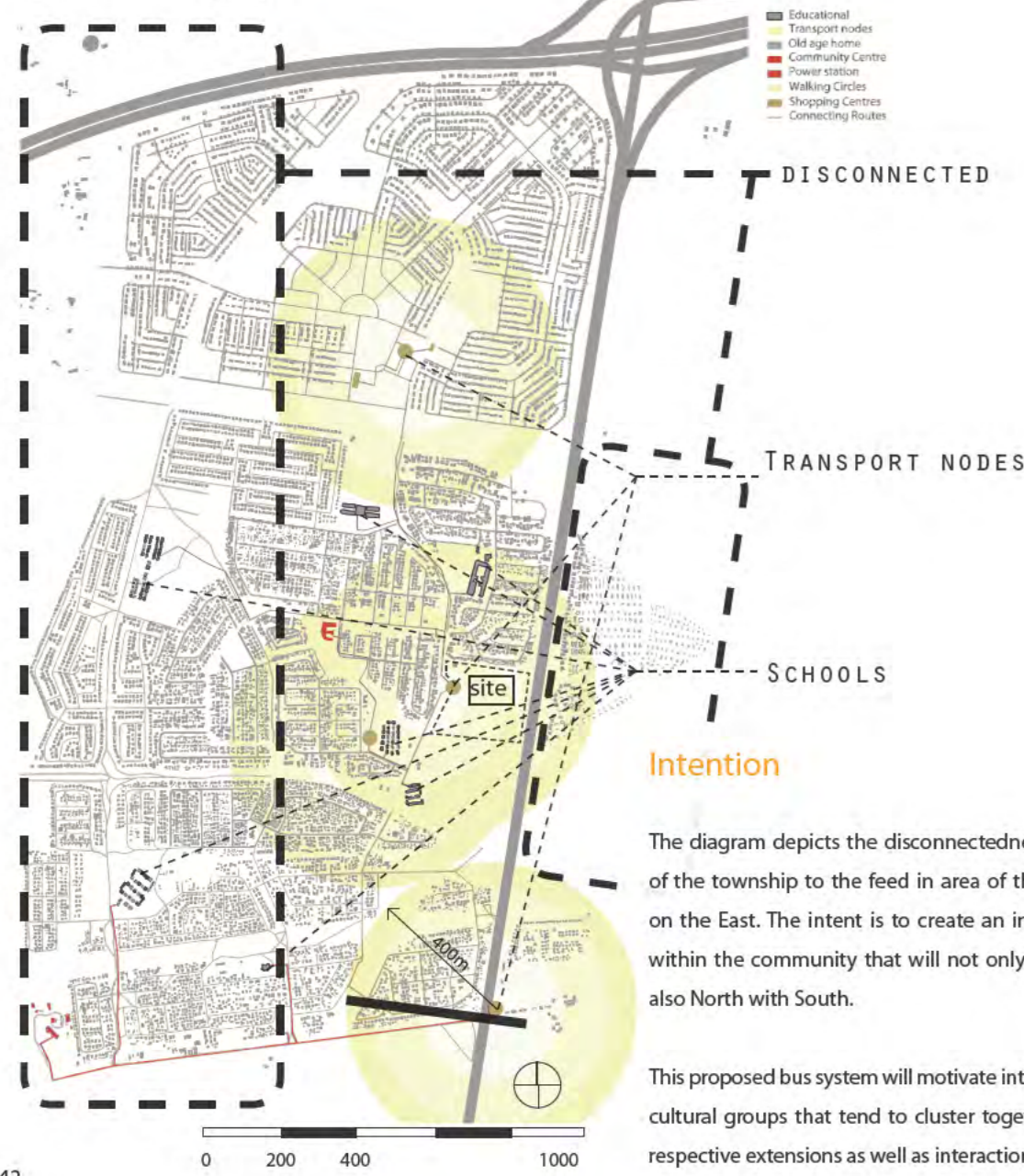
fig 40 b. Ruins of old tabaco store.



fig 40 c. Ruins of old tabaco store.

# TRANSPORT AND SCHOOLS

fig 41. Transport mapping.



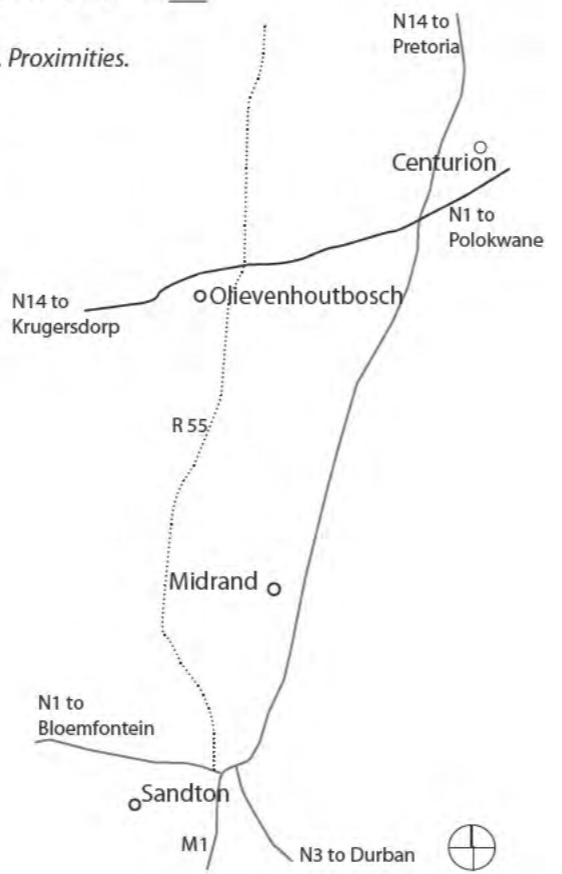
## Intention

The diagram depicts the disconnectedness of the western areas of the township to the feed in area of the transportation nodes on the East. The intent is to create an internal transport system within the community that will not only link East with West but also North with South.

This proposed bus system will motivate interaction among different cultural groups that tend to cluster together within the different respective extensions as well as interaction amongst schools.

# ACCESS

fig 42. Proximities.



## Proximities

The reason for the rapid expansion of Olievenhoutbosch lies in its geographic location with relation to Centurion, Midrand and Sandton.

According to the census of 2001, 60% of the population is 30 years and younger, 24% self employed and 20,5% unemployed. This results in a powerful labour source that is dependant on public transport to the respective CBD's.

# ROADS

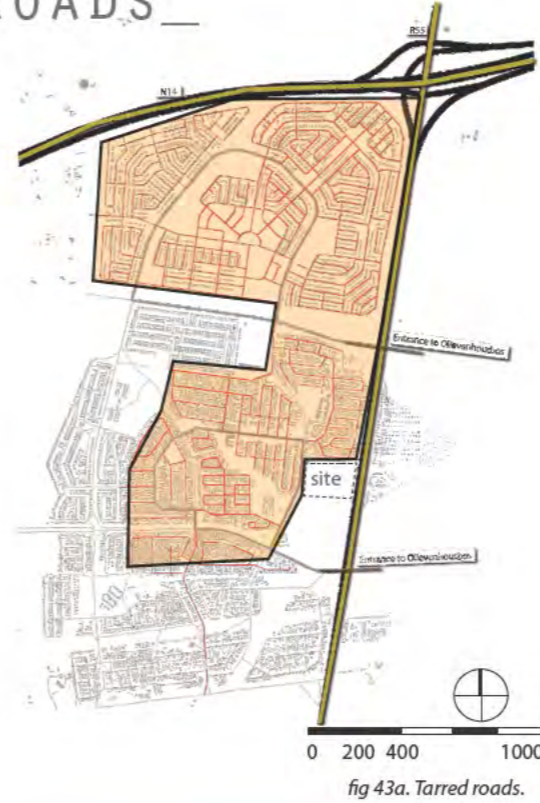


fig 44a. Tarred Roads.

The road conditions within the township is one of the primary reasons for the unbalanced distribution of transportation

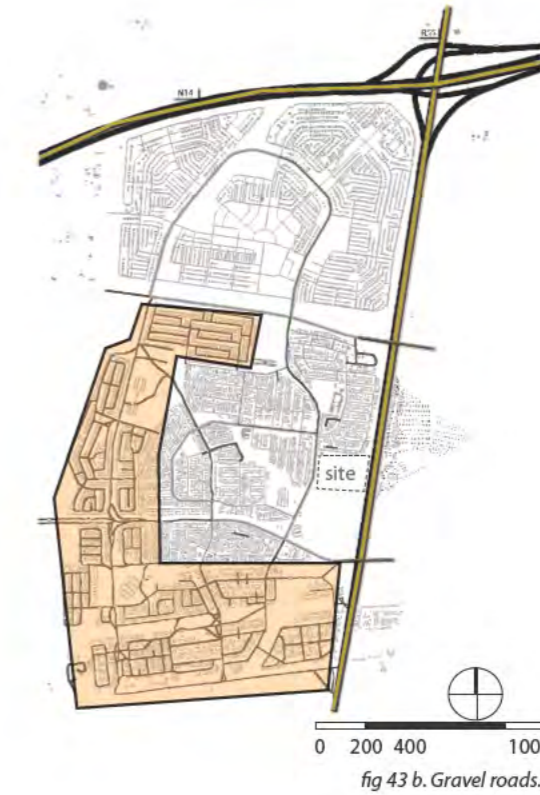


fig 44 b. Gravel roads.

gravel roads on the southern areas to more formalised tarred roads on the northern hemisphere of the township. At closer investigation the footpaths indicate that the primary pedestrian

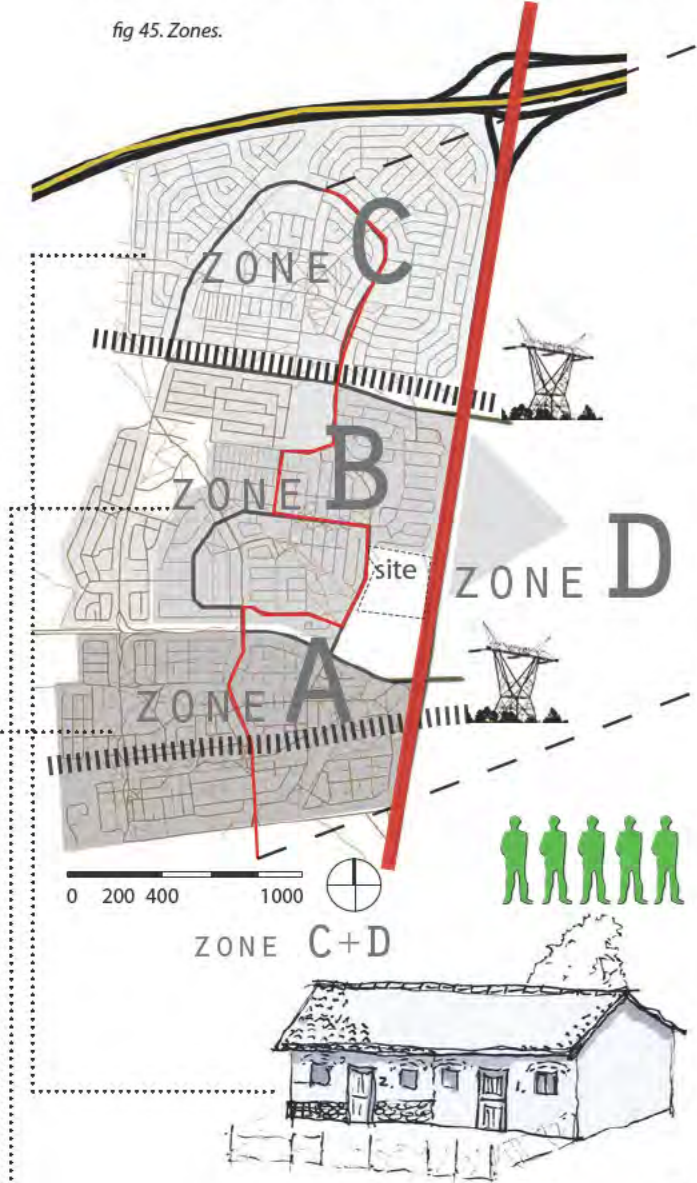


fig 44c. Foot paths.

movement occurs along a East-West axis, especially along the strip of interconnected green spaces that form a belt across the width of the township a shown in fig 43c.

# DIVISION AND DENSITY

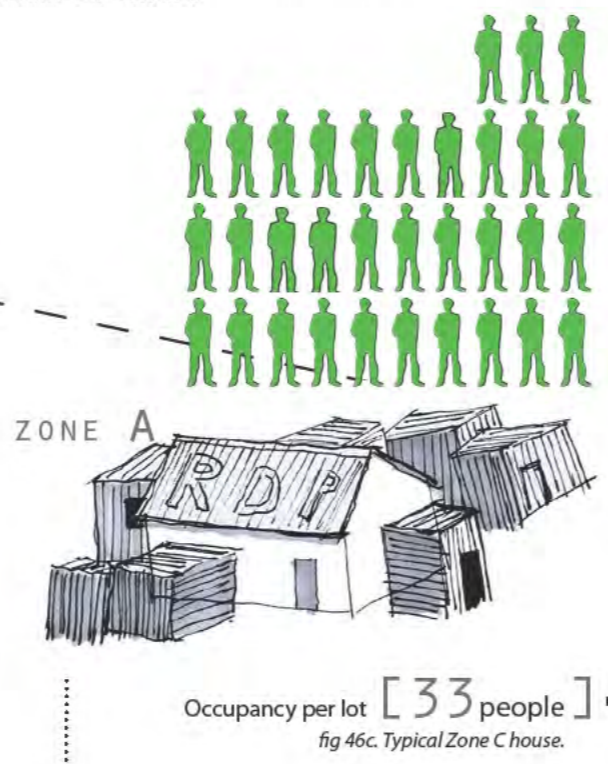
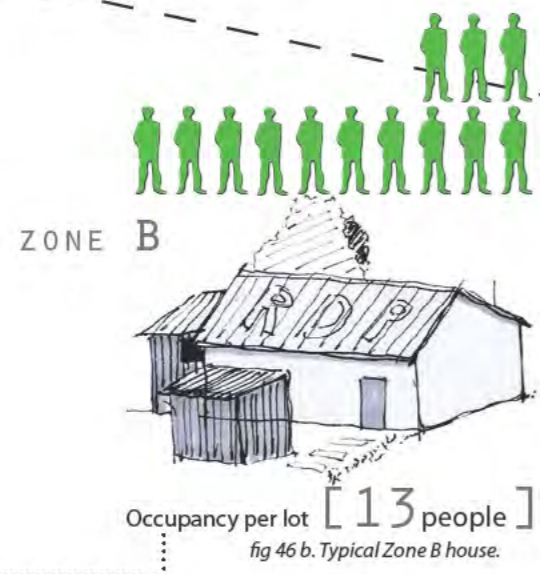
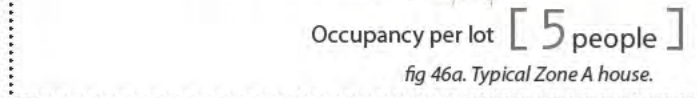
fig 45. Zones.



## Current connecting route

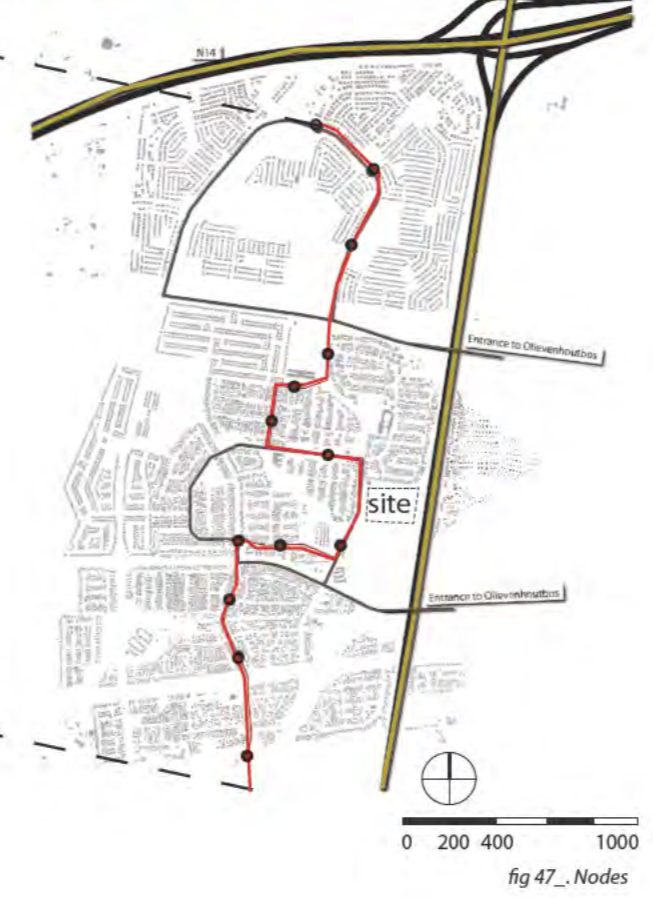
The connecting route spans through different zones and reflect the inherent identities and road conditions throughout. These zones are divided by overhead Eskom power lines and the notorious R55 road that is responsible for the death of five school children in the last three years (Shikwambane 2012). Further analysis will occur along the analysis spine by identifying nodes and activity spines that run parallel to or intersect with the chosen route.

The aim is to establish a connection between nodes by means of promenades, green spaces and pedestrian bridges that are informed by the investigated theories to make urban design decisions. These urban design decisions will ultimately aid in the process of community building and provide a platform for the architectural intervention.



# PUBLIC TO PRIVATE INTERFACE

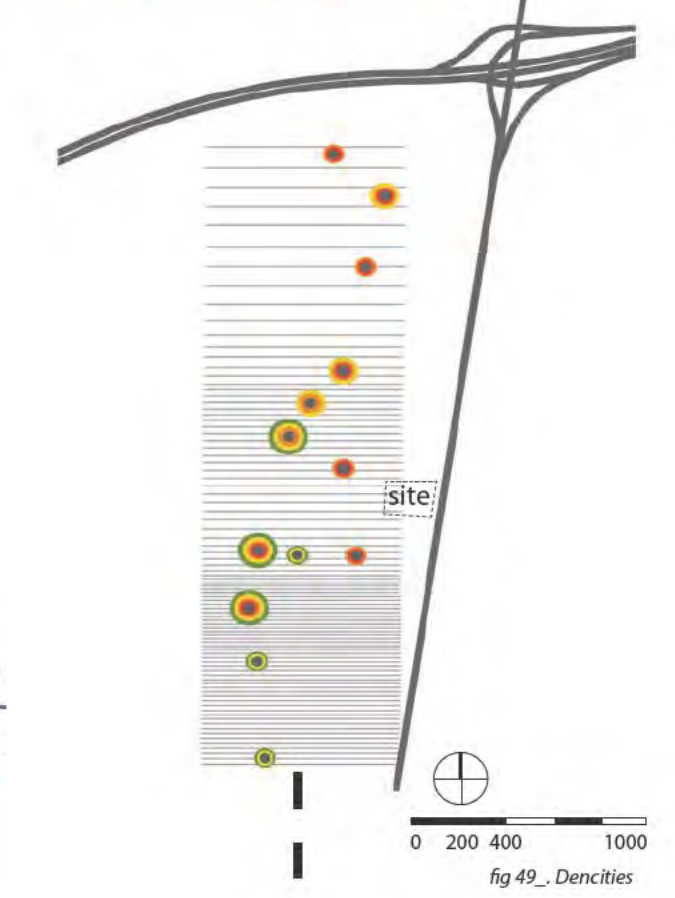
## Analysis nodes



## Public to private interface

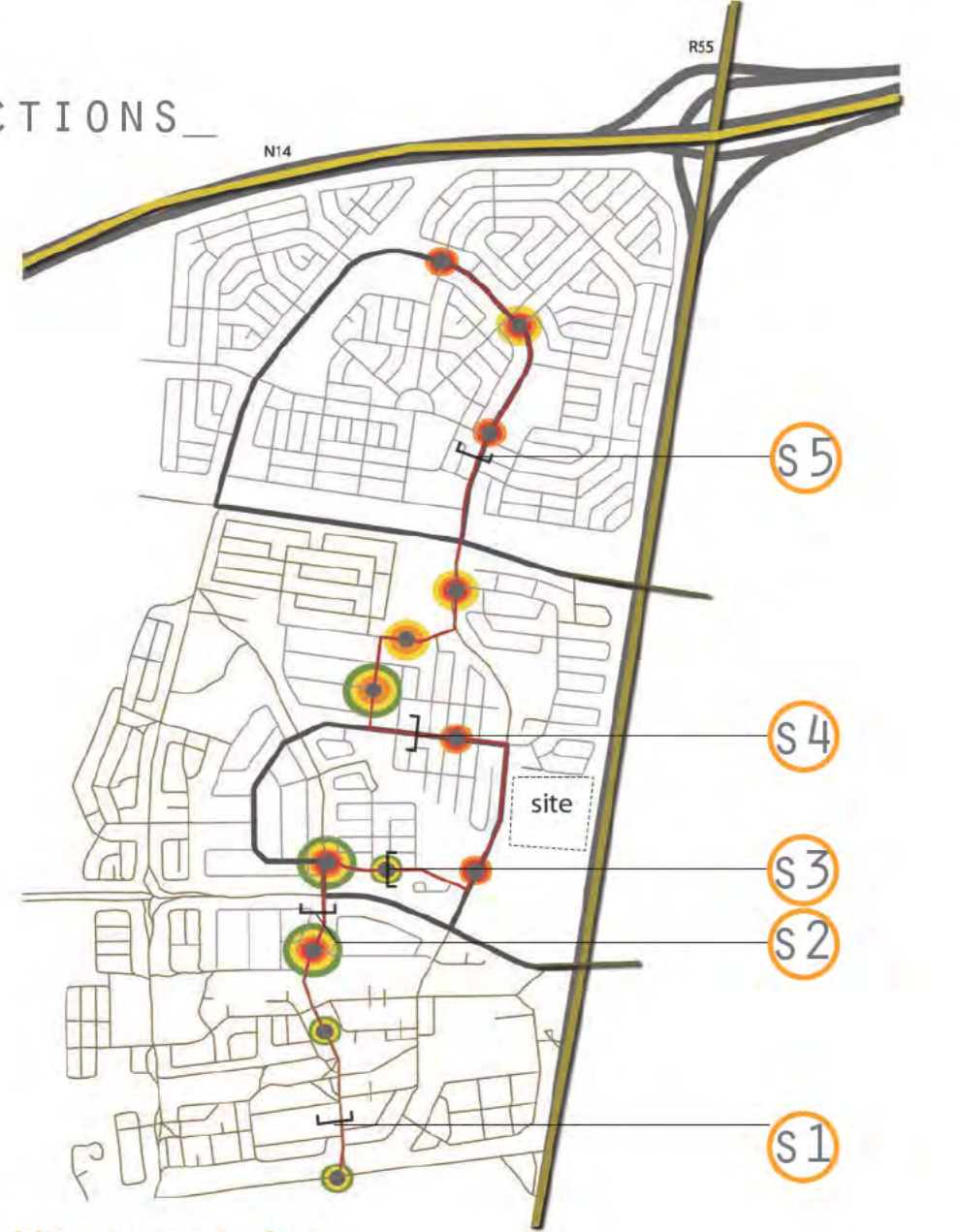


## Density change over nodes



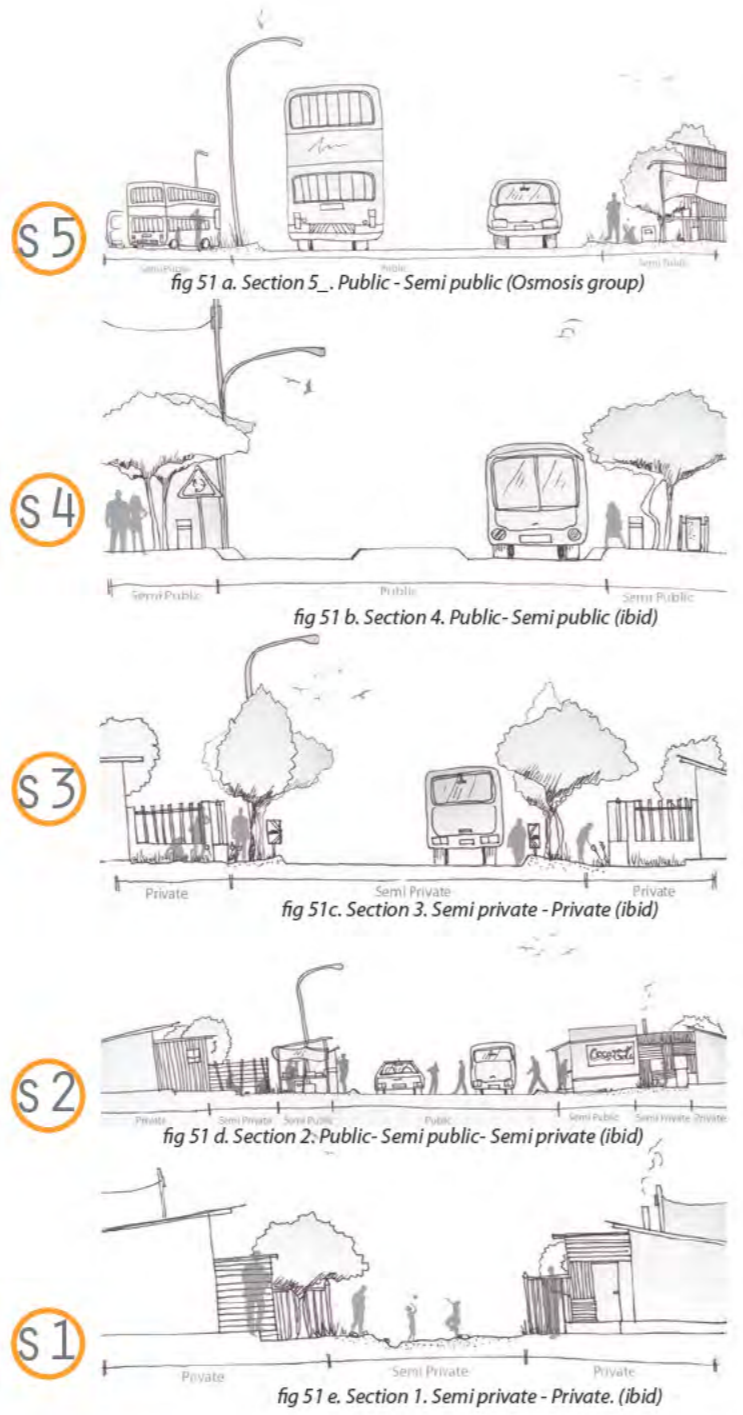
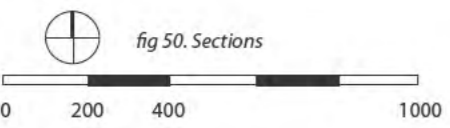
At every analysis node, the interface between the public and private realm differs.

# SECTIONS

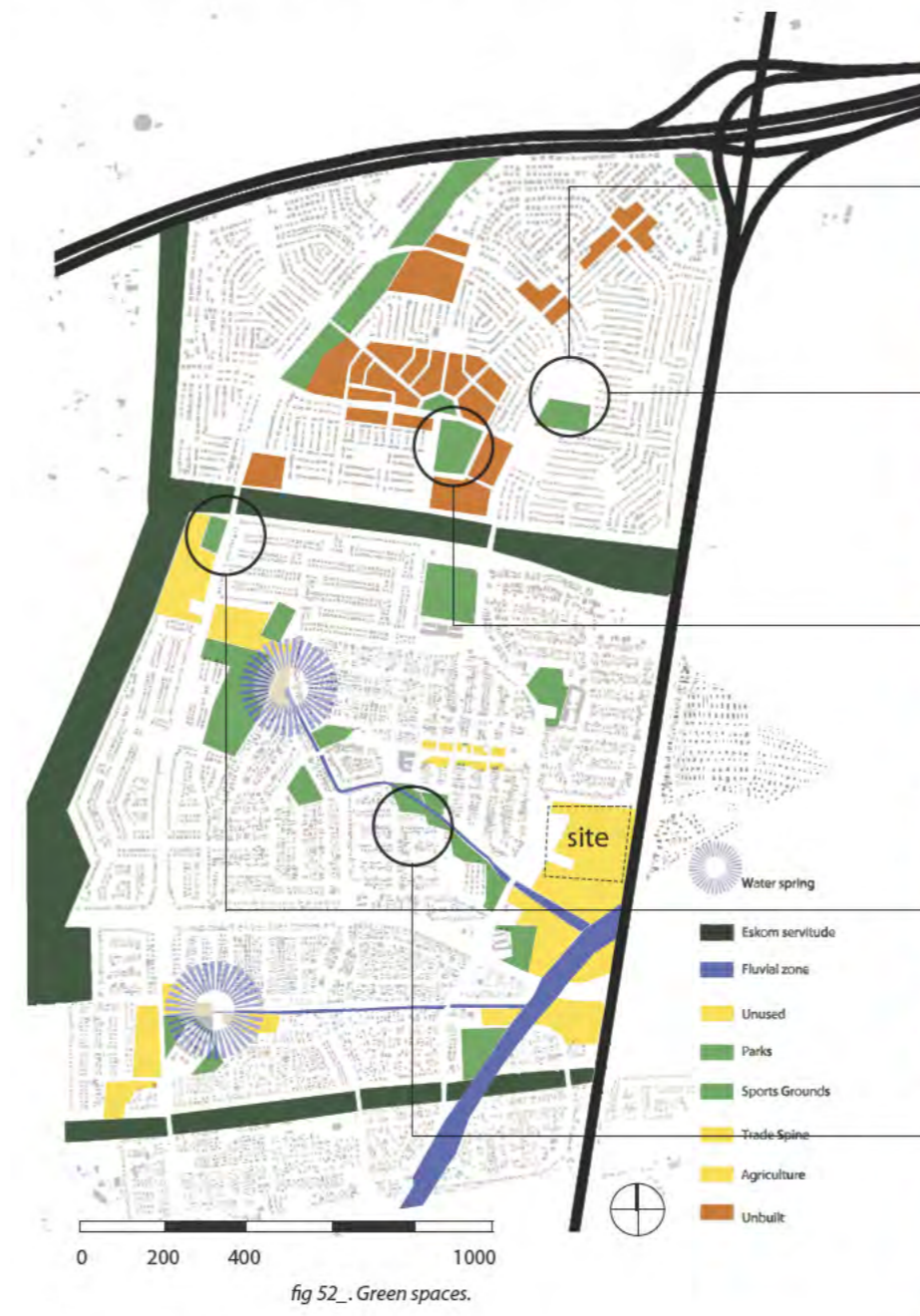


## The public private interface

The sections are drawn to analyse the effect that architectural elements such as lighting, level differences, shading, width of walkway, scale and surface material has on the interface or threshold that determine public and private space.



# GREEN SPACES AND EXISTING SPORT FACILITIES



## Background

Currently, most of the green spaces within the township are informal pieces of land around the fluvial areas of two water springs. These green spaces pose potential for the establishment of promenades and parks but are currently unused, overgrown and dangerous in terms of crime and violence as well as occasional flooding. In 2010, two young boys drowned during the rainy season when they attempted to cross one of the streams on their way back from school. The municipality canalised the water streams to avoid corrosion but this only intensified the velocity of storm water and made these streams even more dangerous.

## Intent

**The Streams:** Both streams on Olievenhoutbosch sprout from a subsurface spring and flow in an eastwardly direction where it joins the Rietspruit river. The potential of these streams should be optimised by rehabilitating the indigenous plant life, aquatic and bird species and for irrigation of community gardens.

**Bridges:** As mentioned above, there is a need for bridges that create safe passage for people over the streams. These bridges will ultimately aid in connecting a divided community.

**Servitudes:** The Eskom power lines currently divide the community in three zones. These three zones have very different identities and densities. The intent is to utilise the areas within the servitudes for agricultural purposes and multi-functional park space

**Existing Parks:** The existing parks are used for play and performance by the local community. The intent is to upkeep these parks and connect them where possible with safe walkways that connect nodes with educational routes.

# CONTEXT AND IDENTITY\_

## Identity on Route

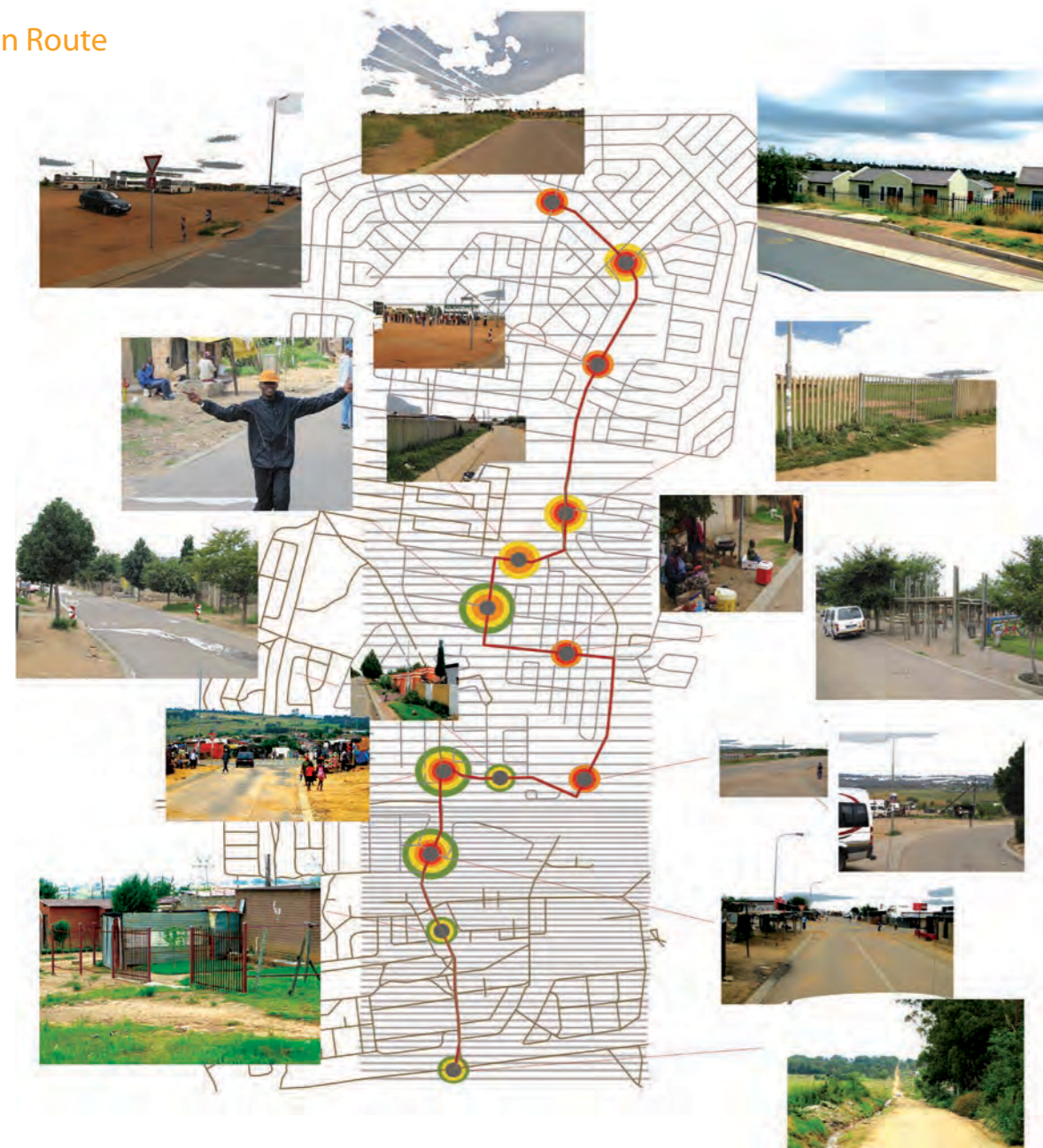


fig 54. Identity

A THOROUGH UNDERSTANDING OF THE FLAVOUR<sup>1</sup> AND IDENTITY OF THE HOST COMMUNITY WILL PROVIDE THE DESIGN WITH AN INTANGIBLE UNDERTONE THAT COMMUNICATES WITH THE SUBCONSCIOUS OF THE USER.

<sup>1</sup> The flavour of the community refers to the intangible elements that cannot be directly analysed but only understood when the architect allows himself to engage with the community and understand how they think, live and interact.

## Transport

Considering the poverty rate within the township, it is not uncommon that most of the residents are dependant on public transport. Taxis are the most common means of public transport

but due to recent events of taxi violence in 2011, the government issued a fine that 'grounded' taxis for a certain period of time. Tshwane buses have been employed to fulfil the roll of the

mini bus taxis, but according to Karien Kruger, journalist for the Beeld, residents are unhappy with the bus system as drivers drive recklessly ( Beeld 2011: 6 ).



fig 55 a. Arrival at the game.



fig 55 b. Arrival at the game.



fig 56. Absa buss depot.

The Fans  
[Umbrella Town]



fig 57 a. The Fans.



fig 57 b. The Fans.



fig 57 c. The Fans.



fig 57 d. The fans.



fig 57 e. The fans.



fig 57 f. The fans.

What is striking when observing the community of Olievenhoutbosch is the amount of umbrellas, thus the author refers to it as 'Umbrella town'. Umbrellas are used in all weather

conditions to protect the individuals from the elements, whether rain or shine. The umbrella has a flexible characteristic by which it transforms from an object into a space creator. These spaces can

suggest directionality, safety, unity, romance and relaxation. These characteristics should amalgamate in the architectural response.



fig 58 a. Flexibility.

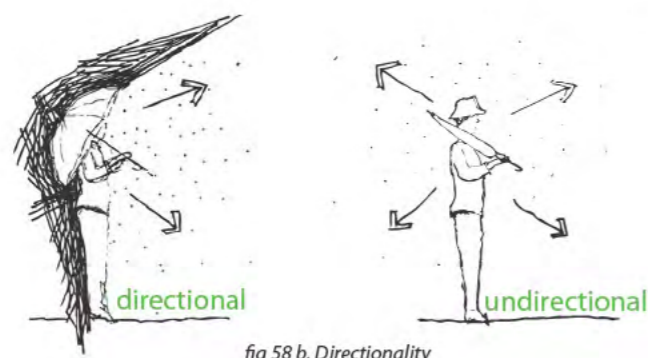


fig 58 b. Directionality



fig 58 c. Sheltered space



fig 58 d. Romantic space.



fig 58 e. Relaxed space.

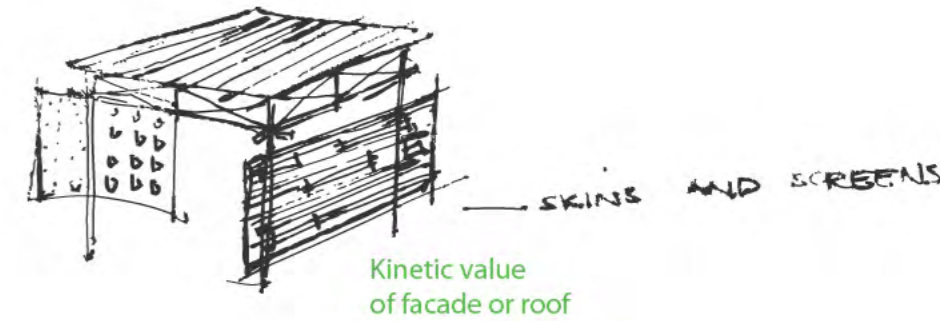


fig 58 f. Architectural interpretation.



## The Players

Olievenhoutbosch has a Top 8 league in soccer and Top 4 league in netball. Every team has five different age groups that compete

with teams from Attrigeville, Diepsloot and Alexandra. Only two fields are available for the young teams to play and only on

Saturday mornings, as the other members of the community occupy the gravel pitches on Saturday afternoons and Sundays.



fig 59 a. 'The players': under 14 netball team



fig 59 b. 'The players': under 19 striker holding boot



fig 59 c. Coach looking on.

## The 'Games'

For 24% of an estimated 180 000 residents, the 'game' is self employment. This ranges from brick making, metal and plastic

recycling, entrepreneurship etc. Some of the other more fortunate residents work as domestic workers (women) and builders (men)

in nearby developing communities.



fig 60 a. 'The game': brickmakers



fig 60 b. 'The game': entrepreneurship.



fig 60 c. 'The game': entrepreneurship. sweets.



fig 60. Entrance.

## URBAN FRAMEWORK DESIGN

### Introduction

The most challenging aspect of township architecture, especially on a green field site, is the absence of permanent built form and structure. Existing built structure provides the architect with constraints and opportunities to respond to and essentially give form to the architecture.

Olievenhoutbosch started to develop in 1996 and given its adolescent state, the township has very few places of heritage value. This deprives the architect of the opportunity to respond to the past.

This emphasises the importance of the framework design. The framework allows the architect to respond to something that will eventually influence everyone. It creates the platform to design buildings that evaluate the present condition and respond to the future.

A public building possesses the inherent potential to become a node in a network of future developments and thus becomes the stimulus in the process of creating a new urban condition.



<sup>1</sup> A process by which molecules of a solvent tend to pass through a semipermeable membrane from a less concentrated solution into a more concentrated one, thus equalizing the concentrations on each side of the membrane.



fig 61 a. Framework.

### Osmosis

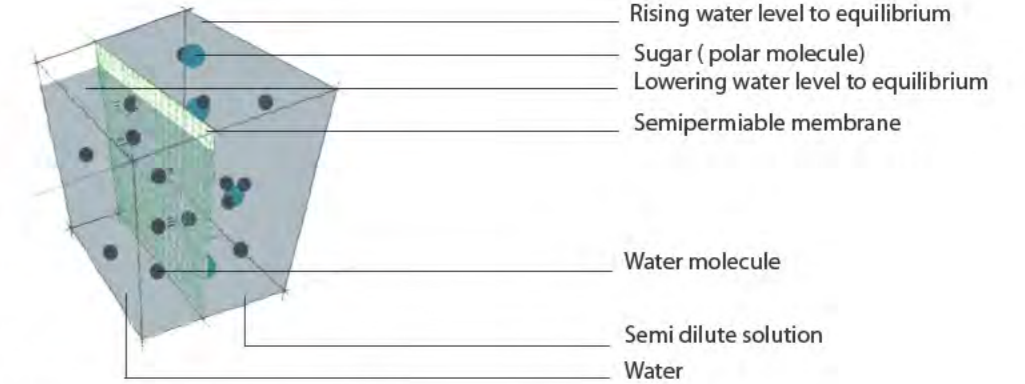


fig 61 b. Osmosis across a membrane

The concept of the framework (osmosis) developed as a response toward a stale community that is divided by a series of 'membranes'.

These membranes range from physical objects of separation to cultural divides. The framework attempts to establish a flow that will cause the water molecules

(the people) to become active and interact across boundaries.

The trigger to this reaction is the introduction of a polar molecule (certain key nodes) that will initiate the movement of the water molecules, until the solution becomes 'isotonic'<sup>2</sup>

<sup>2</sup> When water concentration is in equilibrium on both sides of a membrane. This instance refers to the interaction of different community members across boundaries.

- [a] : agriculture
- [c.c] : community center
- [c.s.c] : community service center
- [s] : schools
- [p] : parks
- [t] : transport
- [b.s] : bus stops
- [s.g] : sports grounds
- [r.d] : retention dam
- [com1] : informal trade
- [com2] : semi formal trade
- [corp] : corporate



fig 61 c. Framework

**Transport:** **Currently:** Public transport is the major mode of transport in the area. These are served by two taxi ranks focusing on transport to Centurion, Midrand and Sandton. Busses were brought in to serve the Tshwane area after taxi violence caused disruptions in the area. **Intention:** The bus depot to the North is to be formalised and would assist in creating the community node in that area. It is proposed that the existing taxi ranks should be upgraded with formalised waiting areas and ablution facilities.

**Roads:** **Currently:** Not many of the roads in the central and southern areas are tarred. There are two ring roads in the area, one in the northern section and the other around the central. **Intention:** A ring road is proposed to connect all three areas. Bus stops are allocated along this road close to the schools and other points to facilitate easy access.

**Schools:** **Currently:** There are seven public schools in the area, of which two are secondary schools and a private school for the foundation phase. Only two of the schools have a permanent structure with sport facilities. The others schools are temporary structures constructed within the past two years. There are currently no schools in the North. **Intention:** A primary school and a school for music and art are proposed in the Northern section. The existing temporary structures would need to be upgraded and additional facilities, including sports grounds provided.

**Sports grounds:** **Currently:** Apart from some of the schools, the sports grounds are created by the community due to the need, on dusty open fields and are inadequate to provide for the entire community. Soccer and netball are the main sports catered for. **Intention:** A center that would cater for competitive sports and training is proposed in the central area, near to the existing stream. Existing sports grounds in the North, and new satellite sport grounds in the South will support this new center.

**Streams:** **Currently:** There is a river running through the area from West to East, which ultimately joins the Rietspruit River. There is pedestrian movement along the river. Most of the river is contained in a concrete canal, which creates yet another barrier. **Intention:** It is intended to establish a pedestrian link between the East and West of the area using the river and adjacent green space. This green belt will double as an educational route and recreational park. The concrete channel is to be removed so that nature can reclaim its space as well as to allow for social activities along its banks.

**Retention dam:** **Currently:** On the eastern side where two streams meet the area is unused and inaccessible. **Intention:** Creating a dam at the intersection of the streams would create a recreation area that would be an appropriate termination of the east west activity axis. The water could be used for community gardening and the irrigation of sport fields.

**Power lines:** **Currently:** the power lines divide the community of Olivenhoutbosch into three different zones. When looking at the definition of Osmosis, the power line servitudes are the physical membranes through which a "fluid" (people and their identity) should move to create equilibrium within the community. The servitudes are currently vast open space with no character or function. **Intention:** to use the ground under the power lines for community farming. Where the servitudes were once a place of segregation, it is now a place of community interaction and self-sustainability.

**Community node:** **Currently:** the single existing community center struggles to sustain the continuous pressure from the community. This entails a single clinic with no permanently employed doctors, a small pharmacy, a library, a community hall and ablution facilities. **Intention:** to create a secondary community node that will alleviate the pressure of the existing community center. Ultimately a pedestrian spine that incorporates park space and trade will connect these two community nodes.

**Community service centre:** **Currently:** The business district, otherwise known as 'Marabastad' creates an activity spine. This entails activities such as retail, car washes, metal recycling and other activities that contribute to the gross income of the community. **Intention:** To establish this spine as the community service center that forms the third and most southern community node. Accordingly, this activity spine will be strengthened as it is connected with the existing community center.

**Parks:** **Currently:** The parks within the township are currently used by many residents but in a state of decay. Parks are liminal spaces that form routes between destinations. Some parks pose potential safety hazards in terms of crime and natural hazards. The river that runs through some parks has been canalized which resulted in an increase in the velocity of water in flash floods. **Intention:** the park spaces should be rehabilitated and linked together as far as possible, to form a continuous green strip.

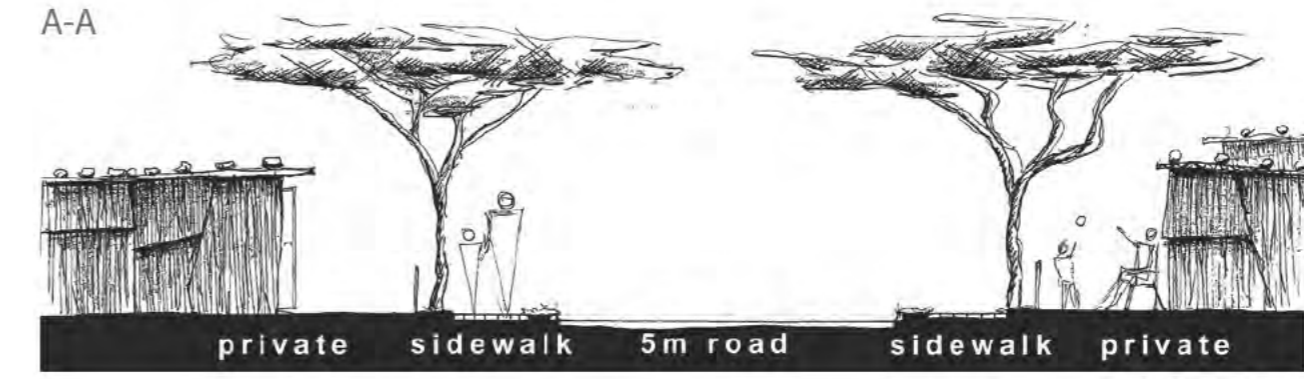


fig 62 a. Section A-A



fig 62 b. Section B-B

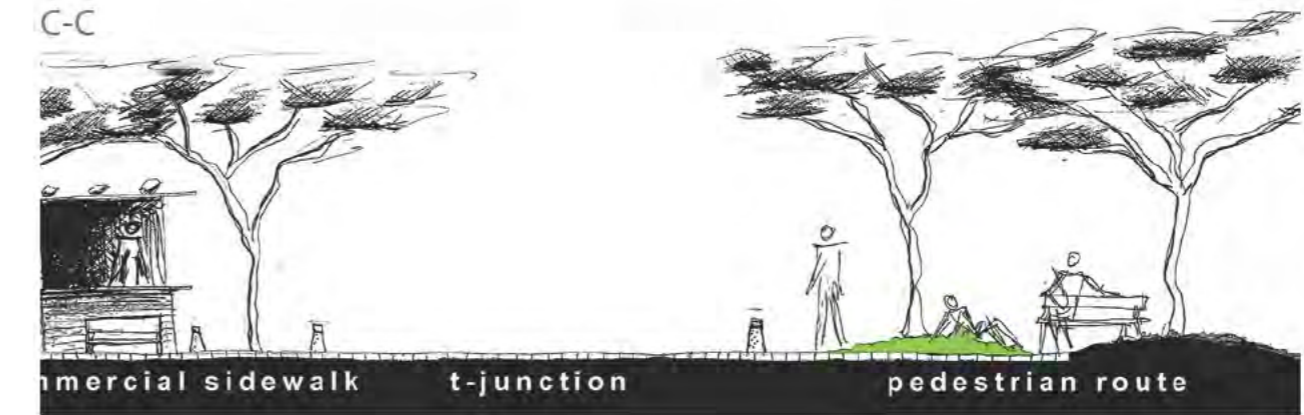
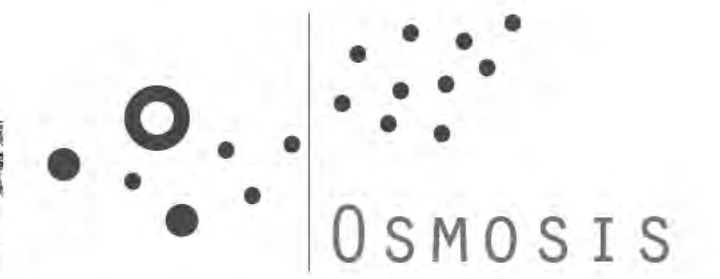


fig 62 c. Section C-C



Sections

The selected sections illustrate the proposed framework design through the new ring road and proposed pedestrian spine that links the two main community nodes. Traffic velocity is controlled by regular stops and surface change. The pedestrian spine is combined with landscape design to make a cool shaded park space where people can walk and children can play. This park space is accompanied by some semi-formal retail space that provides passive surveillance and safety. The sections also communicate the desired identity and scale.

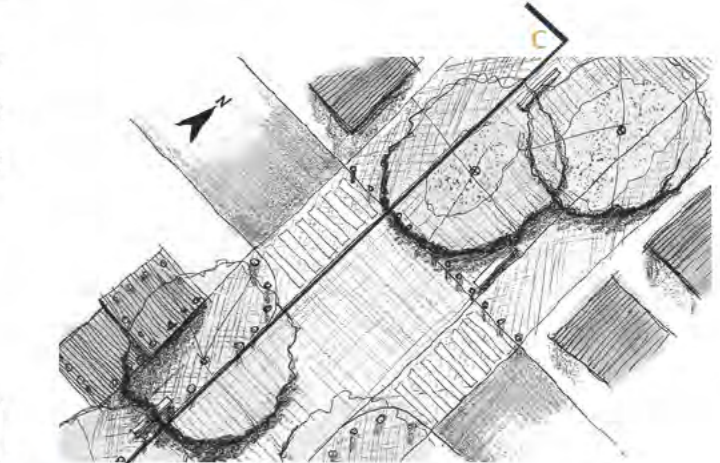


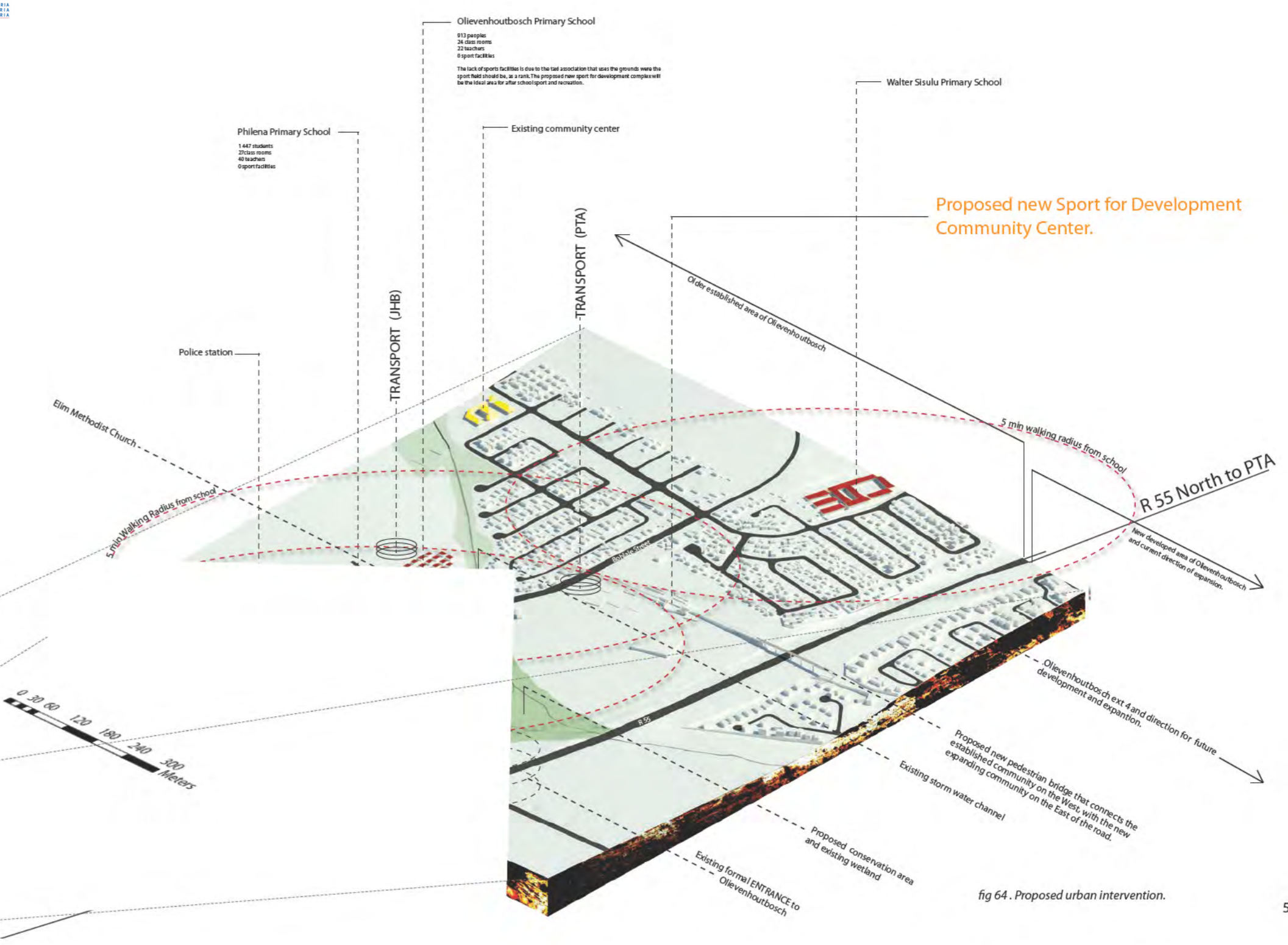
fig 62 d. Plan.



fig 63 a. Proposed Land use Framework (Osmosis Group)

fig 63 b. Proposed Master Plan (Osmosis Group)

fig 63 c. Proposed Spatial Framework (Osmosis Group)



Proposed new Sport for Development Community Center.

fig 64. Proposed urban intervention.