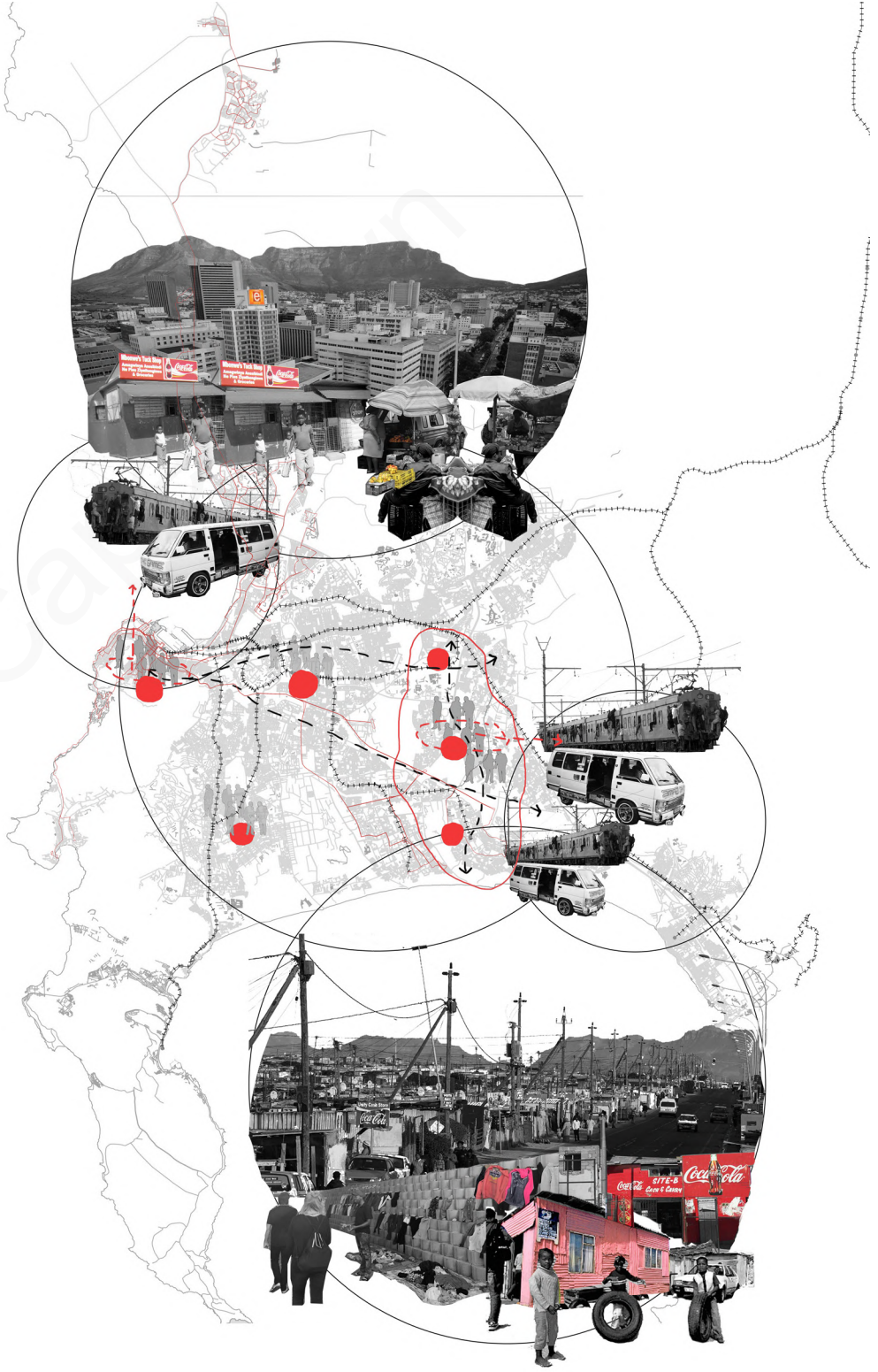
BRIDGING THE DIVIDE

INTEGRATING THE METRO SOUTH EAST TO THE REST OF THE CITY THROUGH DESIGN



by **Charne Walker**
WLKCHA006
Supervisor: Dr. Kathryn Ewing

Submitted in Partial Fulfilment of **Master of Urban Design Degree**
November 2019

BRIDGING THE DIVIDE

INTEGRATING THE METRO SOUTH EAST TO THE REST OF THE CITY THROUGH DESIGN

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by Charne Walker

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Research Project submitted in Partial Fulfilment of the degree of *Master of Urban Design*
(60 Credits)

In the School of Architecture, Planning and Geomatics
University of Cape Town, October 2019

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APPLICANT'S DETAILS		
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If Student	Your Degree: e.g., MSc, PhD, etc.	Bachelor of Urban Design
	Credit Value of Research e.g. 90/120/180/360 etc.	60/~~120~~
	Name of Supervisor (if applicable):	Dr. Kathryn Exley
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Many thanks to my supervisor, Dr. Kathryn Ewing for your unwavering guidance and support throughout my Master year, thank you for your influence, critique and guidance. Thanks to the studio staff, Ashleigh Brander-Florence and Khalied Jacobs for your guidance and support throughout the course of my Research Project and aiding in the development of my Project.

Thank you to my parents, Mark and Antoinette Walker for all of you support and guidance, not only for the duration of this degree, but for the duration of my entire tertiary education. Words cannot reinterate how thankful and blessed I am for everything.I am eternally grateful.
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GLOSSARY

DEFINITIONS AND ACRONYMS

Activity Route	Refers to a road or street with a high rate of footfall and mixed land use
BioNet	Biodiveristy Network
BRT	Bus Rapid Transport
BIDZ	Blue Downs Intergrative Zone
CBD	Central Business District
CITP	Comprehensive Intergrative Transport Plan
city	This referes to Cape Town as a city
CoCT/City	City of Cape Town municipality
CPUT	Cape Peninsula University of Technology
HUB	An urban node with an arrange of activity
IDP	Integrative Development Plan
MSDF	Municipal Spatial Development Framework
NODE	A point of intensification of activity and land use
PHA	Phillipi Horticultural Area
PTI	Public Transport Interchange
PRASA	Passenger Rail Agency of South Africa
RDP	Reconstruction and Development Programme
SDF	Spatial Development Framework
SUDS	Sustainable Urban Drainage Systems
TOD	Transport Orientated Development
IPTN	Integrative Pedestrian Transport Network
UN	United Nations
UWC	University of the Western Cape
ECD	Early Childhood Development
TVET	Technical and Vocational Education and Training
MSE	Metro South East
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EXECUTIVE SUMMARY

Cape Towns current spatial construct still reflects the apartheid and modernist city planning regime. The result of this can be seen in the fragmented urban and social fabric of the city today. The apartheid planning regime had created a city of boundaries which was divisive and psychotic (Mbembe, 2008). The main objective of both apartheid and modernist spatial planning ordeals were to divide the city and restrict access and the freedom of movement based on race. It was a racial city (Mbembe, 2008). The act of place-making translated into race-making (Tayob, 2019) The marginalised population had been restricted access in all forms, physical, spatial and social. Access to economic opportunity, civic and recreational facilities, educational facilities land, and sufficient infrastructure had been restricted, and at times, dimished.

Through the use of harsh infrastructure, such as railway lines and higher order roads (highways and freeways) certain portions of the population and the city were segregated and enclosed. This was a dominant determinant of of the present fragmented urban and social form. Decades after the abolishment of apartheid, very few advances have been made to systematically challenge the way the city's constructed and knit the city back together (Grutman & Patel, 2016). Cape Town still faces a huge disparity when it comes to social and economic inclusion. The marginalised urban poor still live on the periphery of the city having to travel great distances to access opportunity. Majority of economic opportunity sits within the CBD and large portion of Cape Town's population reside within the Meto South East. A large amount of movement happens towards to the CBD from the South East on a daily basis, resulting in traffic congestion and a large strain on the already limited public transport system. The formation of the current city alludes to very unequal, unjust and inaccessible city.

This research project investgates the notion of 'Bridging the divide'. It explores ways in which we can spatially integrate the South East Metro to the rest of the city through spatial frameworks and design interventions at the sub-metro and precinct scale. One that allows integration across harsh infrastructural barriers in order to create a more socially and economically inclusive urban environment This allows for the creation of a spatial design model that can be implemented across the city, alluding to a polycentric model concept. This research explores theories from Susans Fainsteins '*Just City*' (2011), David Harveys '*The Right to the City*' (2004), David Crane's '*Capital Web*' (1960) and Nabeel Hamdi's '*Small Change*' (2004). Through the application of these theories, this reseach project adapts spatial concepts from each and applies them into its concept and design strategies. These theories promote the idea and vision of a just and equitable city which my narrative and aims alludes to.

The aim of this research project is to create viable linkages across harsh infrastructural divides and connect the present urban fragmentation through a spatial design framework. In order to integrate the marginalised Metro South East, I look upon Hamdi (2004) and his theory on incrementality. Providing an interconnected framework that allows for infill from the every day life. Through these small changes and an adequate framework it can allow for access to the rest of the city through the idea of horizontality, networking and linkages. Through the creation of permeable networks and linkages, the city thus becomes inclusive and just, tapping on the theory from Fainstein (2011) and Harvey (2004) which will be further explored within this research project, and more specifically, this document.

These linkages, spatial frameworks and design guidelines will connect adjacent suburbs across harsh infrastructural divides that will allow for the freedom of movement and equitable access. These principles and strategies will draw people into the MSE, towards these unique nodes. These linkages will consist of educational linkages, ecological linkages, recreational and civic linkages and movement / access linkages. The spatial model which consists of these linkages will create self sufficent nodes which work around the train stations throughout the city. These stations allow for that critical point of integration across the rail. This allows for the distribution of functions from the CBD to the rest of the city. Less of a skewed, monocentric economic hub, to a more polycentric city form. These nodes will be unique and self-functioning and will host various economic, educational, recreational, residtential and economic opportunity.

To implement this spatial design strategy and model this design research works around the implementation of the Blue Downs Rail by using the new Rail and proposed train stations as a point of intergration and intervention. to "Bridge the divide" in a literal and theoretical sense. The study area is focused in Blue Downs, an area lacking integration and nodal activity. This design research devises a spatial development framework that will guide and inform the urban design rationale the precinct scale. This design research project then translates and tests the design strategies at the precinct scale further testing the notion of "Bridging the Divide" through the physical creation of social. educational, ecological and urban linkages.


(Johnny Miller, 2014)

1. INTRODUTION & PROBLEM STATEMENT

Introducing the narrative. Project aims, objectives, visions, design principles and methodology going forward

1. INTRODUTION & PROBLEM STATEMENT

1.1 History and problems of Cape Towns spatial planning:

Contemporary African cities are incredibly inaccessible, unjust and unequal and Cape Town is no different. The citys' fragmented urban and social fabric and current spatial segregation had stemmed from its apartheid spatial planning and modernist planning regime. The apartheid planning regime had created a city of boundaries. A city which was divisive and psychotic in its production and place-making (Mbembe, 2008). The act of place-making in the city was determined upon race, which resulted into a race-making form of place-making (Tayob, 2019). Cape Town was unapologetic apartheid city. It divided power and capital among the elite white population which resulted in the concept of a dual city, with the marginalised blacks accessing very little within the city. The dual city was a spatial model which allowed access to those who held power within the city. On one end of the spatial spectrum there had been a 'white colonial centre' of the city. Further out into the city, in both cases studies, were the 'native locations' (see figure 1 and 2). Towards the periphery of the city the colour of their skin got darker and the provision of infrastructure, services and resources became few and far between (Mbembe, 2008). Those who lived on the edge of the city were marginalised based on the maldistribution of power, land and resources. On each end of the spatial spectrum it had been inhabited by a racial group. The physical space in between these races and places was a very harsh and rigid place (Mbembe 2008). A space that physically allowed for no access. This thus translated into a complete fragmented urban form

"*Under the apartheid calculus, territorial fragmentation meant to determine separate freedoms and separate citizenships depending on whether one was black or white and, above all, to express ethnoracial forms of sovereignty*" (Mbembe, 2008; 50).

The main objective of the apartheid planning regime was to divide certain portions of the population through the restriction of access and freedom of movement. The marginalised population had been restricted access in all forms, physical and social. Access to economic opportunity, civic and recreational facilities, educational facilities land, and sufficient infrastructure had been restricted, and at times, dimished. Apartheid planning had used harsh infrastructural divides such as railway lines and higher order roads (highways) to segregate and enclose areas within the city. Harsh infrastructure was seen as a dominant determinant of the fragmented urban and social form which is still evident. The

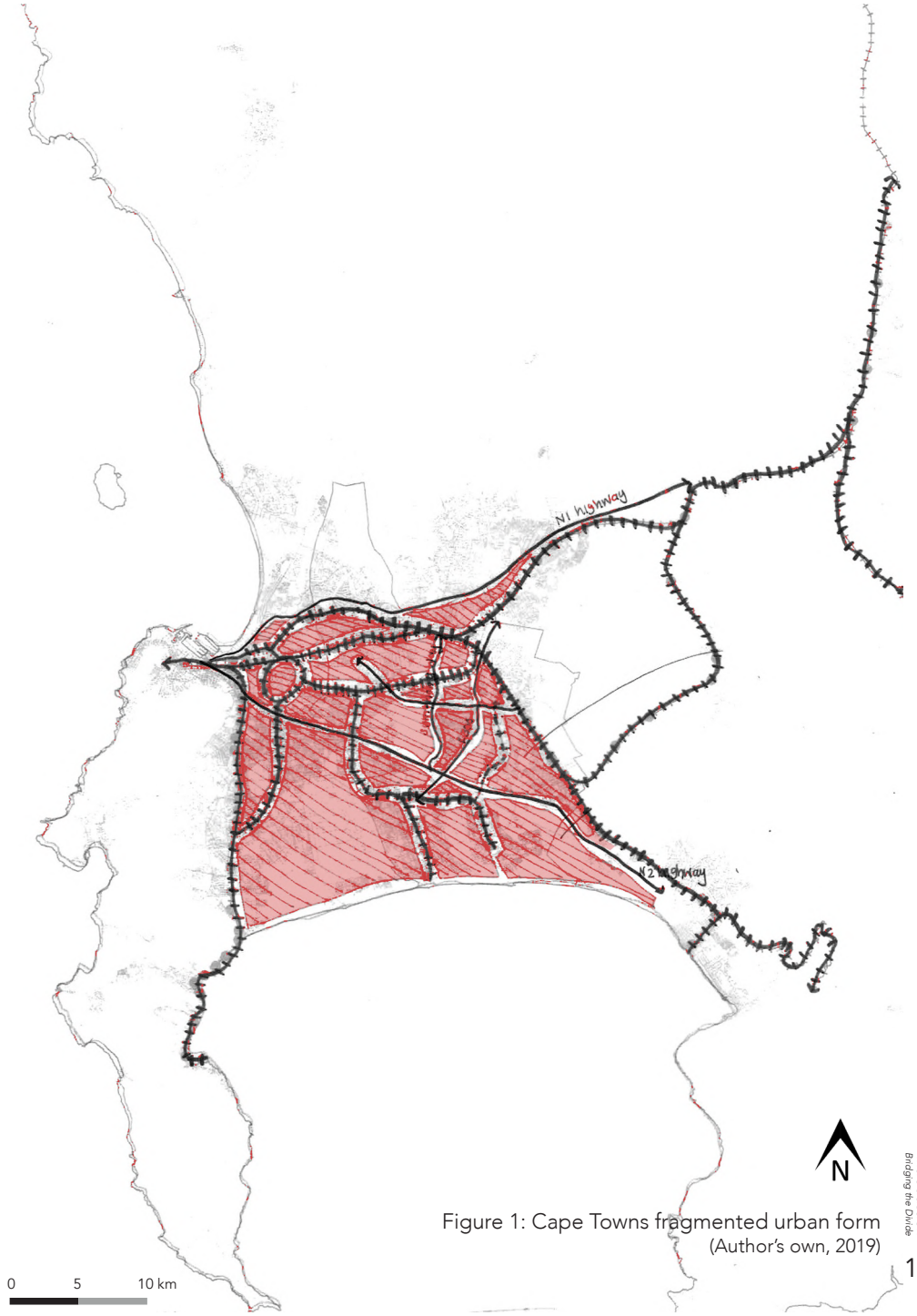


Figure 1: Cape Towns fragmented urban form
(Author's own, 2019)

objective of this form of place-making were to control access and movement which led to an incredibly unequal and unjust spatial environment.

1.2 Current spatial issues:

The city's segregational pre-colonial city construct and apartheid planning still lingers in the spatial construct of the city today. Cape Town still faces a huge disparity when it comes to social and economic inclsuion. Decades after the abolishment of Apartheid, very little advancements have been made to systematically transform the spatial issues which have been created. Harsh infrastructural divides still restrict the freedom of movement and accessibility throughout the city. The fragmented urban form also lacks spatial linkages and connectivity for the pedestrian. Majority of the economic opportunity still lies within the CBD and areas surrounding the CBD (see figure 2). The city still deems its 'colonial centre' as the main business district. This created an incredibly skewed, monocentric city model which reserves access to the minority. It still functions as an elite space, as land prices within the city centre are so inaccessible to the majority of the city's residents.

Majority of the land use within the metro south east is residential with the majority of Cape Town's population residing within. This part of the city lacks forms of economic opportunity within. The marginalised, urban poor still live on the periphery of the city having to travel great distances to access opportunity. A large amount of movement happens towards the CBD from the South East on a daily basis, resulting in traffic congestion and a large strain on the already limited public transport system. The formation of the current city alludes to very unequal, unjust and inaccessible city.

Just as the apartheid planning had constructed the city based on race, the current spatial construct is based on wealth. This is a determinant as to who gets access to the city; its land, resources and services. Insensitive and inequitable environments are the results of these private developments planned for the minority. This form of place-making has repeated the notion of the suppressed past through spatially segregating the city based on income. Its an undisputable mimic of the racial and cultural spatial divide. These private devlopments develop issues of sprawl and the depletion of valuable vacant land which in most cases deplete valuable natural resources. They city lacks dense urban envrionments which can contribute to a compact city which could mitigate some of the issue the city currently possesses.

Figure 2: Spatialising areas of opportunity and the lack thereof.
(Author's own, 2019)

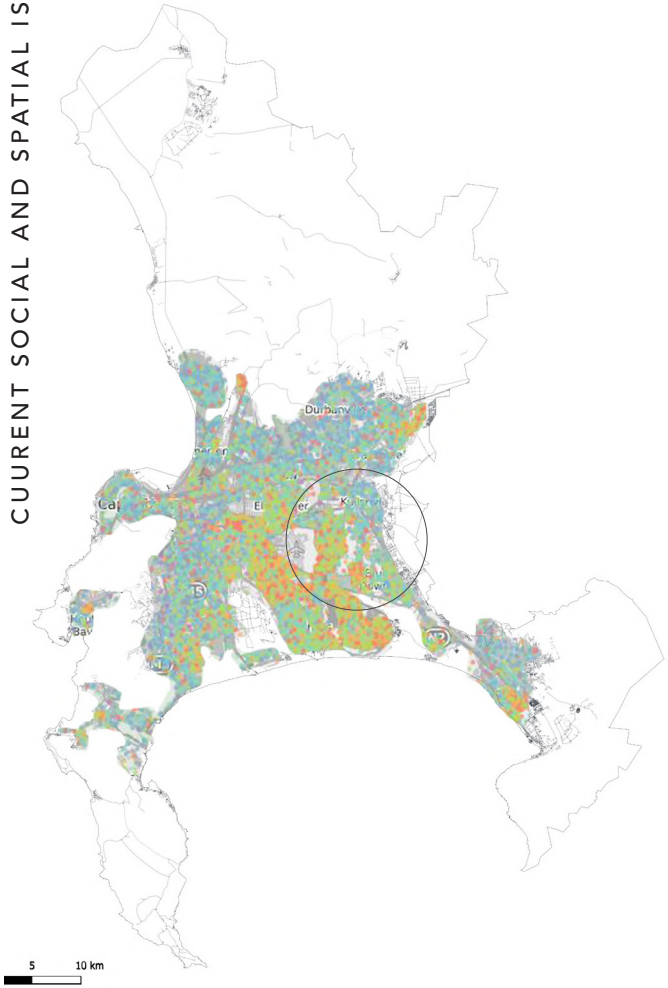


Figure 3: Map illustrating household income
(Adapted from Adrian Frith, 2019)

R0 - R4 800
R4 801 - R19 600
R19 601 - R76 400
R76 401 - R307600
R307 601 - R1 228 800
R1 229 800

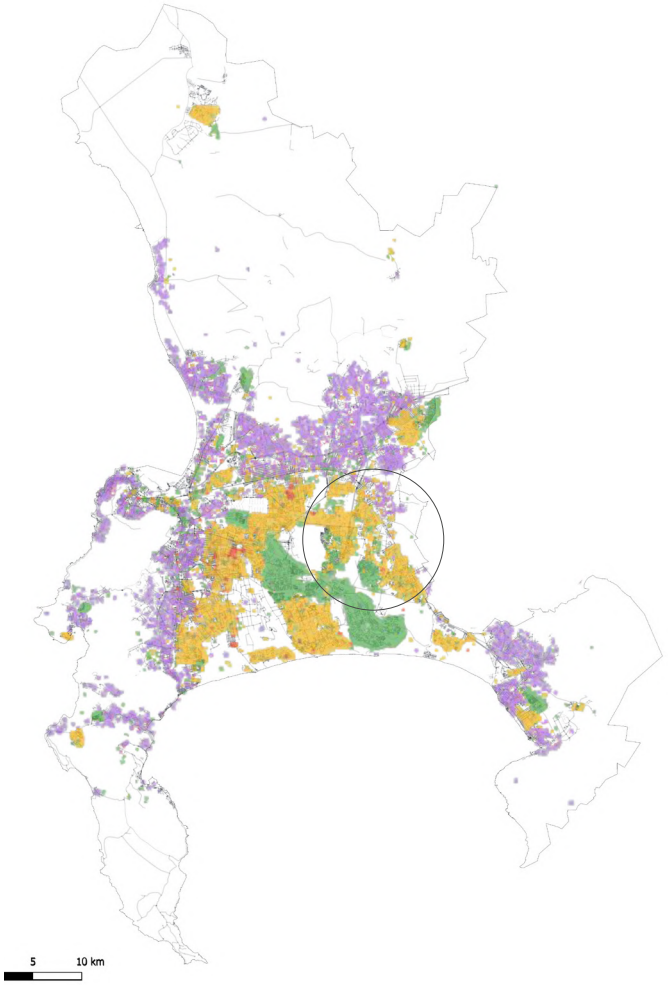


Figure 4: Map illustrating race
(Adapted from Adrian Frith,2019)

Black African
Coloured
Indian or Asian
White
Other

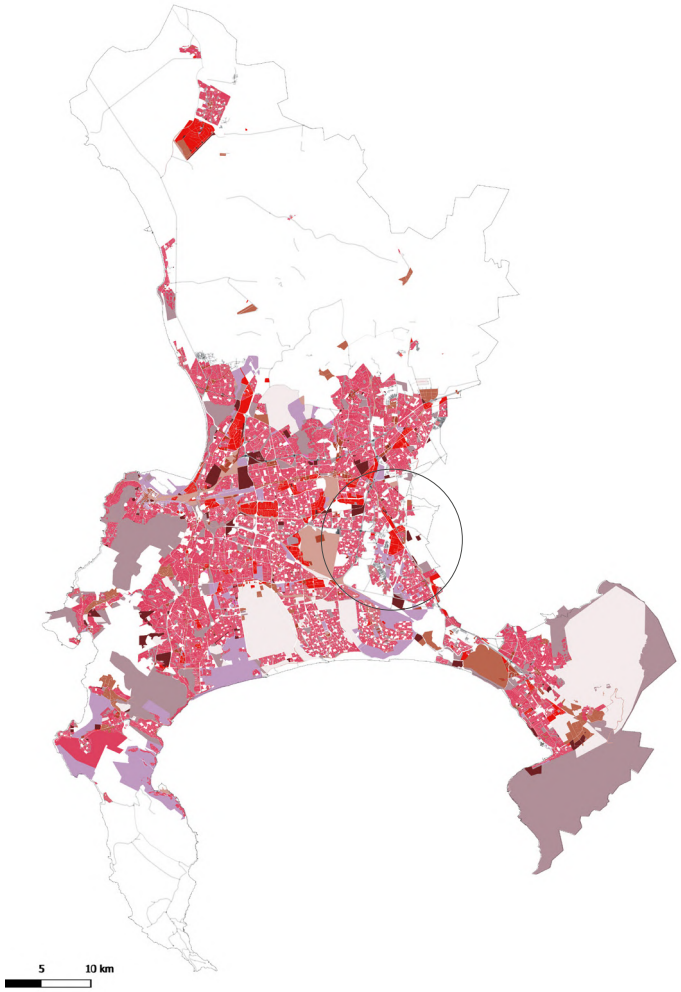


Figure 5: Land Use map
(Author's own, 2019)

General business
General residential
Open space

N

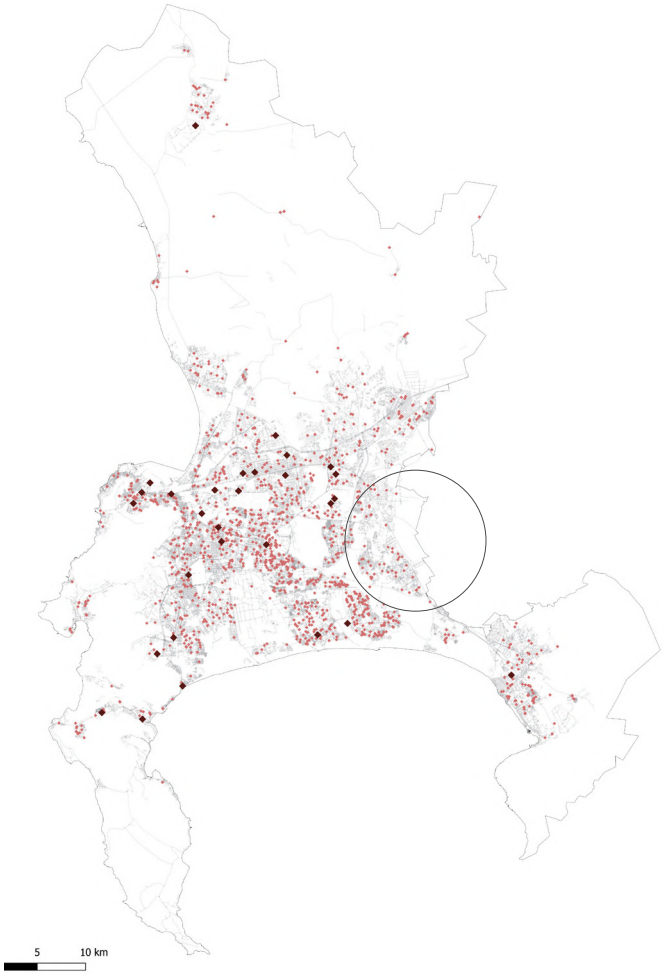


Figure 6: Map illustrating schools, Universities and TVET Colleges
(Author's own, 2019)

Schools

Univesities + TVET Colleges

Figure 7: Map of the existing rail infrastructure - it illustrates the missing loop within the public transport system in Cape Town.
(Adapted from CoCT GIS data, 2019)

Rail stations

Rail lines

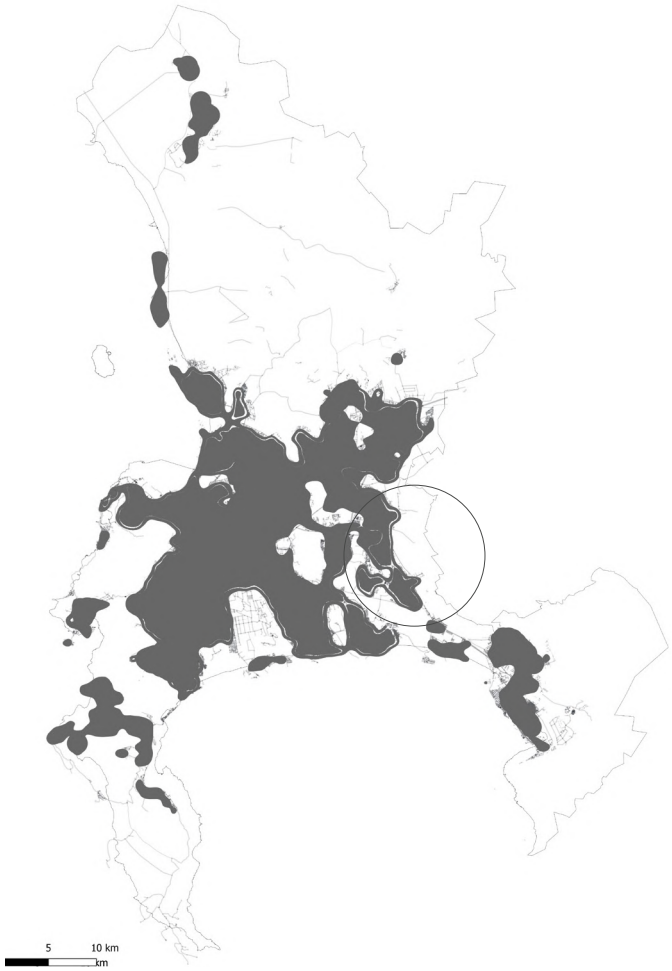


Figure 8: Map illustrating the current sprawled urban fabric
(Adapted from CTMSDF, 2019)

Urban footprint

N


(Johnny Mller, 2014)

1.3 Research aims and objectives:

The following challenges are what came out of the current spatial fabric of Cape Town. The aims and objectives are created and aimed to be implemented to mitigate these spatial challenges.that can allude to the creation of a Just City as per Fainsteins theory (2011) These begin to drive the research project going forward and allow for the creation of spatial design frameworks which leads to the precinct design further on in the project.

Challenges in which this research project attempts to address:

- fragmented urban and social fabric
- inequitable accessibility to opportunity throughout the metropole
- lack of pedestrian friendly environments and movement routes
- lack of dense urban environmnets
- lack of appropriate transport interchange designs
- lack of spatial provision for alternative forms of economic employment
- lack of access to public space
- deminishing natural environments and connectivity to urban environments
- lack of alternative educational facilities

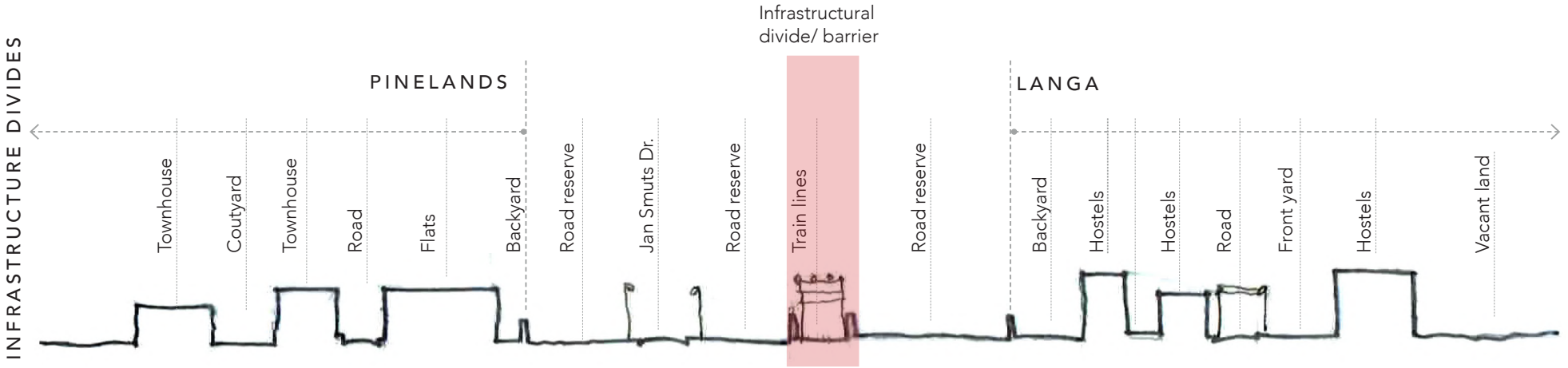


Figure 9: Example of infrastructural barrier between adjacent suburbs
(Author's own, 2019)

Aims and objectives to mitigate these challenges through this design research project:

- linking eductional and civic facilities for ease of access
- enhance strong urban structures/ structuring elements
- link and integrate ecological systems into new development
- create inclusive movement networks through the incorporation of NMT routes and publci transport routes
- creation of robust and permeable spaces
- create a network of appropriate soft and hard public places for ease of access
- densify around public transport interchanges
- creating context and socio-economic appropriate spaces

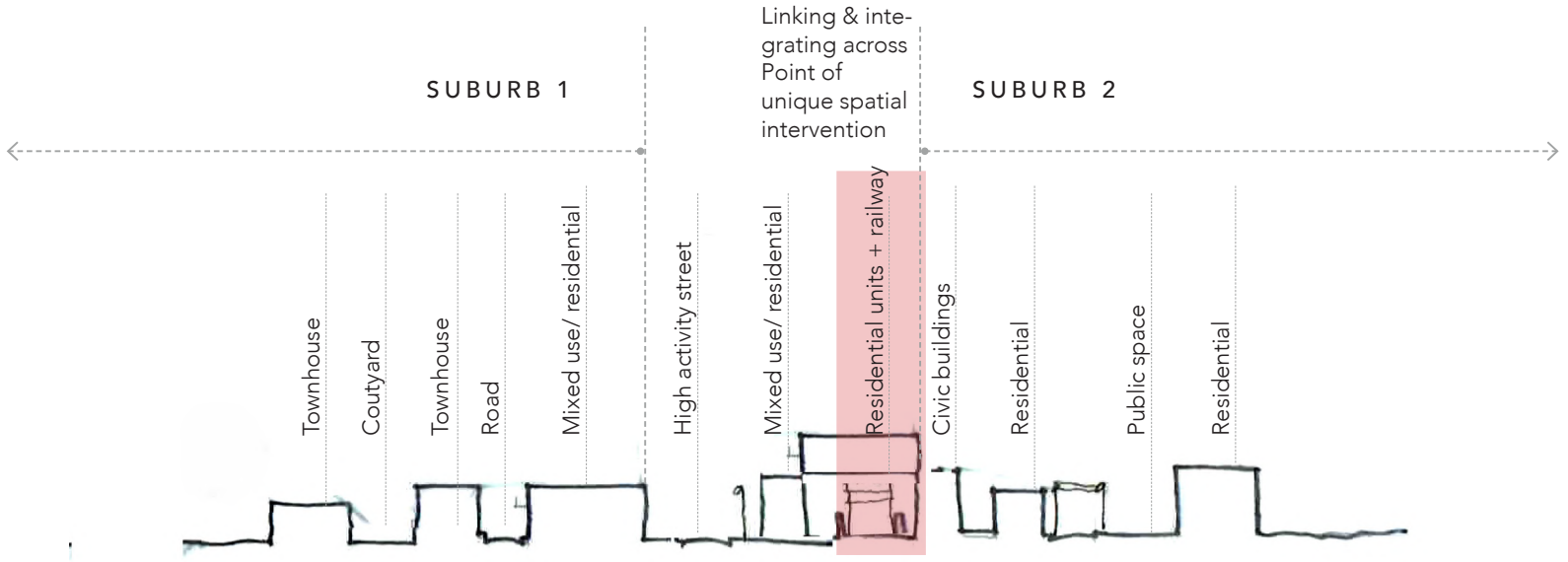


Figure 10: Creating links between suburbs - 'Bridging the divide'
(Author's own, 2019)

1.4. Research question

Through a design framework and spatial interventions, how can we spatially integrate the South East Metro?

1.5 Root of the question

Through the critical analysis and research into past and present spatial issues within the city, I had constantly been questioning the spatial advances that had been made post-apartheid to combat its spatial segregation. Why was it that decades after the abolishment of this notion of the dual city, the marginalised were still denied or restricted to access to the city and its opportunities. Why was it that adjacent suburbs were still divded through harsh infrastructure and social fabrics and why majority of th economic opportunity were still situated in one area of the city. Cape Town had lacked urban and social connections that had drawn people to the south eastern end of the city as most of its unique nodes and inctions had been situtated towards the west of the city.

As a future urban designer my foremost career intention is to create inclusive, just and accessible urban and social environments. These environments translate into the freedom of movement throughout the city through the use of pedestrianisation and well functioning public transport which thus translates into equitable access to opportunities. Access to land, resources, economic opportunity, educational facilities, recreational and civic facilities and affordable housing.

This research aims and focuses on finding and creating viable linkages from a location within the MSE to integrate across harsh infrastructural divides that begins to connect the present urban fragmentation. In order to integrate the marginalised Metro South East from the metro, city scale right down to a precinct design, I look upon Hamdi (2004) and his theory on incrementality to support these design decisions. This research aims to provide an interconnected framework that allows for infill from the every day life. Through these small changes and an adequate framework it can allow for access to the rest of the city - the idea of horizontality and networking arises. This research will stem off the proposed Blue Downs railway line and train stations as it acts as an important point of departure. The precinct node will be situated within Blue Downs, within the South East Metro Through the creation of permeable networks and linkages, the city thus becomes inclusive and just, tapping on the theory from Fainstein (2011) and Harvey (2004) and draw people to occupy the MSE.

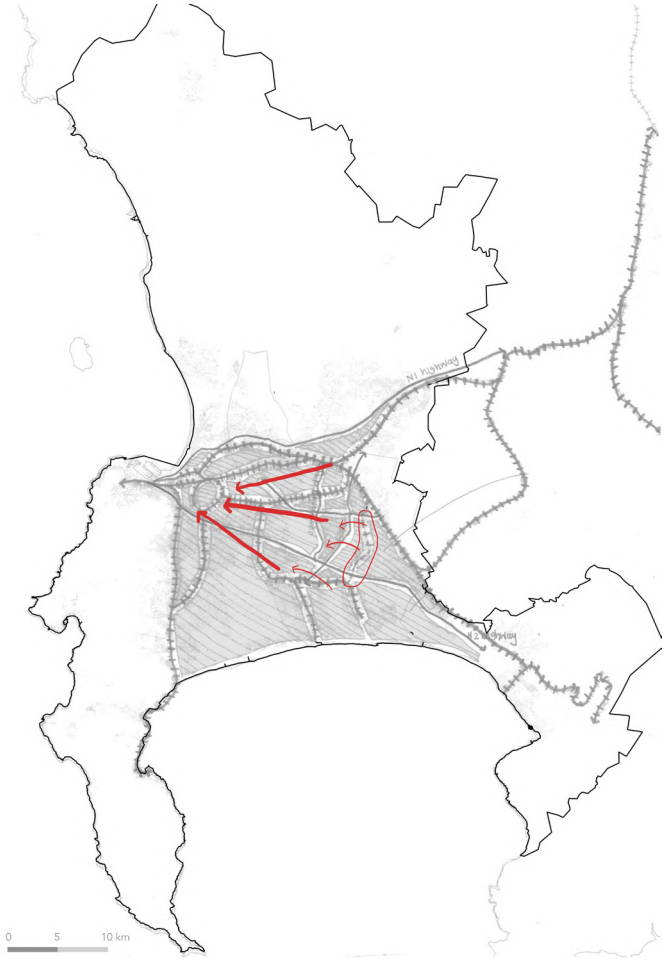


Figure 11 Diagram indicating how the study area shoud be included into the rest of the city
(Author's own, 2019)

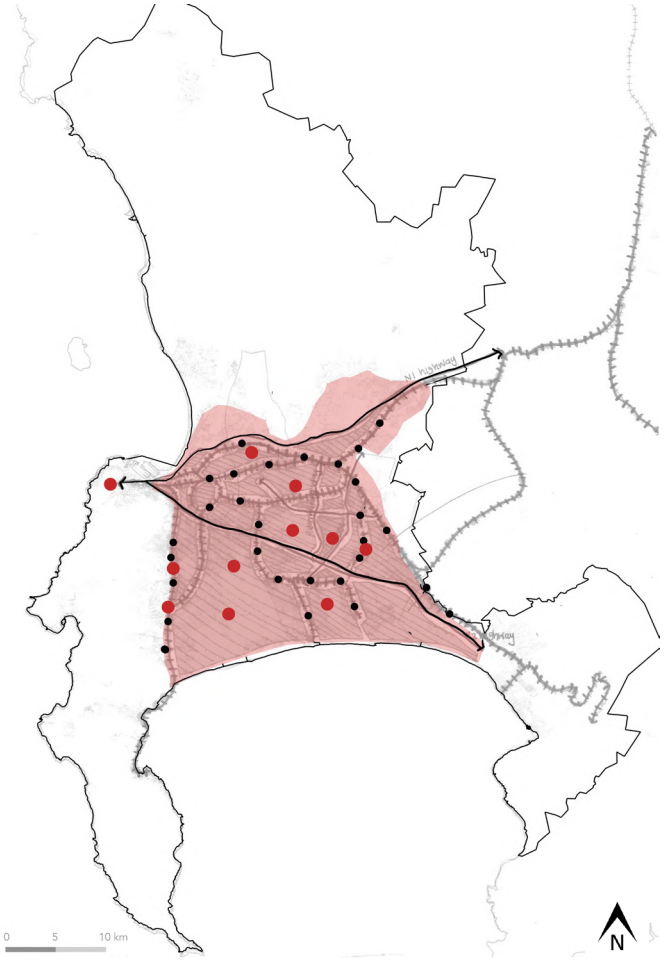


Figure 12: Map indicating how the creation of these new unique nodes could be used as a model throughout the city and create a polycentric city model
(Author's own, 2019)

1.6 Relevance and nature of the topic

In a post apartheid city, one should plan for an inclusive, accessible and just city because of the harsh divides and segrgation that once ruled the city. The city still struggles with issues of unemployment, deepened poverty, inaccessible educational facilities and programmes and context appropriate urban interventions. The city needs viable spatial strategies and frameworks that will allow for inclusivity and the freedom of choice. These spatial strategies and frameworks can inform and promote new inclusive and context appropriate urban intrventions.

This design research project will allow and the support the creation of a spatial framework/ model that could be implemented throughout the entire city in order to mitigate the spatial segregation. This will allow for the creation of linkages and networks stemming from a node. These nodes could be distributed throughout the city - alluding to a variance in opportunity thoughout the metropole. This will tanslate into a polycentric city model

The physical design of the site chosen, the area around the Blue Downs proposed railway station has the potential of being a catalyst to this spatial framework. It has the potential to spark appropriate urban intervention that will allow for the stitching of the current spatial, social and ecological fragmented faric of the city. The creation of this valuable urban space will thus allow for an interconnected city through the creation of pedestrianised movement and the use of public transport networks. These routes and linkages will allow for the freedom of movement throughout the city for all communities without relying on private motorised vehicles. These will not only be movement linkages but linkages to education, recreational facilities and public spaces.

This research will identify spatial and social strategies which will allow this precinct to be self-sustaining and productive. It will allow for small scale development while combating the notion of 'Bridging the divide' at the city scale. This research has the potential to question current spatial frameworks and create a dialogue in order to suggest alternative models and forms of connections that tackle current spatial issues within the city.

It places the priority on the marginalised urban poor and how to mitigate their spatial and social challenges within the city based on their concerns and challenges. It will allow for the creation of spatial strategies that community can relate through giving them an identity. An identity which they had lost through the aparttheid era.

Figure 13: Study area within the Metro South Eastt (Author's own, 2019)

1.7 Vision for the city

"Build a bus stop in an urban slum and a vibrant community sprouts and grows around it - that is the power of small changes that have huge positive effects" (Hamdi, 2004)

This research project reflects my morals and values as a future urban designer. The intention of this resarch is to create positive, happy and inclusive urban environments. It aims to guide and plan for **sustainable urban spaces** and **connectivity** thoughout the city through the creation of a conceptual spatial framework, spatial strategies and design interventions. This will allow for the spatial and social integration of the metro south east to the rest of the city allowing for the bridging of the urban divide which had been created through moderist and apartheid spatial planning.

The aim is to explore theories which supports the argument of inclusivity and accessibility. This research will aim to mitigate these challenges through applying these theories in the metro south east and then down to a chosen precinct site. Through the application of these theories, this will then help me devise a conceptual spatial development framewor at the sub-metro scale and then down to an urban design framework at the precinct scale.

The theories selected (which will be explained in the following chapter) support my aims and objectives for the city. Although one may want to correct all spatial issues within the city, however, **strategic frameworks and interventions can create big, valuable change which could potentially mitigate some of the current spatial issues.** These urban interventios and spatial frameworks can then spark new urban interventions in other parts of the marginalised areas within the city. Through these interventions, a slow but steady, positive change can happen within Cape Town.

Hamdi (2004) supports the notion of how important small changes within the city can promote big positive changes which could mitigate some of the issue which stands within Cape Town today. "Build a bus stop in an urban slum and a vibrant community sprouts and grows around it - that is the power of small changes that have huge positive effects" (Hamdi, 2004)

The aim of this research project is to create a spatial framework which is context appropriate, gives an identity to the MSE, links it across infrastructural and social divides and creates promising, inclusive urban environments.

Figure 14: Spatial relation of the study area and its lack of integration. (Author's own, 2019)

1.8 Design principles

These design principles have been derived from the understanding of the current spatial issues and the design project going forward. These principles are brought in upfront to establish my values and ethics. These principles will be the foundation of what I want to achieve within my research project. They have been derived from the theoretical framework and critical spatial contextual analysis of the city.

These derieved principles have been put forth in order to enhance the aims and objectives put forth within the project. The principles, along with the project aims and objectives

1. Choice

2. Diversity

3. Permeability

4. Accessibility

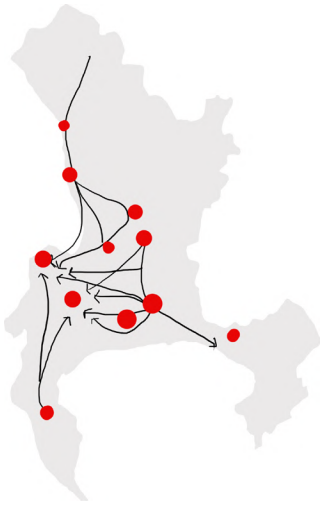


Figure 15: **Choice**
The freedom of choice allows for a just urban and social environment within the city. Allow citizen to decide where to live , work and move within the city. This will be promoted through adequate public transport systems and adeqaute provision of pedestrian movement networks.

Figure 16: **Permeability**
Permeable spaces allude to spaces that are interconnected to the city. This allows for an ease of movement throughout the city by means of pedestrianisation and public transport networks. It allows for less of a fragmented city through stitching the urban fabric together.

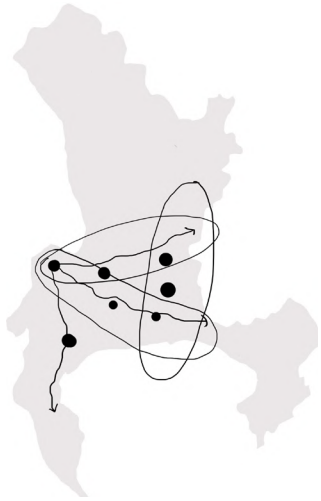


Figure 17: **Diversity**
Create frameworks and spaces where alternative forms of economic, social and education facilities can be stimulated and created. This will allow for the deconstruction of the monocentric city form and allow access to economic an social environments throughout the city.

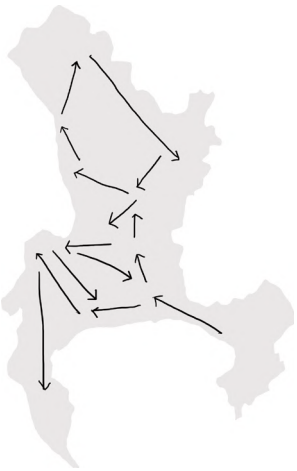


Figure 18: **Accessibility**
Equal accessibility to opporunities throughout the city. Access to economic opportuniy, educational facilities, land, resources, recreational facilities, civic facilities and adequate housing and infrastructure. Access to the city, not only spatially but socially and psychologically as well. Creatinglinkages that will allow for permeable spaces and mitigate the fragmented urban form. Connectivity can allow for the freedom of access and the freedom of choice within the city.

1.9 Methodology

Methdology for this research project going forward:

1. INTRODUCTING THE DESIGN NARRATIVE

Identifying the past and present spatial issues within the context of Cape Town and establish the area of investigation. This will translate into the **research aims, objectives, questions and the vision** for the design project.

2. THEORY & TECHNICAL REPORTS

Gathering relevant theory and extracting information from relevant **technical reports** to support your argument. Develop spatial concepts from these theories and apply them through your concept and design development.

3. CONDUCTING INTERVIEWS

Conducting interviews with relevant individuals (occupants of investigative area, city officials, practitioners). Doing **site visits and field research.**

4. CONTEXTUAL ANALYSIS

Multiscalar **investigation of the site/area** to support your argument and understand the site in order to continue with the design. Critcally analysis information that is available and how they could work in favour of your design.

5. SPATIAL DEVELOPMENT FRAMEWORK

Conceptual analysis at the sub-metro scale. Translating relevant contextual analysis into a **conceptual framework** at the sub-metro scale and leading to an u**rban design concept** at the precinct scale.

6. DESIGN DEVELOPMENT

Translating the conceptual framework and the urban design concept into a **precinct design** that reflects the theoretical framework along with the aims, objectives and urban design principles.

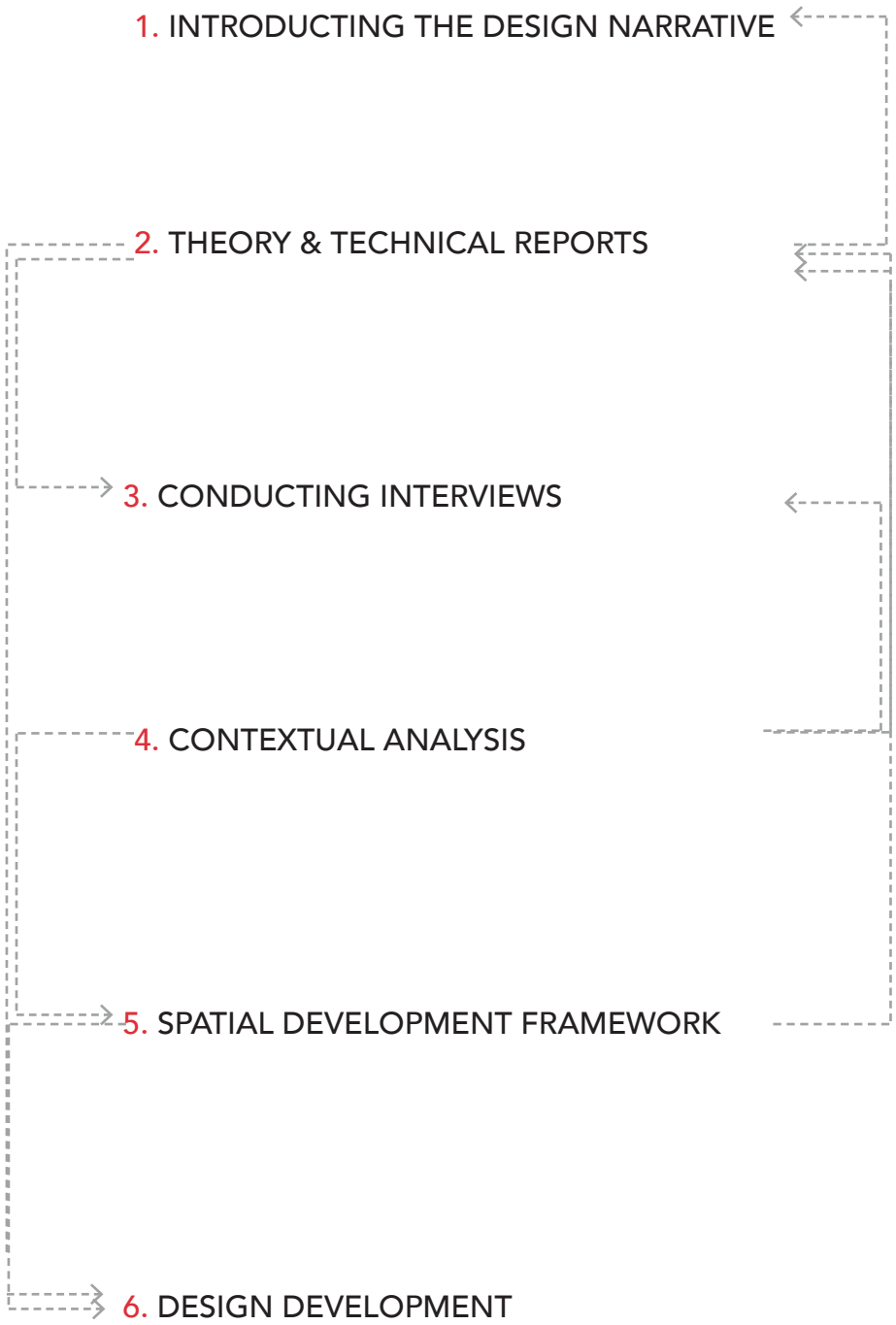
1.9 Methodology *(continued)*

With my research project and area of study, I place myself within the paradigm of the Just City concept along with the equitable planning model in the more pragmatic paradigm (S. Lenzholzer, I. Duchhart, J. Koh, 2013; 125).My philosophical and ethical opinion has based my view and opinions within this paradigm. My methodology will revolve around action research and critical theory. Critical theory in the form of dialogue but more specifically transformative dialogue (E. G., Guba & Y. S Lincoln, 1994; 25). Action research takes place within the form of public participation, a more progressive way of problem solving. I thus place myself within the subjective paradigm in which critical theory plays an crucial role within my design research project. My research methodology will lend itself to more qualitative research methods. Through the process of gathering data and then critically analysing the data which had been discovered.

The methods are as follows;
- closed structured interviews
- open ended interviews
- semi-structured interviews
- observations
- visual research
- mapping
- walking/ 'go along'

However, one of the limitations within this project was the lack of interviews, however, intensive mapping and critique of these mapping and contextual analysis had driven me to an in-depth analytical research of the area. My methodology had then lent itself to visual research, mapping and walking/ 'go along'. Through the unpacking of all of these layers it identifies key spatial issues and evaluates the constraints of the study area. Whilst critically analysing the area, there was a constant cross checking with the theories that were analysed and making sure that they correlate with one another. This was a circular process. Constantly looking back at theory while analysing and designing, puts emphasis on theory being carried through all design stages.

The design process is never linear. The process in which my design research project follows is that very much of a circular pattern. Cross checking with the spatial issues, contextual analysis, research question, right through to the conceptual design and thus through to the design, while still constantly checking whether the design has focused on the research question and relevant thory has been adressed.



2. THEORETICAL FRAMEWORK

Critical analysis of relevant theory, their theoretical spatial concepts and the application of these concepts to the research project.

2. THEORETICAL FRAMEWORK

Theory provides us with structured knowledge in order to complete and go through the process of design research. The main theories chosen and explained within this research project came out through the investigation of current spatial issues within the city, my vision for the city and how I plan on implementing spatial interventions within the city at specific points. The theories investigated in the following chapter influence my design decisions as well as provide purpose. It becomes a strong shaping tool to my design narrative.

The theories explored within the following chapter allows the argument for the just, inclusive and accessible city to be understood at all scales - city scale to precinct scale. The way the following theories are introduced allow them to explain, support and influence my narrative at all scale of the city.

The following theories explained in this chapter are as follows;
Susan Fainstein - Just City (2011)
David Harvey - The Right to the City (2004)
David Crane - Capital Web (1960)
Nabeel Hamdi - Small Change (2004)

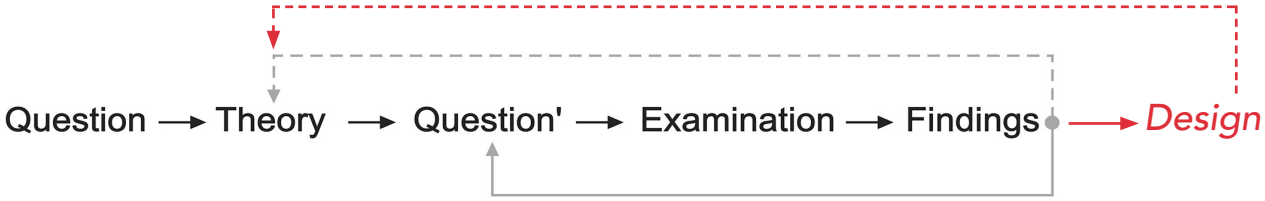


Figure 19: Process of how theory is integrated into design research
(Adapted from Beck & Stolterman, 2016)

2.1 The Just City - Susan Fainstein

The following chapter critical analyses the Just City concept.

"*Creating a city where public investment and regulation would produce equitable outcomes rather than support the wealthy*" written by Susan Fainstein in The Just City (2011)

Fainstein, a political theorist and urban planning academic, promotes the notion of the equitable planning model. A model which benefits the poor and marginalised groups of the city. She considered and revived the attention to the city as a place of privilege (Gunder et al, 2014). She tackles the notion of the segregated and unequal city through the promotion of the concept that everyone should have equal access to opportunities within the city, through the creation of social and economic inclusion. Inclusion and equitable access to the city which she has deemed as a fundamental right. Fainstein regarded public participation, decision making and collaborative planning as the starting point and the 'ultimate objective' for any urban policy and urban interventions (Fainstein, 2011). Through communicative rationality, recognition of diversity and spatial justice she assured that the city would achieve urban justice. Through her writings she believed that democracy, diversity and equity should be governing urban and spatial principle for urban justice. Fainstein had emphasised the need to focus on relations between urban space and the social construct and situation of societies within the city. She understood that space, social justice and urbanism must be in relation to one another in order to allow for inclusionary design. Fainstein believed that spatial relations reinforce spatial justice. She reinforced the notion that priority needed to be given to the disadvantaged within the city. The main objective of her theory was to emphasise the fact that low income groups within the city needed adequate and equal distribution of urban resources in order to secure a decent living and an inclusionary urban and social environment (Gunder et al, 2014).

Fainstein concludes her writings with her final recommendations which promote a new balance between market-driven and social-driven polices and urban interventions (Fainstein, 2011). This concept is extremely relevant in developing and developed countries. Cape Town was deemed an incredibly unjust and unequal city through apartheid and modernist planning regimes. It was unapologetic racial city which had garnered the notion of the dual city (Mbembe, 2008). The urban poor, which have been pushed to the periphery of the city had very little, no power or influence into the way the city was constructed or the amount of access to opportunity they had. The equity planning

Figure 20: Map illustrating how the creation of the Blue Downs node can create an inclusive and just environment
(Author's own, 2019)

model in which Fainstein promotes should be implemented in collaborative planning, new urban policies and socially driven spatial interventions. The area of focus for this design research project is the metro-south east. An area known for its exclusion an inaccessible nature within the city. The area of focus has been deemed the marginalised peripheral settlement of Cape Town.

Cape Town needs to overcome this 'centralisation' of economic opportunity. A city cannot do without the concept of spatial and social justice. There needs to be an avid quest for social and spatial change during this post-apartheid South Africa. Those who reside within the metro-south east have been deprived of equal access to resources and opportunities within the city. The just city concept will allow for the creation of free and equal access to the city, whether it be spatial or aspatial. Soja also explains that to be a human living life is social, temporal and spatial and all opportunities within the ity revoles around this idea (Soja, 2010).

This had brought about one of the projects design principles;
Accessibility and diversity

Fainstein's Just City concepts has probed me into questioning in which way we intervene in the public realm to create just environments. Is it through the process of inclusionary design, social design or collaborative and communicative design? Her concepts allow for the theoretical back up to the argument of the inclusive and accessible city. It allows the progression of my design to always include the notion of the just city. To allow for the creation of my spatial frameworks and designs to always address the current social and socio-economic issues which our city possess. Through the implementation of her theory it will allow for the creation of spaces and places that will be focused of the marginalized citizens within the city. The implementation of the theory at the forefront of the design decisions made from the precinct at metropolitan scale will allow for the creation of inclusionary environments.

In summary, the main concerns within the Just City theory attributes;

• Equity
These relate to the fairness and equal distribution of land, resources and opportunity within the city through spatial and planning policies. It's the main sector in which planner and urban designers are confronted with equitable spatial issues relating to transport, housing, urban regeneration and social services.

• Democracy
Distributive vs procedural justice which focusses on the outcomes and participations of collaborative and inclusionary planning and design. Allowing the marginalized power to influence design interventions.

• Diversity
Social differentiation without exclusion. Bringing in social identity within the design.

Spatial principles taken from theory of the Just City that could be brought into the research project;

• Eradicating big infrastructural divisions through design
• Lowering intra-transit urban transformations
• Creating walkable cities allowing for ease of access
• End discriminatory zoning
• Provision of alternative spatial designs for economic opportunity
• Ease of connection and connectivity through movement routes
• Provision of adequate civic and recreational facilities
• Provision of adequate and various residential facilities
• Bringing in identity within the design
• Creating sustainable designs

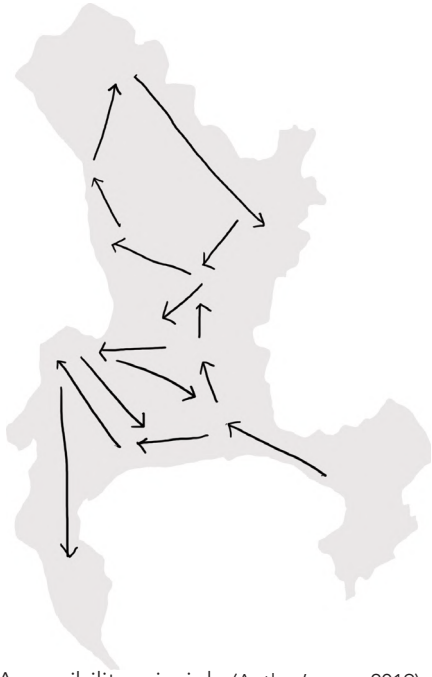


Figure 21: Accessibility principle (Author's own, 2019)

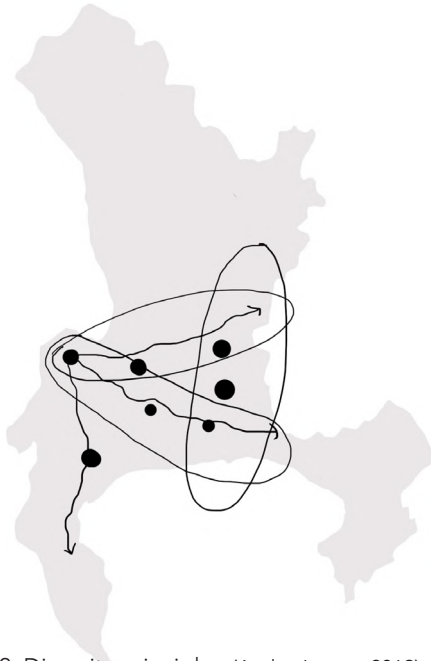


Figure 22: Diversity principle (Author's own, 2019)

Figure 23: Implementation of the accessibility principle with the Blue Downs context
(Author's own, 2019)

A look into a case study in which the spatial application of the Just City concept has been applied.

Center for living & learning, Perkins Eastman & Scape, East Harlem
(2009-2015)

A precinct that marries learning and living within East Harlem. Looking at ways in which the provision of education, economic opportunity and housing can contribute to the social issues within the city. The design sought to inspire and support a range of people through the implementation of a mixed used precinct that is welcoming, inclusive and responds to the immediate needs of the city. The efficient, sustainable and safe spatial designs promote the just city concept through its programme and design (

The project is made up of 3 components; housing, education and recreational facilities. Its design values and principles consist of the following;

• Belonging

Creation of shared open spaces to make sure everyone feels welcomed within the space. Publically accessible spaces.

•Aspiration

Custom and creative spaces that foster positive learning and living environments. Open shared indoor and outdoor spaces.

• Vitality

Indoor and outdoor spaces created for diverse users.

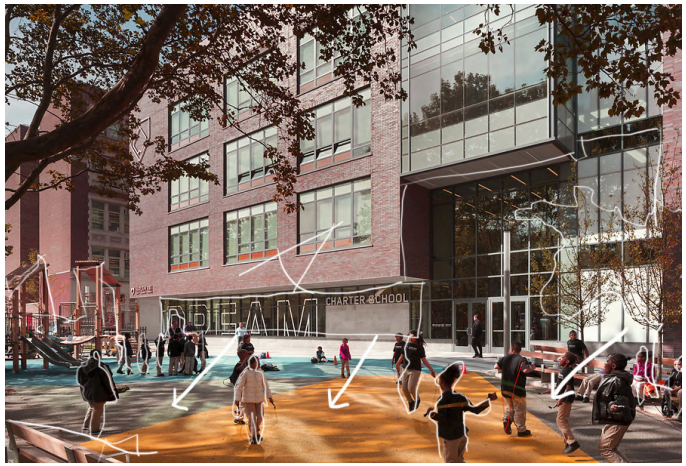
• Sustainability

Energized street scapes by orientating light filled streets and public spaces. Incorporating green and blue systems within public recreational spaces.

This project illustrates how the Just City concept can be applied and pulled through at all scales. From the citywide, metropolitan scale, right through to the scale of the street. This will allow for an ease of application to this design research project. Allowing for the argument and application of theory to be applied from the spatial development framework, right down to precinct and street interface.

Figure 24: Night conditions of the Centre of living and learning. Shows the diversity and inclusivity of the space. It indcates how the Just City concept can be applied from the city scale to the precinct and building scale
(Design for the Just City, 2018)

Figure 25: Daytime illustrations of the Centre of Living and learning
(Design for the Just City, 2018)



2.2 The Right to the City - David Harvey

The following chapter critical analyss the Just City concept.

The following chapter explores the theory of the 'The Right to the City', its main concepts, spatial strategies and how they can and will be applied to this research project.

"*Far more than the individual liberty to access urban resources: it is a right to change ourselves by changing the city. It is, moreover, a common rather than an individual right since this transformation inevitably depends upon the exercise of a collective power to reshape the processes of urbanization. The freedom to make and remake our cities and ourselves is, I want to argue, one of the most precious yet most neglected of our human rights.*"

The right to the city concept promotes the right to access space within the public domain. It stems off of Fainstein's Just City concept, allowing equal access to equitable urban environments throughout the city. This theory aids the development of inclusionary public spaces through design frameworks and guidelines. Harvey promotes the act of intervening and designing within the public domain. The concept of the right to public spaces questions power relations within the city. At the current state in which Cape Town's spatial construct stands does not allow everyone equal access within the city. The urban poor have little to no say in the type of public urban interventions that are implemented within their community. Harvey's idea of giving power to the marginalized to influence design decisions rather than the state implementing urban interventions which do not relate to the present social and urban issues within its context (Harvey, 2004). This is a crucial factor in the design of public spaces and should be implemented in all public projects throughout the city.

It is essentially the right to an equitable urban life. The right to access and move thorough the city as a pedestrian at the street scape the same way a private car has the right to move through the city is the idea of an inclusive framework design. The coexistence within the urban realm allows for an inclusionary environments. Not only is the right to the city the right to public space but the right to access various opportunities within the city. Economic, environmental, social and spatial. Cape Town's municipal planning and by-laws do not allow for a variance in the provision of economic opportunity. The right to the city is the creation of urban spaces and environments that cater to all of those who reside within the city. It's the action of changing current laws and guidelines that promote this way of design and planning.

Lefebvre had stated "it is merely not a right to access what already exists (in a city), but a right to change it after our hearts desire".

Similarly to Fainstein's Just City theory the Right to the City focuses on the marginalized and ensuring that through design, they are given the right to access and move through the city freely. This concept allows for the integration of the south east metro through design to the rest of the city through the provision of an inclusive and integrative design framework. This framework allows for the provision of economic, civic, educational civic and recreational facilities. This moves beyond the right of the city theory and more in terms of a right to inhabit space and the right to access these spaces. This theory does have its limitations. It focuses on the local scale and was coined the term, the 'local trap'. The right to the city theory should not be limited to the city and local scale but right down to precinct and street scales. There needs to be a heterogeneity within urban dwellers through the diversity of urban spaces allowing for the freedom of choice and the equal enjoyment of the city.

This had brought about two of the projects design principles;
Choice and diversity

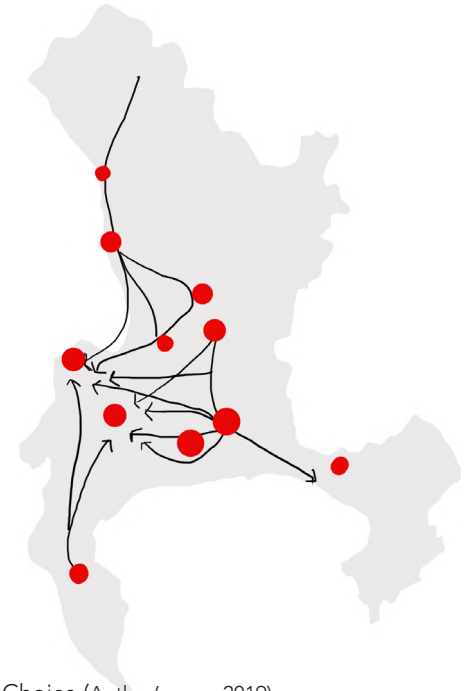


Figure 26: Choice (Author's own, 2019)

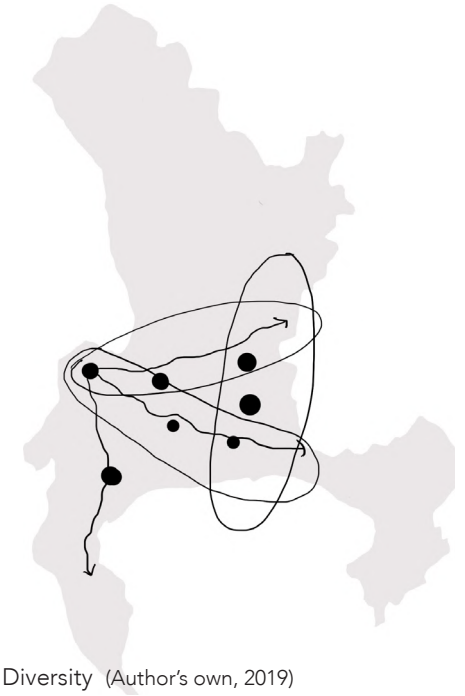


Figure 27: Diversity (Author's own, 2019)

Theoretical spatial principles taken from theory of The Right to the City;

1.

- Pulls from Fainstein's equitable planning model
- Equitable spatial, economic and social justice for all who occupies the city
- All those who occupy the city should be heard and allow for more weighting on the bottom-up design approach

2.

- All resources should be well distributed
- These could take form in economic terms, social or spatial (in the form of land, tenureship, and housing)
- Need to take the informal economy into account and acknowledge the importance of it in areas such as the south east metro
- How can we provide and allow for these forms of economic opportunity to take place within incremental developments and how does this improve the spatial structure
- Allow for the positive integration of informal trade/ informal economy and how we can change and adapt land uses in the favor of the informal economy

3.

- There needs to be a focus on the marginalized
- Ultimately produce and promote incremental frameworks that promote the 'right to the city' concept and therefore allows for inclusive development to occur and take place within

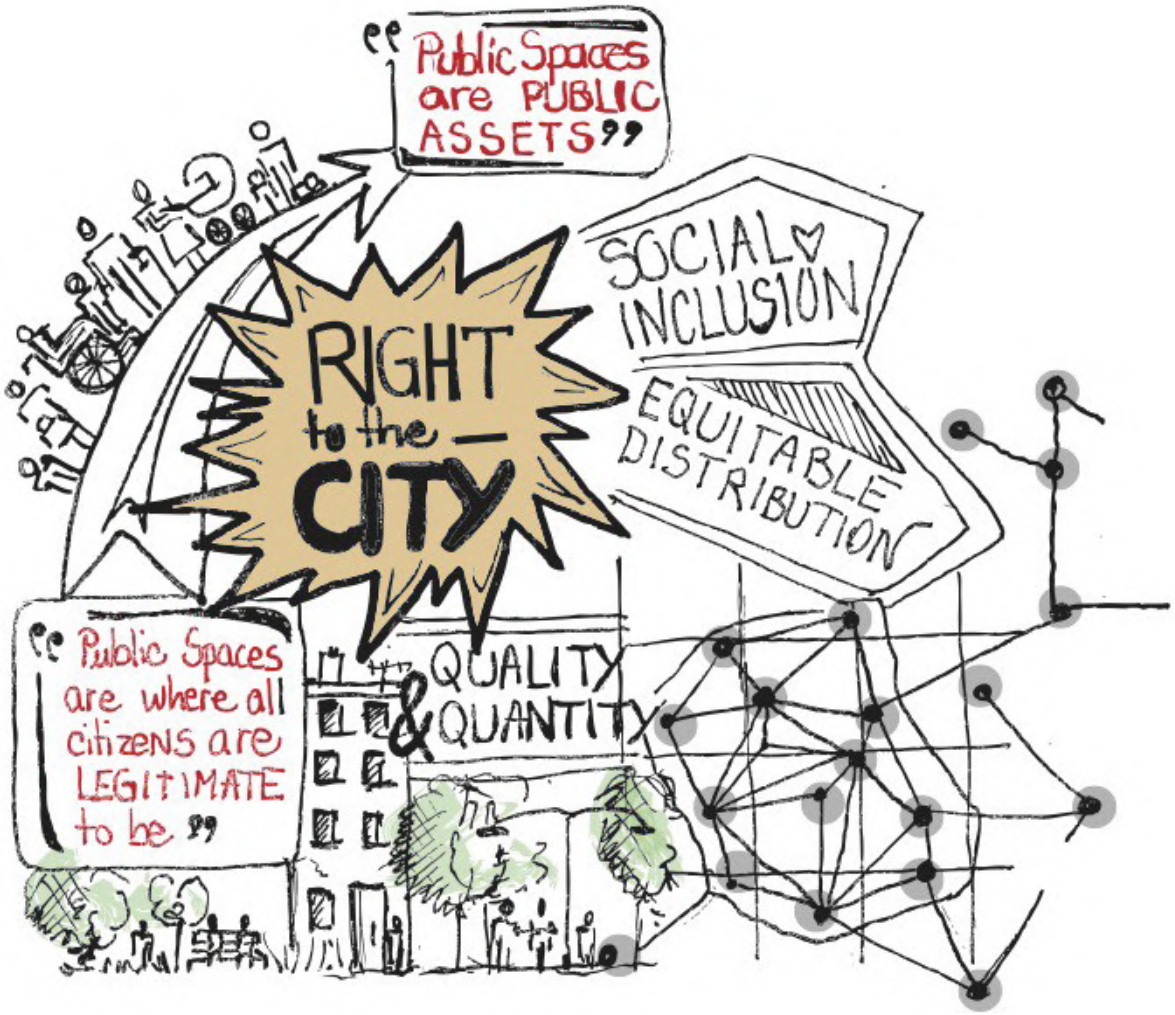


Figure 28: An illustration from Learning UCLG
(Learning from UCLG, 2017)

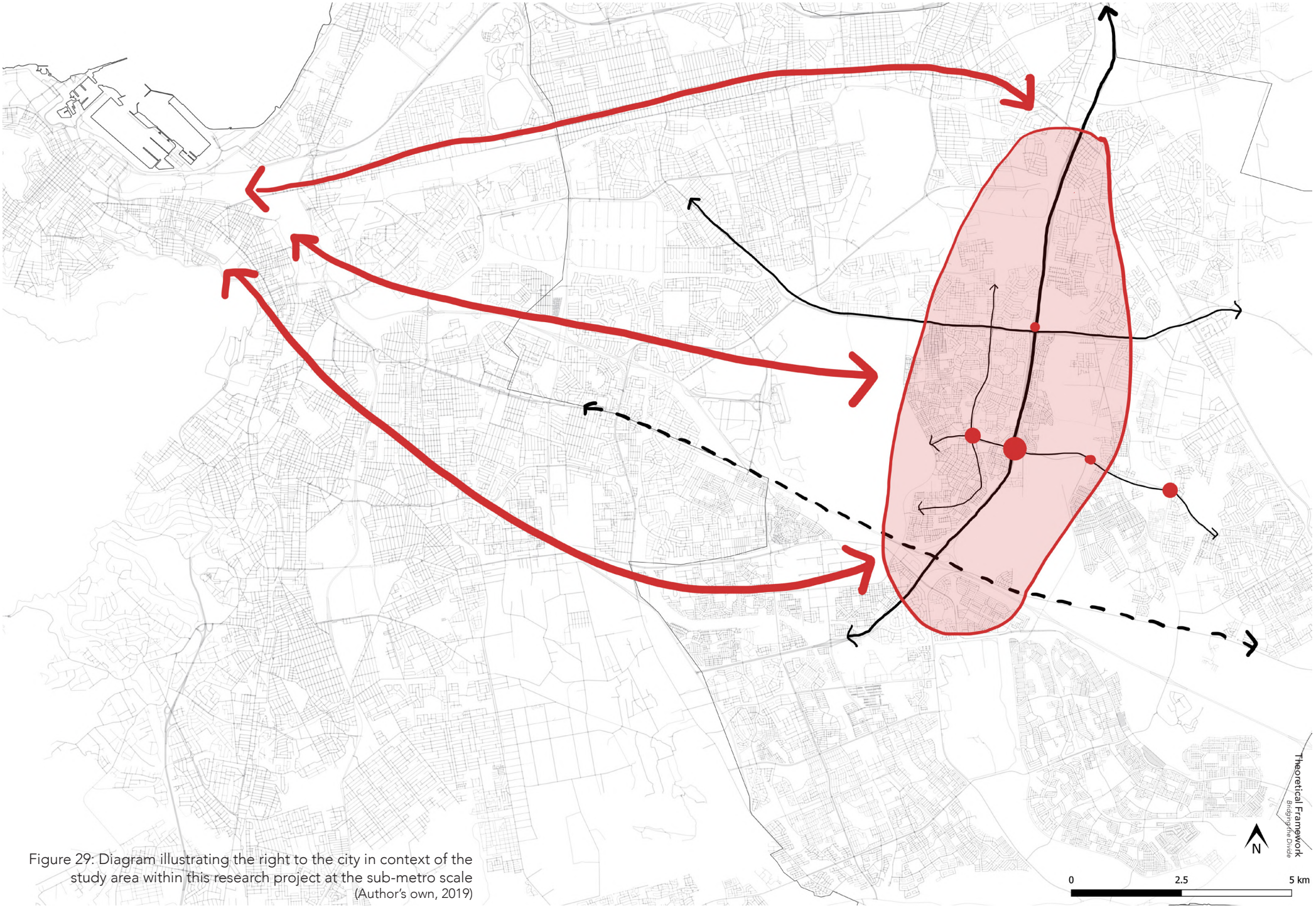


Figure 29: Diagram illustrating the right to the city in context of the study area within this research project at the sub-metro scale (Author's own, 2019)

2.3 Capital Web - David Crane

The following chapter explores the theory of the 'The Capital Web', its main concepts, and spatial strategies and how they can and will be applied to this research project.

Crane (1960) promotes and emphasises the notion that instead of 'over-planning' a city, framework or precinct, one needs to establish the main structuring elements within and allow for the everyday life to infill these spaces. This brought forth the idea of the capital web. The 'web' being these tentacles which contain private and public investments that creep within the city and link adjacent suburbs. Without the notion of over-planning, it allows spatial frameworks and design interventions to be robust through the creation and implementation of these structuring elements, but yet, still flexible enough to accommodate growth and change over time (Crane, 1960). The everyday life and activity of its citizens allows for the incremental growth of a precinct and city. The framework which possesses these structuring elements allow for the freedom of choice and flexibility. The Capital web promotes the relationship between formal and informal trade as it provides an enabling framework that acknowledges these linkages and relations (Crane, 1960).

Cranes statement of the fact that the real basis of a city are its social and economic function are relevant in the context of Cape Town. The access to these economic and social functions are the basis of the city's current spatial construct. Crane proposes a spatial investment framework that allows and guides public and private investments. The Capital Web is an important theory and means of planning, especially within the south east metro where there's a reluctance or scarcity in both public and private investments. The act of planning partially allows for strategic urban development and intervention. The overarching theory and thought were to promote a stronger and more direct relationship between spatial planning and budget so that municipal budgets align with the social and spatial needs within the city. The capital web will allow for a purposeful integration between Blue Downs (study site) to the rest of the city. The web constituted by important movement routes and public buildings. This will allow for reasoning behind the connection between Blue Downs and Delft (which is the adjacent suburb). It is important to note that Delft had been planned based on Crane's Capital Web theory.

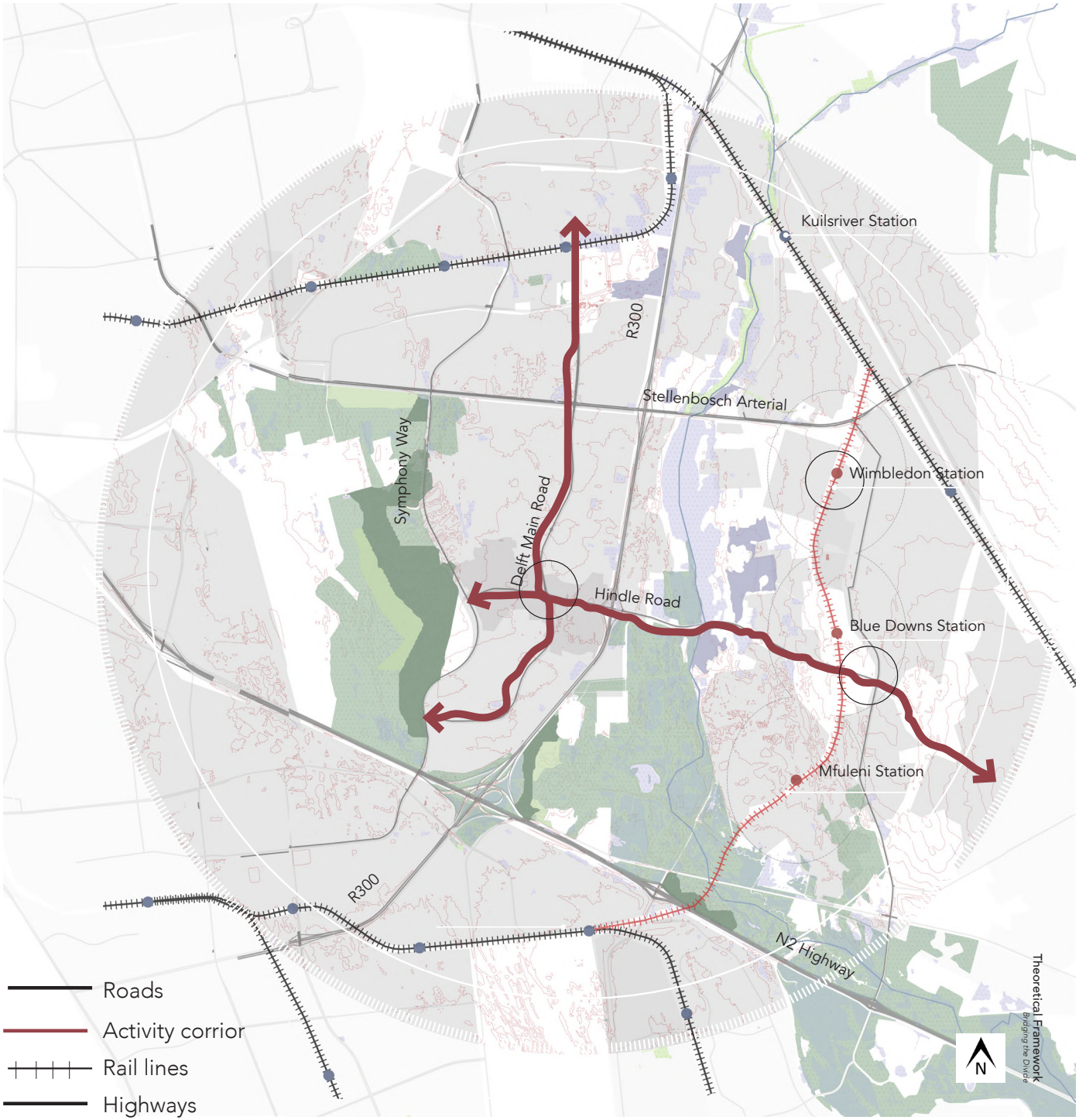


Figure 30: Map illustrating the 'capital web' and its activity coridors in relation to the study site
(Author's own, 2019)

Spatial principles taken from theory of the Capital Web;

- Connecting public buildings through capital linkages
- Creating vibrant and diverse streets along these main structuring elements
- Creating high activity corridors between two connection points
- Coexistence between informal and formal
- Creation of social and inhabitable spaces (streets, sidewalks, public spaces)
- Movement routes to link public spaces through high public transit routes
- Social, ecological, spatial and public environments that are integrative
- Alternative use of zoning
- Creation of a pedestrianised activity spine
- Prioritise place-making

Figure 31: Diagam of the activity routes and webs of investment.
(Author's own, 2019)

Figure 32: Diagam of the activity routes and webs of investment. The (grey) dots represent the points of public investment that anchor these routes
(Author's own, 2019) (Author's own, 2019)

2.4 Small Change - Nabeel Hamdi

The following chapter explores the theory of the 'Small Change', its main concepts, spatial strategies and how they can and will be applied to this research project.

Throughout the writing of Small change (2004), Hamdi constantly speaks about the creation of urban environments. He acknowledges and promotes the fact that urban dwellers should have control and freedom to control major decisions and contribute to the design, construction, and management of their housing and urban environments. These collaborative and communicative design should be done in order to stimulate and produce social inclusive, positive and productive environments. When people do not have control, nor access, nor responsibility within the creation of their urban environments, this is when these environments become a "barrier to personal fulfilment and a burden to the economy".

Just as Fainstein (2011), Hamdi speaks of the importance of collaborative planning and design. It's understood that when citizens are actively involved in decision and design making process for their urban environments, it results in a better livelihood and a positive, productive space. They take pride in what they have designed as it gives them a sense of ownership and identity. Throughout the apartheid spatial planning regime, many people of color were displaced from their homes and community, and through doing so, many had lost their identity and relationship to their community. Allowing citizens to create and have the power and influence the how their urban environments are shaped and designed will allow them to have a relationship with one's space and also hold an identity to the urban environment. Many of those who reside in the metro south east do not have that strong relation to their space and it was always considered a space of transition or one in which they had no control over. Allowing them the freedom to design and occupy could be stepping stone in the type of spatial advances made, post-apartheid.

Hamdi (2004) goes on to question the notion of the master plan and how it inhibits the uniqueness of the area. Master planning, had for many years been the foundation of how many cities had been designed and planned. These forms of designing and planning left very little room for freedom, identity or flexibility. It disallowed the everyday life to take over. Hamdi supports the fact that there needs to be structure (spatially) with rules and routines, however, it still needs to be flexible and allow for a sense of identity. This leads to a sustainable and productive urban environment. It stands well within its context, something my research project aims to do. One then starts to question how much structure is needed before it inhibits freedom and flexibility. Through the application of previously studied theories and through process designs, it will me to understand how much of a structure will be needed in order to create these interconnected networks. A system and process of designing that holds the occupants interests and allows for context appropriate designs.

Hamdi (2004) states that **"it's better to design densely interconnected system with simple elements and let the more sophisticated behavior trickle up"** it also one to build up on what is there and go to scale. These interconnected systems allows one to knit together the fragmented urban form. Creating viable links and movement networks to adjacent suburbs through the structured spatial framework. Through the creation of this spatial framework – I draw upon Crane's (1960) capital web theory, in which these links could occupied by private and public investments. This allows for sustainable and practical urban environments. Not only does this create unique spaces within the city but it draws people to these spaces. **It acts as a catalyst for change.**

The methodology which Hamdi (2004) introduces is as follows. It's a method in which I have adopted and adapted to my design research project.

1. Access risks
2. Decide on interventions
3. Evaluate constraints
4. Decide partnerships
5. Anticipate harm
6. Evaluate livelihood
7. Agree obligations

In summary, it allows one to work backwards but move forward in terms of development and interventions.

This had brought the following design principles; **identity and choice**

"it's better to design densely interconnected system with simple elements and let the more sophisticated behavior trickle up" (Hamdi, 2004)

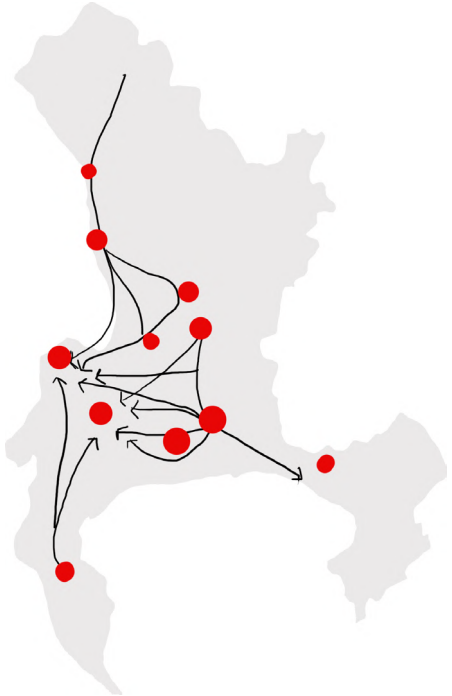


Figure 32: Choice (Author's own, 2019)

Spatial concepts that came out of small change;

- Bridge adjacent suburbs through the notion of networking and horizontality
- Create viable links between suburbs – link appropriate buildings, systems or interventions
- Create special and unique spaces and places – so one knows when they have arrived
- Create walkable spaces – allows for the creation of spaces for the lowest denominator

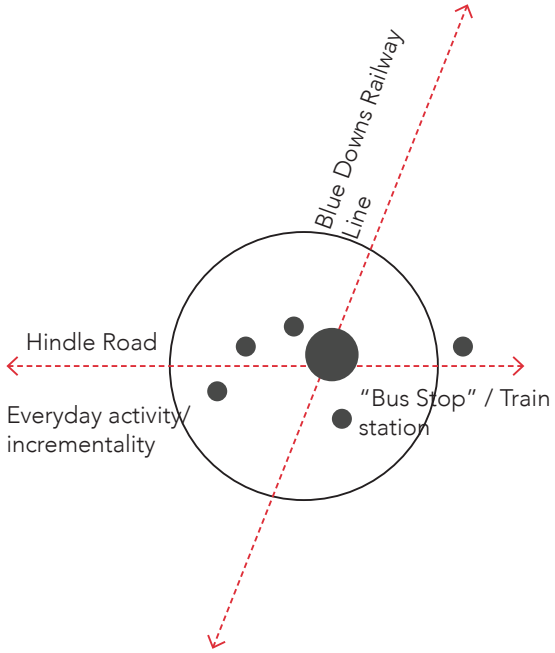


Figure 33: (above) Diagram illustrating Hamdi's "Bus Stop" idea (Author's own, 2019)

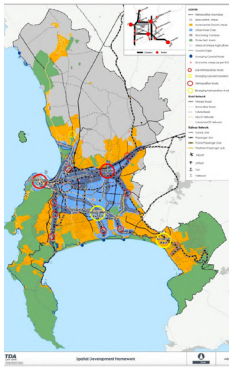
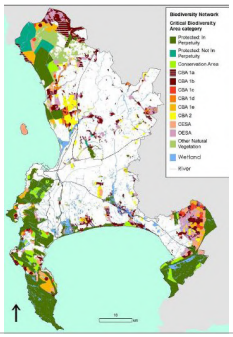
Figure 34: (right) Map illustrating Hamdi's "Bus stop" idea (2004) in relation to Crane's capital web (1960) concept within the context of the study area (Author's own, 2019).

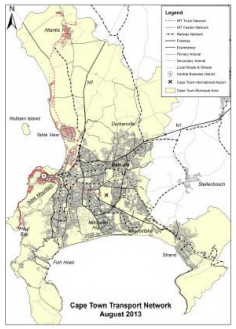
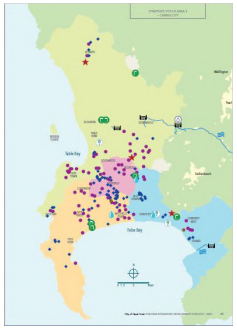
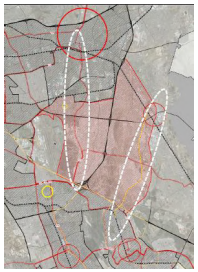
3. TECHNICAL REPORTS AND DOCUMENTS

Critical analysis of relevant municipal technical reports and documentation and what applies to the research project.

3. TECHNICAL REPORTS AND DOCUMENTS

The following chapter reviews and critically analyses relevant municipal reports and policies according to my guiding design principals and how the relevant information can be helpful in my design research.

	ACCESSIBILITY	CHOICE	PERMEABILITY	DIVERSITY
CAPE TOWN MUNICIPAL SPATIAL DEVELOPMENT FRAMEWORK (MSDF) (2018) 	• Unlocking developments at large scale - economic opportunities with close proximity to areas of social need. • Creation of new nodes to be central - allows for the ease of access between each of them. • Nodes to be easily accessible and allow for maximum accessibility to municipal services. • Densify around public transport routes - allow for efficient and well running transport systems • Implementation of the Blue Downs rail - good coonectivity to the rest of the city • New MyCiti Bus routes - providing alternative public transport modes • Locate employment generating land uses next to natural systems to integrate the two and allow for a co-existence.	• New rail and MyCiti Bus outes provides choice in public transport systems. • Diversifying land uses - aids the principal of choice and economic inclusion. • Implementing new and other eductaional facilities in which occupants of the area have more choice in where and what sort of institutions they would want to be part of.	• Use infrastructure as connectore - connecting well functioning nodes. Allows for less fragmentation and a more permeable city fabric.	• Land use intensification • Incremental human settlements - these need to be context appropriate and implemted where economic and social opportunities can be accessed. • Diversify economic opportunities and disperse them throughout the city. • Recognize employment opportunity along Stellenbosch arterial and keep the R300 a mobility route.
CoCT BioNET (2018) 	• Integrate natural systems in order to maintain and preserve its ecological status - allows for economic and social opportunities within new precinct.		• creation of spaces in which citizens can be part of the green and blue systems - creating permeable green spaces throughout the city	

CoCT Intergrative Transport Plan (CITP) (2018) 	• Economically viable transport system (make sure they are affordable, accessible and well ran)	• Viable relationship between land use and public transport systems - allows for supportive functions to public transport as well as density. Makes for a good concept regarding this design resarch project. • Incorporating intermodal transport systems - in support of this research project - incorporate multi-modal station (rethinking PTIs). • Development routes - accessibility grids supported by mobility routes - in the case of this research project allow the Blue downs rail to integrate into the precinct and not create a barrier. • Allow for the integration of NMT and cycle routes throughout the city.	• Fully integrated transport system that has permeable infrastructure and routes	• High activity routes and nodes around PTIs and rail routes - creates opportuity for everyday life and alternative economic and emplyment opportunties
Integrative Development Plan (IDP) (2017) 	• Proposed blue downs railways. Great opportunity to implemnet necessary public transport routes within the MSE. • Promote pedestrian connection which can allow for the ease of access to the lowest common denominator within the city. • Promoting an integrative ticketing system within the public transport. • Proposed blue downs railways. Great opportunity to implemnet necessary public transport routes within the MSE.	• Promoting mix of land uses	• Creating safe network routes through the provision of sufficient street lights	• Promoting mix of land uses can allow for at home indsutries to take off. Making economically inclusive environments.
Blue Downs Integrative Development Zone (2018) 	• Implementation of the Blue Downs passenger rail link - closing the rail loop. Allowig ease of access for the residents in and around Blue Downs and Delft. This allows for access to opportunity. This then forms part of precinct design and thus becomes the main element.	• The new rail link allows for choice in public transport systems. Allowing the user the freedom of choice and movement. • Promoting mix of land use	• Creating new rail routes which do not creat physicl boundaries but an opportunity to create permeable urban environments.	

4. CONTEXTUAL ANALYSIS

Introduction into the site and the multiscalar, critical contextual analysis.

4. SITE ANALYSIS

4.1 Introducing the site

The south east metro of the city has the biggest population as well as the biggest population density. However, although it has biggest population, it has the least amount of opportunities available to support it. The marginalised population sits on the periphery of the city with limited access to recreational, civic, educational socio-economic and public transport facilities. The MSE is cut off from the rest of the city through infrastructural divides and the lack appropriate spatial interventions to creat destinational and unique attractive spaces within it.

The area of Blue Down and Delft is the where my project lands. It sits on the outskirts of Cape Town with the R300 running between the two areas as well as the N2 passing through. It is surrounded by suburbs such as Belhar, Mitchells Plain and Khayelitsha. It is also situated within the area in which the propesed blue downs rail will be implemented. This will be further explored within the site analysis drawings.

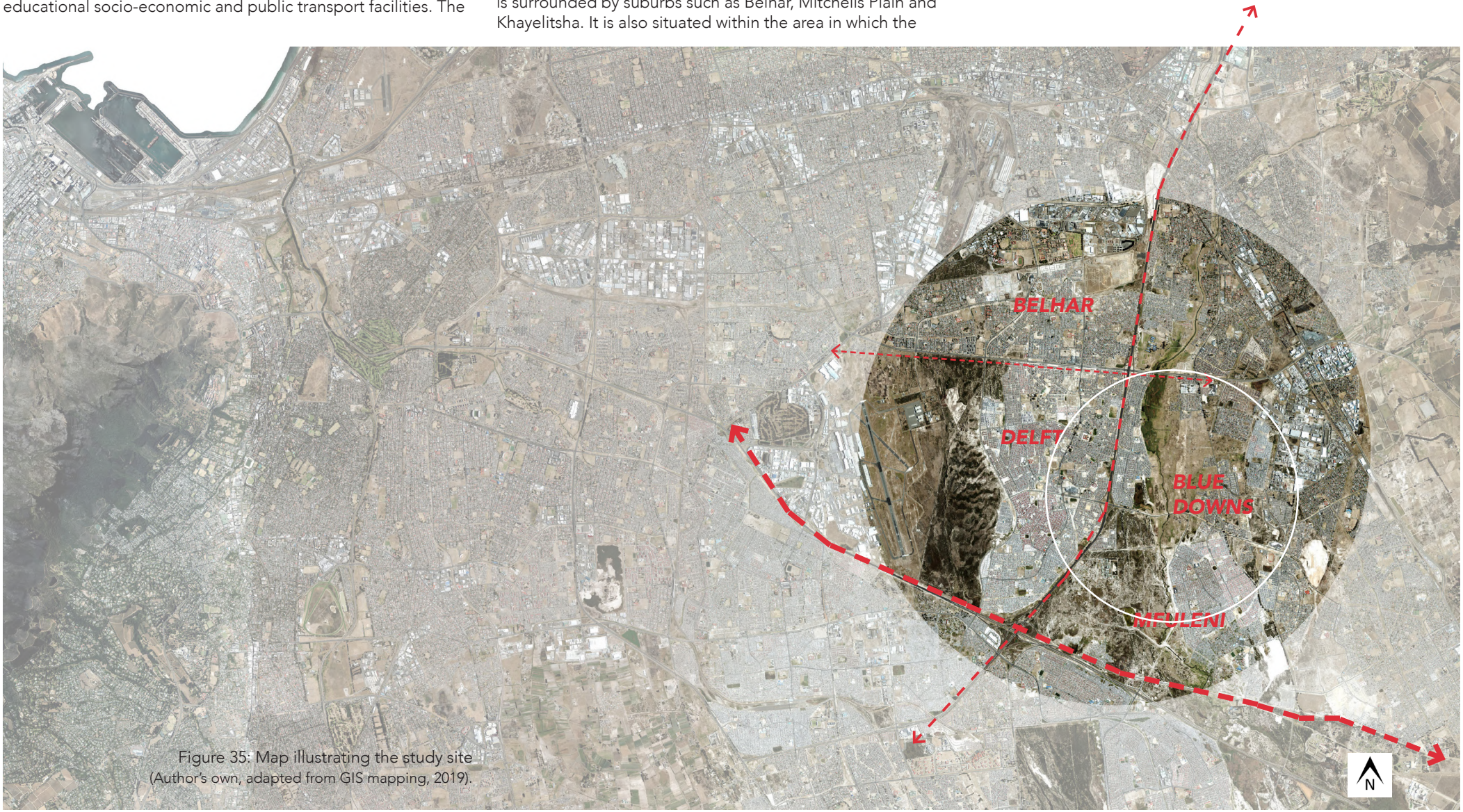
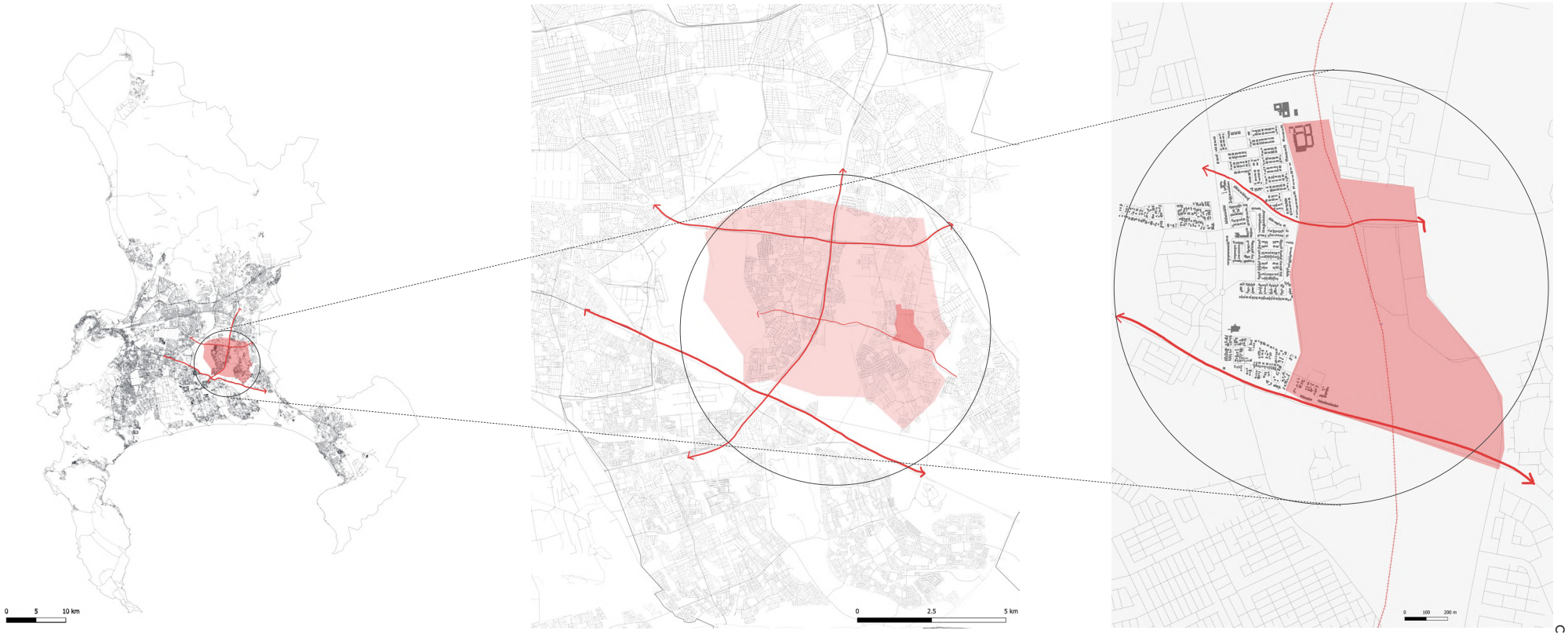


Figure 35: Map illustrating the study site
(Author's own, adapted from GIS mapping, 2019).

4.1 Introducing the site - method of analysis

The images below illustrates the method of the multiscalar contextual analysis that has been taken in the design research project. The following chapter critically analyses the context and elements within the context which navigates this design research project.

METRO ----------> *SUB-METRO* ----------> *PRECINCT*



4.2 Analysis of the site at the metro scale

Contextual analysis at the city / metropolitan scale in relation to the research question and theoretical framework.

4.2.1 The fragmented city

The ciy's fragmented state is a result of the infrastructure that has been laid out throughout the city. This includes highways and rail systems. The map below (Fig 36) indicates the rail and major highways in which had caused this fragmented urban form. It also indicates at where and how it would be a good place to cross over these harsh infrastructural divides that caused great segregation within the city. The map below (Fig 37) illustrates the result of this form of spatial segregation.

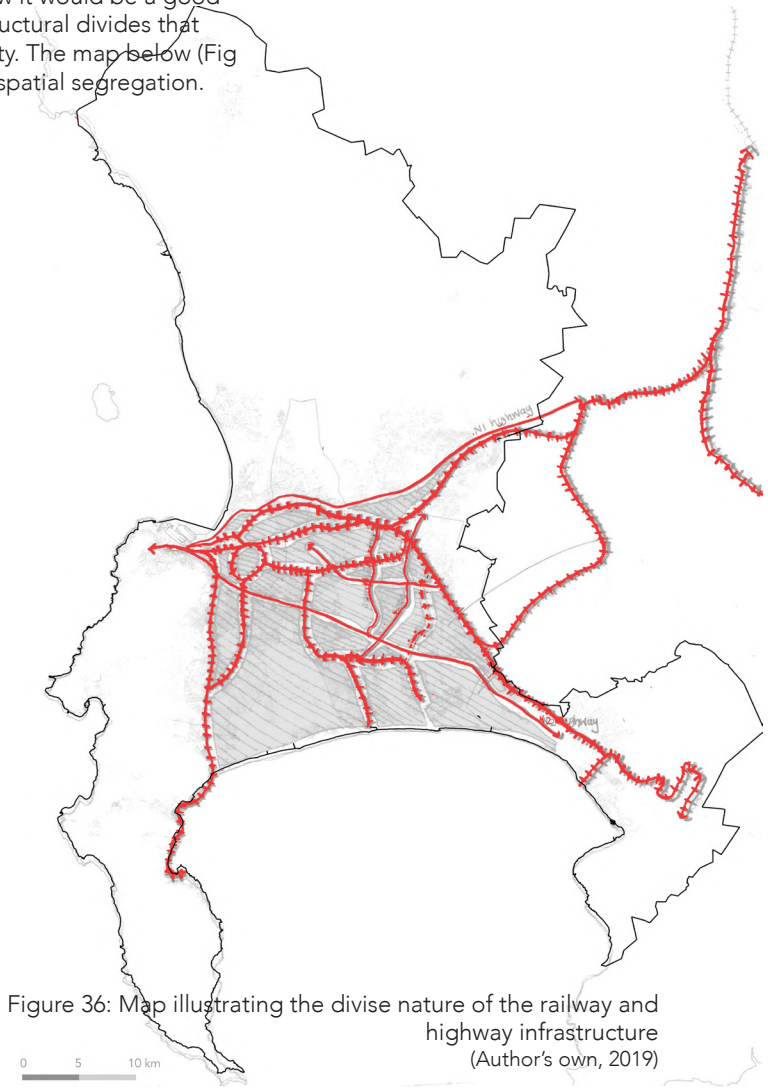


Figure 36: Map illustrating the divise nature of the railway and highway infrastructure
(Author's own, 2019)

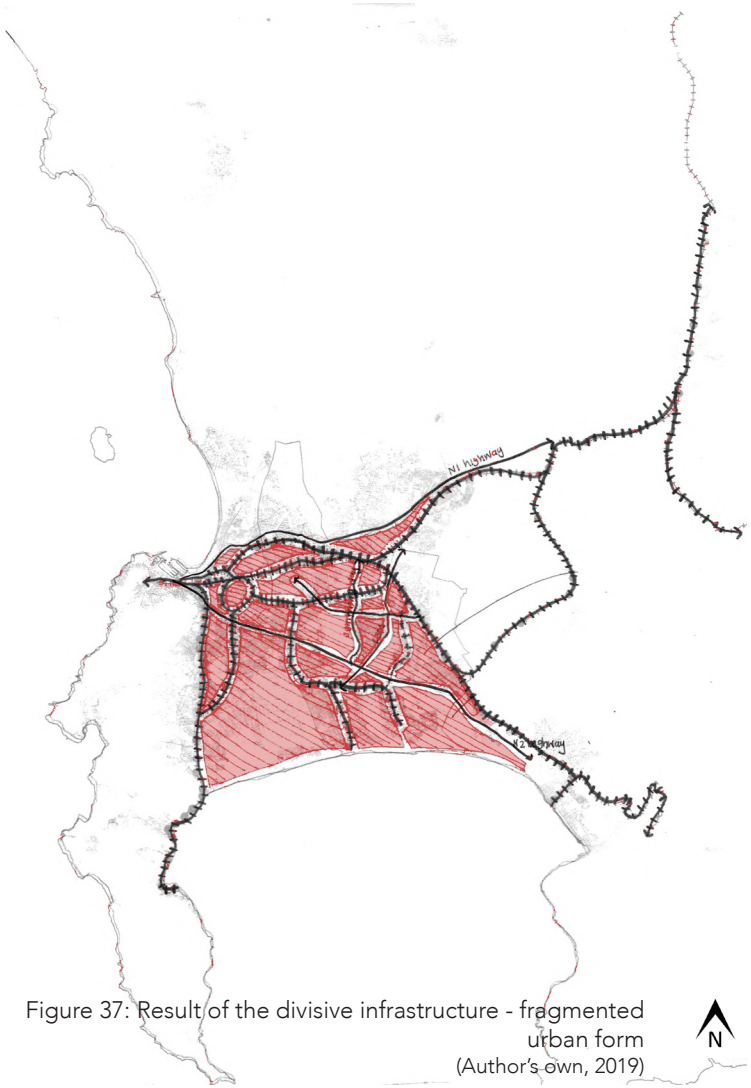


Figure 37: Result of the divisive infrastructure - fragmented urban form
(Author's own, 2019)

4.2.2 Role of the Blue Downs corridor

Cape Town remains quite an exclusive and inequitable city with many of the city's economic opportuities contained within the CBD. The southern and voortrekker corridor were two of the most promoted and corridors within Cape Town. It created an important East-West integration and connectivity within the metro. However, the Blue Downs corridor includes the south east metro into the rest of the city and creates great oportunity to disperse opportunities and accessibility within the city.

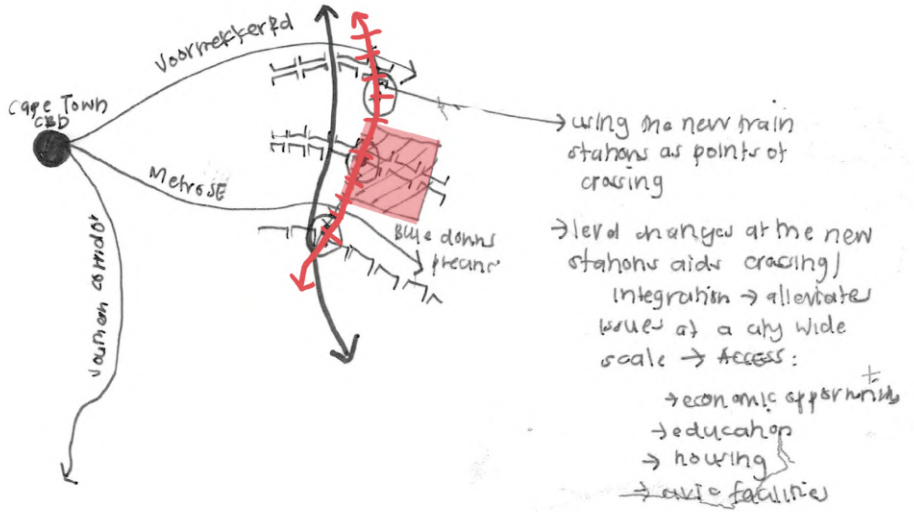


Figure 38: (above) Diagram illustrating the purpose of the Blue Downs precinct within the metro
(Author's own, 2019)

Figure 39: (right) Map illustrating the Blue Downs corridor in relation to the CBD and metro
(Author's own, 2019)

4.2.3 Role of the R300 - Mobility routes

The R300 creates an important North-South connection within the city. To implement the Right to the City (2004) and Just City (2011) concept, the R300 allows for the ease of access to the rest of the city. It allows those who reside within the MSE to easily access high mobility routes in which public transport systems can be implemented.

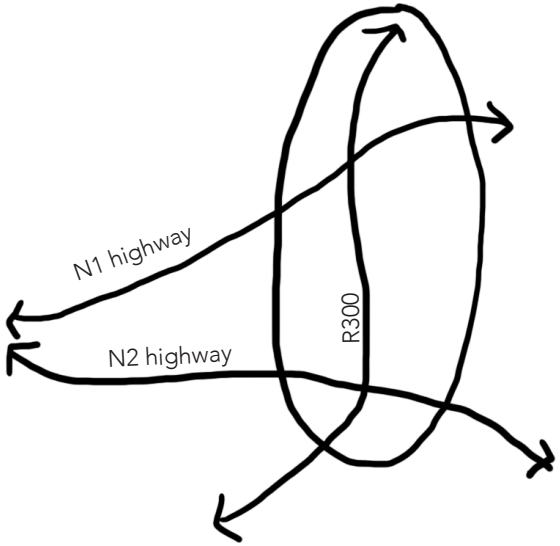


Figure 40: (above) Diagram illustating the role of the R300 within the MSE context.
(Author's own, 2019)

Figure 41: (right) Map illustrating the role of the R300. Important North-South integrator and mobility route.
(Author's own, 2019)

4.2.4 Theoretical framework implemented within the metro

The maps and diagrams below illustrates ways and points in which we can 'Bridge the divide' across harsh infrastructural barriers. Crossing over at specific nodes can abolish the fragmented city and allow for the creation of new nodes throughout the city. This leads to a polycentric city model. with emphasis on the connection between them through public transport systems. These nodes then translate into anchors that allow for connections and create viable linkages. This promotes and supports the theoretical framework which had been set out in the previous chapter. It supports the Just City (2011) and Right to the city (2004) concept. The nodes also act as the "Bus Stop" concept at a larger scale of Hamdi's (2004) Small change and the connectivity between them acts as Cranes (1960) Capital Web.

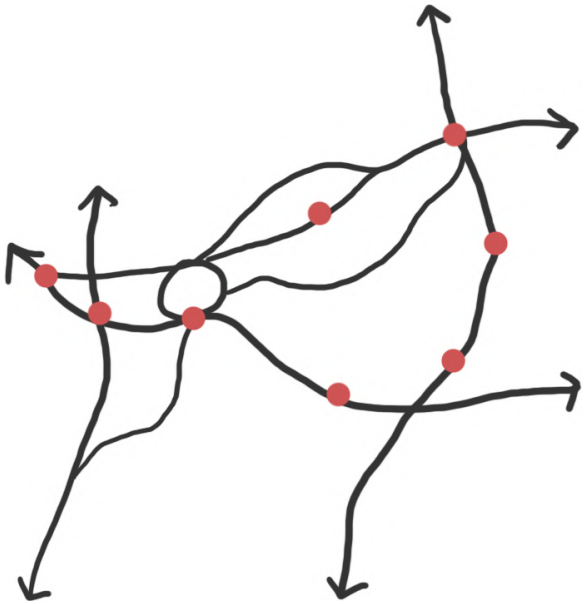


Figure 42: (above) Diagram illustrating the implementation of the theoretical framework
(Author's own, 2019)

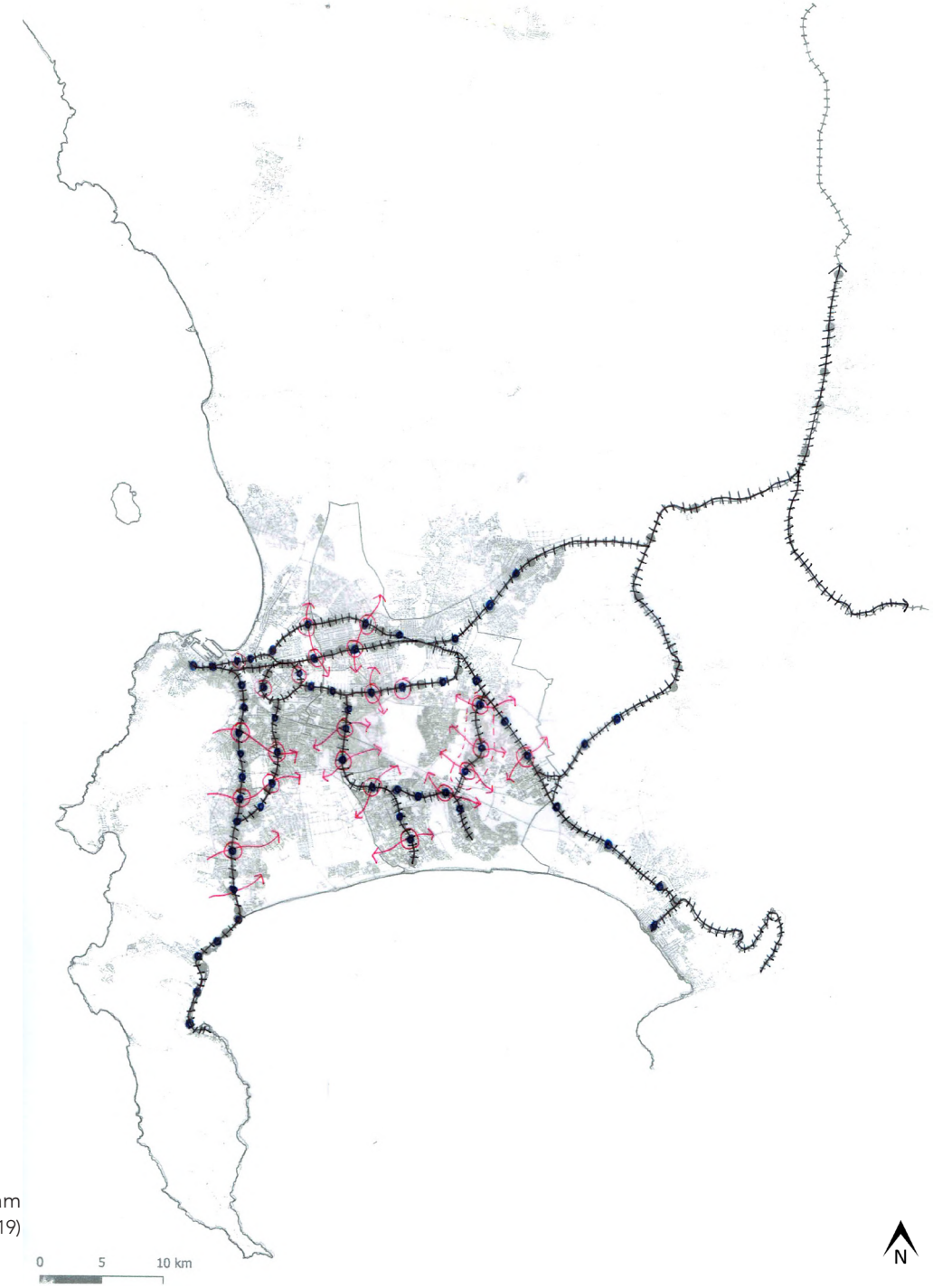


Figure 43.1: (right) Spatial implementation of the diagram above(Author's own, 2019)

4.3 Analysis of the site at the sub-metro scale

Contextual analysis at the sub-metro scale in relation to the research question and theoretical framework.

4.3.1 Proposed Blue Downs Rail

The 3 new stations that are implemented within the Blue Downs corridor allows for tht missing rail link within the metro. Allowing those who reside in the MSE to easily access the Bellville node as well as the CBD. The rail extends from Nolungile station in Khayelitsha (central line) and connects to Kuilsriver Station (northern/malmesbury line) The new rail is a major public investment which can be supported through urban intervetion within the precinct.

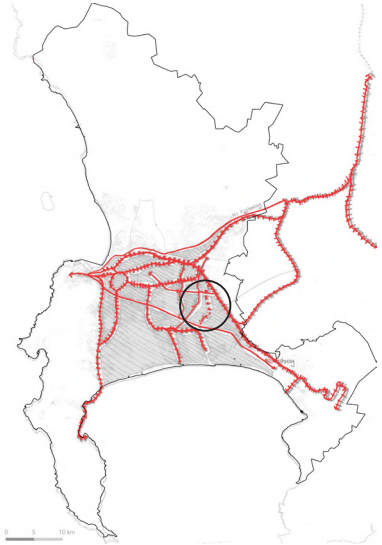


Figure 43.2: (above) Blue Downs rail within the metro
(Author's own, 2019)

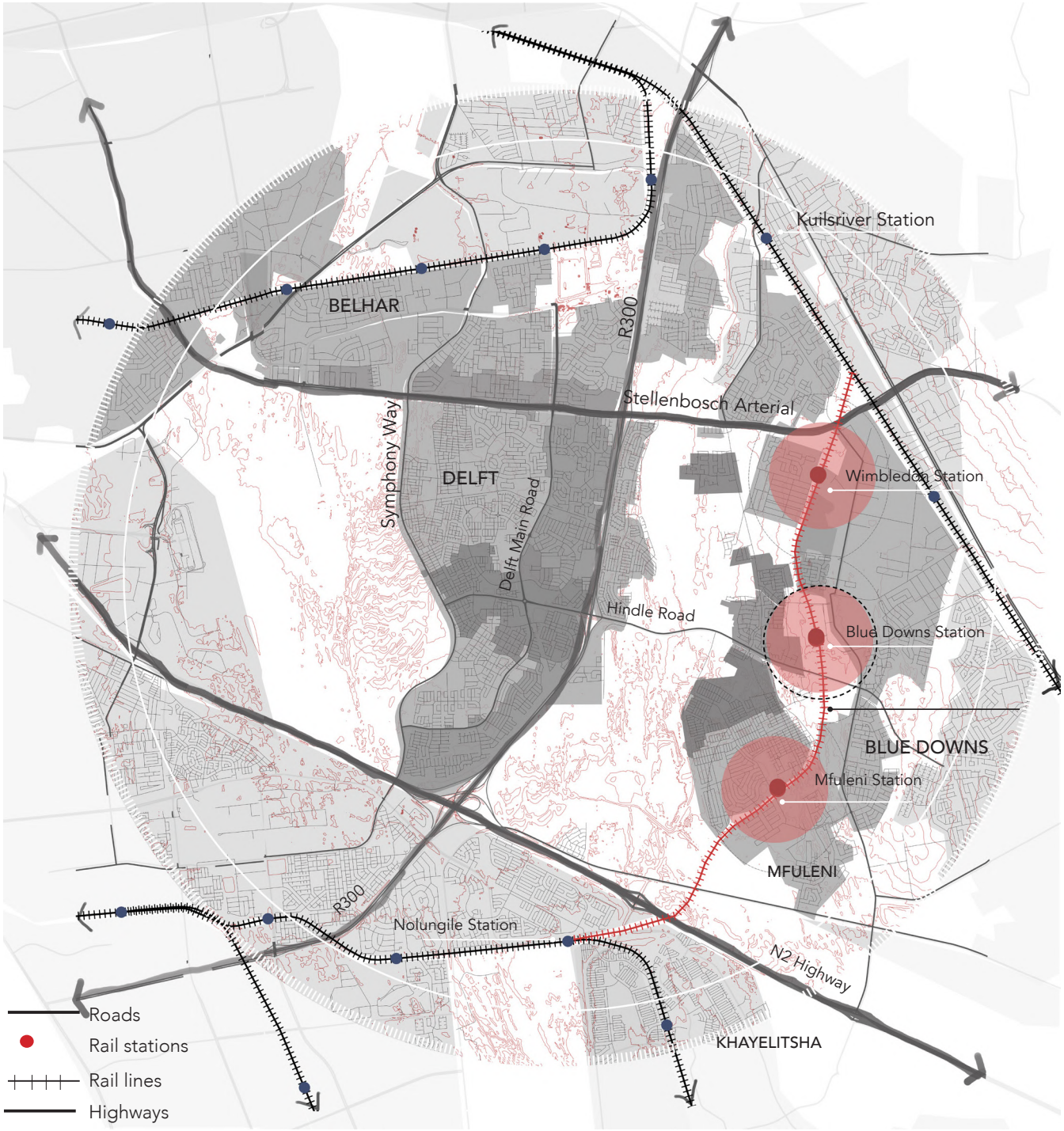


Figure 44: (right) Implementation of the rail + stations within the Blue Downs corridor
(Author's own, 2019)

In order to implement the Blue Downs rail the rail line slowly transcends below NGL from Nolungile station towards Blue Downs station (as seen in the section below) and then up on grade when reaching Kuilsriver station.

The shift in levels of infrastructure implemented allows for good linkages and integration across. The rail thus no longer acts as a physical barrier.

Towards Mfuleni station and Nolungile station. Slowly transcending to NGL.

Blue Downs station - station within design project precinct, Lies 4-6m below NGL (tunnel). Allow for integration across the train lines - allowing perfect oopportunity to bridge the divide.

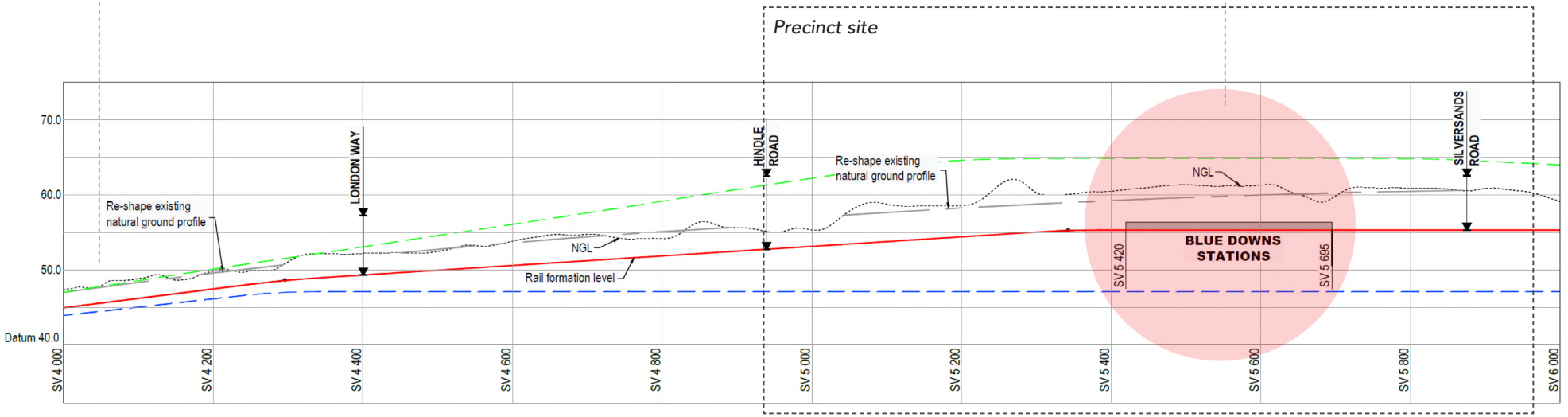


Figure 45: Section illustrating the drop in level in which the rail infrastructure sits on between Mfuleni and Blue Downs station
(Author's own, 2019)

N

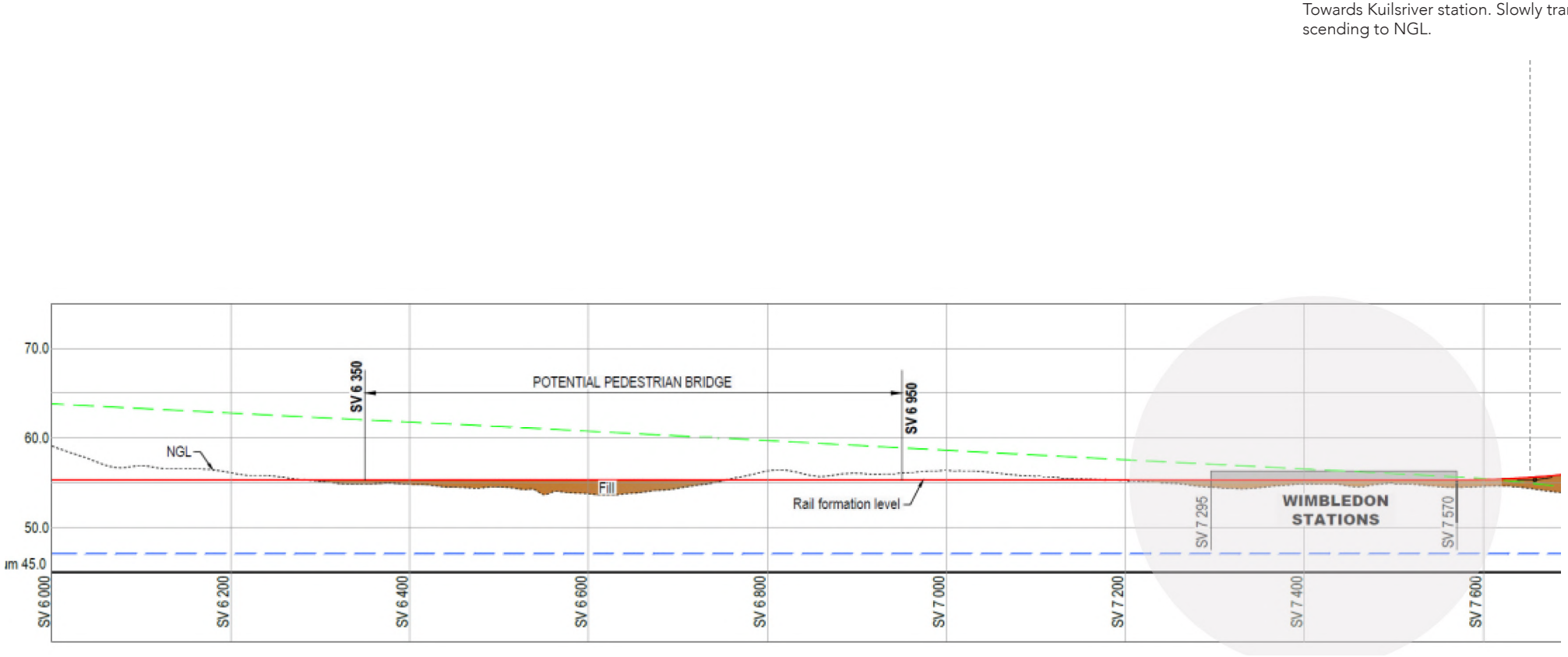


Figure 46: Section illustrating the drop in level in which the rail infrastructure sits on bewteen Blue Downs and Wimbledon station
(Author's own, 2019)

Possible crossovers

Interrogating possible crossovers within study area over the implementation of the Blue Downs rail.

Figure 47: Map illustrating the major vehicular movement networks within the study area
(Author's own, 2019)

4.3.2 Movement networks

Vehicular Movement Networks

The study area has a stong vehicular movement network (presence within the site) - analyis of this has shown the mportance of incorporating NMT routes within the site. Allowing one to cater for the lowest common denominator within the area.

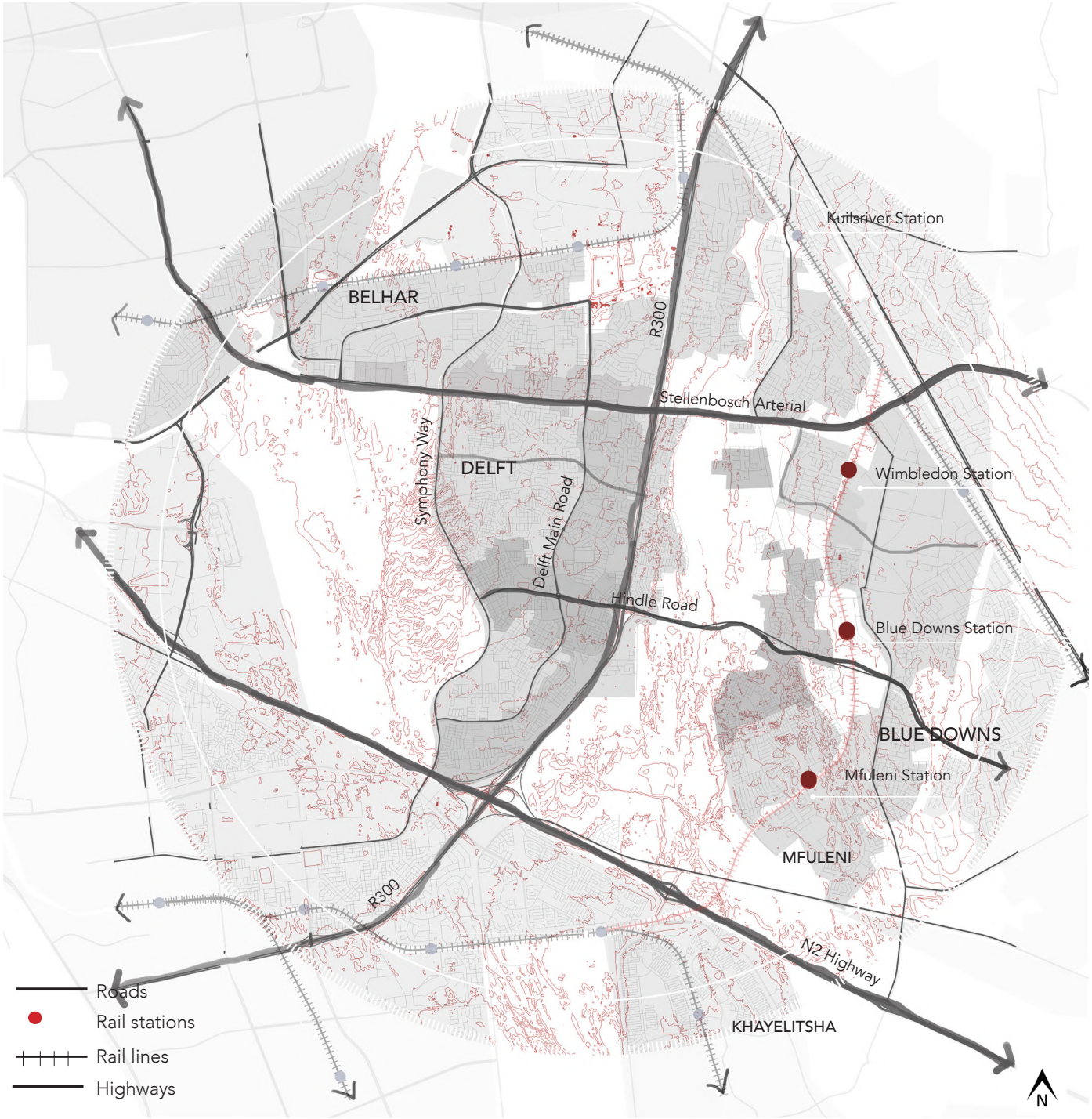


Figure 48: Map illustrating the major vehicular movement networks within the study area
(Author's own, 2019)

Desired hierarchy of movement networks

Upon analysing the movement network - looking at ways in which altering the hierarchy of these movement networks can work in favour of the precinct and those who reside withi the precinct.

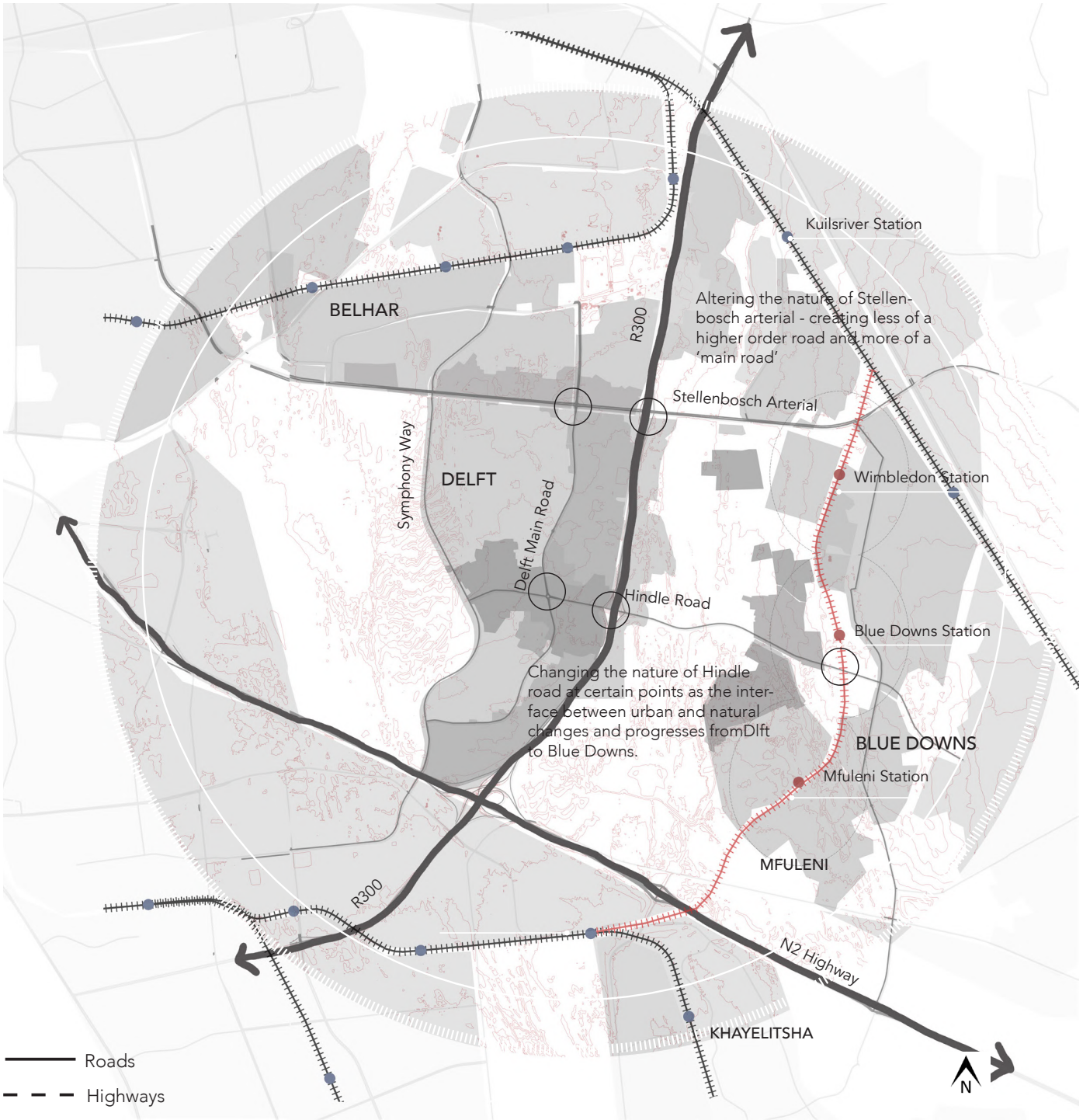
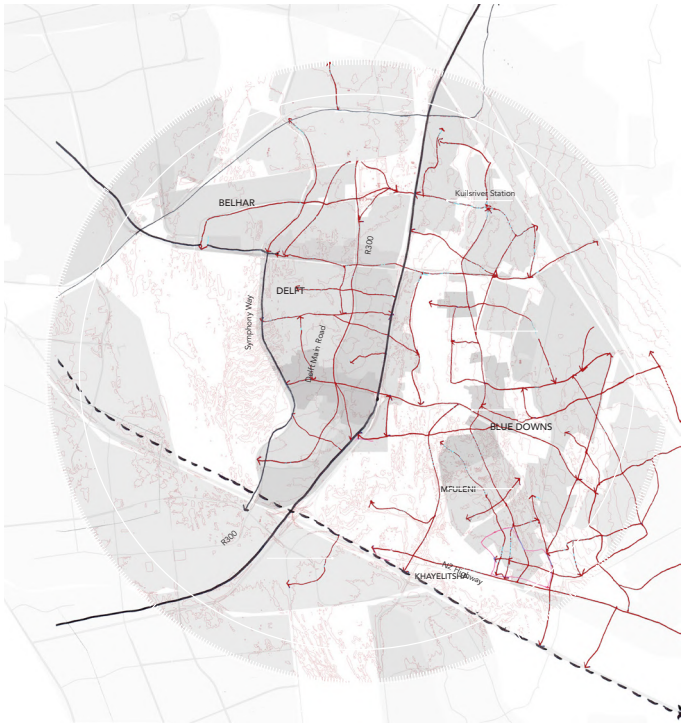


Figure 49: Map illustrating the desired hierarchy of movement networks within the study area
(Author's own, 2019)

Pedestrian movement within the study area

Analysing pedestrain movement networks within the study site and the varied movement networks at in the morning and the afternoon. These indicate preferred routes when designing the precinct and desired routes from public facilities such as schools and clinics.

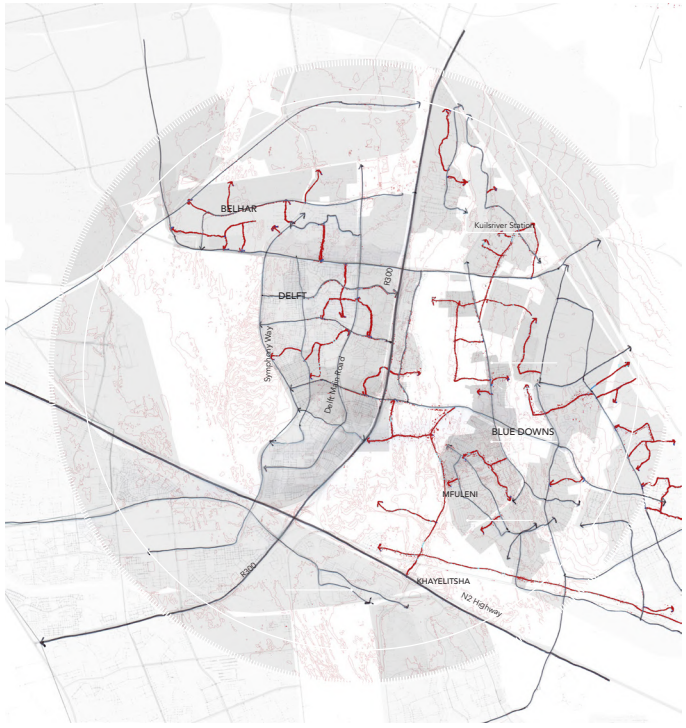


Roads
Pedestrian movement
Rail lines
Highways

Figure 50: Map illustrating average pedestrian routes
(Author's own, 2019)

Roads
Pedestrian movement
Rail lines
Highways

Figure 51: Map illustrating pedestrian movement in the morning
(Author's own, 2019)



Roads
Pedestrian movement
Rail lines
Highways

Figure 52: Map illustrating pedestrian movement in the afternoon
(Author's own, 2019)

Desired MyCiti Bus Routes

Analying current Phase 2A Myciti bus routes and proposing alternative routes in which cater to the area more equally and make it easily and readily accessible.

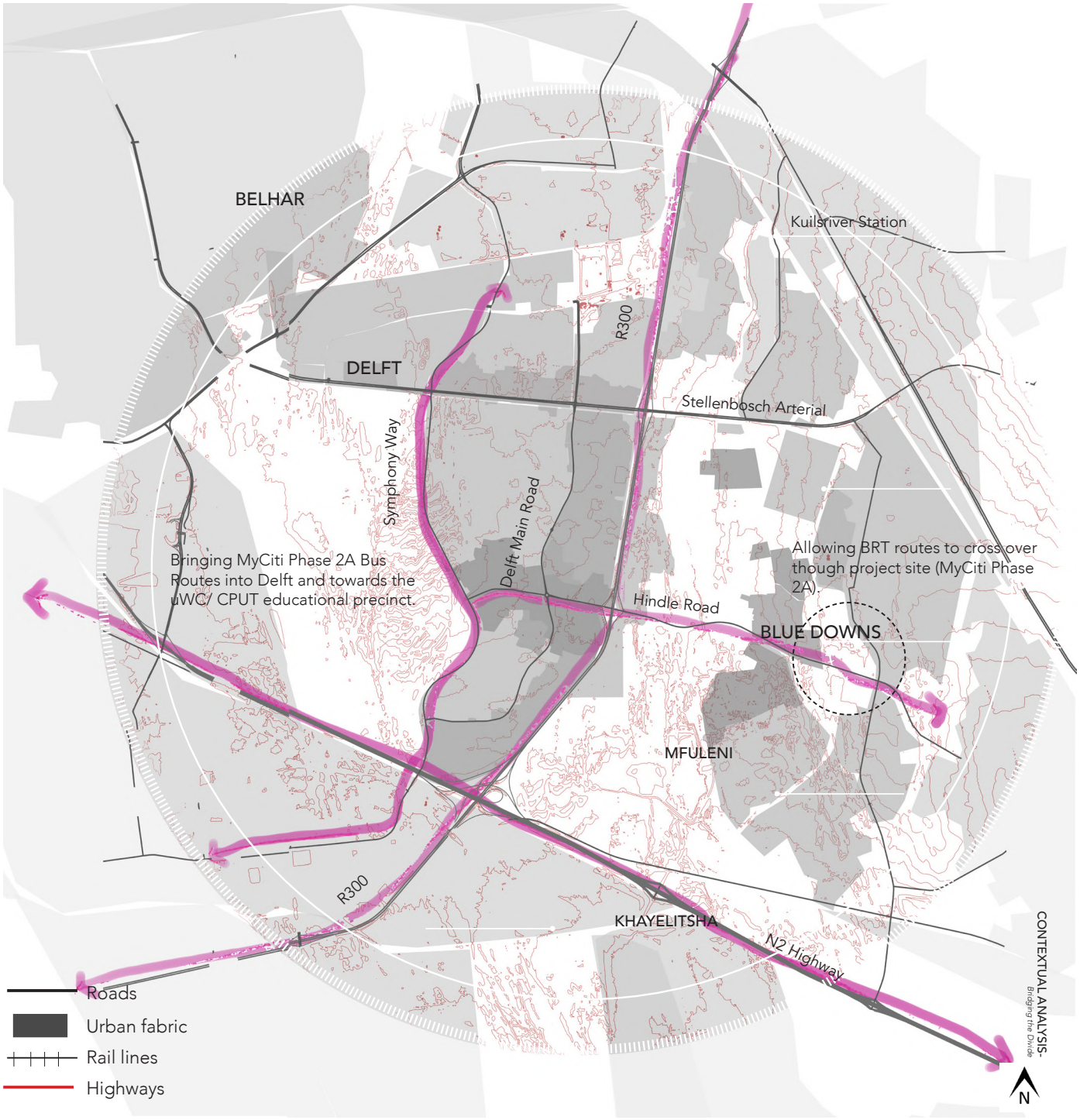


Figure 53: Map illustrating desired myciti bus routes
(Author's own, 2019)

4.3.3 Urban fabric

Analysing the urban fabric of the study area and guiding where urban development should take place amongst other elements. This also guides as where the urban implementation can 'Bridge the divide'.

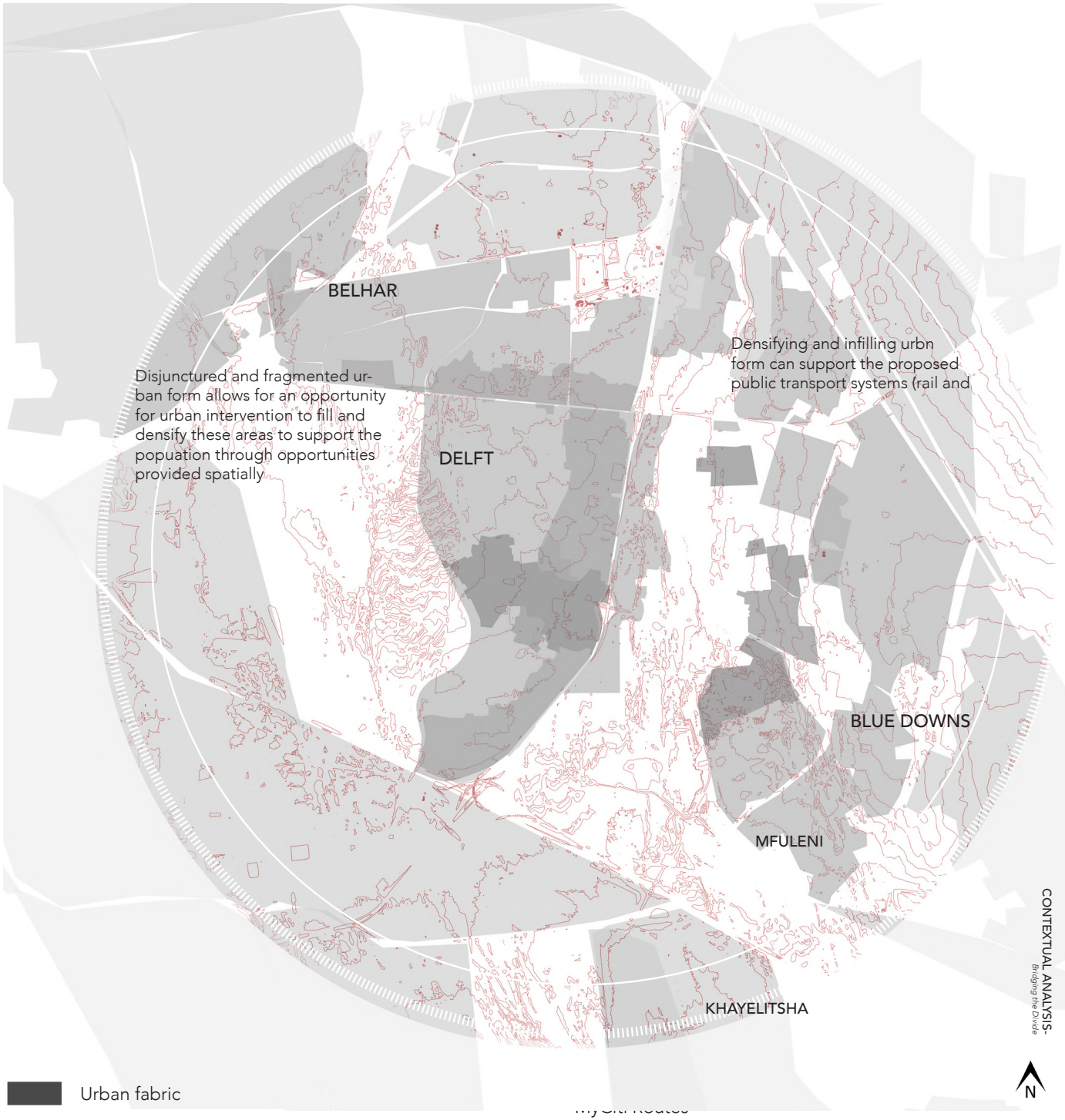


Figure 54: Map illustrating the desired hierarchy of movement networks within the study area
(Author's own, 2019)

4.3.4 Green and Blue systems - elements of integration

Analysing the blue and green systems within the study area and allowing them to be integrators within the site and not natural dividers. This allows for an interogation with the interface between the urban and natural. An integration of these blue and green systems allow for these systems to be maintained and preserved as well as used as recreational spaces.

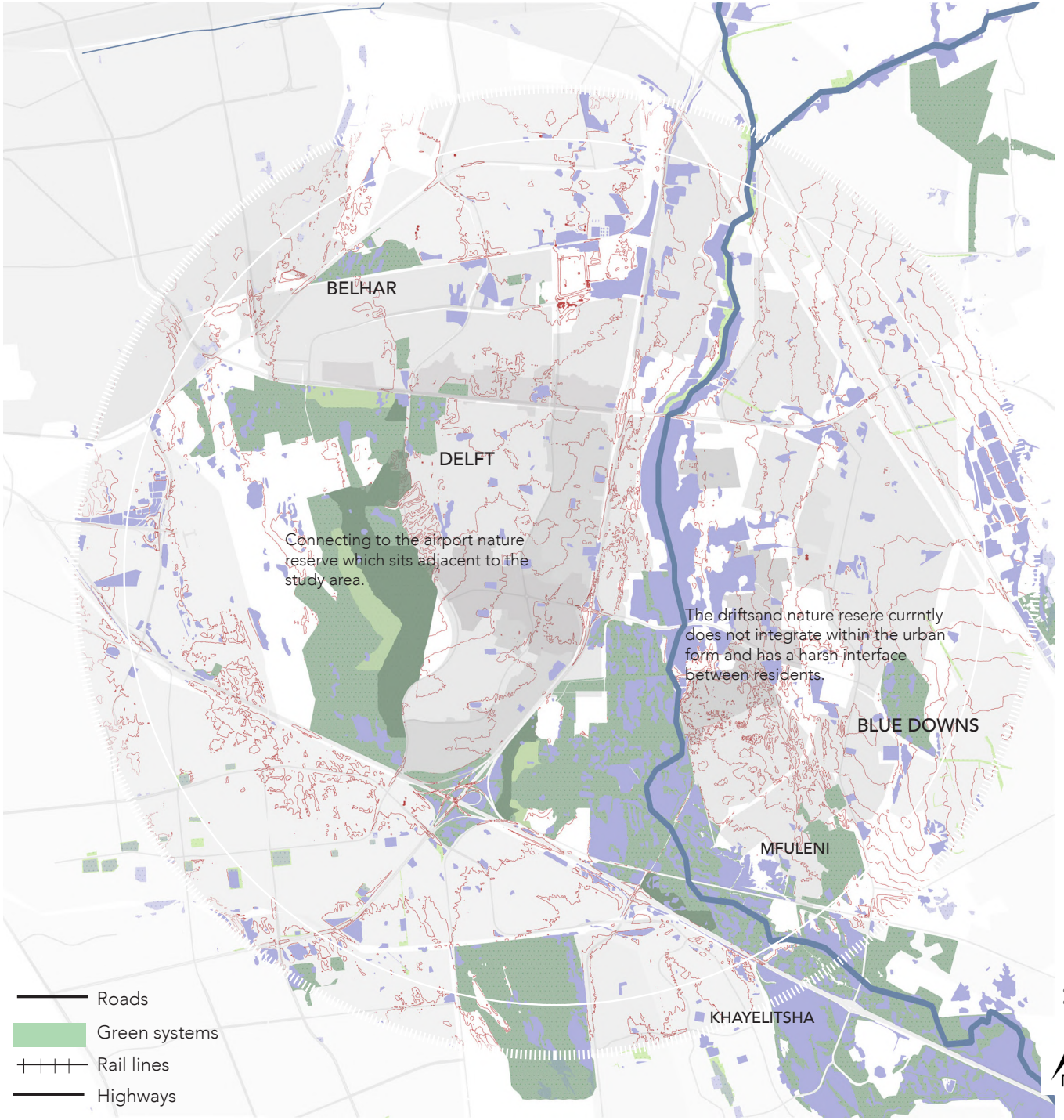


Figure 55.1: Map illustrating the green systems, their interface with the urban form and the potential it holds
(Author's own, 2019)

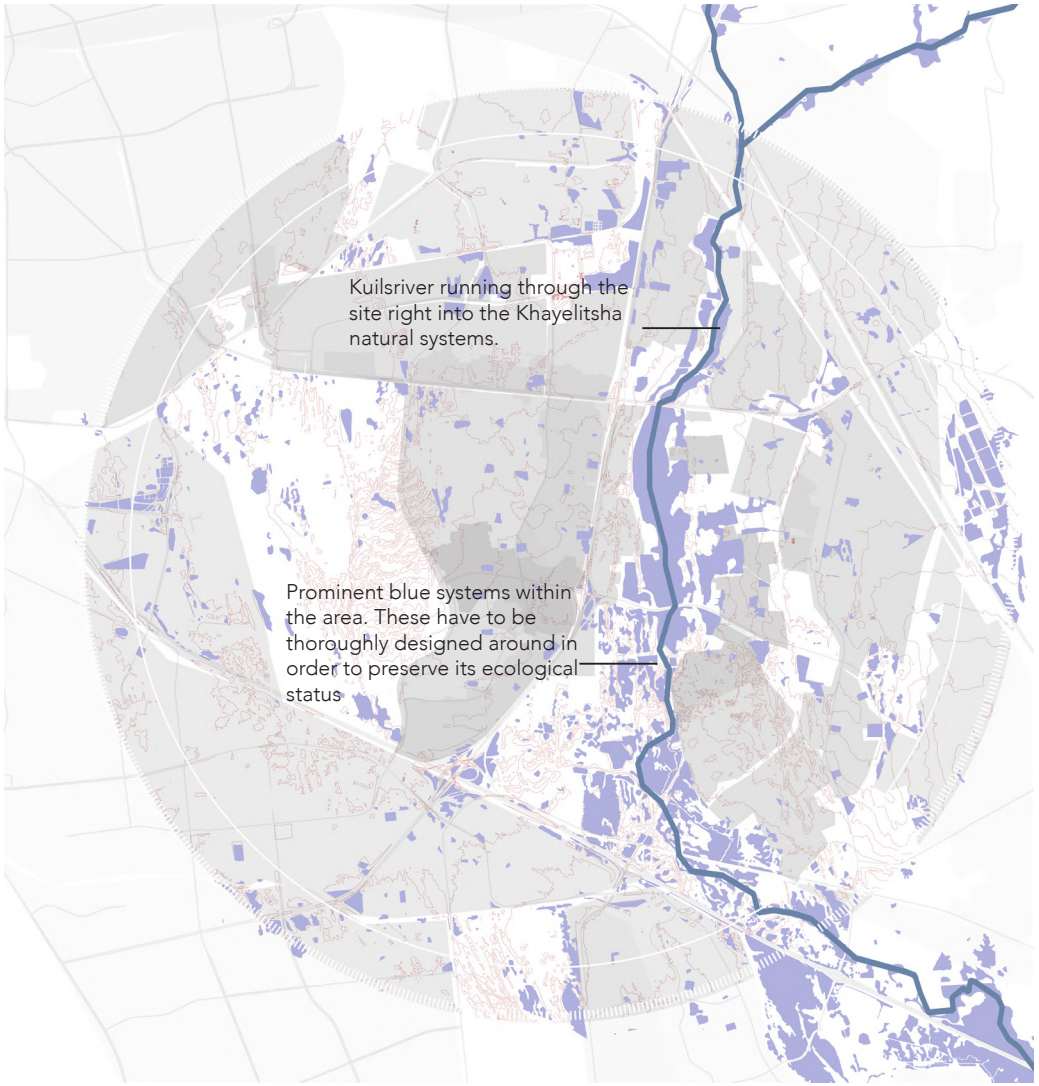


Figure 55.2: Blue systems within the study area.

Figure 55.3: Biodiversity Network - Green systems through the study site. Drftsands Nature Reserve is a promnent natural feature within the study site.

4.3.5 Areas of intensity

Analysing areas of intensity with the study area. Points in which people gather or the gatheing and clustering of activities.

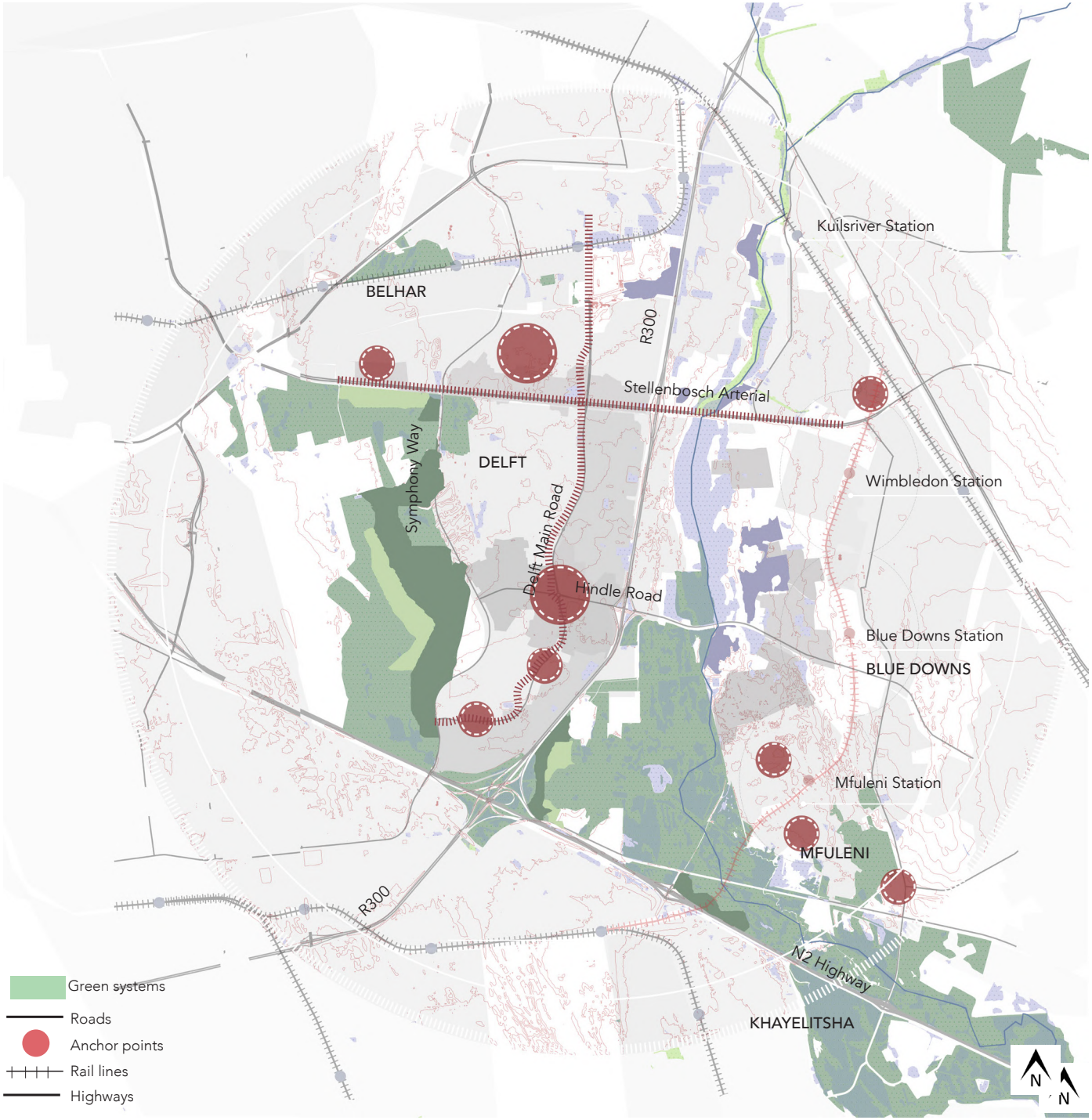


Figure 56: Map illustrating areas of intensity and point of high activity
(Author's own, 2019)

4.3.6 Activity routes

Analysing activity routes within the study area according to Cranes concept of the Capital Web (1960). These indicate existing activity routes and also indcate how to add to these or where to implement new activity routes.

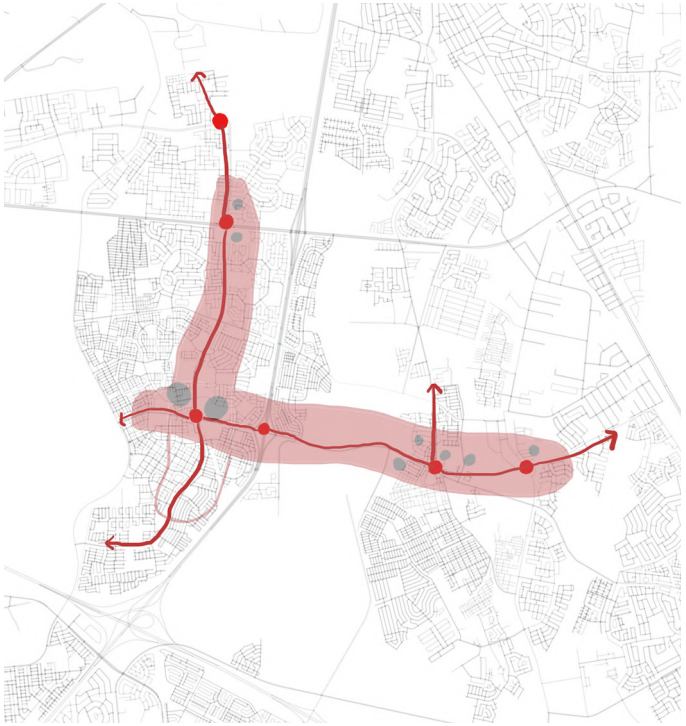


Figure 57: Diagram illustrating Cranes Capital Web concept(1960)
(Author's own, 2019)

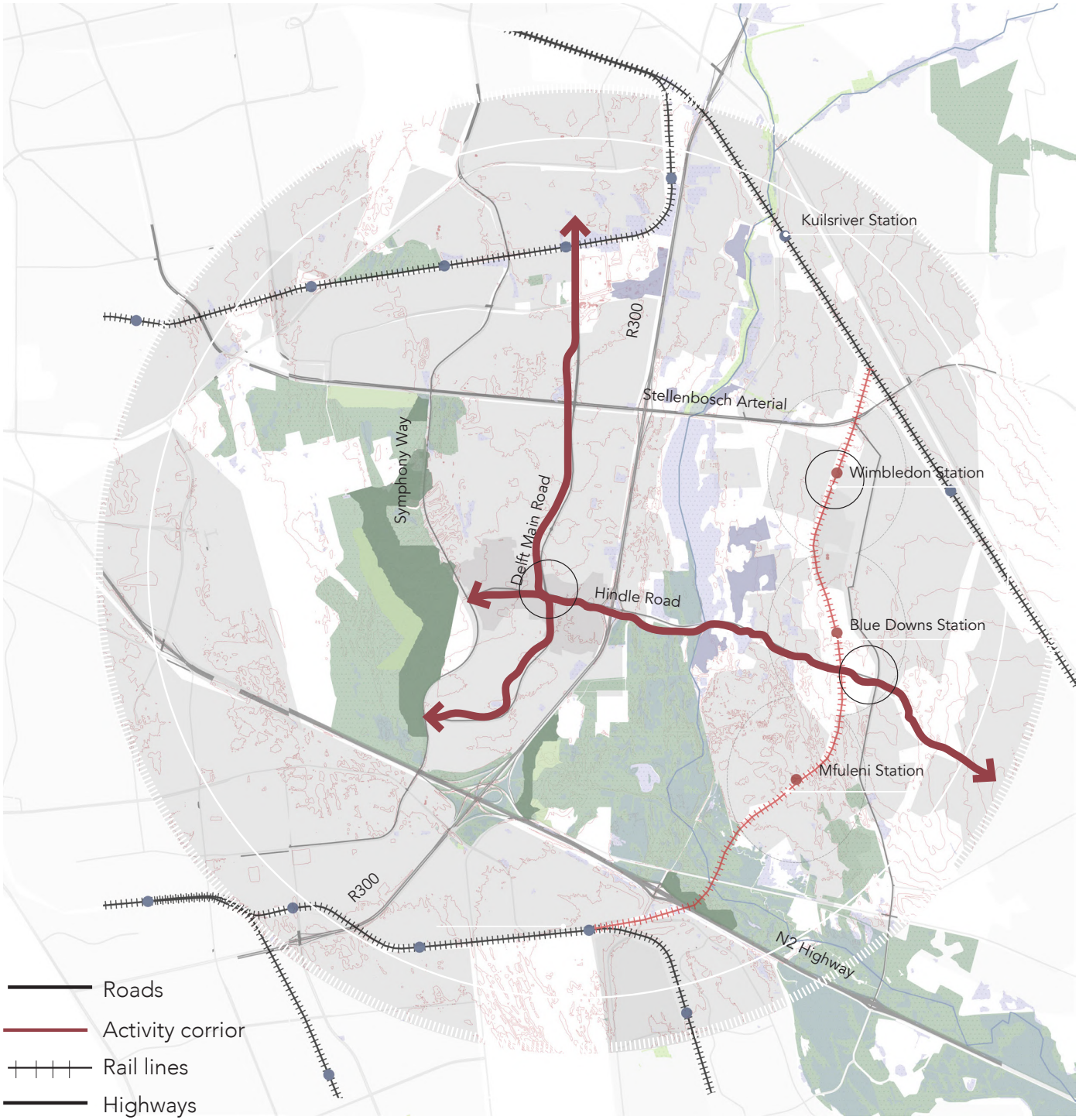


Figure 58: Map illustrating activity routes based on Cranes Capital Web concept(1960)
(Author's own, 2019)

4.3.7 Anchor points

Interrogating points in the study area would could act as anchor points which could potentially anchor the cocept of the Capital Wen (1960) and aid to the implementation of the design principles.

These anchor points contain civic, recreational and educational facilities which could be linked from one point to another.

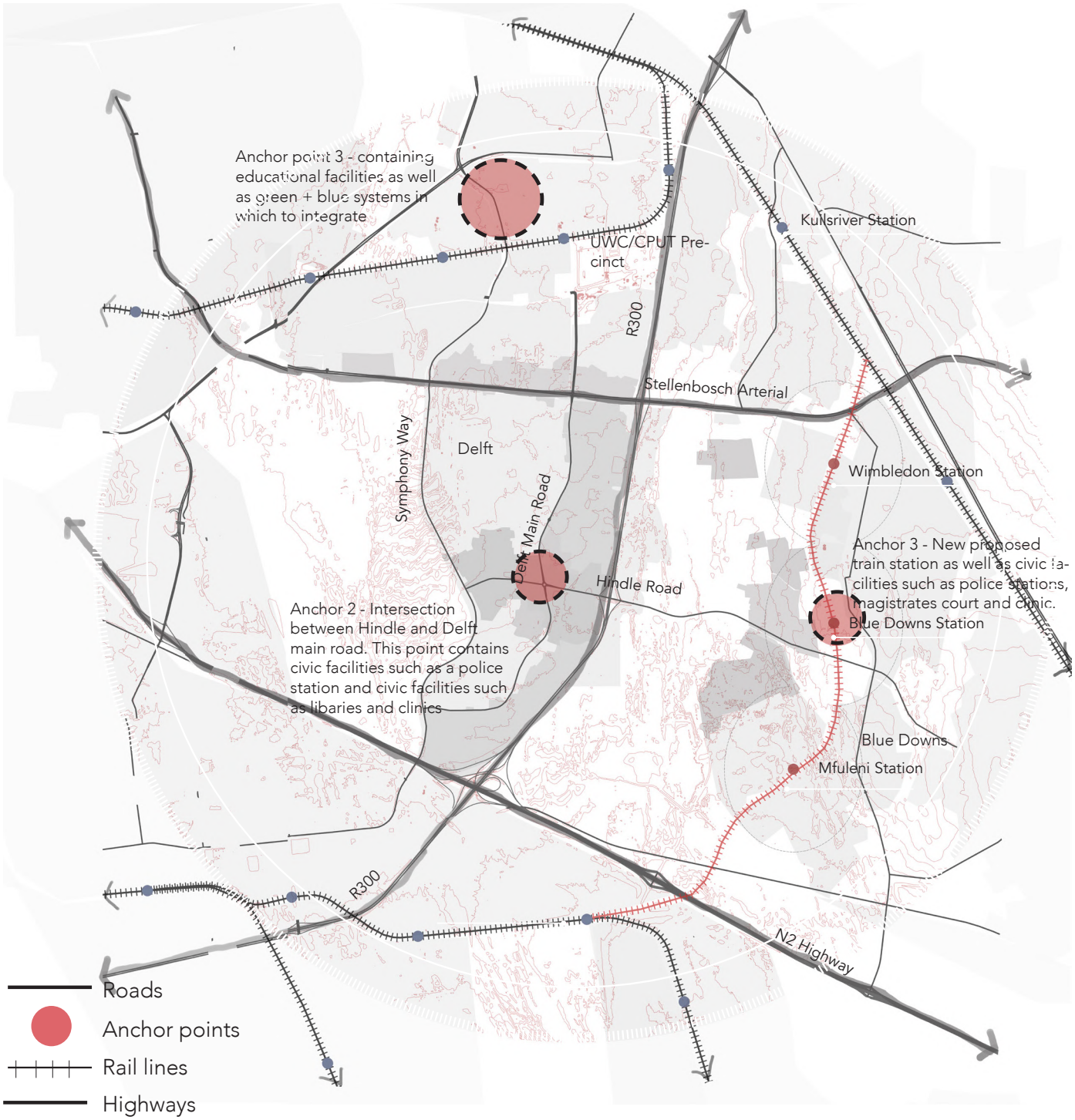


Figure 59: Map illustrating anchor points within the study area
(Author's own, 2019)

4.3.8 Gateways

Analysing and critiquing gateways which create entry and thresholds between areas.

Figure 60: Map illustrating gateways which act as thresholds
(Author's own, 2019)

4.3.9 Theoretical framework implemented at the sub-metro scale

The maps and diagrams below illustrates ways and points in which we can 'Bridge the divide' across harsh infrastructural barriers. Crossing over at specific nodes (anchor points) This supports the connectivity between these anhor points through connecting civic, eduactional and recreational facilities. The connectivity and provision of these facilities supports the proposed public transport systems.This promotes and supports the theoretical framework which had been set out in the previous chapter. It supports the Just City (2011) and Right to the city (2004) concept. The nodes also act as the "Bus Stop" concept at a larger scale of Hamdi's (2004) Small change and the connectivity between them acts as Cranes (1960) Capital Web.

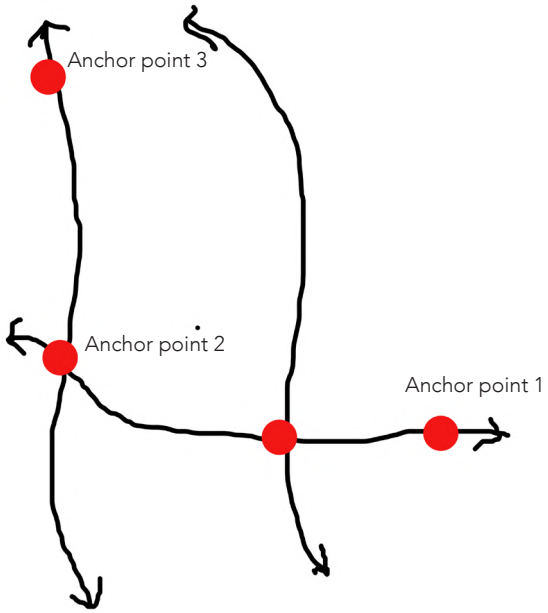


Figure 61: (above) Diagram illustrating the argument at the sub-metro scale
(Author's own, 2019)

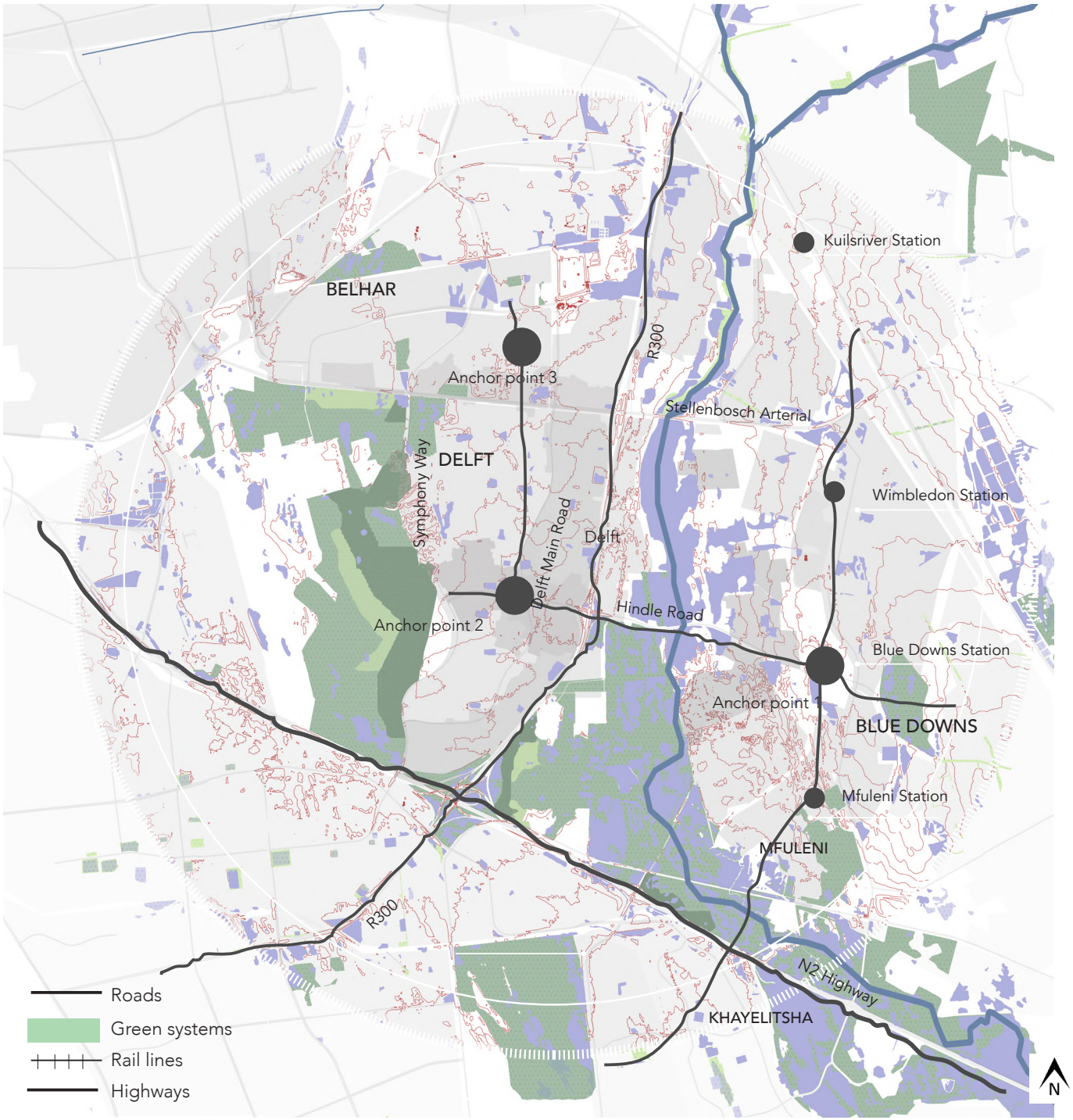


Figure 62: (right) Map illustrating the theoretical framework and argument within the sub-metro scale
(Author's own, 2019)

5. PROJECT CONCEPTUALISATION

Concept designs at the sub-metro and precinct scale

5. PROJECT CONCEPTUALISATION

5.1 Conceptual framework

The conceptual framework as follows came about as a result of the intensive and critical site analysis as well as the implementation and critique of the theoreticl framework within this research project. The concept includes the principles of **accessibility, choice, permeability and diversity.**

The concept speak to the aims, objectives and vision that was brought up upfront. The concept as follows address the following;

- linking eductional and civic facilities for ease of access (these can be seen through linking the anchor points in which public and private invest take place)
- enhance strong urban structures/ structuring elements
- link and integrate ecological systems into new development (this is seen through the integration of the Kuilsriver buffer zone and Driftsands nature reserve within the precinct)
- create inclusive movement networks through the incorporation of NMT routes and publici transport routes
- creation of robust and permeable spaces
- create a network of appropriate soft and hard public places for ease of access
- densify around public transport interchanges and allowing for alternative uses of train station, creating them as importants nodes of mixed use rather than just stop and go systems)
- creating context and socio-economic appropriate spaces

The following concepts bring through the theoretical framework. The include the noton of the Just City (2011) and the Right to the City (2004) through the notion of creating easily accessible and permeable spaces in which everyone has access to not only within the precinct but to the rest of the city. The link between educational facilities and the implentation of a new TVETs allow for ease of access to be reached spatially and aspatially. These importants civic facilitiies act as anchor points in which promote the Bus Stop (2004) and Captial Web (1960) idea through public private investments that support the partail planning and urban interventions.

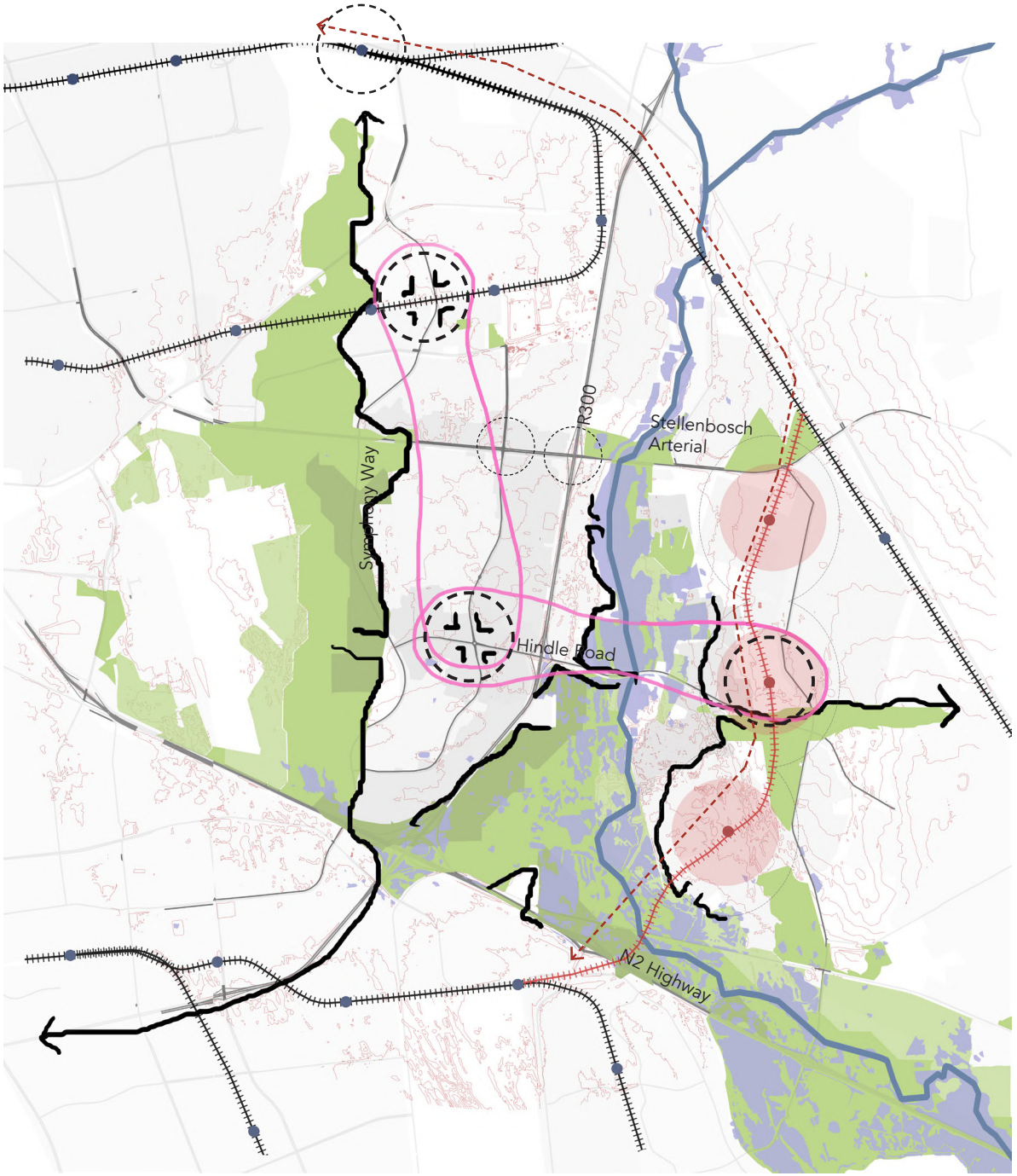


Figure 63.1: Conceptual framework
(Author's own, 2019)

Connecting train stations back to Bellville CBD. Creating ease of access to major economic nodes.

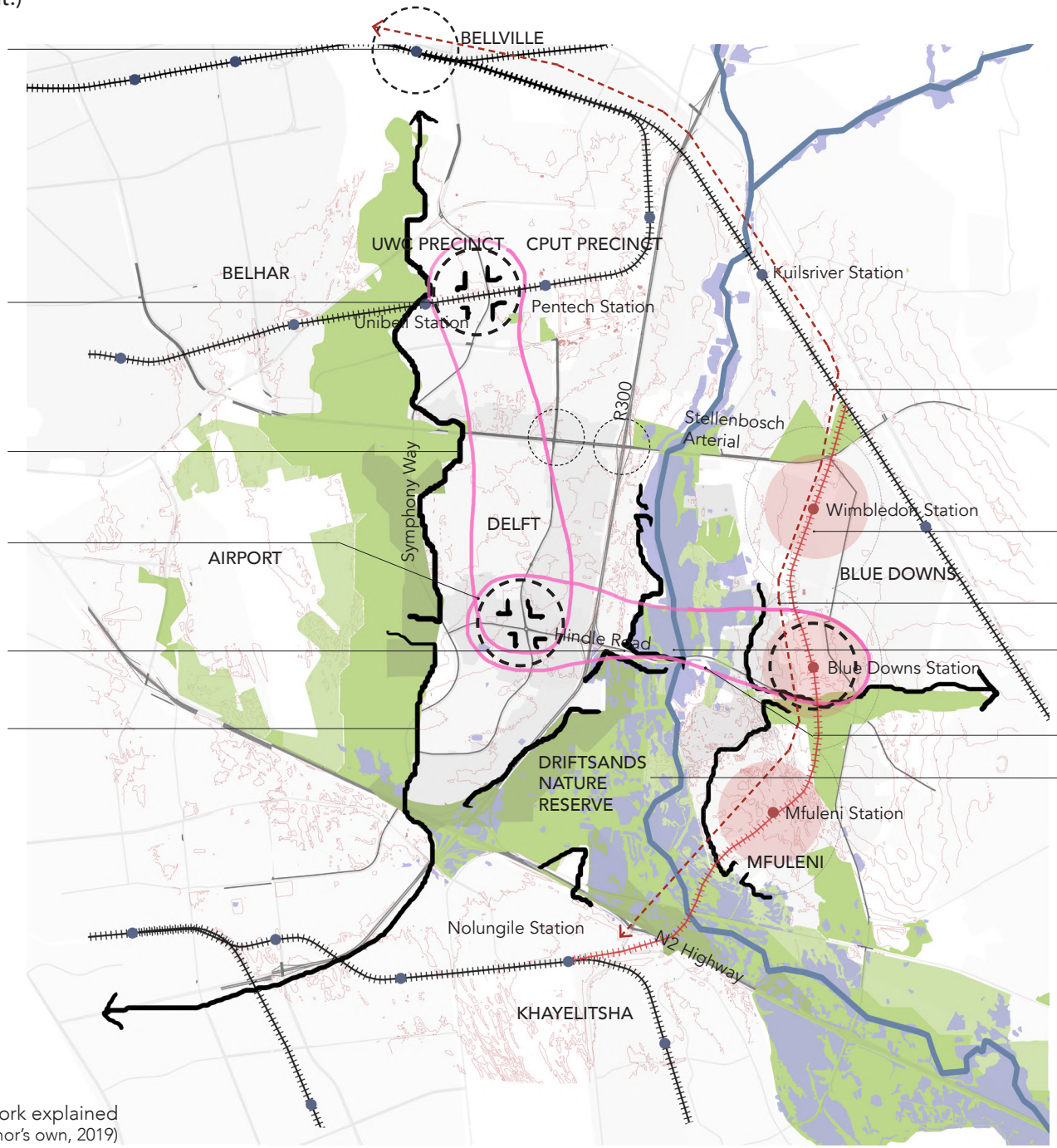
Linking educational facilities between adjacent suburbs to create ease of access and set up framework for public and private investments.

Creating positive interfaces with neighbouring green systems.

Creation of anchor points. Point which leads investment to. Relating and applying Capital Web (1960) and Small Change (2004) theories.

Linking and integrating ecological systems through adjacent suburbs. Creating integrative natural and urban formations.

Enhancing strong urban structures/ structuring elements.



New railway lines. Closing the loop within the MSE and linking back to Bellvilles economic opportunity node.

Densify around public transport interchanges and allow for alternative uses of train station, creating them as important nodes of mixed use rather than just a stop and go system.

Creation of robust and permeable spaces.

Catalytic project (TVET node/ educational facilities) within the site.

Network of appropriate hard and soft public spaces.

Link and intergrate ecological systems. Create positive buffer zones between urban and natural systems. These will allow for the preservtion of these ecological systems.

Figure 63.2: Conceptual framework explained
(Author's own, 2019)

5.2 Unpacking concepts through design principles

The following diagrams unpacks the spatial concept through the design principles, theoretical framework and elements within the concept.

Figure 64: **Integration of blue and green systems** throughout the study area. Allowing the ecological systems to become integrators and not be divisive in nature. Also allowing for a different interface between these different systems
(Author's own, 2019)

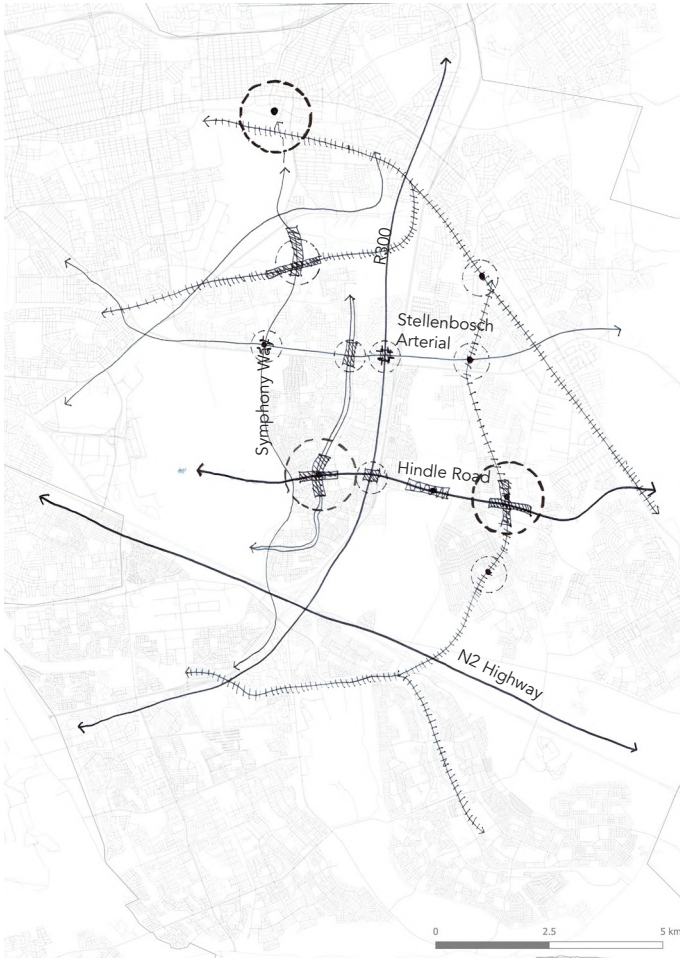


Figure 65: Change in **activity** and nature of these activity routes within the study area. The nature and conitions of these routes change as the interace and immediate context changes
(Author's own, 2019)

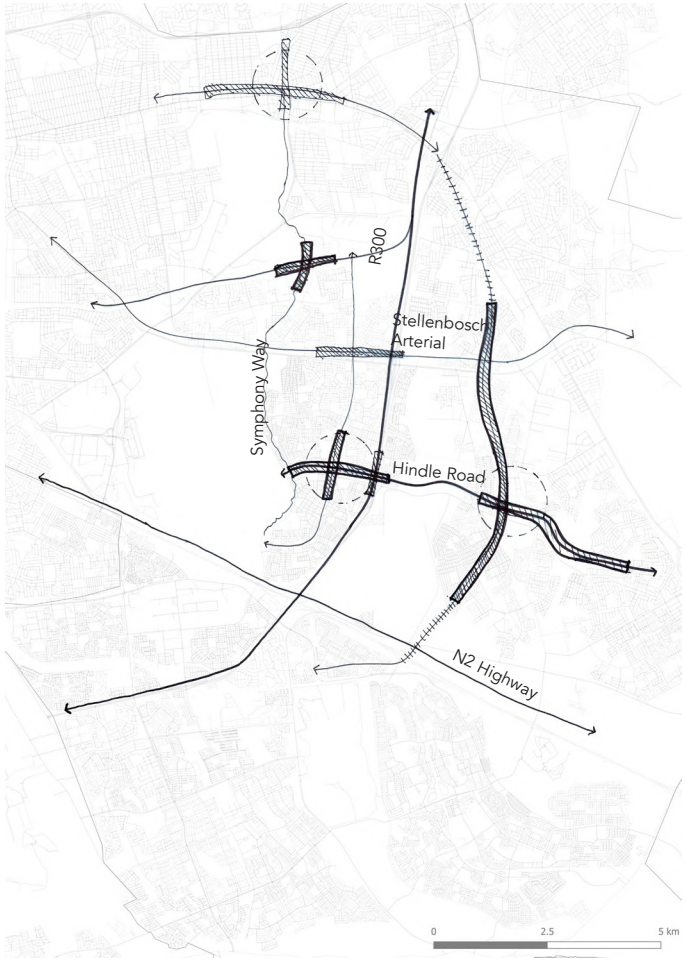


Figure 66: **Intensity** of these major connections and movement routes and how they change throughou.
(Author's own, 2019)

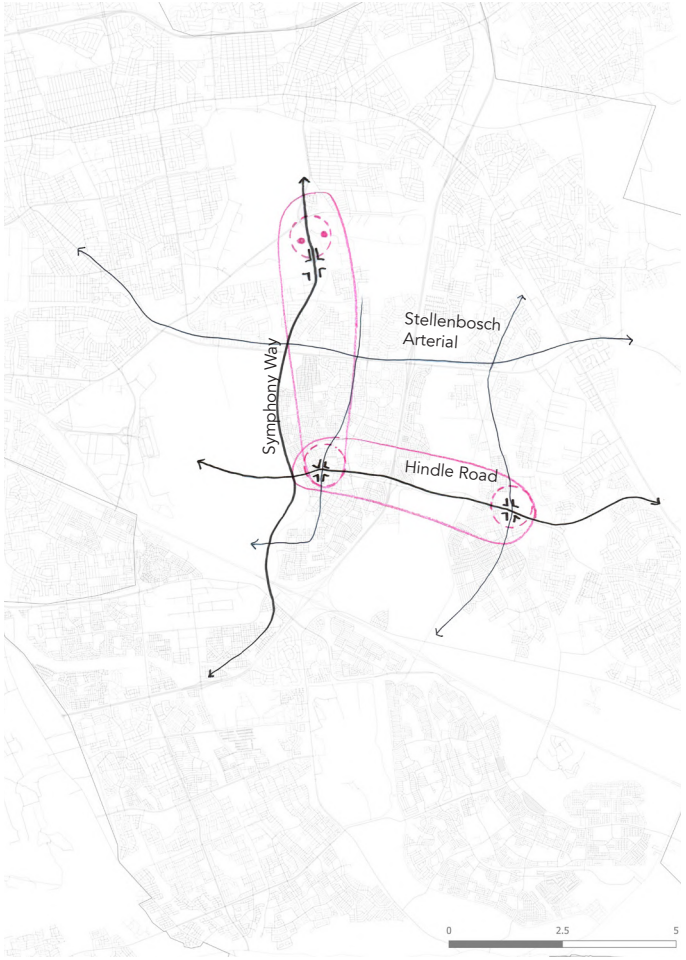


Figure 67: **Linking anchor points** and more importantly **educational facilities** within these anchor points. The connections promote opportunites and the right and ease of access to these opportunities.
(Author's own, 2019)

Figure 68: **Gateways and thresholds** within the study area. These gateways access different systems or aglomeration of systems which create their own identity and are **diverse**
(Author's own, 2019)

Figure 69: **Permeability** through the sub-metro into the precinct site, this shows the ease of access and integration between suburbs over these infrstructural divides.
(Author's own, 2019)

6. DESIGN DEVELOPMENT

Devising a spatial development framework at the sub-metro scale and then developing it further into a precinct plan.

6. DESIGN DEVELOPMENT

6.1 Conceptual spatial development framework

Processes of developing a spatial development framework at the sub-metro scale.

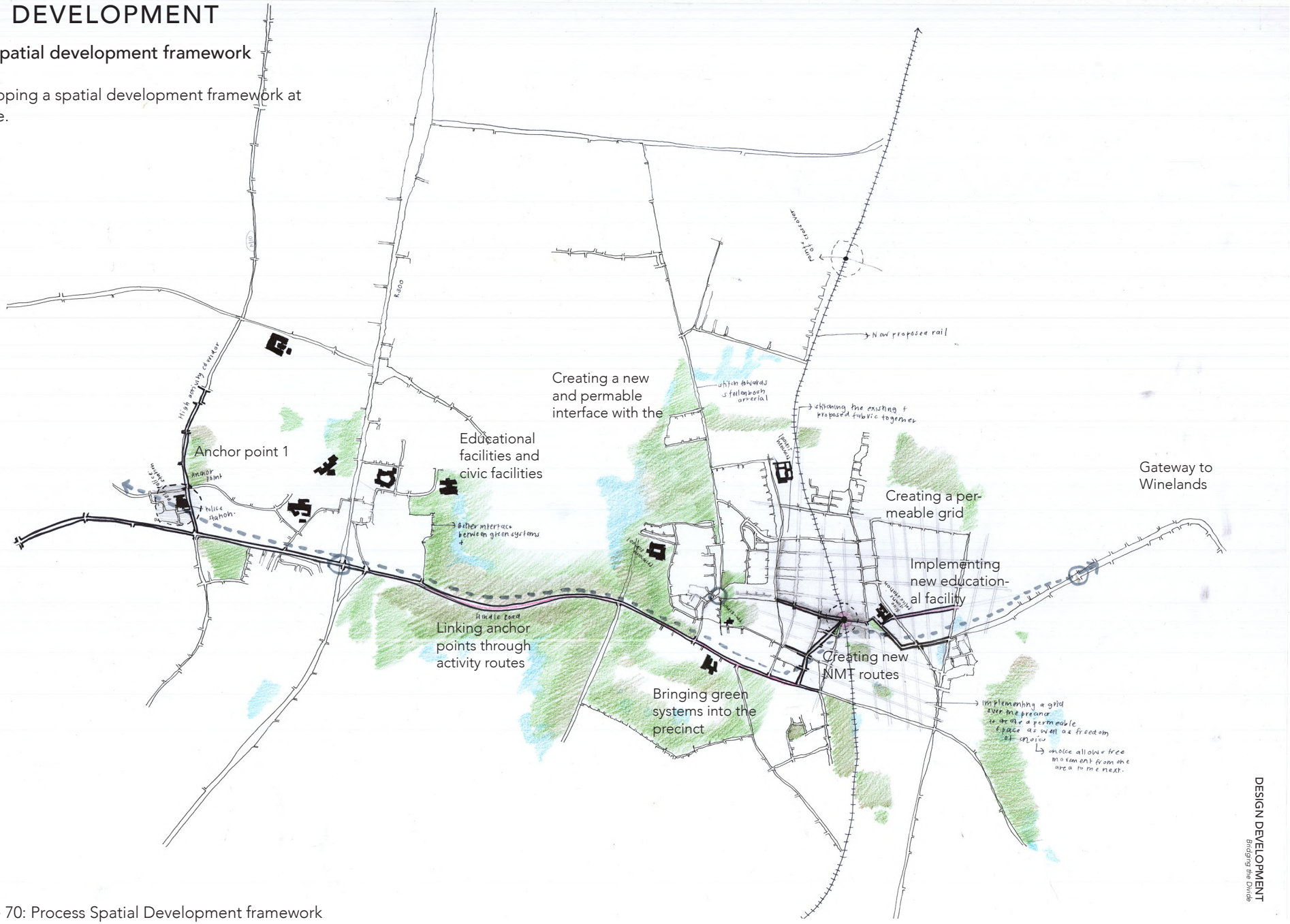


Figure 70: Process Spatial Development framework
(Author's own, 2019)

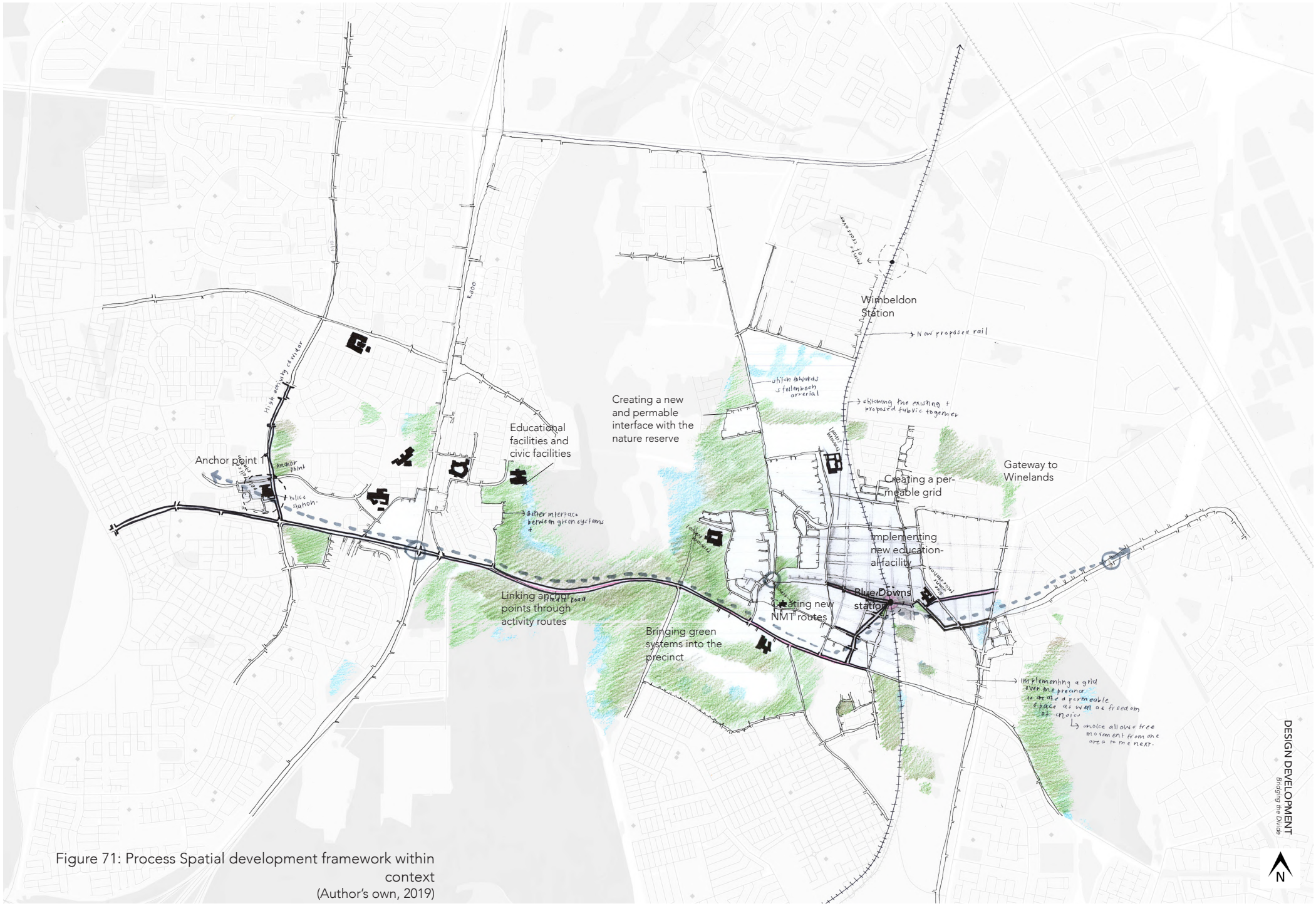


Figure 71: Process Spatial development framework within context
(Author's own, 2019)

Figure 72: Spatial development framework 2
(Author's own, 2019)

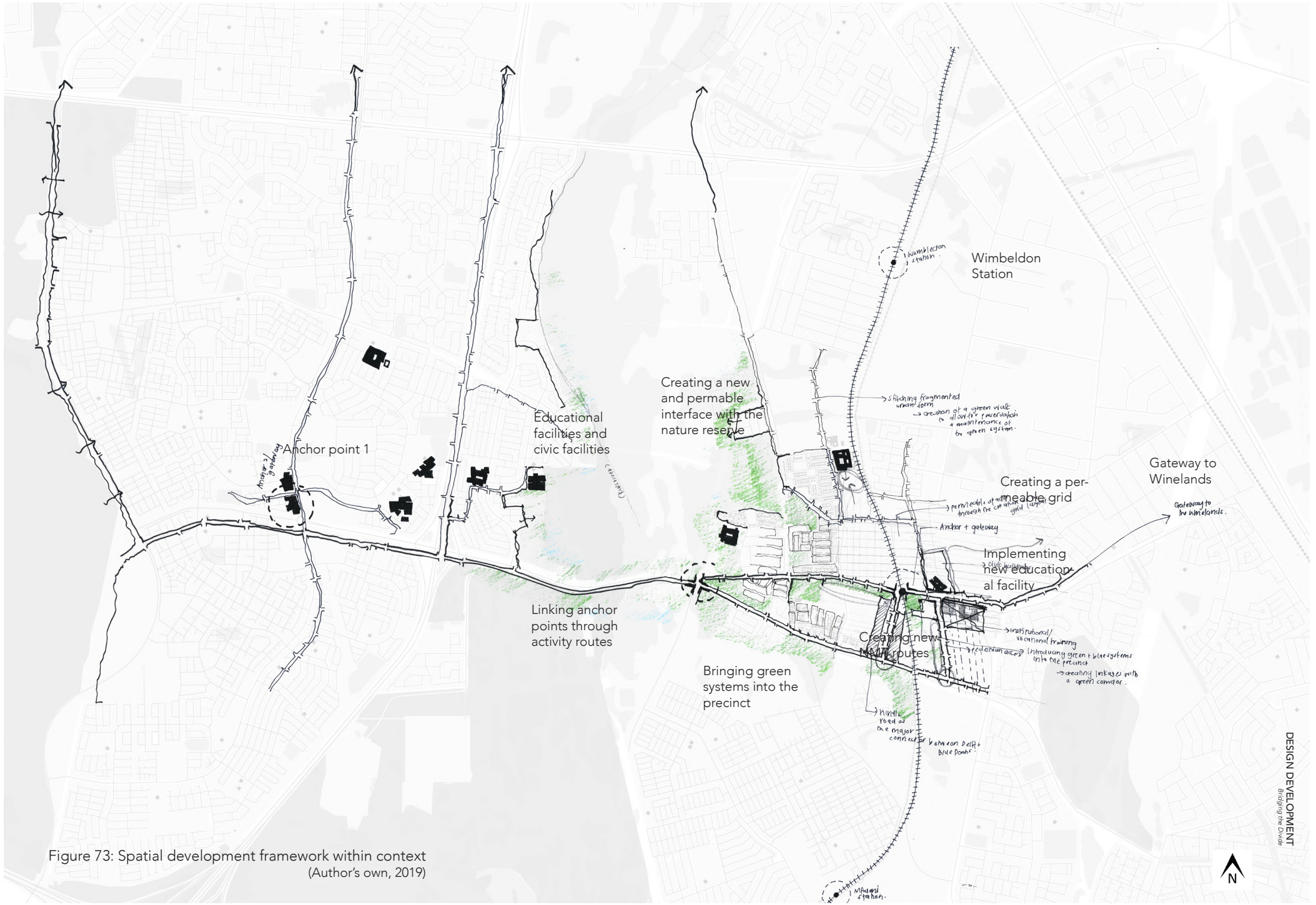


Figure 73: Spatial development framework within context
(Author's own, 2019)

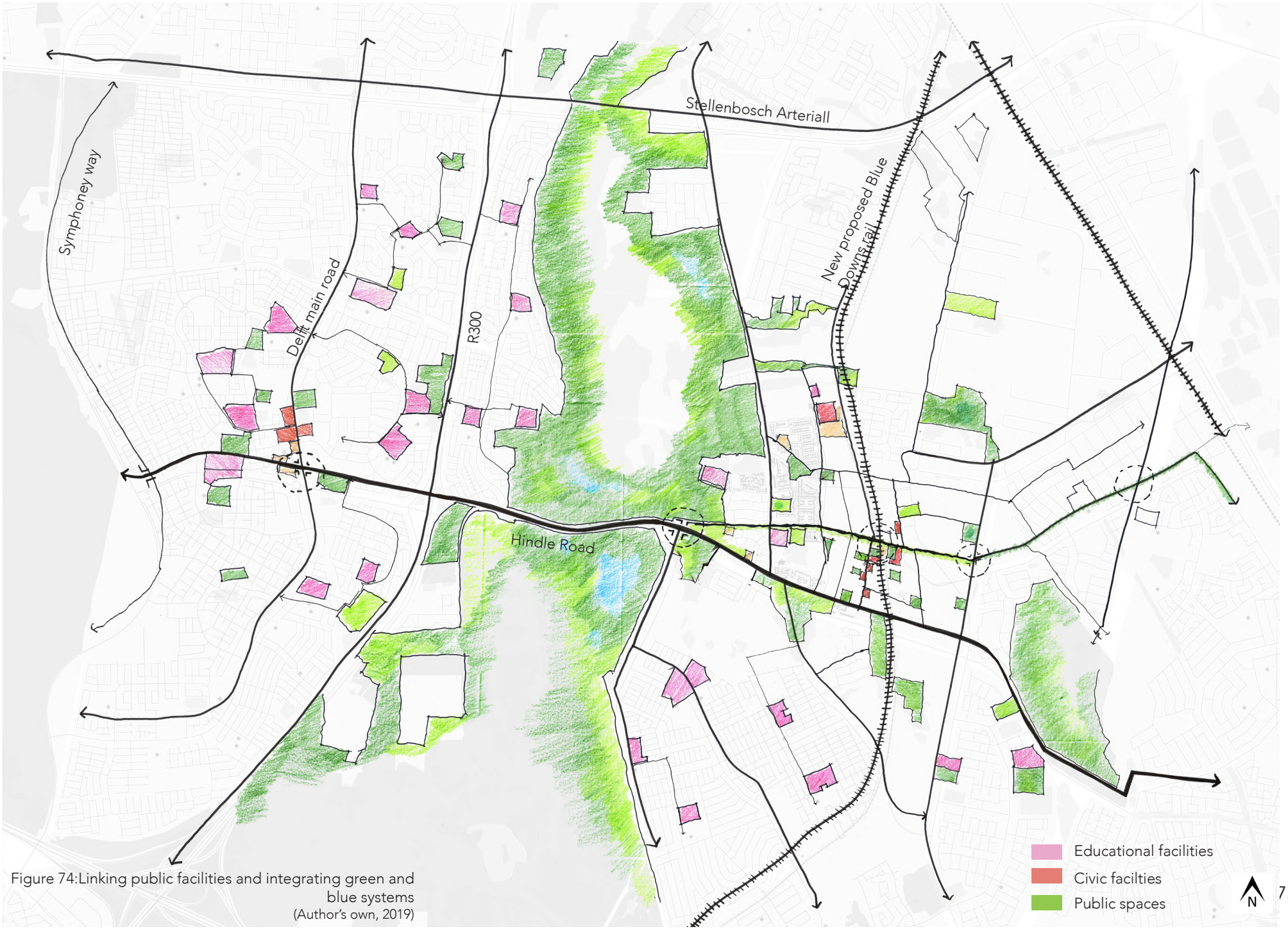


Figure 74:Linking public facilities and integrating green and blue systems
(Author's own, 2019)

6.2 Process of translating diagrams into designs

The following diagrams and drawing illustrate the process of translating diagrams into a precinct design as per Jody Patterson work in Dewar and Todeschini's Rethinking Transport after modernism (2004). This allows the for the process of translating theory and conceptual frameworks to reflect in design development drawings.

These drawings and diagrams clarify the systems of access through the **emphasis of its structuring elements.**

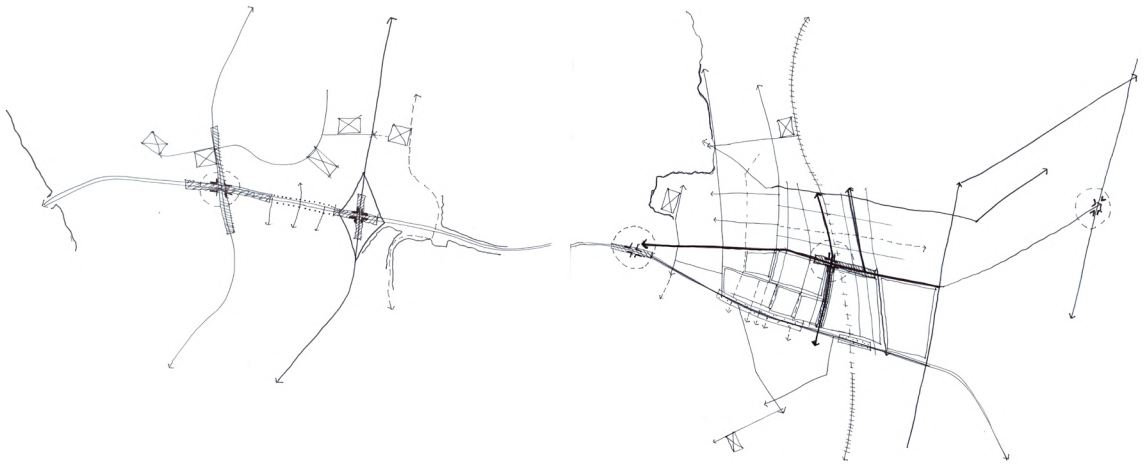


Figure 75: Diagram of connectivity network
(Author's own, 2019)

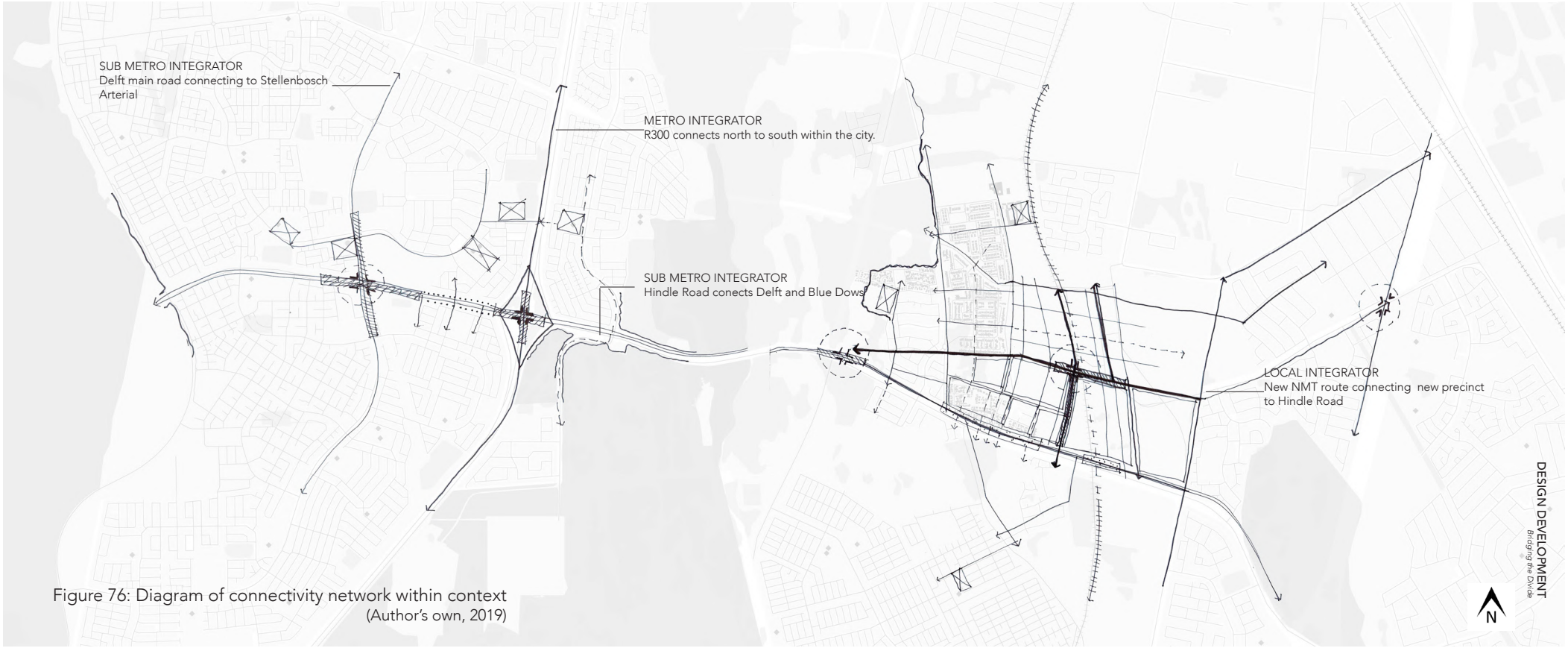


Figure 76: Diagram of connectivity network within context
(Author's own, 2019)

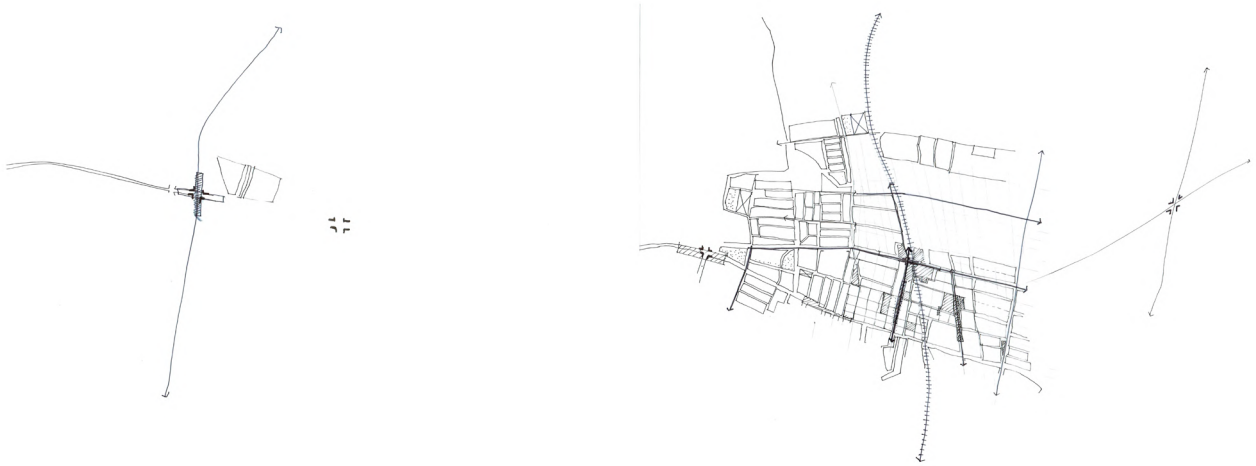


Figure 77: Diagram of super blocks and the creation of permeable new spaces
(Author's own, 2019)

Figure 78: Diagram of super blocks within context
(Author's own, 2019)

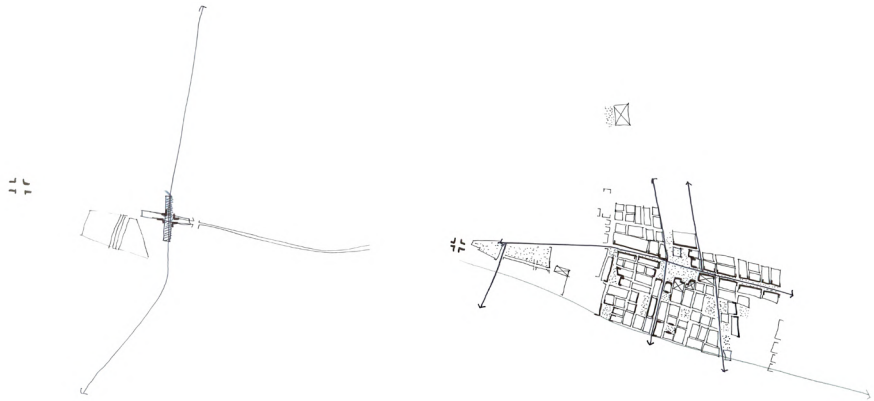


Figure 78: Diagram of precinct block
(Author's own, 2019)

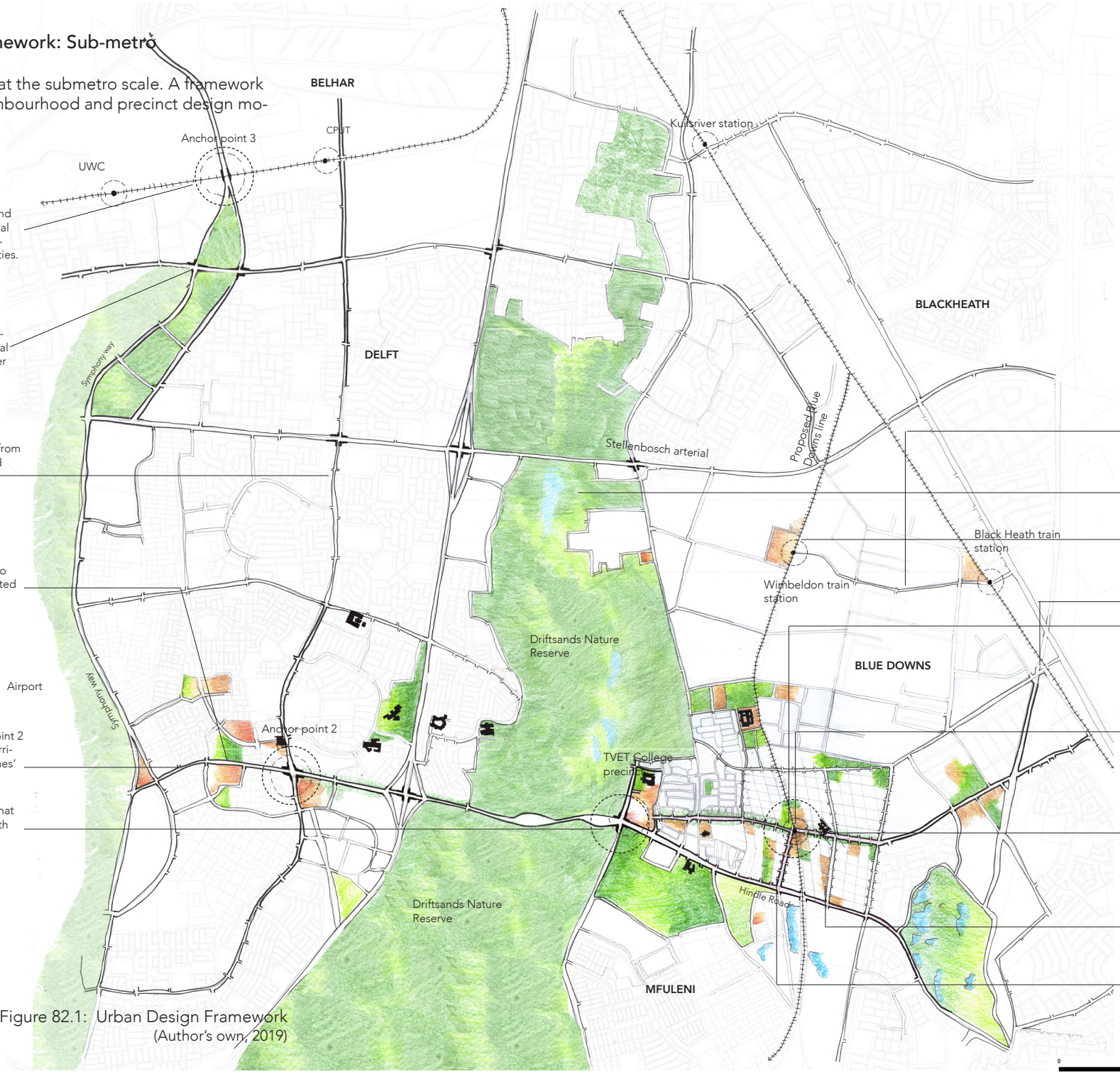
Figure 79: Diagram of precinct blocks withn context
(Author's own, 2019)

Figure 80: Diagram of hard and soft public spaces within the precicnt
(Author's own, 2019)

Figure 81: Diagram of hard and soft public spaces within the precicnt within context
(Author's own, 2019)

6.3 Urban design framework: Sub-metro

Urban design framework at the submetro scale. A framework which promotes the neighbourhood and precinct design motives.



Anchor point 3 connects anchor point 1 and 2 through activity corridors and educational facilities. It ties the concept of creating access to educational and recreational facilities. Bridging the socio-economic divide.

Linking green systems up to the UWC precinct - creating an intergrted web of natural systems - having them as integraters rather than dividers.

Delfts main activity corriodor connceting from Delfts main civic node up to the UWC and CPUT educational node.

Linking green systems from the airport into the framework to allow for a more integrated natural and urban system.

Connecting anchor point 1 and anchor point 2 through activity routes and investment corridors (public and private - tapping on Cranes' Capital Web (1960).

Gateway into Blue Downs. Unique node that attracts people into the precinct. Work with natural systems.

Linking train stations - allowing to knit fragmented urban form.

Creating a new permeable inteface with the natural systems

Proposed Blue Downs rail - major public investment into the site.

Gateway into the winelands. .

Integrating natural systems within the the new precinct. Creating an ecological corridor. This allows for a network of green linkages. Allowing them to act as integrators and not dividers.

Anchor point 1
This includes the train station and PTI. This acts as the anchor point for the spatial framwork. A point in which incrementality can work from.

New main road - Predominantly NMT route. Road lined with trees and mixed land use. Allowing for spillage onto the area and create safe pedestrian movement routes. Space for public transport as well.

Creating a permeable grid within the neighbourhood unit. The permable grid allosws for ease of access and good walkability.

Civic route connects to Hindle and tp public market space and PTI

Figure 82.1: Urban Design Framework
(Author's own, 2019)

Felxible zoning which allows for economic opportunity from residential units. these allow for street activation and ‘eyes on the street’.

Gateway to educational facility. this allows for active frontages onto the Driftsands nature reserve and allow for educational facilities to upkeep and protect these natural features.

HINDLE ROAD IN BLUE DOWNS PRECINCT

GATEWAY TO EDUCATIONAL FACILITY

DELFT

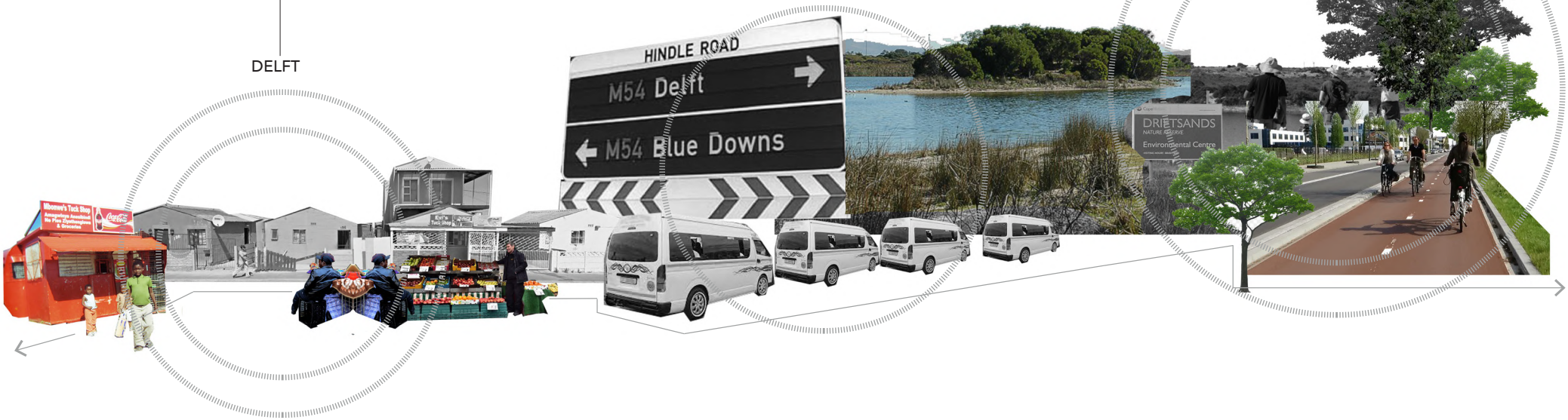
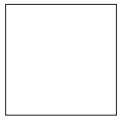


Figure 82.2: **Vision for Hindle Road**
Sectional elevation illustrating the proposed nature of Hindle Road. It illustrates the change in intensity and activity moving along from Anchor point 1 to anchor point 2.

6.4.1 Urban Design framework: Neighbourhood

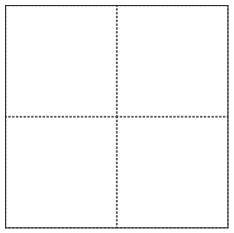
The following neighbourhood framework designs have came about through the creation of the spatial development framework. The neighbourhood unit revolves around the rail implementation. However, it is noted that the rail has a 5-20 year implementation roll over. This framework is the kick start to support the rail system as well as the opportunity to implement new public transport systems through the site.

The grid works on a 60 x 60 block. It allows for the creation of blocks to range from the 60 x 60 block to a 120 x 60 blocks to a 120 x 120 block. This allows for good permeability and the freedom of choice.



60 x 60

120 x 60



120 x 120

Figure 83: Grid layout of neighbourhood
(Author's own, 2019)

The nighbourhood framework addresses the following;

- linking and integrating green and blue systems within the precinct throughout the through public and recreational space and ecological corridor
- creating a new NMT and slow vehicular paced road which links up to the Hindle road gateway
- Implementing public and civic facilities along major routes that public transport can reach
- Creating public transport stops around public spaces
- implementing tertiary education, vocational training centre tc link the educational access to surounding suburbs

Creating a pedestrian friendly and NMT route along the main road which shares the space with various public transport systems. This main road accommodates Taxi's and MyCiti bus routes. An alternative route for MyCity Phase 2A.

TVET college precicnt. Acts as the gateway into the Blue Downs area/ precinct. Accessible educational facility.

Green corridor linking north to south, bringing in natural systems within the urban environment.

Creating positive spaces around infrastructure - allowing to bridge across infrastructural divides and create linked urban environments.

Proposed Blue Downs rail - major public investment into the site.

Private developments facing rail reserve.

Public open space and market area. PTI spills put onto this public space.

Ecological corridor - integrating green systems into the precinct. Using them as integrators and not dividers.

Civic route (civic and public facilities located along this route). Connects major public space and PTI to Hindle road .

Hindle road - major mobility route. Interface on Hindle change throughout.

Figure 84: Precinct design
(Author's own, 2019)

6.4.2++ Unpacking the Urban Design Neighbourhood framework through the design principles

The following diagrams unpacks the Urban Design Neighbourhood framework through the design principles, theoretical framework and elements within the concept.

Figure 85: **Integration**: Integration of blue and green systems throughout the neighbourhood framework. Allowing the ecological systems to become integrators and not be divisive in nature. Also allowing for a different interface between these different systems.

Figure 86: **Activity:** Change in activity and nature of these activity routes within the neighbourhood framework. The nature and conitions of these routes change as the interface.

Figure 87 **Intensity**: Change in intensity throughout the neighbourhood framework.

Figure 88: **Anchor points**
Linking anchor points and more importantly educational facilities within these anchor points. The connections promote opportunites and the right and ease of access to these opportunities.

Figure 89: **Gateways**
Gateways and thresholds within the study area. These gateways access different systems or aglomeration of systems which create their own identity and diversity.

Figure 90: **Tree lined streets**
Aiding to the integration of natural systems within the framework, the above illustrates tree lined streets which create positive street interfaces.

Figure 91: **Public space**
Network of public spaces within the neighbourhood framework.
Ranging in public civic spaces to recreational soccer fields.

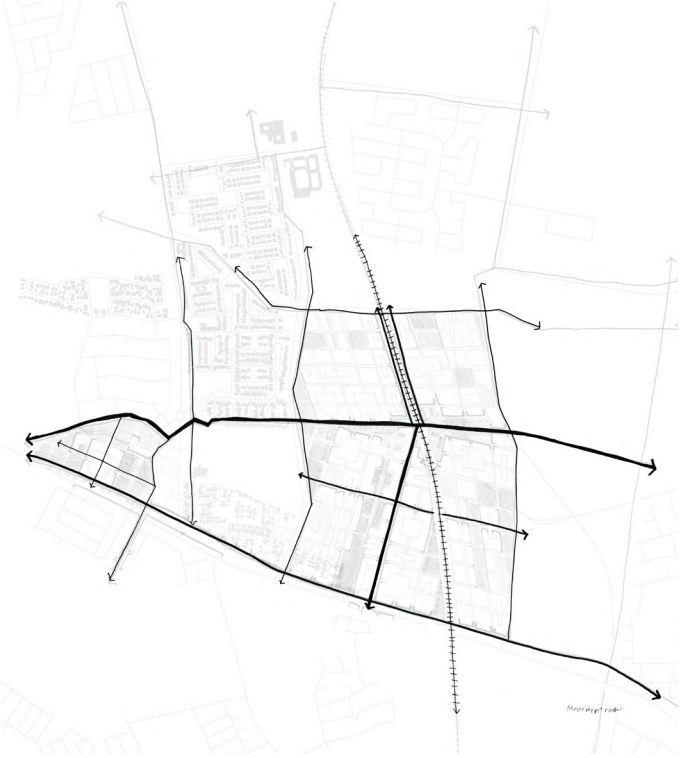


Figure 92: **Movement routes**
Major movement routes within the neighbourhood framework.
Vehicular and NMT routes, with priority given to NMT routes.

N

6.5 Precinct Design

The following plan illustrates a detailed precinct plan of a part of the Urban Design Neighbourhood Framework. It adresses the design principles and supports the research projects theoretical framework.

Figure 93: **Precinct design**
Detailed precinct design within the neighbourhood layout of proposed block detail within the Blue Downs site. This proposal allows for an intergrative urban and natural systems with flexible block sizes and designs.

6.5.1 Precedent Studies

Precedent studies to support the precinct plan ideas.

1. Tree lined streets
(neudekorieren.com, 2019)

2. Shared pavements / NMT routes
(via @placefocus,2018)

3. Public amphitheatre
(Alanna blog, 2015)

4. Market spaces
(ArchDaily, 2015)

5. Urban furniture/ public space
(Sustainablechoices, 2017)

5. Urban furniture/ public space
(ArchDaily, 2018)

6.5.2 Cross sections through the precinct

The following cross sections depict the urban character of the precinct which promotes the design principles from the Sub-metro framework right down to the street scale.

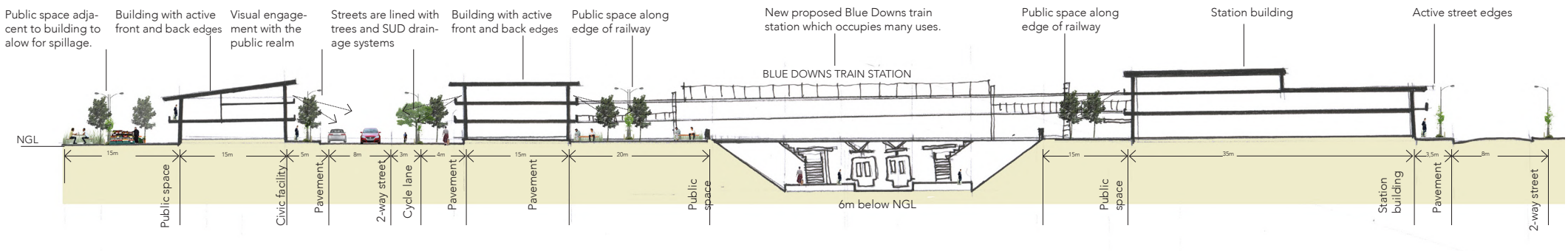


Figure 94: **Section A-A**
Section through Blue Downs train station

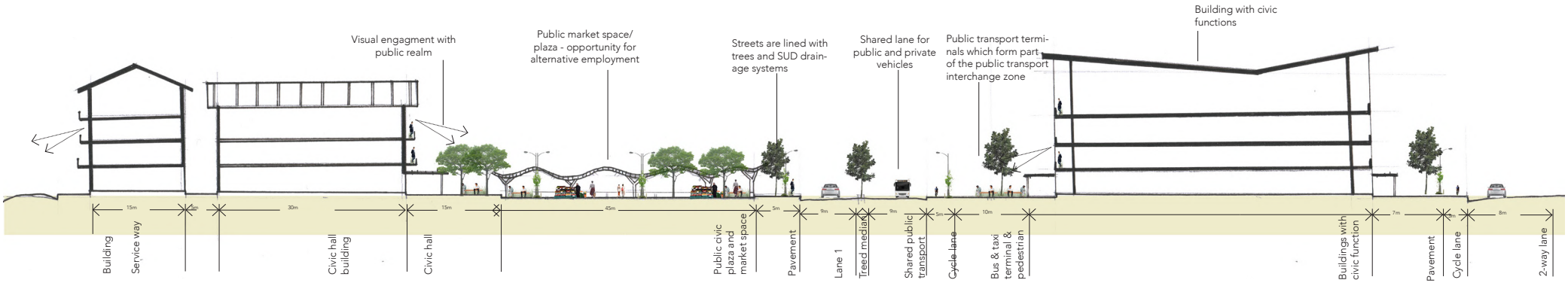


Figure 95: **Section B-B**
Section through civic plaza and transport interchange

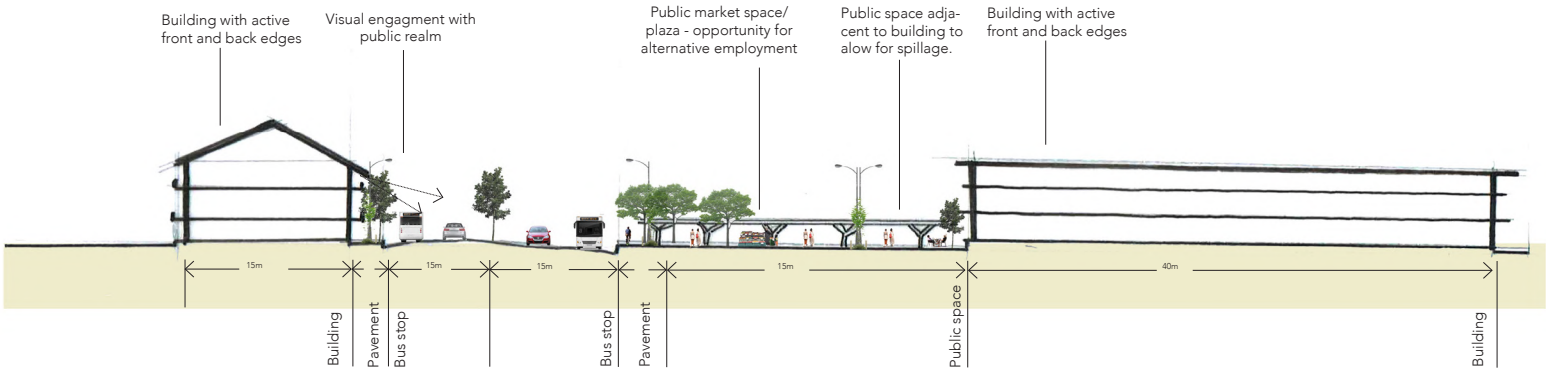


Figure 96: **Section C-C**
Section through public transport stops

6.5.3 3D Views of the precinct and neighbourhood

The following drawings illustrate the three dimensionality of the neighbourhood unit. Illustrating the height and character of the street. The height of the buildings stay consistent throughout the site to fit into the existing built fabric. The widened sidewalks accommodates all forms of non-motorised transport and strems off of flexible public spaces which accommodates a range of activites such as; informal trade, public play spaces, recreational spaces and spaces of leisure.

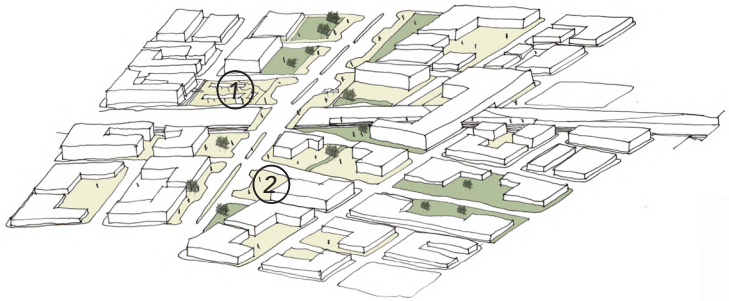


Figure 97: 3D reference view of precinct

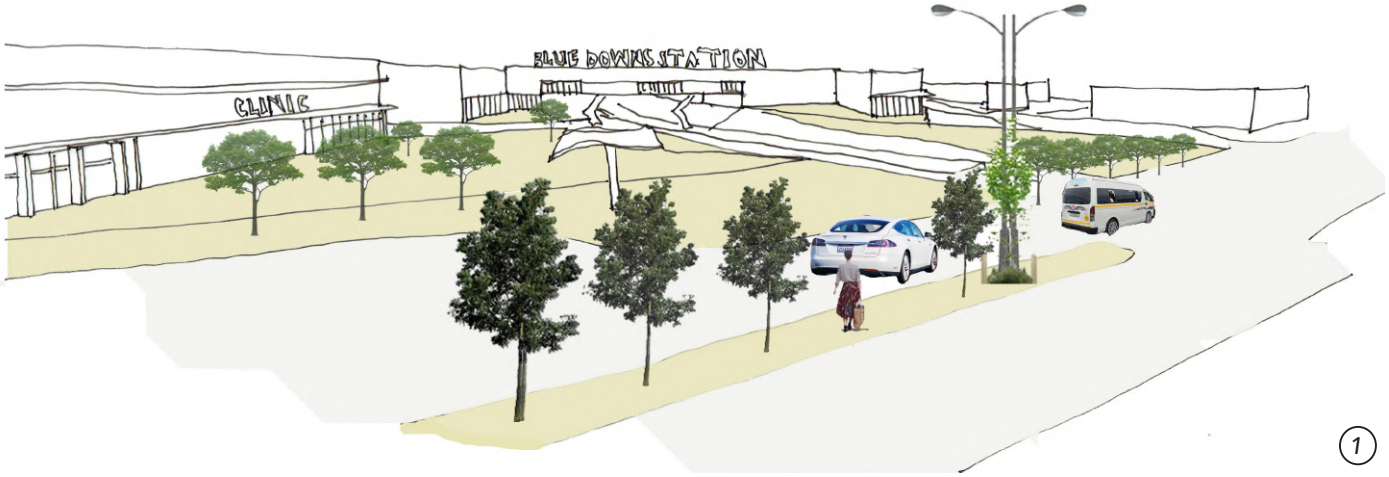


Figure 98: Public transport interchange
Perspective of public transport interchange and the nature of the public realm.

Figure 99: **Civic plaza/ market space**
Nature of the public market space and the vibrancy that accommodates it.

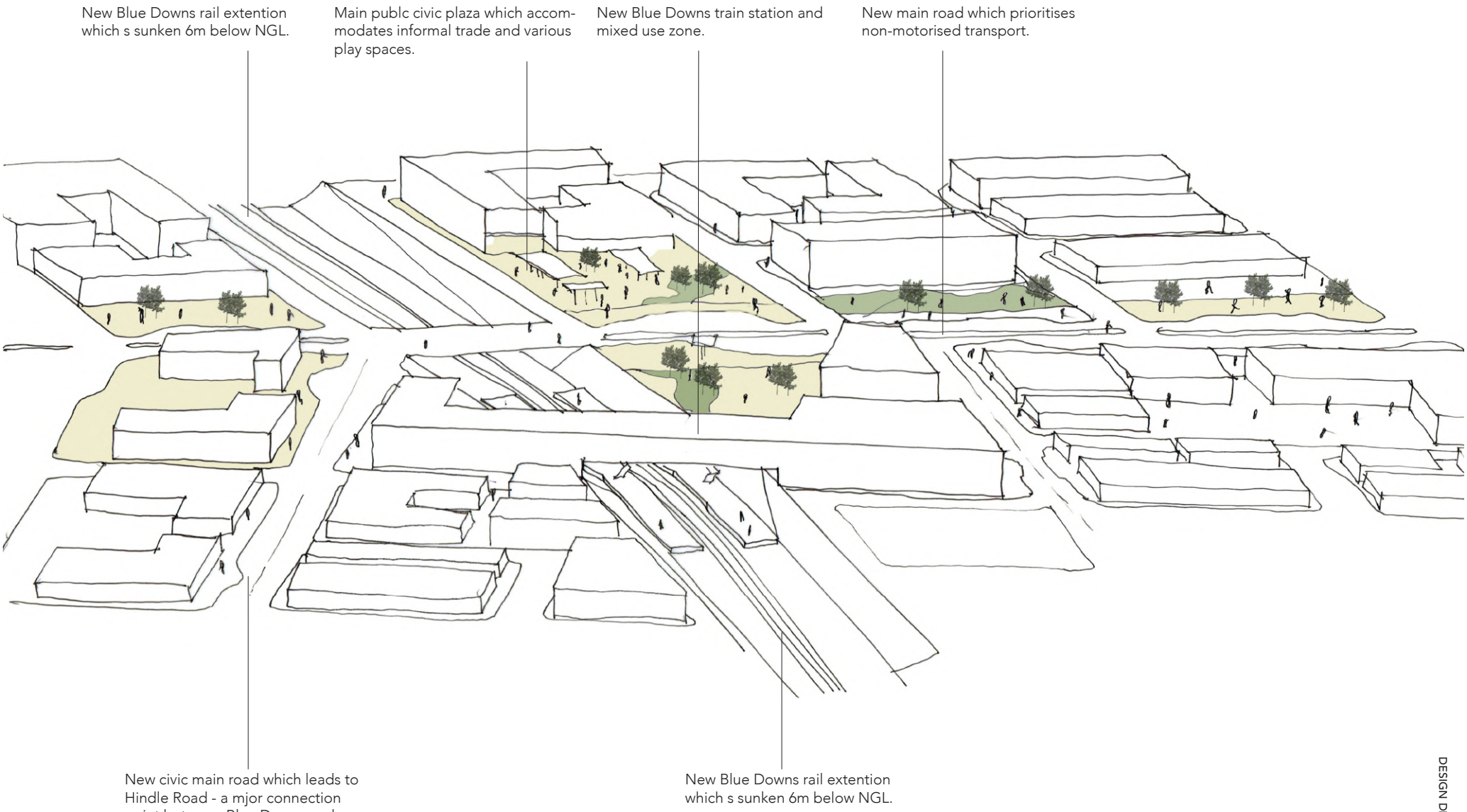


Figure 100: **3D View**
Oblique view of train station and surrounding blocks
Back view illustrates the sunken station and new station that bridges the new infrastructure.

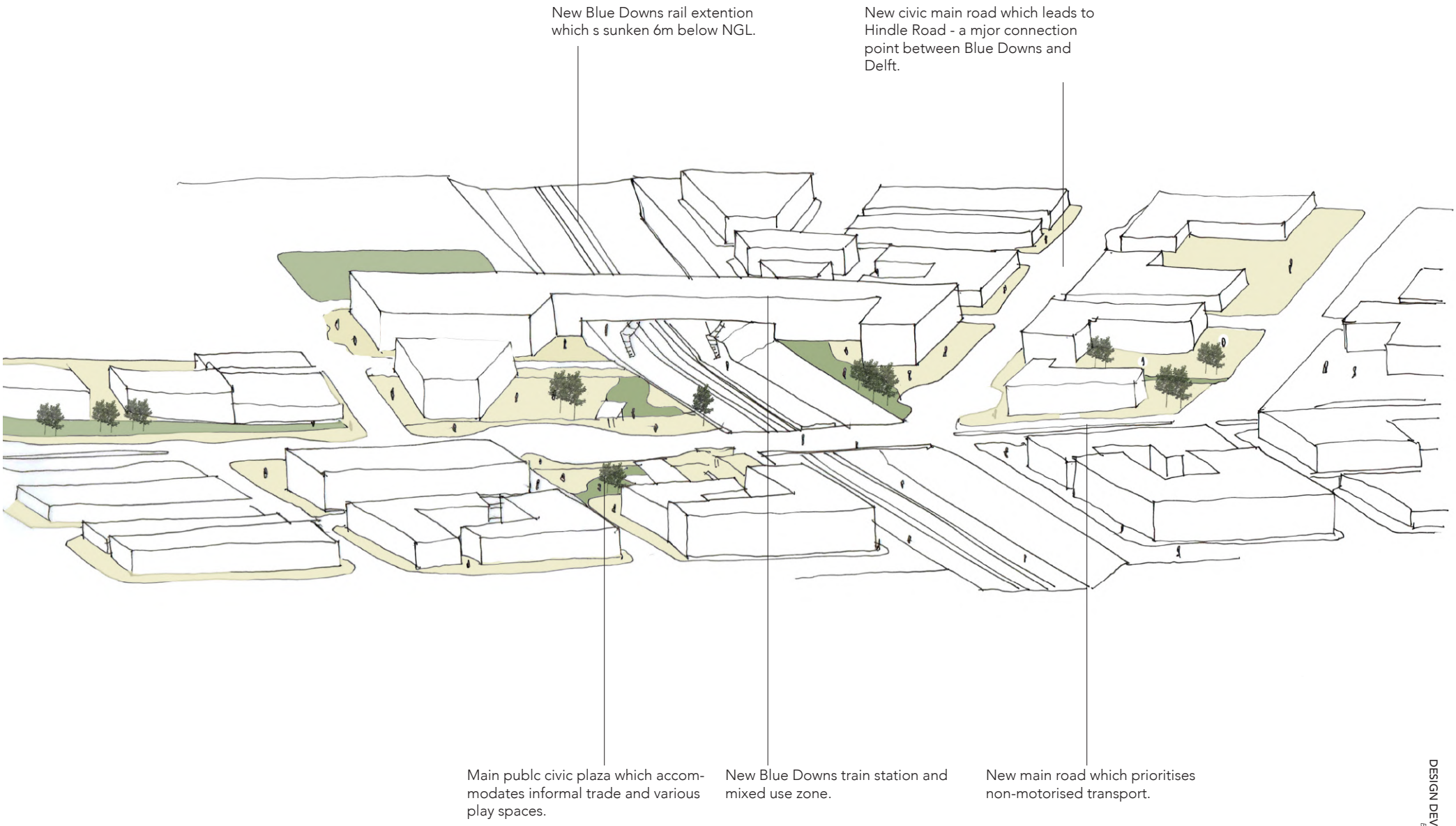


Figure 101: **3D View**
Oblique view of train station and surrounding blocks
Front view illustrates the sunken station and new station that bridges the new infrastructure.

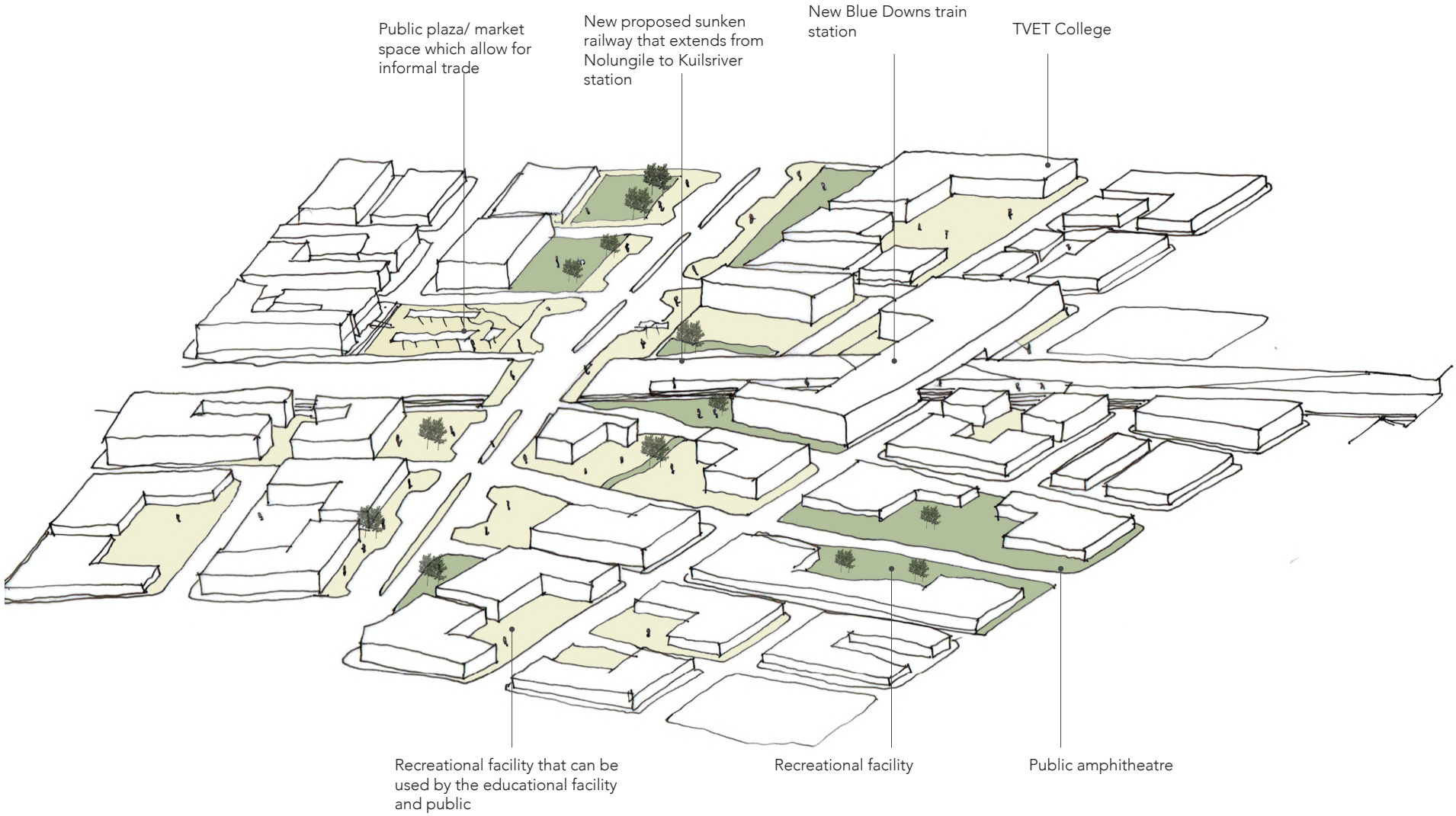


Figure 102: **3D View**
Oblique views of the precinct illustrating block heights and depths in relation the the public spaces
(Author's own, 2019)

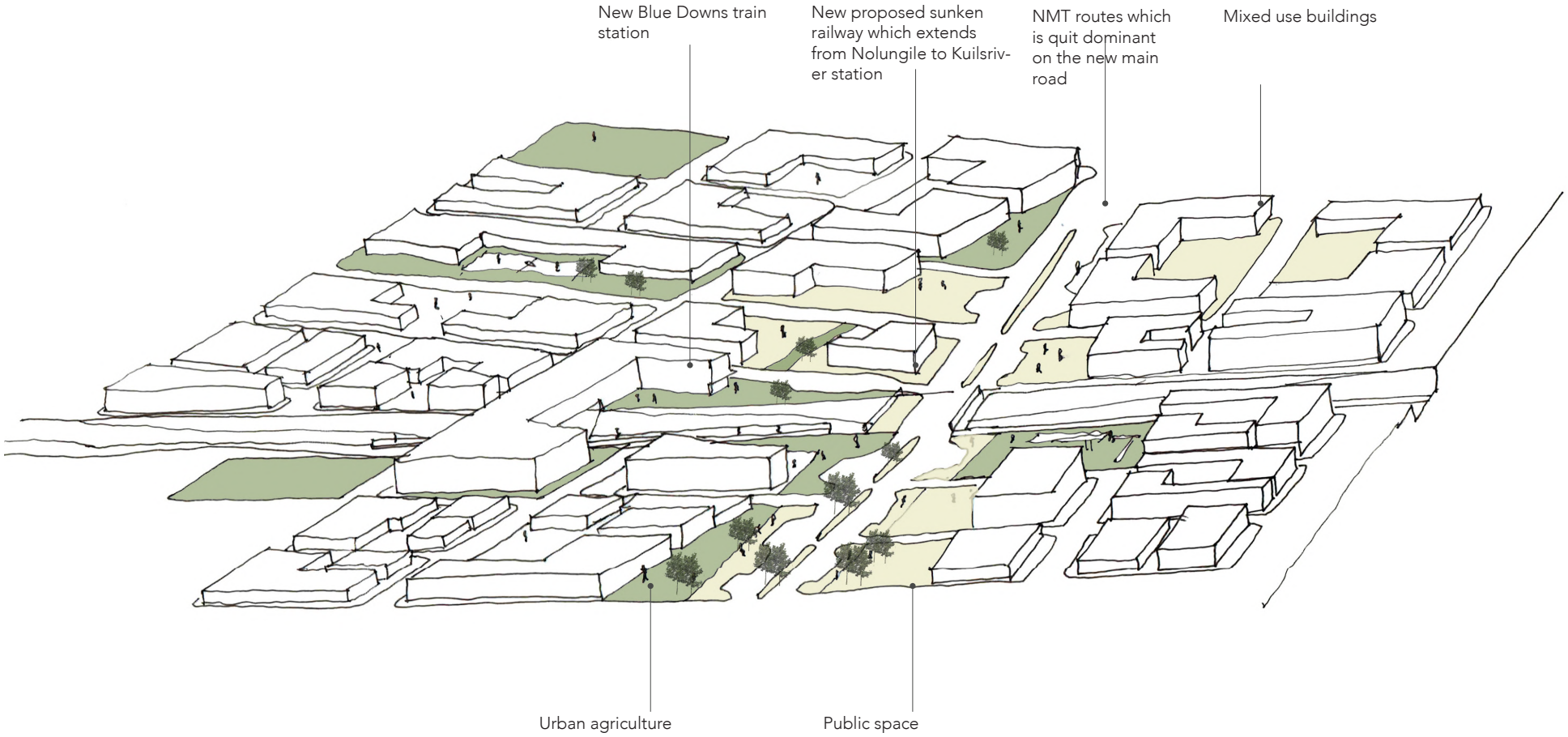


Figure 103: **3D View**
Oblique views of the precinct illustrating block heights and depths in relation the the public spaces
(Author's own, 2019)

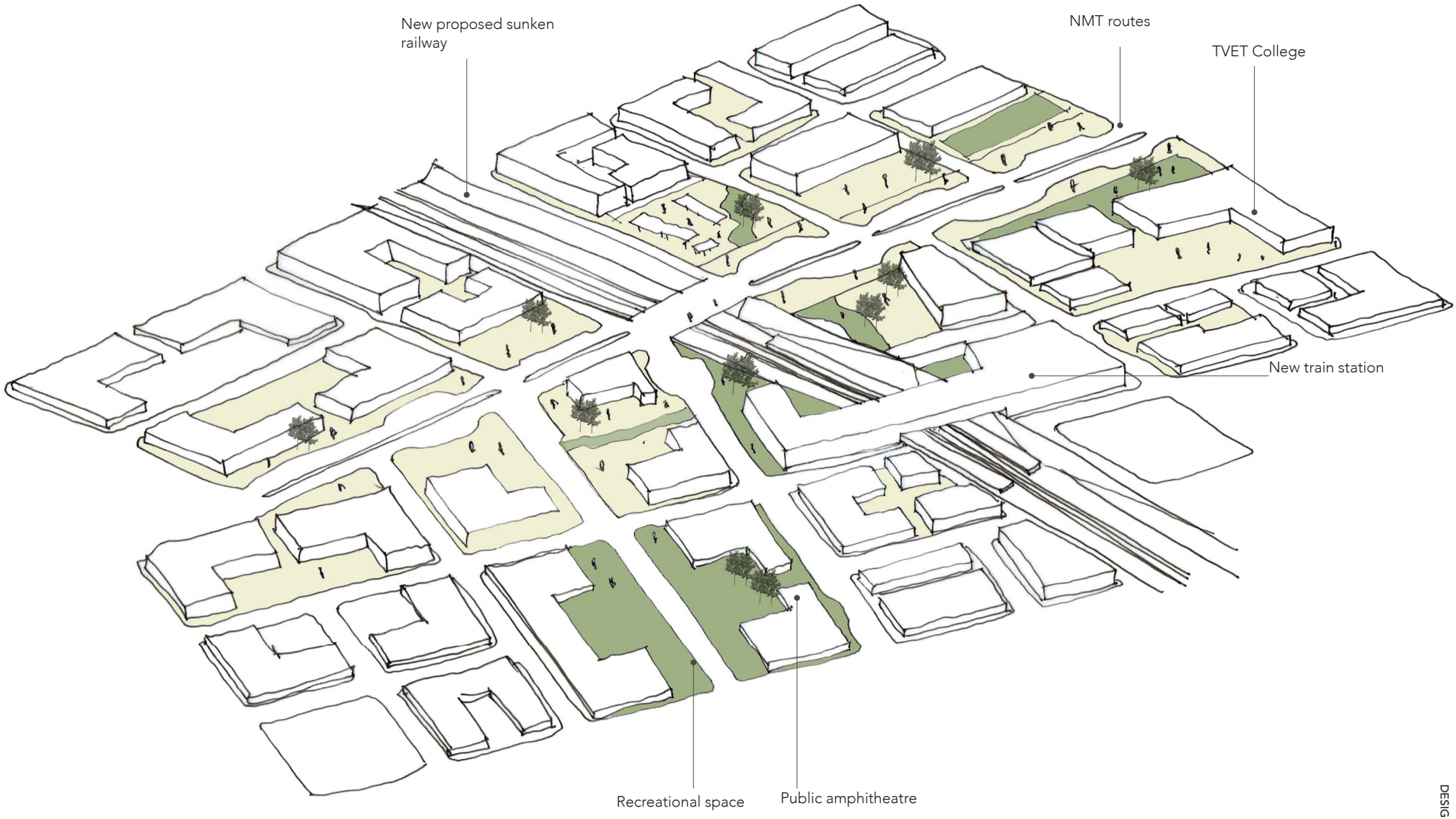


Figure 104: **3D View**
Oblique views of the precinct illustrating block heights and depths in relation the the public spaces
(Author's own, 2019)

6.6 Project phasing

The following drawings illustrate the phasing of the precinct and neighbourhood unit within the study site. The phasing happens strategically based on the structuring elements and need of the community.

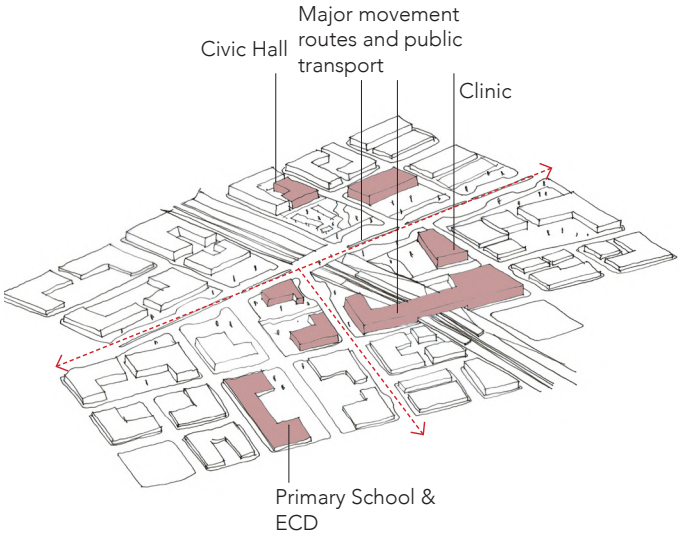


Figure 105: **Phase 1**
Creation of major movement routes through the vacant site and placing public transport nodes as well as the TVET college at the gateway into the site - acting as the catalytic project.

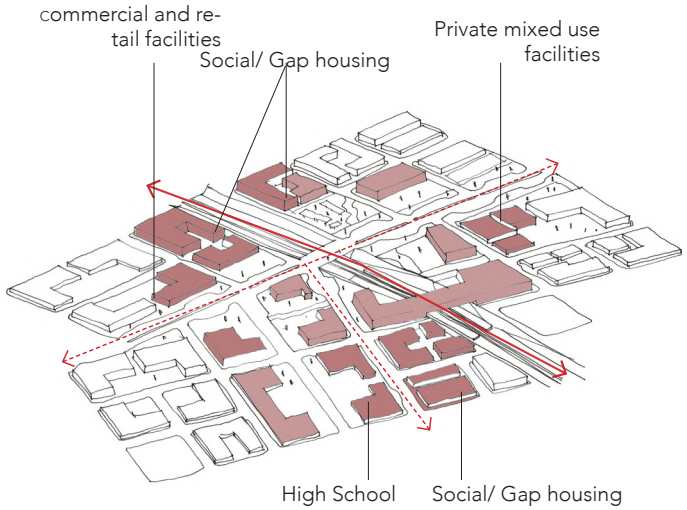
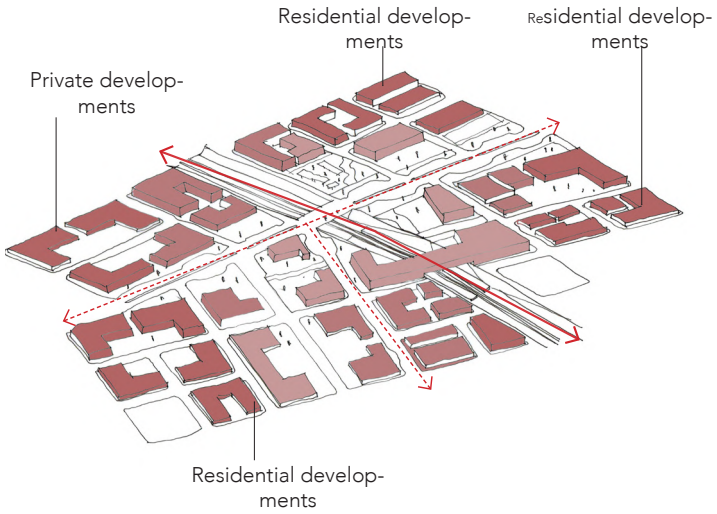
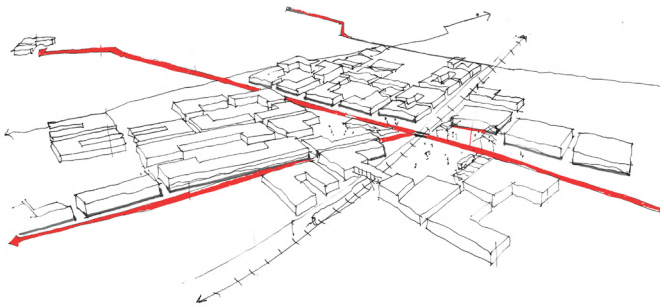


Figure 106: **Phase 2**
Strategically densifying around public transport routes with public and private facilities. Phasing out of new proposed rail within 5-10 years.





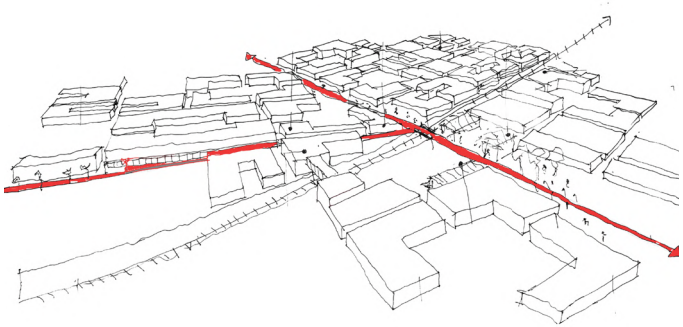


Figure 107: **Phase 3**
Inclusion and phasing out of public and private developments. Many of which are mixed use; commercial, retail and residential along the major movement routes and around the proposed rail.

Figure 108: **Phase4**
Various typologies of residential development towards the outskirts of the development.

Figure 109: **Phase5**
Proposed vision of the vacant land once fully developed.

7. CONCLUSION
Bridging the Divide

7. CONCLUSION

7.1 Bridging the Divide

Cape Towns current spatial fabric still has evidence of the apartheid spatial segragation. This design research project aimed to create urban environments that integrate and connect these fragmented suburbs through the creation of unique nodes which attract people to occupy and ultimately bridges the spatial divide. Not only does the node bridge the spatial divide but the socio-economic and pschological divide. As Soja (2004) states; being a human revolves around spatiality, social and temporal experiences.

This unique node is implemented within the south east metro because the specific area lacks the appropriate opportunites and linkages to the rest of the city. It has been implemented within this context to allow the marginalised access to opportunity and freedom of movement and choice within the city. This idea had been grounded in the theory of the Just City concept by Susan Fainstein (2011) and The Right to the City concept by David Harvery (2004).

This sub-metro and neighbourhood framework works around the new proposed Blue Downs rail and proposed Phase 2A MyCiti bus routes. This is an integral element in the process of integration. The framework implements new civic and recreational facilities throughout to support the future population densities in which will be occupied within the site. One of the main concepts within the design is linkages to adjacent suburbs. This had been done through activity corridors which links 'anchor points'. These anchor points contain civic, recreational and educational facilties. These link the UCW/ CPUT precinct as well, which makes up 'anchor point 3' . This bridges the divide in a socio-economic sense.

Allowing for the integration of blue and green systems bridges the ecological divide by using these systems as integrators and connectors and not dividers. The integration is in the form of green soft public spaces and an ecological corridor which forms part of the NMT route with the site. The creation of NMT routes allows ease of access and movement for the most vulnerable occupant.

The creation of this unique node could be implemented as a model across the metro which could then lead to a more polycentric city. Which allows for equal access to opportunity and bridges the social, socio-economic and spatial divide.

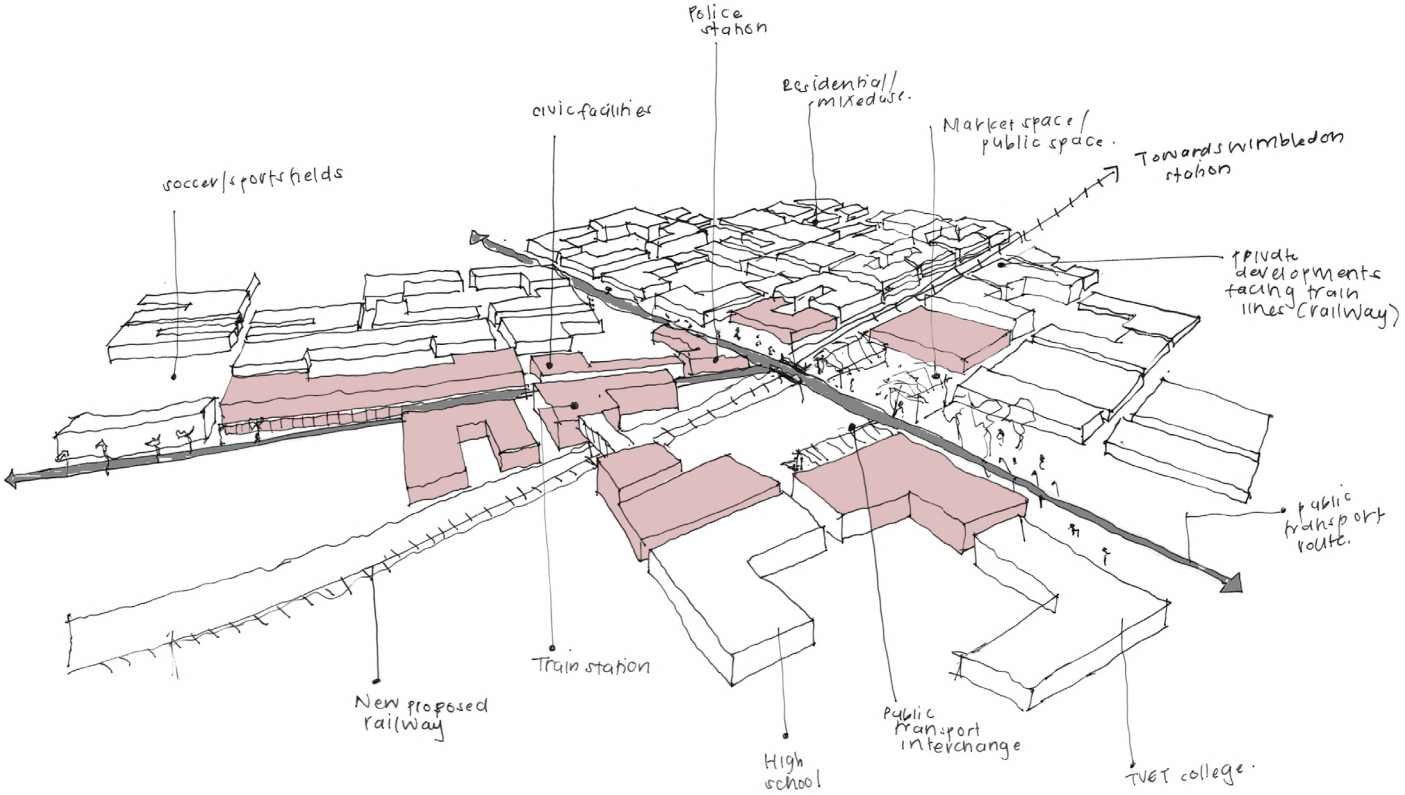


Figure 110:
Proposed vision of the vacant land once fully developed.

8. REFERENCES

Harvey, D. 2003, The right to the city. International Journal of Urban and Regional Research, 27: 939-941. doi:10.1111/j.0309-1317.2003.00492.x

Mbembe, A. 2008 Johannesburg; The Elusive Metropolis, Chapter 1: Aesthetics of Superfluity, Duke University press, p 37-67 https://doi.org/10.1215/9780822381211

Mbembe, A and Nuttall, S. 2008 Johannesburg; The Elusive Metropolis, Introduction: Afropolis, Duke University press, p 1-33 https://doi.org/10.1215/9780822381211

Fainstein, S.S. 2014 The just city, International Journal of Urban Sciences, 18:1, 1-18, DOI: 10.1080/12265934.2013.834643

Tayob, H. 2019 Entangled Architectures: Pedagogies and Displacement, Prize Giving Presentation at the University of Cape Town, Upper Campus, UCT on 14 August 2019.

Turok, I. 2001. Persistent Polarization Post-Apartheid? Progress towards Urban integration in Cape Town. Urban Studies, 38(13), 2349-2377

CSIR. 2012. Guidelines for the Provision of Social Facilities in South African Settlements. Pretoria: CSIR Built Environment.

CTMSDF – City of Cape Town. 2018. Municipal Spatial Development Framework. Cape Town: City of Cape Town

Gunder. M, Lo Piccolo. F, Mantysalo. R, March. A, Sager. T. 2014, Ethics Value and Planning. The Just City; A Roundtable, AESOP 2014 Conress, Utrecht, July 2014. Online text available from: https://www.aesop-planning.eu/blogs/posts/en_GB/research-ethics-in-planning/2015/01/21/readabout/the-just-city-a-roundtable

Lenzholzer, S., Duchhart, I., & Koh, J. (2013). 'Research through designing in landscape architecture.' Landscape and Urban Planning, 113, 120-127.

Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), Handbook of qualitative research (pp. 105-117). Thousand Oaks, CA, US: Sage Publications, Inc.

Beck, J and Stolterman, E, 2016, Examining Practical, Everyday Theory use in design research, Economics and Innovation, Volume 2, Issue 2, p 125 - 140
Available from: http://www.sciencedirect.com/science/article/pii/S2405872615300344

Hamdi, N 2004, Small change; the art of practice and the limits of planning in cities, London; Sterling , VA: Earthscan

Soja, E. 2010 Seeking spatia justice. Minneapolis, University of Minnesota press

Design for the Just City, 2018 [Exhibition], Harvard Graduate School of Design, January - March 2018

Learning from UCLG, 2017, Public space and the right to the city, Barcelona, Spain. Available from: https://www.learning.uclg.org/public-space-right-city [accessed on: 19 September 2019]

City of Cape Town. (2017b). City of Cape Town Five-Year Integrated Development Plan 2017-2022. Cape Town, pp.12-148.

City of Cape Town. (2018a). City of Cape Town Transit Oriented Development Strategic Framework. Cape Town, pp.1-47.

City of Cape Town (2018b). Comprehensive Integrated Transport Plan 2018-2023, Cape Town: City of Cape Town.

8. FIGURE LIST