

*An evaluation of the inclusion of principles of Corridor
Development, Transit-Oriented Development and Non-
Motorised Transportation within Johannesburg's
Corridors of Freedom*

The Case of Turffontein Corridor



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A research report submitted to the Faculty of Engineering and the Built Environment, University of the Witwatersrand, Johannesburg, in partial fulfilment of the requirement for the degree of Bachelor of Science in Urban and Regional Planning with Honours.

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UNIVERSITY OF THE WITWATERSRAND
JOHANNESBURG

Declaration

I hereby declare that this research report is my own unaided work. It has not been submitted before for any degree or examination to any other University. It is being submitted for the degree of Bachelor of Science with Honours in Urban and Regional Planning to the University of the Witwatersrand, in Johannesburg.

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Abstract

The City of Johannesburg, has in recent years, been addressing the need to transform the spatial inequalities still present in the City through the provision of efficient mass public transportation. Unfortunately many resident of the city still reside far from their place of work and struggle to get to their destinations. This was one of the driving factors of the Corridors of Freedom spatial policy. This policy is focused on providing the City of Johannesburg with corridor transit-oriented development in an attempt to increase densities around transport stations and bring people closer to education, leisure and their place of work. The Corridors of Freedom identified a number of corridors that will transform that part of the city and the Turffontein Development Corridor was the case study for this research report.

Essentially this research report discussed the theories of corridor development, transit-oriented development and non-motorised transportation. In addition, the report also discussed the spatial policies of the City of Johannesburg in relation to these theories. These discussions were necessary in order to evaluate if the Turffontein Development Corridor was influenced by the objectives for future development provided by the spatial policies. Along with the evaluation of if the principles of these theories were used in the proposed conceptual framework for the study area. Essentially the main findings of this research was that the theories of corridor development, transit-oriented development and non-motorised transportation from the spatial policies where not adequately integrated into the Strategic Area Framework for the Turffontein Development Corridor. This shortfall hindered the final conceptual framework and implementation plan as many of the principles omitted did not appear in these plans. The biggest shortfall of the Turffontein Development Corridor was the proposed Rea Vaya BRT trunk route that will not provide the accessibility required to all forces of attraction nor will the chosen route be able to accommodate the trunk route as the road reserves in some section are too narrow.

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Acronyms

CoF	Corridors of Freedom
CoJ	City of Johannesburg
FNMT	Framework for Non-motorised Transport
IDP	Integrated Development Plan
Joburg 2040 GDS	Joburg 2040 Growth and Development Strategy
NMT	Non-motorised Transportation
SAF for the TDC	Strategic Area Framework for the Turffontein Development Corridor
SAF	Strategic Area Framework
SDF	Strategic Development Framework
SITPF	Strategic Integrated Transport Plan Framework
SPTN	Strategic Public Transport Network
TDC	Turffontein Development Corridor
TOD	Transit-Oriented Development

Chapter 1

Introduction and Research Methods



1.1 Introduction

“South African cities are in a challenging position, as they have shifted towards a more sustainable transport landscape, but the general structure of the built environment remains largely unaltered.

And, while a shift has occurred within transport thinking in the country, largely galvanised by the hosting of the FIFA World Cup, much remains to be done. There is a growing awareness that, despite the understanding that transport and land use are mutually dependent (Bertolini, 2012), transport investment alone will not automatically generate spatial restructuring. A host of factors enable and facilitate the growth of transit-oriented cities – investment in improved public transport is but one, albeit critical, ingredient in the transformation agenda.”

(Bickford, 2014: 2)

This is a challenge that is increasingly difficult to control and manage in the City of Johannesburg. After 2000, the policies in the City of Johannesburg shifted away from producing master plans towards the production of spatial frameworks (Todes, 2012). It was this shift that brought about the development of strategic spatial planning in the City of Johannesburg as planning tool that would provide guidelines for the efficient development of addressing the challenges encountered within the City. In an attempt to address the spatial division and lack of efficient public transportation still encountered in the City of Johannesburg, a new spatial policy was developed in an effort to address these concerns. This spatial policy was termed – Corridors of Freedom – based on promoting “corridor transit-oriented development” that would link “transport arteries” with land uses with the Rea Vaya as its backbone (City of Johannesburg, 2013:ii). Nonetheless, the investment in public transportation will not facilitate the transformation of the spatial challenges encountered in the City of Johannesburg, because a number of principles and concepts have to be implemented in order to facilitate this transformation.

Based on this discussion, this research report is interested in evaluating how the spatial policies have tried to address the challenges encountered in the City of Johannesburg through the improvement and investment in public transportation. A main driving factor of this approach in the transformation of the City is the Corridors of Freedom policy. Therefore this research focused on how this spatial policy is determined on utilising the Rea Vaya Bus Rapid Transport (BRT) as a mechanism to integrate the City of Johannesburg. However, this research was also interested on whether sufficient attention had been given to the provision of non-motorised transportation.

1.1.1 Background

The City of Johannesburg still feels some of the effects of the apartheid planning. Some of the challenges that the City faces is that many residents still reside far from their place of work and this is aggravated by a transport system that is, in most instances, fragmented and inaccessible to many of these residents (City of Johannesburg, 2013). The City of Johannesburg has tried to address these challenges by developing the Corridors of Freedom. The Corridors of Freedom is focused on linking people to their jobs and vice versa and is trying to link them by creating transport corridors and focusing development around these corridors. These corridors also want to address issues of housing by increasing the density and providing mixed-use development (City of Johannesburg, 2013). A number of corridors have been identified as part of the Corridors of Freedom but for the purpose of this research report only the Turffontein Development Corridor was analysed and evaluated.

1.2 Rationale

The research was focused on the Turffontein Development Corridor, as a case study. It was important in order to understand if the proposed corridor developments would encompass the principles of transit-orientated development (TOD) and focus on all modes of public transportation. According to the initial draft Turffontein Corridor plan it was suggested that the focus would be entirely on providing connections to the BRT system and did not include other non-motorised modes of transportation. This was the first reaction I had when I attended the first round of public meetings for the Turffontein Corridor. At first my impression was that a Rea Vaya BRT route had already been identified but I felt that the route that was proposed did not make sense. I was born and grew up in the study area identified in the Turffontein Development Corridor and due to my knowledge of the functioning of the study area I believed that the proposed BRT route and the identified transit oriented development nodes appeared cumbersome to me. In addition to this I also felt that there was only a brief mention of how pedestrians and cyclists (non-motorised transport) would be integrated into the plans.

With this in mind, it was important to understand if the Strategic Area Framework for the Turffontein Development Corridor would integrate all modes of public transport as well as improve the connection of places for pedestrians. For these corridors to be successful elements of density and mixed used development were considered vital in the equation, however, the pedestrian and

the quality of pedestrian space was equally important in the functionality and success of these corridors.

1.3 Problem Statement and Research Question

The Corridors of Freedom propose the development of transport corridors and transit- oriented development that caters for the pedestrian. However corridors can be developed to cater for different requirements. In the Turffontein Development Corridor I had a concern that these corridors would only cater and provide the infrastructure for the Rea Vaya BRT with no integration with land uses, other modes of public transportation or consideration for non-motorised transportation (pedestrian and cyclist). Therefore the following research question was proposed:

Will the focus on Transit-Orientated Development integrate the various modes of transportation as well as cater for the needs of Non-Motorised Transportation in the Turffontein Development Corridor?

In order to answer this research question the following sub-questions were used to guide and break down the research.

1. How are corridors defined and used in internationally as well as in South Africa?

It is important to understand what corridors are and how they can implemented into the urban form based on a number of principles.

2. What are the functions and characteristics of transit-oriented development and non-motorised transportation?

Transit-oriented development (TOD) is one of the guiding theories to implement the Corridors of Freedom it is therefore necessary to understand what TOD is about and which characteristics are used to implement and guide their development. At the same time it is vital get a general understanding about the general functions and characteristics of non-motorised transportation (NMT) with a particular focus on pedestrians and cyclists.

3. How are the elements of corridor development, transit-oriented development and non-motorised transportation present in the various spatial policies in the City of Johannesburg?

A number of spatial policies that guide development in the City of Johannesburg will be discussed based on their use of the theories of corridor development, TOD and NMT. The

Strategic Area Framework for the Turffontein Development Corridor will also be discussed based on these theories.

4. *Which spatial policies informed or influenced the Turffontein Development Corridor?*

All of the theories identified in the spatial policies of the City of Johannesburg will be used to evaluate if they have shaped or influenced the theoretical direction of the Turffontein Development Corridor.

5. *How have the principles of corridor development and transit-oriented development been integrated into the proposed strategic framework for the Turffontein Development Corridor?*

This section will first have to be provided with a discussion of the current context of the Turffontein Development Corridor study area and then analysed how the principles of the theoretical concepts were utilised in the formulation of the strategic framework.

6. *Are the pedestrians and cyclists (non-motorised transport) integrated into the proposed strategic framework for the Turffontein Development Corridor?*

The strategic framework plan and the Turffontein Precinct will be analysed based on the principles to promote non-motorised transportation if it was adequately integrated into the proposed development.

1.4 Conceptualising the Existing Literature

There are four key concepts of importance in analysing the research topic. The first concept is to understand the theory related to **corridors** both internationally as well as in South Africa. The second concept is to uncover what is meant by the term '**transit-oriented development**' also called TOD and the third concept is focused around the notion of '**non-motorised transportation**' also termed NMT. The fourth concept is not related to theory, instead it is focused on the **spatial policy**, it is important to analyse what is the existing policy in the City of Johannesburg that discusses the concepts of corridors, TODs and NMTs; and how have they shaped or influenced the Turffontein Development Corridor.

The concept of corridors in South Africa is not a new one, especially with the attention it received during the development of the Maputo Corridor. There have been a number of literatures written about the use of corridors during the apartheid regime as well as afterwards, and due to the challenges the country currently faces with traffic and congestion, the notion of combining land use

and transportation has resurfaced in a slightly different manner. Literature is now taking into consideration the concept of transit-oriented development and combining it with the development of corridors.

The concept of transit-oriented development (TOD) has been mentioned in the policy of the City of Johannesburg since 2008, however only now with the release of the Corridors of Freedom policy did this theory gain momentum. The concept is discussed, even if briefly, in a number of policies in the City of Johannesburg. October is the transport month in the City of Johannesburg, and the South African Cities Network released a document labelled “How to Build Transit Oriented Cities: Exploring Possibilities” in August 2014 (Bickford, 2014). This suggests that the concept of TOD is increasingly picking up momentum in the South African literature. The non-motorised transportation (NMT) on the other hand has received great attention in the policies of South Africa. There is a national policy on NMT and the City of Johannesburg has also implemented a policy on NMT since 2008. However, even though the City has policy on this theory, there has been little implementation or discussion about the importance of NMT until recently. In July 2014 the Gauteng City-Region Observatory (GCRO) released a document titled “Mobility in the Gauteng City-Region” where Christina Culwick writes a chapter on the “Transitions to non-motorised transport in Gauteng” (Mobility in the Gauteng City-Region, 2014: i).

However although there is literature and research conducted on these theories no research has been conducted on this topic, primarily because the Corridors of Freedom is a new spatial policy to be implemented by the City of Johannesburg. My research will be of relevance in the context of Johannesburg because it is a new plan that is trying to combine TOD and corridors as a key driving force of the policy, which will affect the future development of key routes in the City of Johannesburg. It will therefore be important to investigate if the City's plans and visions, for the Turffontein Corridor in particular, will negatively or positively affect the area and also take into consideration if the concept of TOD will be implemented efficiently or if it is just stands as a label for the project and does not take into consideration NMT.

1.5 Research Methods

This research report was undertaken as an evaluation research. The research report focused on understanding the theoretical aspects of the concepts of corridors, transit-oriented development (TOD) and non-motorised transportation (NMT), before undertaking the evaluation research. The

information required with regards to the sub-questions of the report, as discussed previously, where based on the theories of:

- a. Corridor development
- b. Transit-oriented development
- c. Non-motorised transportation

Evaluation research “is a type of inquiry employed to assess the merit of programmes, policies, services or interventions” and “its main purpose is to provide information about various aspects of programmes, such as whether such programmes, policies, services or interventions are worth pursuing, supporting or continuing” (Sarantakos, 2005: 322). Therefore, an evaluation report can be a “policy research with a practical orientation and a policy focus” (Sarantakos, 2005: 323).

The evaluation research will therefore comprise two elements; the spatial policy analysis and the case study (Turffontein Development Corridor). The policy analysis is based on policies and frameworks in the City of Johannesburg and they will be analysed against the Turffontein Development Corridor policy in order to understand how these spatial policies present in the City of Johannesburg influence and shape one another:

- a. Growth and Development Strategy 2040
- b. Integrated Development Plan 2012/2016
- c. Spatial Development Framework for Johannesburg 2013/2014
- d. Strategic Integrated Transport Plan Framework for the City of Johannesburg (draft for discussion 2013)
- e. Framework for Non-motorised Transport 2009
- f. Corridors of Freedom
- g. Strategic Area Framework for the Turffontein Development Corridor

The case study for this evaluation research, as mentioned above, is focused on the Turffontein Development Corridor, which is the second element of the evaluation research. A case study is described by Yin (1991: 23 as cited in Sarantakos, 2005: 211) as “an empirical inquiry that investigates a contemporary phenomenon within its real-life context when the boundaries between phenomenon and the context are not clearly evident; and in which multiple sources of evidence are used”. The process of developing the Turffontein Development Framework was undertaken by two separate consultant firms. The first consultancy firm appointed by the City of Johannesburg was Aurecon, which was responsible for the analysis of the study area and the development of the framework, including the public participation process, occurred between 2013 and 2014. Aurecon

presented the draft 1 and draft 2 of the Strategic Area Framework for the Turffontein Development Corridor. The draft 2 document produced by Aurecon was used in this research report in order to understand the study area through their analysis. The Strategic Area Framework for the Turffontein Development Corridor was, later in 2014, given over to the second consultancy firm, Iyer, who produced the final document later approved by the City of Johannesburg on the 4th of September 2014. The final Strategic Area Framework for the Turffontein Development Corridor produced by Iyer was used in this research report to understand how the Turffontein Development Corridor was influenced by the spatial policies of the City of Johannesburg and how their focal points were translated into the conceptual framework. The Turffontein Development Corridor was analysed based on theories and spatial policies of the City of Johannesburg, as mentioned previously. However, in order to successfully answer my research question and sub-questions the case study was further enhanced through the use of qualitative research.

Smith (1994: 491 as cited in Philip, 1998: 266) described qualitative research as “a set of tools developed to pursue the epistemological mandate of the philosophies of meaning” which are techniques of interpreting the meaning of the research material. With this being said there are a number of ways in which to conduct this research such as; participant observation, key respondent interviews (Philip, 1998), public participation minutes and also the conceptual analysis of the spatial policies and data for the study area.

In this research report the primary research method was the qualitative approach. It was achieved by performing interviews with key respondents, through structured and unstructured interviews. Initially the key respondents were supposed to focus on City officials and their understanding of the proposed development in the Turffontein Development Corridor. The key respondents were also supposed to include the view points of the local ward councillors. As elaborated below:

1. Department of Development Planning
 - a. Councillor – Roslynn Greeff
2. Department of City Transformation
 - a. Krishni Gounden
3. Department of Transportation
 - a. Simphiwe Ntuli
 - b. Gugu Mbambo
4. Ward Councillors
 - a. Rashieda Landis – ward 55
 - b. Denis Jane – ward 56

- c. Faeza Chame – ward 57
- d. Sydney Radabe – ward 124

Unfortunately throughout the research these key respondents were unable to assist me or I was unable to contact them. Therefore the key respondent interviews were primarily focused on consultant's views and their understandings of the type of development that were proposed for the case study. The key respondents were kept anonymous throughout the research, however they were all consultants:

- 1. Respondent 1 – private consultant
- 2. Respondent 2 – Aurecon consultant
- 3. Respondent 3 – Aurecon consultant

The participant observation on the other hand is made of notes collected from some of the meetings and presentations attended which were focused on the Corridors of Freedom, more specifically the Turffontein Development Corridor. The research also made use of the public participation minutes from the Turffontein Development Corridor, they facilitated in interrogating topics or issues that were not previously identified or attainable from the key respondent interviews. Below is a list of some of the meetings or presentations I attended:

- 1. Turffontein Development Corridor public meetings, 09 and 28 October 2013
- 2. Corridors of Freedom: Changing the Face of Joburg? – School Talk at the University of Witwatersrand, 24 February 2014

1.5.1 Ethical Considerations

The research required for this research report did not require the interviewing of sensitive or vulnerable people. This research was predominantly based on key interview respondents that comprise of consultants. The ethical issues that were experienced in this research were related to the interviews with key respondents were (1) many did not want their identity to be revealed; (2) I had to respect the respondents demands and time schedule; (3) some of the issues asked about the research, the respondent did not feel comfortable to discuss and (4) I tried to remain objective in order to not skew the information. Due to these ethical concerns all the respondents received an information sheet and a consent form in which permission was given for the interview to be recorded for my use only as they would remain anonymous.

1.6 Key Definitions

All of the theoretical concepts of this research do not have one definition that is able to encompass their entire complexity. However the following definitions express how these terms mean when used in the research report:

Corridor: “A broad (commonly in the order of at least a kilometer wide) band of mixed-use activity continually identified around one, or, more commonly, an interlinked system, of transportation routes of different lengths” (PPDC, 2007: 18).

Transit-Oriented Development: “TOD is a straightforward concept: concentrate a mix of moderately dense and pedestrian-friendly development around transit stations to promote transit riding, increased walk and bicycle travel, and other alternatives to the use of private cars” Cervero (2009: 23).

Non-Motorised Transport: “Refers to all forms of human-powered transport including walking, cycling, skateboarding and other small wheeled innovations, wheelchair transport, and animal powered travel” are considered in the functionality of urban spaces (DoT, 2008 as cited in Culwick, 2013: 1).

1.7 Chapter Outline

This research report is made up of six chapters.

Chapter 2 discusses the theoretical foundations of the concepts of corridors, transit-oriented development and non-motorised transportation. This chapter begins by defining the concept of corridor and providing a brief historical background of the concept internationally. It then unpacks and explores the required characteristics of a corridor. These concepts do not only provide an explanation of what is required but also explains the different corridors that are able to co-exist. It then explores the historical background and meaning behind the term transit-oriented development (TOD). The chapter then outlines the basic characteristics of TOD and what is required for these special nodes to function effectively in cities today with the integration of land uses and transportation. The discussion of non-motorised transportation (NMT) is focused more on what is meant by NMT and how the most common modes can be utilised and integrated into the car dependent urban environments present in most cities today. Although the importance of promoting and implementing NMT is acknowledged, it is also necessary to understand the importance of

integrating all the existing modes of transportation, in order for them to be complementary to one another.

Chapter 3 is predominantly focused on the discussion of the existing spatial policies in the City of Johannesburg based on the theoretical concepts discussed in the previous chapter. The chapter then evaluates how these spatial policies have possibly informed or influenced the Strategic Area Framework for the Turffontein Development Corridor.

Chapter 4 provides an understanding of the contextual characteristics present in the Strategic Area Framework for the Turffontein Development Corridor study area based on the analysis conducted by Aurecon in the draft 2 document. This will provide a foundation to understand the land uses that characterise the study area and the different types of movement patterns present in the study area; such as road hierarchy, public transportation, forces of attraction and non-motorised transportation. The chapter then discusses the proposed conceptual framework and implementation plan proposed in the final Strategic Area Framework for the Turffontein Development Corridor produced by Iyer and approved by the council on the 4 September 2014.

Chapter 5 evaluates the proposed conceptual framework from the final Strategic Area Framework for the Turffontein Development Corridor document, to be implemented in the area, with the theoretical principles discussed in chapter 2. The evaluation of the proposed conceptual framework will be elaborated through the analysis of maps, the use of the responses gathered from the key interviews and the minutes from the public participations. The chapter will provide an illustration of what the plan suggests on the ground and evaluate it against what are the spatial elements required to achieve the efficient functioning of the theoretical concepts.

Chapter 6 is the final chapter of the research report and provides an overall understanding of the finding gathered in the research report. A number of recommendations are then proposed; both in terms of the spatial requirements as well as policy shifts that need to be addressed in order to ensure that the implementation of the Turffontein Development Corridor is successful and efficient. The chapter then discusses some of the limitations encountered in the research and provides some possible future research, followed by some final remarks of the research report.

1.8 Conclusion

This chapter provided an overview of the context of this research report. The background and the research question provide an explanation of why this research report was chosen and facilitated the development of the sub questions that helped to guide the research. It outlined the existing literature on the relevant theories and placed the importance of conducting this research. The research methods provided an overview of how the research conducted as well as discusses some of the ethical issues encountered during the research. Brief definitions of the theoretical cornerstones of the research were provided as a reference to how those terms are used throughout the research report. The chapter then concludes with a brief outline and explanation of each chapter.

Chapter 2

The Theoretical Relationship between the Concept of Corridors, Transit-Oriented Development and Non-Motorised Transportation



2.1 Introduction

The growing dependency on private vehicles has increased the challenge for cities to develop new design approaches. One of the approaches to address or reduce the dependency on private vehicles is to develop the new concept of an activity corridor (Curtis and Tiwari, 2008). The corridor is not a planning approach, historically, nor is it a new concept. It has been used for centuries either through the development of pathways, streets or roadways then later developed into corridors focused on improving their location, accessibility or agglomeration (Jordaan, 2003). The term 'corridor' is used in a number of fields to explain a variety of situations. In planning, corridors can be associated with infrastructure that connects urban areas in the form of highways, rail links, dedicated bus lanes or bicycle lanes (Priemus and Zonneveld, 2003).

Cities today are largely associated with urban sprawl and long hours in traffic congestion. Commuters are becoming increasingly frustrated with this situation as well as the continuous loss of public open space (Belzer & Autler 2002). There seems to be disenchantment about the private vehicle transportation for the amount of time spent in transit and also the frustration of requiring a vehicle to be able to travel efficiently through a suburb or city (Belzer & Autler 2002). Transit-oriented development (TOD) has gained attention in recent years as it concentrated development around transit station and seems to be a logical way to address some of the issues faced by many cities today (Belzer and Autler, 2002). It is believed that TOD can also be used to encourage alternative modes of transport and also create opportunities for areas to create liveable environments through the encouragement of non-motorised transportation; through walkability and cycling (Cunningham 2012).

This chapter of the report will provide a literature understanding of the concept of corridors, transit-oriented development and non-motorised transportation. However in order for the literature review to not be confusing each term will be discussed separately, nonetheless each concept will be discussed under the same structure. Initially, the chapter will provide clarity on the concept and elaborate how it is understood in South Africa and internationally (PPDC, 2007). The chapter will provide some of the many definitions that describe the function of a corridor. However, because there are a number of different types and functions of corridors the definitions are at times broad and provide a general explanation of what is meant by the term 'corridor'. It is also vital to get an understanding about where the concept originated from and how it has evolved by exploring the historical background of the use of the corridor concept.

After understanding a small portion of the historical evolution of corridors this chapter then provides an elaboration on some of the fundamental characteristics that are present in almost all the types of

corridors. This is achieved by elaborating how land uses can influence corridor development, how the different modes of transportation can shape a corridor and its function, what are the different types of physical forms that can define a corridor, as well as the different scales, what is the importance of providing connections and linkages and finally what is meant by the forces of attraction. The chapter then elaborates on the different typologies in which a corridor can function.

2.2 Definitions

2.2.1 Corridors

The term ‘corridor’ is used in a number of disciplines such as planning, economics, geography and transport planning, among others. Depending on the discipline the term can be used to define a variety of concepts, dependent on what it is describing (PPDC, 2007).

In planning, the corridor is used to describe a linear development based on the idea that along a single linear configuration there is a concentration of all the major activities that are developed around the access to transportation (Jordaan, 2003). The term can also be used to describe an urban corridor which refers to “a broad (commonly in the order of at least a kilometer wide) band of mixed-use activity continually identified around one, or, more commonly, an interlinked system, of transportation routes of different lengths” in which there is at least one route that accommodates public transportation (PPDC, 2007).

The use of the term ‘corridor’ in the planning discipline has also allowed for a number of other terminologies to be used interchangeably to describe it. Such terminologies include concepts of land-use planning and transportation, economic corridors and infrastructural corridors (PPDC, 2007). An activity corridor for example is associated with the “principles of accessibility by all modes of transport and with its place-making in order to integrate land use with transport” (Curtis and Tiwari, 2008: 1). It is also important to understand how corridors have developed over the years, especially the different corridors that co-exist.

TOD is seen as a mechanism that provides an “integration of transport and land use development” around a transport station such as a railway or bus station (Curtis et al. 2009: 3). Some of the concepts related to and about TOD have influenced the way in which many cities around the world now prepare land use patterns and provide transport planning strategies (Wilkinson 2006).

2.2.2 Transit-Oriented Development

Transit-Oriented Development as a broad definition is understood by “concentrating urban development around stations in order to support transit use, and developing transit systems to connect existing and planned concentrations of development” (Curtis et al., 2009: 3). This is generally the main argument behind the pursuit or implementation of a TOD.

Peter Calthorpe (1993) states that the TOD concept “is simple: moderate and high-density housing, along with complementary public uses, jobs, retail and services, are concentrated in mixed-use developments at strategic points along the regional transit system” (as cited in Chen et al., n.d.: 1). According to Cervero (2009: 23) “TOD is a straightforward concept: concentrate a mix of moderately dense and pedestrian-friendly development around transit stations to promote transit riding, increased walk and bicycle travel, and other alternatives to the use of private cars”. However, there is still no universally acceptable definition that explains what TOD should achieve or strive for (Belzer and Autler, 2002).

The success of a project that implements TOD can be skewed, as the success of a project can only be determined if there is a standard benchmark for its perceived success. It is therefore necessary to understand the framework that should guide the development and success of TOD projects and many can be termed successful even though they only achieve one of the main elements in a TOD (Belzer and Autler, 2002).

There are another two elements that are important in understanding the creation of TOD namely understanding and elaborating the distinction between nodes and places. In a TOD the transit has a role of “creating a link between individual places and the broader region means that transit-oriented development, ..., should explicitly perform a dual function as both a node within a larger regional or metropolitan system and a good place in its own right” (Bertolini and Spit, 1998 as cited in Belzer and Autler, 2002: 4). TOD is a good place and can therefore be measurable based on certain functional characteristics such as:

- “Choice of transportation modes,
- Housing types,
- Lifestyles,
- Access to jobs and services,
- Fewer negative impacts of the automobile, and
- A high degree of satisfaction in residents and visitors”

(Belzer and Autler, 2002: 4)

2.2.3 Non-Motorised Transportation

By NMT one “refers to all forms of human-powered transport including walking, cycling, skateboarding and other small wheeled innovations, wheelchair transport, and animal powered travel” are considered in the functionality of urban spaces (DoT, 2008 as cited in Culwick, 2013: 1).

2.3 Historical Background

The corridor concept has a lengthy tradition in planning history, especially in the form of linear belts. In the planning field, corridors were used as an alternative to some of the ills associated to the concentric industrial city in the form of linear city models (Priemus and Zonneveld, 2003). Corridors were initially developed to cater for a variety of needs in order to provide links between nodes, important business areas, cultural centres and political spaces. However, the relationship between spaces can change but the connectivity or corridors always remain (Schönharting et al., 2003). Initially cities functioned as walking scale cities where there were high densities with mixed-uses and the limited transportation option meant that cities were kept small. The introduction of trains, automobiles and trams changed the spatial dimensions of cities (Newman and Kenworthy, 1996).

The first linear plan was envisioned during 1844-1920 by a Spanish urbanist, Soria Y Mota. This model was tailored to cater for the development of transport. It was seen as a “linear city region” that then developed into a linear suburban development around a part of Madrid (Chapman et al., 2003: 180). The “Ciudad Lineal” was developed by Soria Y Mota as a public transport corridor with intensified development along it (Curtis and Tiwari, 2008). The concept was based on creating extensions of linear cities through the provision of efficient transport infrastructure instead of creating alternative linear cities. These concepts of efficient transport and linear connections were use in the “Ciudad Lineal” where a tramway centred in a 400m wide city was used to be able to connect, as a linear extension to other existing cities (Priemus and Zonneveld, 2003, p.168). This idea was not only about creating “continuous ribbon-like development” or linear connections but instead to develop a “model of ‘beads on a string’” where smaller urban areas could be grouped in nodes along the corridor or infrastructure line (Curtis and Tiwari, 2008; Priemus and Zonneveld, 2003). This concept was also used in the Caersws plan called the “necklace of beads” approach and had recently developed into a notion termed the “sustainable development corridor” (Chapman et al., 2003: 180).

The advent of the private motor vehicle brought about the development of highways, straightened curves, paved roads and an increase of the average speeds. These new developments made the road

network increasingly elaborated and also increased the traffic of these new types of corridors (Priemus and Zonneveld, 2003). Although the development of the private motor vehicle, trams and railways provided the needed progression of urban decentralisation it also created the suburbs dependent on motor vehicles and transformed cities into fragmented patterns (Priemus and Zonneveld, 2003). These trends lead to the separation of land use and transport due to the negative impact of automobile cities, because land uses were now able to be placed anywhere around the city and the transport infrastructure would cater for the growth and demand of the automobile city (Newman and Kenworthy, 1996).

Transit-Oriented Development (TOD) has gained momentum in the last twenty years. Many cities around the world have begun adopting the principles of TOD in local government and in their government agendas or policies (Curtis et al. 2009). The concept has received extensive reflection in order to promote concepts such as the “compact city” or “smart growth” development as a technique to reduce the demand for private vehicle travel and increase transit ridership (Wilkinson 2006). These concepts have been particularly utilised in North American cities in recent years (Curtis et al. 2009; Wilkinson 2006).

2.4 Corridor Characteristics

According to a document entitled the “Development of an Integrated Urban Corridor Assessment and Strategy Development Process for Transport Authorities and Provinces” there are a number of characteristics that define the different corridor typologies (PPDC, 2007). This document refers to work previously conducted “by Professor David Dewar who is regarded as the leading South African expert on corridors” (PPDC, 2007: 14). Some of the main characteristics described in this document are related to land uses present in corridors, modes of transportation, the physical form of a corridor, its function, the corridor’s scale or size, the underlying forces of attraction in a corridor, as well as the type of linkages the corridor is facilitating (PPDC, 2007).

2.4.1 Land Uses

All corridors in one way or another are characterised by different land uses, where some are more predominant than others such as retail, residential, commercial, industrial, offices and in some cases these land uses might be either mixed or fixed (PPDC, 2007). Jordaan (2003) suggests that corridors should provide for a wide range of land uses that will not only attract but also become focal points along a route, such as the ‘string-on-a-bead’ concept as seen in figure 2.1.

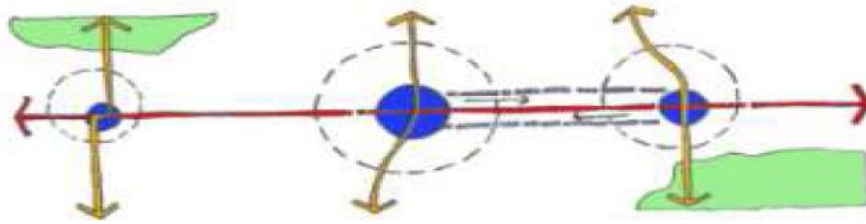


Figure 2.1: Corridor with the growth of 'beads' or nodes with mixed land uses .

Source: Uytenbogaart, Dewar and Todeschini, 1997 as cited in PPDC, 2007: 20

The land uses should therefore also be mixed and designed or developed a manner that allows for their harmonious interaction, perhaps through the development of a destination or catalytic projects (Jordaan, 2003). Density works in close collaboration with land uses of a corridor. A corridor relies on both the “minimum density of uses” and should “generate high density of populations and economic activities” through the mixture of land uses (Jordaan, 2003: 19).

2.4.2 Mode of Transportation

Corridors can also be defined and characterised by the mode or type of transportation frequently utilised, either through the use of private motor vehicles, trucks, various modes of public transportation or a combination of these modes of transport or a mixture of the private and public modes of transportation (PPDC, 2007). In order for a corridor to be successful it needs to provide a wide range of options for both transportation and movement. This will allow for the increased usage of the corridor, making it more accessible to all income groups and the general population by stimulating the use of public transportation (Jordaan, 2003).

Another important element of transportation is the interconnection of different modes of transport when corridors intersect. There is a need for transport interchanges at these points that allow the movement and quick access of pedestrians and commuters with a variety of modes of transportation (PPDC, 2007). Corridors will attract different activities that will shape the movement route and also the transit interchanges. This develops a hierarchy of activity along a corridor that also require smaller corridors, specifically those that are predominantly pedestrian corridor to intersect and feed one another as demonstrated in figure 2.2 below (PPDC, 2007). At the same time the intersection of pedestrians with transit or corridor interchanges should increase pedestrian movement through the development or location of primary generators (schools, clinics, libraries) that will increase the attractive function in that location, as demonstrated in figure 2.3 below (PDC, 2007).

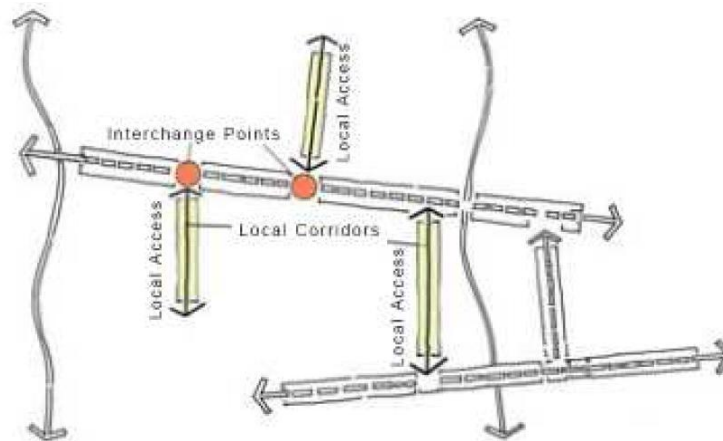


Figure 2.2: Demonstration of the hierarchy and intersection of corridors.

Source: Dewar, Louw and Le Grange, 2004 as cited in PPDC, 2007: 24.

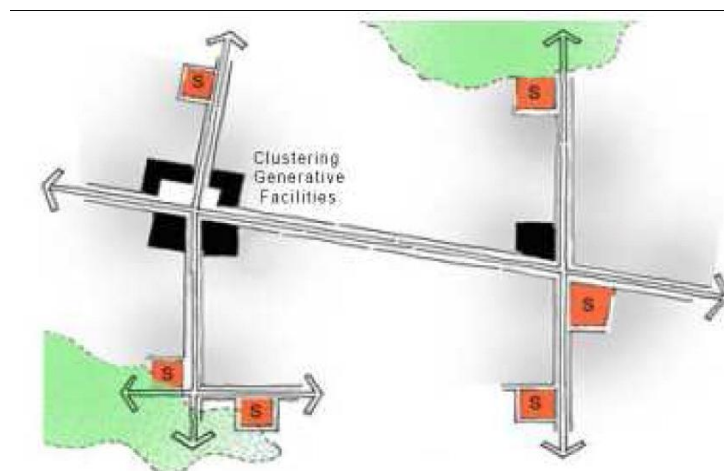


Figure 2.3: Demonstration of the use of primary generators to increase pedestrian movement along corridor.

Source: Dewar, Louw and Le Grange, 2004 as cited in PPDC, 2007: 24.

According to Del Mistro (2001) there are a number of objectives that a corridor development is attempting to achieve in transportation (PPDC, 2007):

- Integrate land-use and transport
- Increase the use, efficiency and quality of public transport
- Increase or maximise accessibility
- Increase or maximise mobility
- Increase modal choice
- Increase modal integration
- Shorter, fewer and safer trips

2.4.3 Physical Form

The shape or physical form of a corridor can also characterise it. A corridor can be seen as either having beads on a string where the corridor is made up of a number of smaller nodes or it can function as a thick bracelet that is able to accommodate more movement and activity (PPDC, 2007). The shape and physical form of a corridor can also lead to a defining characteristic of a corridors function. A corridor can function as a (PPDC, 2007):

- mobility, movement and transportation corridor
- as an access or activity corridor
- development corridor
- activity spine
- activity strip or street

2.4.4 Scale

A corridor can be used for a number of reasons in order to connect specific areas, these connections occur (through the use of corridors) at different scales and sizes. The scale of the corridor is generally qualitative as it refers to the corridor linking provinces, metropolitan areas or local areas. The size of the corridor on the other hand is associated with whether the corridor is small, medium or large (PPDC, 2007).

An activity corridor can function at both the metropolitan and local scales. At the metropolitan scale an activity corridor can provide a higher density development opportunity and also provide a multimodal transport system that is able to link a number of activity nodes (Curtis and Tiwari, 2008). At the local scale an activity corridor is focused not only on the vehicular movement but on creating a “place” of a street that enhances the “sense of place” as it builds a stronger community (Curtis and Tiwari, 2008).

2.4.5 Forces of Attraction

Corridors are also defined by the type of forces it has in order to attract people to those corridors in order for them to be successful. There are many factors that can contribute towards the attraction of a corridor such as land uses and even the type of entertainment. A corridor can have a single, dual or even multiple attractor, although a multiple attractor can be made up of a multimodal corridor or a strip attractor (PPDC, 2007).

Perhaps one of the most prominent forces of attraction can be associated to the intensity of the activities on a corridor. However, the intensity of certain activities along a corridor are uneven, as many cluster or agglomerate, especially because of their accessibility (PPDC, 2007). There are a number of factors that affect the accessibility of activities, perhaps the most pivotal element is the proximity of these activities with activities that generate movement; schools, transit stations, places of work and high movement interchanges. In general the higher the accessibility of an area the greater the ability to attract intense activities as seen in figure 2.4 below (PPDC, 2007).

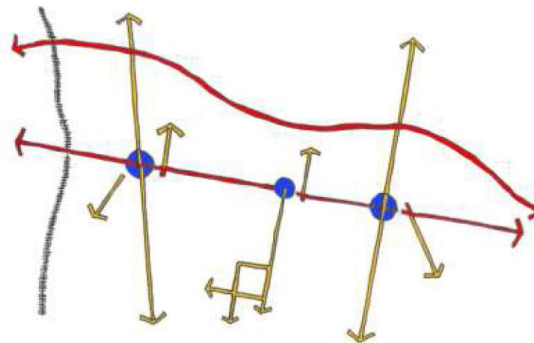


Figure 2.4: Corridor demonstrating the increased accessibility to activities.

Source: Uytendogaart, Dewar and TTodeschini, 1997 as cited in PPDC, 2007: 20.

Increasing the accessibility of a corridor provides a long term benefit where people are able to move away from travelling in their private vehicle towards travelling either by public transportation or by non-motorised transportation (PPDC, 2007). In order for a corridor to be successful it must be two-sided. This suggests that a corridor must provide activities and land uses on both sides of the corridor as it creates an agglomeration of intensive activities but must also provide the safety of pedestrians crossing the corridor, as seen in figure 2.5 and 2.6 below (PPDC, 2007).

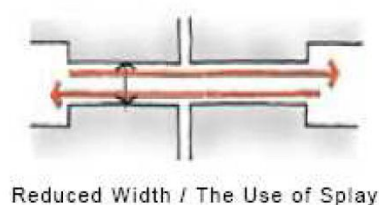


Figure 2.5: Demonstrates the 'pinched' principle to narrow the movement of private vehicles and provide more space for the movement of pedestrians in this area.

Source: Dewar, Louw and Le Grange, 2004 as cited in PPDC, 2007: 22.

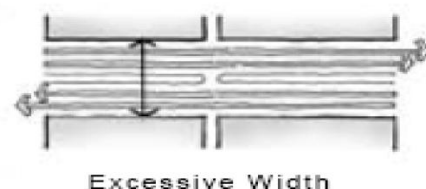


Figure 2.6: Demonstrates the extensive width of a corridor that makes it unsafe for pedestrian crossing.

Source: Dewar, Louw and Le Grange, 2004 as cited in PPDC, 2007: 22.

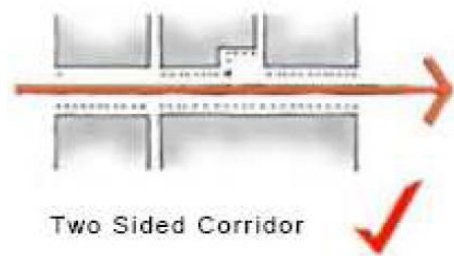


Figure 2.8: Demonstration of the nature of a two sided corridor that is successful.
Source: Dewar, Louw and Le Grange, 2004 as cited in PPDC, 2007: 21.

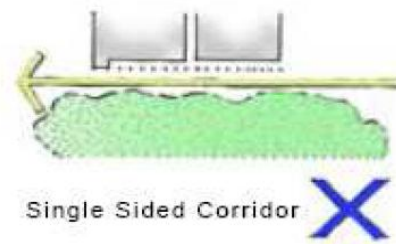


Figure 2.9: Demonstration of the nature of a single sided corridor that is not successful.
Source: Dewar, Louw and Le Grange, 2004 as cited in PPDC, 2007: 21

As mentioned above, a corridor must still provide for the safe crossing of pedestrians and in a context where the corridor is too wide, it is necessary for the corridor to be “pinched” or narrowed as demonstrated in figure 2.7 and 2.8 below (PPDC, 2007). There are two principles in narrowing a corridor. The one is demonstrated in figure 2.5 through the narrowing of a corridor by reducing the entrance, which emphasises the importance placed on the pedestrian in this area (PPDC, 2007).

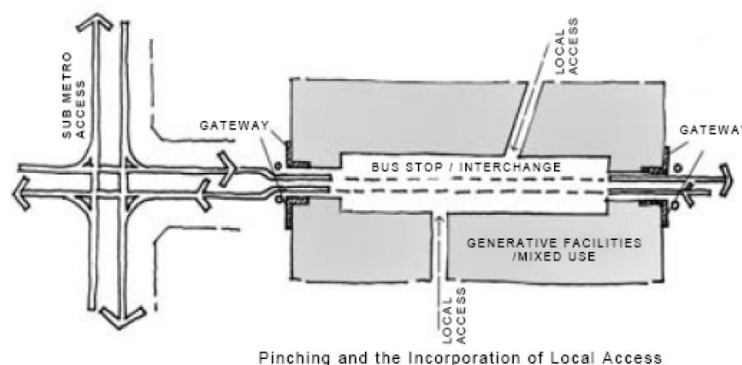


Figure 2.7: Demonstrates the ‘pinched’ principle that narrows the entrance and then widens again providing an increased priority for the pedestrians.
Source: Dewar, Louw and Le Grange, 2004 as cited in PPDC, 2007.

The other principle is demonstrated in figure 2.9 where only the entrances are narrowed providing a cautioned entrance, but the corridor is then widened again prioritising both vehicles and pedestrians at the same time making it a safe environment for the pedestrian (PPDC, 2007).

2.4.6 Connectivity and Linkage

As mentioned previously, corridors are used in order to connect and link places and nodes. It can link a township with a CBD, an industrial area, a suburb or even a retail node. It can link a suburb with another suburb or with a CBD (PPDC, 2007). A corridor must have a decisive interaction and

connectivity between the nodes within it and on its extremes. This will allow for the increase in accessibility to the job market and new opportunities (Jordaan, 2003). These characteristics are present in every different typology of a corridor.

2.4.7 Integration

The planning of urban transportation can no longer be viewed in isolation from land uses, especially when taking into account sustainable development. Himanen et al. (2004: 692) argued that transport plays “an intricate role in any quest for global sustainable development” (as cited in Curtis, 2008: 104).

Corridor development can also be linked to sustainability. For example, in order for transportation to be sustainable it should be integrated with land use by providing a variety of mixed land uses that would reduce the need to travel and provide that public transportation be in close proximity which would encourage the development of an urban environment that promotes walking and cycling (Curtis, 2008).

It can therefore be deduced that land use planning can be integrated and used with transportation in order to influence the development of corridors. This type of planning is usually designed through a spatial planning strategy that provides, at varying spatial scales, the land use and transport network that will increase the accessibility and sustainable development of a city (Curtis, 2008).

2.5 Advantages and Disadvantages

There are some challenges when transforming already existing urban arterial roads, that are predominantly vehicular orientated, into an activity corridor. One of the main challenges of achieving a successful activity corridor is by placing a larger emphasis on the public over the private mode of transport (Curtis and Tiwari, 2008).

There is a need to actively increase the access of the pedestrians and cyclists by creating an integration of the place function of the corridor with the traffic function (Curtis and Tiwari, 2008). Moderman (2005 as cited in Curtis and Tiwari, 2008) argued that there should not be an segregation but instead integration on a street. He also suggested that a street functions through social and economic transaction, and in order for the street to function effectively the traffic must be calmed (Curtis and Tiwari, 2008). For Engwicht (1999 as cited in (Curtis and Tiwari, 2008) the street should be utilised by pedestrians in an efficient manner. For social, economic and cultural activities to occur

there needs to be a reduction of traffic, an increase in movement (pedestrian movement) and an exchange between the different land uses and the pedestrians. There needs to be a balance of the types of movement on a street, especially between the private vehicles and the different street users; pedestrians, residents, cyclists and business people (Curtis and Tiwari, 2008).

2.6 Transit-Oriented Development Characteristics

Another element that is constant in the debate of TOD is the concern of sustainability. Many policies, planners and government agendas are advocating for the development of transit-oriented plans and non-motorised transportation as their use of natural resources are efficient (Curtis et al., 2009). There are five key characteristics that are present in almost every TOD that can be understood in the figure 2.10:

- It contains a walkable, high-quality pedestrian environment that integrates streetscaping.
- The highest housing densities are located closest to the transit center in order to decrease sprawl and promote compactness.
- The transit center is also at the center of a destination that has a diverse, mixed-use development.
- Parking is carefully located, designed, and managed.
- Most importantly, the community has quality public transit facilities and service

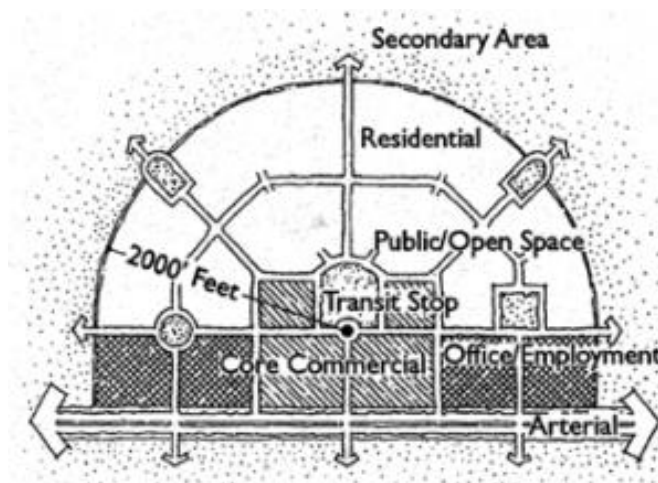


Figure 2.10: Characteristics of TOD

Source: "Complete Communities," n.d.

Image source: "Complete Communities," n.d. is available at

<http://transportpolicy2013.blogspot.com/2013/06/transit-oriented-development-without.html>

Transit oriented developments is not only found at the local scale but often works in conjunction with the metropolitan scale, figure 2.11. TOD is made up of small activity nodes that connect to a city-wide network of transport corridors. At a larger scale this allows for the restructuring of the urban system in order to achieve a more compact urban development by improving social, economic and environmental benefits for an area (Wilkinson 2006).

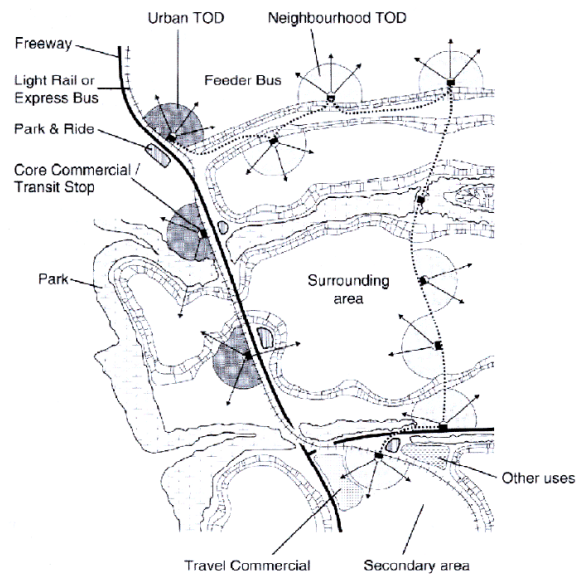


Figure 2.11: The TOD function at a metropolitan scale

Source: Hall and Ward, 1998 as cited in Wilkinson, 2006: 225.

2.6.1 Land uses

Another important element is the notion of creating a land use pattern where there is a variety of choices of transportation (Curtis et al. 2009). TOD is supposed to increase the access of a mixed use, residential or commercial area to public transport (Holmes & van Hemert 2008).

2.6.2 Public Transportation

TOD is generally centred on a form of public transport, either railway station, metro station, or bus station. The public transport is then, typically, surrounded by high-density development that decreases in density as it spreads out from the centre (Chen et al., n.d.; Holmes and van Hemert, 2008). It tries to reduce vehicle dependency and increase the number of transit rider which in turn will help alleviate traffic congestion, reduce carbon dioxide emissions and improve the quality of air (Chen et al., n.d.). TOD must be able to meet the needs and requirements of its residents by providing public transportation that is of a high service quality, that arrives frequently and provides good connections between social amenities in the area and also with places of work (Holmes and van Hemert, 2008). Its main priority is “improving the competitiveness of alternatives to the car, by increasing their flexibility” especially in terms of improving public transportation and providing effective modes of non-motorised transportation (Curtis et al., 2009: 5).

2.6.3 Integration and Accessibility

The integration of transportation and land uses patterns is a vital element especially as it is able to increase the quality of urban life as it is able to provide a sense of “urbanity” where people can interact in the public space and become less dependent of private vehicles (Bertolini, 2000 as cited in Curtis et al., 2009: 3). A TOD is largely associated with an increase in accessibility as it provides an alternative to the vehicle dependency many cities encounter (Curtis et al. 2009).

2.6.4 Density

The density is greatest around the transit station and then begins to decrease, but always with a mixture of land uses. One of the preconditions for TOD is the development of higher density around the transit stations with a distance of approximately 100-150m (300-500ft) (Chen et al., n.d.). It is at approximately 150-500m of the transit station that the density begins to decrease. From 500m until the end of the TOD area the density decreases further and the land uses usually blend in with the surrounding areas (Chen et al. n.d.).

2.6.5 Walkability

TOD is associated with providing an area that as an increased access to transit therefore reducing the dependency of vehicles, suggesting that the area must be pedestrian friendly (Holmes and van Hemert, 2008). Chen et al. (n.d.: 2) makes mention of a “walking shed”, which is an area where people are willing to walk in order to access public transportation, either from home, work or other activities. Many professionals suggest that the most appropriate distance is one that takes approximately five minutes to walk and is about 500m from a transit station (Chen et al., n.d.). Walking is therefore a vital element in providing an area of TOD. The walkability of the precinct should therefore remove any possible barrier that would hinder the walkability. All sidewalks should therefore be widened, provide pedestrian infrastructure, and provide an appropriate location for parking, avoid long blocks and alleviate sudden changes in elevation (Holmes and van Hemert, 2008; Chen et al., n.d.). It is generally suggested that a pedestrian is likely to walk more to transit stations if the city blocks are shorter compared to if the blocks are long, making the walk seem longer (Chen et al., n.d.).

2.6.6 Urban Design Principles

There are a number of urban design principles of TOD summarised by Peter Calthrope:

- Organise growth on a regional level to be compact and transit-supportive;
- Place commercial, housing, jobs, parks, and civic uses within walking distance of transit stops;
- Create pedestrian-friendly street networks which directly connect local destinations;
- Provide a mix of housing types, densities and costs;
- Preserve sensitive habitat, riparian zones, and high quality open space;
- Make public spaces the focus of building orientation and neighbourhood activity;
- Encourage infill and redevelopment along transit corridors within existing neighbourhoods.

Source: The next American Metropolis: Ecology, Community, and the American Dream: 43 as cited in Chen et al., n.d.: 2.

2.7 Non-Motorised Transportation

Research and literature in recent years pays considerable attention to the movement of private vehicles and how cities can function more efficiently for them. However, there is still little focus on the importance of creating better urban environments for non-motorised transportation (NMT). Over the last few years there has been an increased shift towards projects and programmes that promote NMT and away from the dependency of private vehicles. This requires there to be a “policy reform, infrastructure development, social initiatives and campaigns” that will assist with the implementation of NMT projects (Culwick, 2013: 1). In today’s society the use of NMT, such as cycling and walking, does not receive much attention nor is it efficiently used by the vast population in cities (Reitveld, 2000). Even though not much attention is placed on their importance in urban environments, pedestrians and cyclists still comprise the largest forms of NMTs (Culwick, 2013).

2.8 Cyclists and Pedestrians

One of the most important modes of NMT is the use of the bicycle. Not only can it be used to travel short distances but it can also play an important role in accessing public transport nodes (Reitveld,

2000). Although cycling is an important mode of transport when taking into consideration NMT, it is walking that is by far the most fundamental of all.

2.9 Multimodal Transportation

As it has been discussed previously all modes of transportation have certain advantages and disadvantages, however in order for them to function efficiently there needs to be a balance between them all. The way in which cities can develop areas of multimodal transportation is important for both policy and research in order to achieve it efficiently (Reitveld, 2000). The NMT provides an important link between a pedestrian's final destination and the preferred public transport. In order to guarantee the successful movement of pedestrians in an urban environment it is necessary for the motorised and NMT to work effectively together in order to integrate the transport network (Culwick, 2013).

If a city is able to provide an efficient multimodal change with NMTs it would be able to provide the lower income groups with a more affordable and perhaps safer choice of transportation instead of the private vehicle that is commonly associated with higher income groups (Culwick, 2013). Accessibility is one of the most vital elements of the functionality of NMTs in public transport nodes through the provision of adequate parking facilities for private vehicles and bicycles (Reitveld, 2000). Providing a safer urban environment that is convenient for walking and cycling allows for the increased number of users (Culwick, 2013).

The development of NMT is usually enforced through the provision of programmes and strategies that allow for a gradual shift away from the private vehicle towards a greater usage of NMTs as well as public transportation. Some of these strategies and programmes include the (Culwick, 2013: 4):

- “Restricting Car access to certain areas (permanently or temporarily)
- Reducing parking bays
- Upgrading public transport
- Providing bicycle share schemes
- Developing high quality NMT networks
- Supporting social NMT mainstreaming activities
- Created linkages between public transport and NMT networks
- Adopting a ‘complete street’ design model”

The Complete Street is a recent document produced by the City of Johannesburg on the design principles on creating streets that are universally accessible and cater for all modes of transportation.

2.10 Disadvantages and Advantages Associated to NMT

Perhaps the lack of attention paid to NMT could be associated to the fact that this mode of transportation is of low technology and therefore requires less equipment and less investment, therefore influencing it to be of little importance in the national economy of countries (Reitveld, 2000). Another reason for the lack of importance of NMT is that they do not provide the largest number of traffic nor does the congestion of pedestrians occur and is therefore deduced that it required less attention. Perhaps the only problem directly associated with NMT is the concern of safety, as in many countries around the world around 20-40% of the road accidents are related to cyclists and pedestrians (Reitveld, 2000).

Nonetheless, NMT is not only associated with negative connotations it also has some important qualities that makes it environmentally friendly with (Reitveld, 2000; Culwick, 2013):

- less noise,
- less carbon emissions and pollution,
- decrease in traffic congestion,
- it is a cheaper mode of transportation,
- reduces road accidents and fatalities,
- improves safety,
- increased accessibility,
- reduces the parking space that is required and
- is able to increase the quality of life and improve health.

Another quality that is of strong importance to the use of NMT is that it is the most effective when travelling or making short distance trips. In Netherlands for example about 50% of short distance trips are less than 3.5km and when taking into consideration walking and cycling the modal share is above 50% (Reitveld, 2000). It can therefore be deduced that the NMT is most efficient where the destinations are all found in short distances and other modes of transport would make it difficult, slow or time consuming to reach the desired destination. Hence there is a higher number of trips by pedestrians in a high-density area than there would be in rural area (Reitveld, 2000).

The only manner in which NMT can be entirely successful is if cycling and walking is seen as a complementary mode of transport to all the other modes of transportation. This is evident, especially when considering that there is a need for NMT whether to get to a public transport stop or moving from and to a private vehicle, “one cannot avoid the need to walk a certain distance” (Reitveld, 2000: 32).

2.11 Conclusion

This chapter has discussed the characteristics associated to the three theories and it is evident that the discussion becomes repetitive as most of the principles are encountered in all three theories. A fundamental consolidation of the corridor concept is that there is an attempt to promote a mixture of land uses along the corridor, provide different modes of transportation and provide an integration of the two not forgetting the importance of promoting a more intensity in the movement and accessibility of the and also encouraging the use of non-motorised transportation (PPDC, 2007).

Chapter 3

Policy Assessment



3.1 Introduction

The City of Johannesburg modified their approach to developing and implementing policy after 2000 (due to the Municipal Systems Act, 2000) from producing master plans towards producing spatial frameworks (Todes, 2012b). This shift caused the City of Johannesburg to become increasingly focused on strategic spatial planning in order to address the planning and development of the city. In essence, strategic planning is concerned with providing a broad directional guideline and policy instead of the typical detailed comprehensive plans (Todes, 2012a). Albrechts (2006: 1491) states that “strategic spatial planning is a transformative and integrative, (preferably) public-sector-led sociospatial process through which a vision, coherent actions, and means for implementation are produced that shape and frame what a place is and might become”. Fundamentally, these are the elements that shaped the spatial policies in the City of Johannesburg.

Previous chapters have shown that internationally there is a growing demand for the integration of land use and transportation in planning urban areas as well as in the development of adequate local policy and legislation (Marrian, 2001). The urban policies in South Africa, more specifically in the City of Johannesburg, have focused their influence on issues of public transportation and land uses. Policy now places greater importance on public modes of transportation instead of private transportation (Bickford, 2014). This chapter is fundamentally divided into three sections focused on the evaluation of how the City of Johannesburg addresses public transportation through transit-oriented development and non-motorised transportation in their different policies.

The first section of this chapter will discuss the various policies that guide strategic spatial planning in the City of Johannesburg. This section will begin by discussing the Joburg 2040 Growth and Development Strategy which is the policy that guides all the other policies developed by the City of Johannesburg, as seen in figure 3.1. The chapter will then discuss the policies of Integrated Development Plan 2012/2016; the Spatial Development Framework for Johannesburg 2013/2014; Strategic Integrated Transport Plan Framework for the City of Johannesburg and; Framework for Non-motorised Transport 2009. Figure 3.2 demonstrates how the policies will be discussed based on their policy significance and scale in the City of Johannesburg. These policies are broader at a citywide scale and become more detailed as it becomes regional and local. The discussion of these policies will be focused on their purpose and how they guide the future development within the city as well as discuss their approach on public transportation through corridor development, transit-oriented development and non-motorised transportation. Unfortunately this may lead to the repetition of the planning elements; however this is necessary as it will assist in the evaluation of the last section of this chapter.

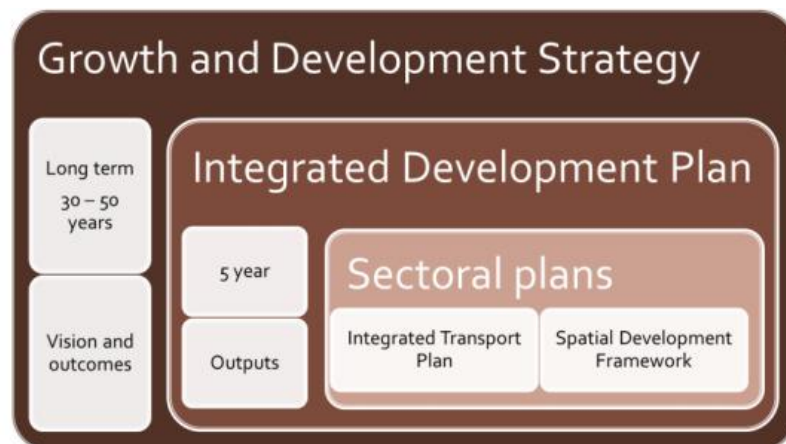


Figure 3.2: Importance of the Joburg 2040 Growth and Development Strategy in relation to the Integrated Development Plan (IDP) and other city policies.

Source: City of Johannesburg, 2013c: 4

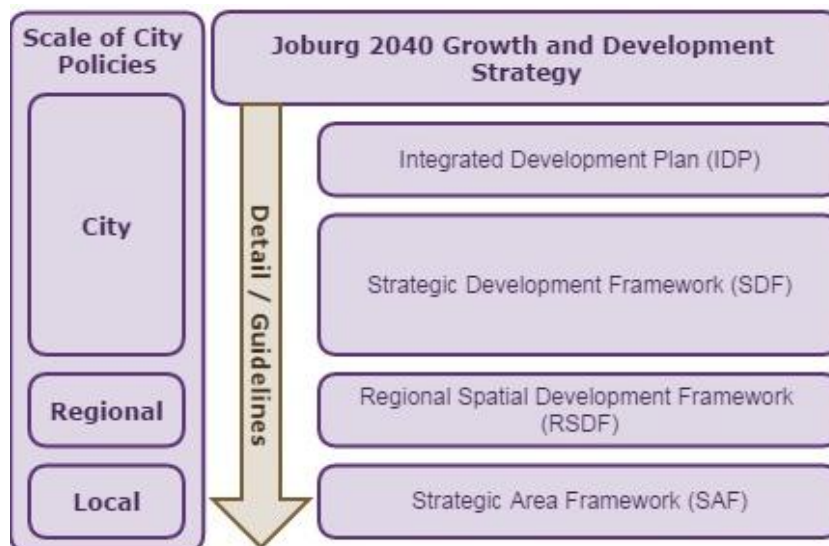


Figure 3.1: The interrelationship between the different policies at varying scales in the City of Johannesburg as guidelines and details change.

Source: Edited from the City of Johannesburg, 2013a: 64

The second section of this chapter will discuss the Corridors of Freedom policy as it is, in relation to this research, the most important spatial vision. It will have to be adopted by all the main policies in the City of Johannesburg. The next policy (document) discussed is the Strategic Area Framework for the Turffontein Development Corridor. All of the policies discussed in this chapter are from the City of Johannesburg and the policies discussed at a local scale are based on region F of the City, as seen in map 3.1.

In essence this evaluation is attempting to access how the city views corridor development, transit-oriented development and non-motorised transportation in their policy, as well as if their recommendations have been carried through into the Turffontein Development Corridor. The third section of this chapter takes this into account and attempts to evaluate which elements in the spatial policies of the City of Johannesburg have influenced the Strategic Area Framework of the Turffontein Development Corridor.



Map 3.1: Map of the City of Johannesburg divided by regions, with Region F being of highest importance in this research.

Source: City of Johannesburg, 2013a: 13

3.2 Joburg 2040 Growth and Development Strategy

The City of Johannesburg developed its first long term path for the future development of the city in 2006 with the Joburg 2040 Growth and Development Strategy (GDS) of the city's path until 2040. The first GDS was developed in 2006 as a long term strategy for the 2006-2011 term of office, and a new document in 2011-2016 for the next office term (City of Johannesburg, 2011). Although the GDS is a long term strategy it is neither a statutory plan nor a spatial vision. Instead it is a "prerequisite for medium-term, strategic, spatially-oriented plans" of different sectors in the city (transportation, housing and infrastructure) that provides the strategic directions of the medium-term plans within the city (City of Johannesburg, 2011: 8).

The Joburg 2040 Strategy was produced to work in conjunction with the city's medium-term development strategy, the Integrated Development Plan. The Joburg 2040 Strategy is a five year review that takes into consideration new opportunities and challenges faced by the city and evaluates the long-term strategy of its goals, strategies and objectives in order to improve the city (City of Johannesburg, 2011). Essentially, the Joburg 2040 Strategy is an important mechanism "to develop an open ended and holistic city strategy that provides a 'rough consensus' of strategic choices, to guide future development" where the strategies are used to "meaningfully inform a range of long-term strategic plans and programmes" (City of Johannesburg, 2011: 6). The 2011 Joburg 2040 Strategy, since 2006, has continued the focus on principles to "transform the unjust

Apartheid City of the past into a just, equitable, multi-cultural, multi-racial city of the future” (City of Johannesburg, 2011: 8). The Joburg 2040 Strategy’s vision provides an overview of what the city will become by 2040, and will be considered in all the strategic spatial plans developed by the city. The vision states that “Johannesburg – a World Class African City of the Future – a vibrant, equitable African city, strengthened through its diversity; a city that provides real quality of life; a city that provides sustainability for all its citizens; a resilient and adaptive society” (City of Johannesburg, 2011: 35).

Transportation, more specifically mass public transportation, has been identified by the Joburg 2040 Strategy as a mechanism to try and curb the vehicle dominated City which Johannesburg has become. It suggests that in order to address the spatial form of Johannesburg’s Apartheid city, the city would have to invest and scale up its mass public transportation, in order to improve the connectivity of residents who still reside in disadvantaged communities (City of Johannesburg, 2011). One of the Joburg 2040 Strategy principle is to address the problem of transportation by “ensuring the affordability of municipal services, public transport and social facilities” (City of Johannesburg, 2011: 33).

The transportation system is vital for the efficient function of Johannesburg’s residents and its economy. Through the development and implementation of the Rea Vaya Bus Rapid Transit (BRT) system, it has been established that transportation is a vital element to integrate a divided city (City of Johannesburg, 2011). The city still lacks integration between different modes of mass public transportation. Even though the city has rolled out and implemented the Rea Vaya BRT system there is still limited access and efficient modal shift for the middle class residents of the city (City of Johannesburg, 2011). In order to reduce the usage of private vehicles in the city and promote a shift towards the use of more public transportation, there needs to be a greater integration between the various modes of public transportation.

The Joburg 2040 Strategy suggests that the provision of the Rea Vaya BRT system provides “opportunities for corridor development and transit-oriented development”, with a number of nodes already identified (City of Johannesburg, 2011: 71). In order for corridor development and TOD to improve the modal shift (private vehicles to public transport) and integrate public transportation it is necessary to diversify transport by including alternative modes of transportation; cycling and walking. It is therefore important to improve the access to key infrastructure through appropriate design. This can be achieved by creating neighbourhoods with a one-hour walking distance (access to most social amenities); activating the street edges in order to prevent people walking next to inactive streets (long walls); improving the city’s connectivity and improve the gaps

in public transportation; as well as improving the linkages of green spaces within the city (City of Johannesburg, 2011).

In order to improve the accessibility and inclusivity of public transportation there is a need to provide multi-modal transport infrastructure with mass transit interventions. In order for this to be introduced efficiently there is a need to develop transport nodes that have mixed uses that allows for economic development to occur around these nodes (City of Johannesburg, 2011). However, a modal shift cannot only focus on providing mass transit transportation, but must also create a focus on providing areas for NMTs where the urban fabric provides pathways and streets that are adequate for cyclists and pedestrians (City of Johannesburg, 2011). The modal shift must occur between private vehicles, BRT buses, bicycles and walking. Some of the infrastructure required for NMTs include: wider sidewalks, dedicated bicycle lanes and bicycle storage facilities, lay bies for public transport, monitoring capacity and active policing (City of Johannesburg, 2011).

The Joburg 2040 Strategy identified four outcomes to direct spatial plans. Of these outcomes, it is “Outcome 2: Provide a resilient, liveable, sustainable urban environment – underpinned by infrastructure supportive of a low-carbon economy” (City of Johannesburg, 2011: 9), with the element of greatest importance to this research being the eco-mobility. The Joburg 2040 Strategy is committed in making “continued investments in mass public transport and non-motorised transport, prioritising the pedestrian over the car” and by 2040, “the City will be pedestrian and public transport oriented” (City of Johannesburg, 2011: 95). The main elements highlighted about transportation in this policy should be used as a guideline to develop all of the city’s spatial plans in order to achieve the Joburg 2040 Strategy vision.

3.3 Integrated Development Plan 2012/2016

The Integrated Development Plan (IDP) is a municipal tool that is used as an incremental five-year plan that is able to facilitate the achievement of both long- and medium-term goals (City of Johannesburg, 2011). The Joburg 2040 Strategy of 2006-2011 was the first time that the strategy was integrated into the medium-term IDP. Whereas the Joburg 2040 Strategy provides a long-term strategy with a vision for the City of Johannesburg, the IDP is a medium-term delivery of the GDS vision and goals. The Joburg 2040 Strategy “therefore frames the IDP, charting long-term ambitions, strategies and overarching decisions relating to prioritised areas of focus” (City of Johannesburg, 2011: 5).

The IDP begins with the statement on the cover page “Corridors of Freedom ‘Re-stitching our City to create a new future’” (City of Johannesburg, 2013a: 1) which indicated that the main aim of the policy document is to achieve the elements highlighted in the Corridors of Freedom policy. The vision of the IDP is the same as the vision laid out in the Joburg 2040 Strategy, therefore facilitating the consolidation of the two planning tools.

The main approach in order to achieve the spatial vision is by undertaking “on-going expansion and extension of Rea Vaya BRT” as well as “the restructuring and integration of all public transport modes across the Gauteng City Region and increased focus on, and support for, walking and cycling” (City of Johannesburg, 2013a: 36). There needs to be a shift from the construction and maintenance of roads for private vehicle and more attention towards the construction of ‘complete streets’ for residents who use public transportation and walking.

The Joburg 2040 Strategy developed four long term outcomes, but as mentioned previously, the most relevant was outcome 2. The IDP aligned its development priorities with those of the Joburg 2040 Strategy. One of these priorities is to achieve the spatial transformation of a compact city through the improvement of “infrastructure and economic growth projects driving transit-oriented development” (City of Johannesburg, 2013a: 54).

In order to achieve the Joburg 2040 strategy for TOD, it was placed as one of the ten priorities, namely the Sustainable Human Settlements (SHS). The SHS has a key objective to address the spatial inequalities, and one of the main approaches to achieve this is through the improvement of public transportation (City of Johannesburg, 2013a). This would be achieved by ensuring an increased usage of public transportation through:

- “Ongoing roll out of Rea Vaya BRT as well as using BRT as a catalyst to promote walking, cycling and the restructuring and integration of all public transport modes
- Universal access to a mass transit system in a manner that integrates multiple nodes
- Integrated public transport, walking and cycling network in place”

(City of Johannesburg, 2013a: 57)

All of these elements will be rolled out and implemented through the identification and allocation of key (priority) transport corridors and also the development of public transportation nodes (City of Johannesburg, 2013a). However, in the list of nodes and transport corridors provided there is no mention of the Turffontein Development Corridor.

The ten priorities set out by the Joburg 2040 Strategy are provided with further detail in the 2013/16 IDP review. Within these ten priorities it is the SHS that has the most influence of the provision of public transportation. Any of the interventions planned within the SHS priority is focused on ensuring the spatial integration and suggests that the backbone of the spatial transformations in the city will only be possible by providing investment in public infrastructure on mass public transport (City of Johannesburg, 2013a).

There is a much larger emphasis on the importance of TOD in the IDP. According to the 2013/16 IDP, TOD can be used to knit “the urban form together through mass transit (goods and people) along corridors that strengthen the connectedness of different parts of the city. These corridors will be developed to support inclusivity (varied residential typologies, tenure options, income groups) and high intensity mixed use developments to reduce commute times and costs” (City of Johannesburg, 2013: 91). These planning elements can be achieved through the development of appropriate urban design interventions and improved public urban form through ‘complete streets’. This will allow for the improvement of accessibility, walkability and safety of the urban form and streets. There is also a priority to promote non-motorised transportation (NMT) and support cycling (City of Johannesburg, 2013a). The 2013/16 IDP review provides a list of the corridors identified in the Corridors of Freedom in the medium term and, in relation to this research, it identifies the Turffontein Node. All of the identified nodes and corridors will consist of “mixed income housing, schools, offices, community facilities, cultural centres, parks, public squares, clinics and libraries” where TOD “will change the entrenched settlement patterns in the City” that will “consist of high-rise residential developments growing around transit nodes, gradually decreasing in height and density as it moves further away from the core” (City of Johannesburg, 2013a: 92). These identified transport corridors and TOD nodes were elaborated further at a precinct level through the Strategic Area Framework (SAF).

The Turffontein Development Corridor is also identified in the IDPs ‘Capital Investment Priority Areas’ (CIPA) that take into account the modified routes of the Rea Vaya BRT as well as the areas of investment of the Growth Management Strategy (GMS). The CIPA provides a development footprint of the corridors that have been identified for improvements and initiatives on public transportation (City of Johannesburg, 2013a).

3.4 Spatial Development Framework for Johannesburg 2010/2011

The Spatial Development Framework (SDF) addresses the developmental challenges by providing policy guidelines that are able to shape development strategies (City of Johannesburg, 2013a). The SDF specifically “provides the policy basis for assessment and determination of development proposals and applications that fall outside the scope of prevailing Town Planning Schemes” that provide a “citywide perspective of spatial challenges and interventions within the City” (City of Johannesburg, 2010: 2).

The most recent SDF is the 2010/2011; however there is a review of the SDF that is expected to be released in 2014. More specifically the 2013/2014 SDF will “effectively incorporate and align the tenets of the Joburg 2040 Strategy, review the plan in relation to both cross-border issues and the Gauteng City Region, and undertake extensive public participation of the draft document in 2013/14” (City of Johannesburg, 2013a: 61–62). Since the reviewed 2013/14 SDF has still not been published, some of the main planning concepts prevalent in the Corridors of Freedom, the Joburg 2040 Strategy and the IDP, are not present in the 2010/11 SDF. Therefore, this reduces the 2010/11 SDF’s authenticity to this research, as only some sections of the current report are still relevant.

The Regional Spatial Development Framework (RSDF) is one of the supporting documents that help guide the developments identified and also provides some development components; the seven fundamental Development Strategies in the SDF (City of Johannesburg, 2013a). Similar to the 2010/11 SDF, the RSDF is also a 2010/11 version, and no review has been released for the 2013/14 RSDF. Therefore, the Region F 2010/2011 RSDF does not comprise all the elements emphasised in the Corridors of Freedom or the Joburg 2040 Strategy. Since the reviewed Region F RSDF policy is not available it will not be discussed in this research.

One of the central themes of the SDF, which is of relevance to this research, is the “emphasis on public transport as a key lever towards spatial transformation and inclusive access to the City” (City of Johannesburg, 2013a: 61). This theme is also supported in the Joburg 2040 Strategy in the priorities set out by the ‘Sustainable Development and Resource Sustainability’ which signifies that the seven key Development Strategies in the 2010/11 SDF are still relevant (City of Johannesburg, 2013a). Apart from the emphasis placed on public transportation in the reviewed 2013/14 SDF there is also a new attention towards “Transit-Oriented Development Guidelines” (City of Johannesburg, 2013a: 64). Some of the concepts that are prevalent in the 2010/11 SDF are the corridor and nodal developments, as well as the Strategic Public Transport Network (SPTN) explained better in the Strategic Integrated Transport Plan Framework, and the Bus Rapid Transit (BRT) (City of Johannesburg, 2010). These concepts are all important in the concept of TOD that will be

incorporated in the reviewed 2013/14 SDF. In order to improve the delivery of goals and objectives identified in the IDP, the SDF provides seven Development Strategies to achieve medium- to long-term development objectives. However, of the seven development strategies only these three are relevant to this research which:

1. “Supporting an Efficient Movement System;
2. Ensuring Strong Viable Nodes;
3. Initiating and Implementing Corridor Development” *(City of Johannesburg, 2010: ND)*

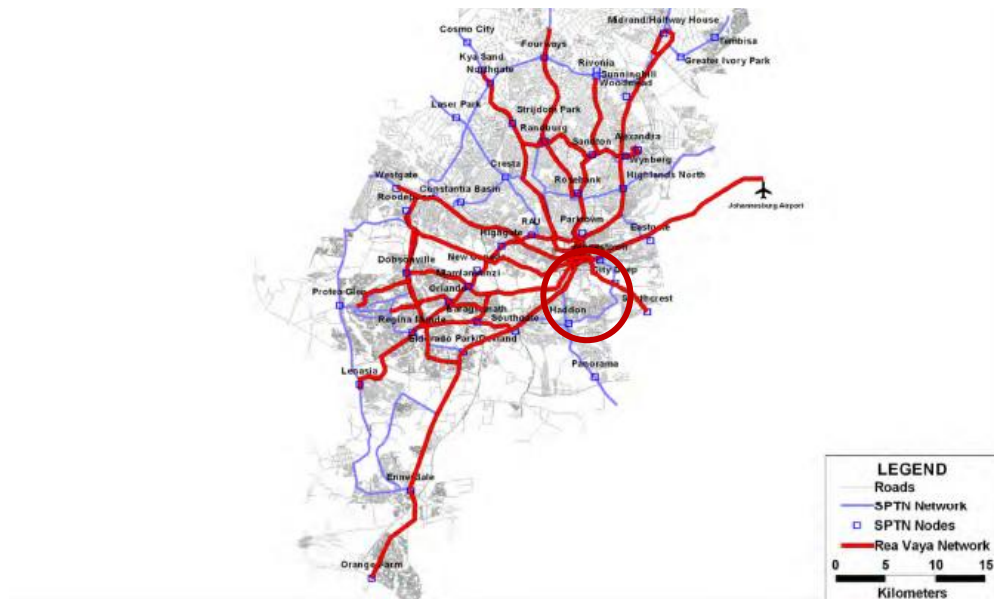
The SDF attempts to develop an efficient movement system by facilitating an urban design based on “multi-modal transportation and land use patterns that support public transport and pedestrian movement” as well as focus development on “existing public transport infrastructure” (City of Johannesburg, 2010: ND). It would therefore be necessary to invest in the public infrastructure of BRT, the Strategic Public Transportation Network (SPTN) and NMT. The objectives of investing in this infrastructure are related to:

- supporting NMT’s such as cycling and pedestrians;
- reducing transport and travel costs;
- providing an increase in accessibility to social facilities, employment and recreation for the city’s residents;
- the movement system of public transportation must be linked and supported by higher density neighbourhoods and higher intensity transportation nodes

(City of Johannesburg, 2010)

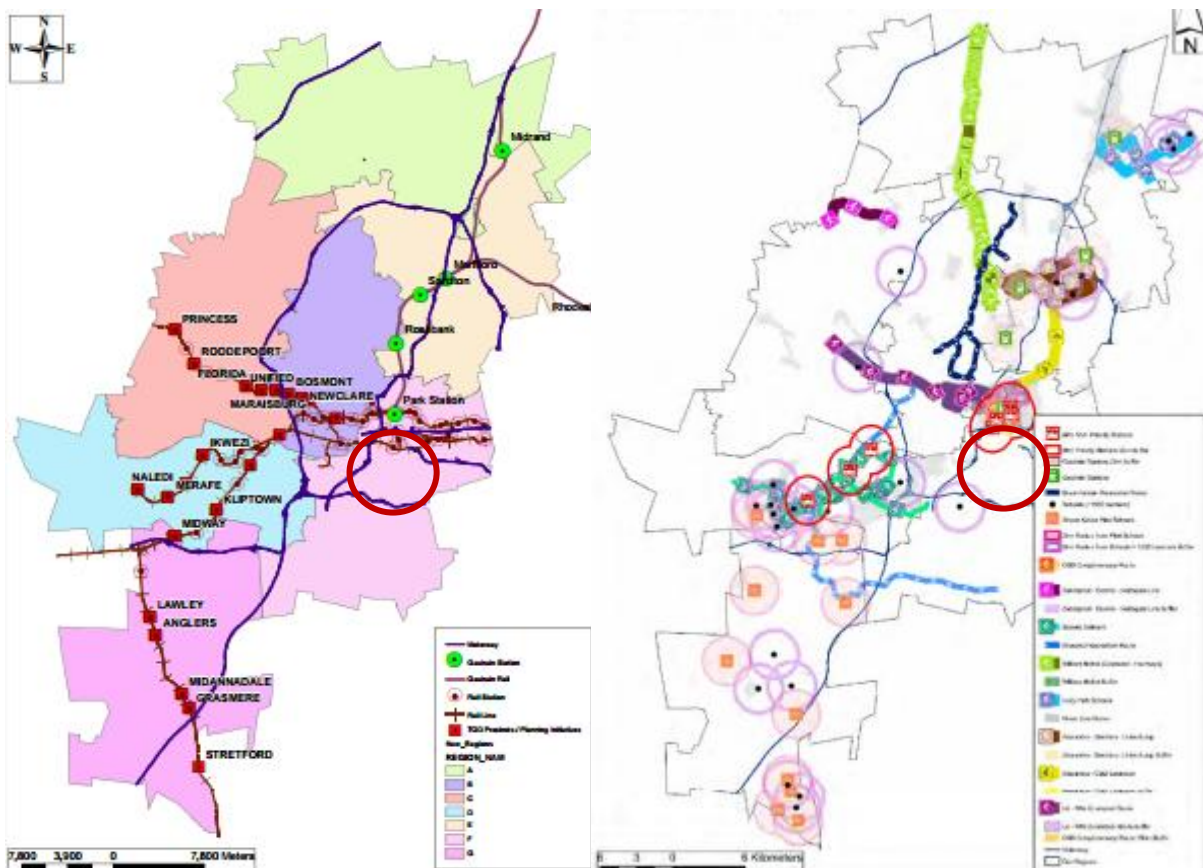
Map 3.2 identifies the BRT networks of the city and there are two routes that run through the Turffontein Development Corridor (TDC). The route in the north-west corner connects to Soweto, while the proposed route travelling south-east in the study area runs through City Deep to South Crest. There is also a SPTN network in the study area that connects City Deep to Haddon in the south-west part of the TDC. Maps 3.3 and 3.4 on the other hand have not identified TOD precincts or NMT priority routes in the TDC. In these maps there are no identifications of the Turffontein Development Corridor area as a priority for any of the planning principles mentioned.

The development strategy that ensures strong viable nodes is focused predominantly on increasing the interaction between the nodes that cater for public transportation and the pedestrian movement. In order for this to occur, activities have to be located in close proximity to the node as to increase their accessibility.



Map 3.2: Map of full BRT system and SPTN Network for the City of Johannesburg of approximately 330km.

Source: City of Johannesburg, 2010: ND



Map 3.3 and map 3.4: Identification of all the TOD precincts and the identification of the NMT priority routes in the City of Johannesburg, respectively.

Source: City of Johannesburg, 2010: ND

According to the city a node is “a well-defined and legible urban environment where highly accessible, mixed and compatible land uses are concentrated and serviced” (City of Johannesburg, 2010: ND). In order for a node to be successful it must provide:

- a variety of land uses;
- an urban form that is contained and focuses on transportation, movement and pedestrian orientated; in terms of the urban infrastructure such as the pedestrian networks, squares and parks;
- the strong pedestrian connectivity must improve the accessibility of nodes for pedestrian and public transport users, and reduce the dependency on private vehicles

(City of Johannesburg, 2010)

However, nodal development is only successful with an adequate implementation of corridor development. The City of Johannesburg describes a development corridor as a:

- “High volume transport routes that connect major activity centres and nodes;
- Existing / potential for regional and inter-regional accessibility;
- Provision of a number of movement options – i.e. road and rail;
- Potentially lower transit costs on current/ potential routes;
- Intense, high-density mixed land uses”

(Del Mistro, 2001 as cited in City of Johannesburg, 2010: 142)

Apart from these principles, a development corridor must also have a number of spatial elements that work in conjunction. These elements include a variety of road hierarchies that consist of activity and mobility spines with connection to open space systems that are all interconnected through nodes as illustrated on figure 3.3 (City of Johannesburg, 2010).

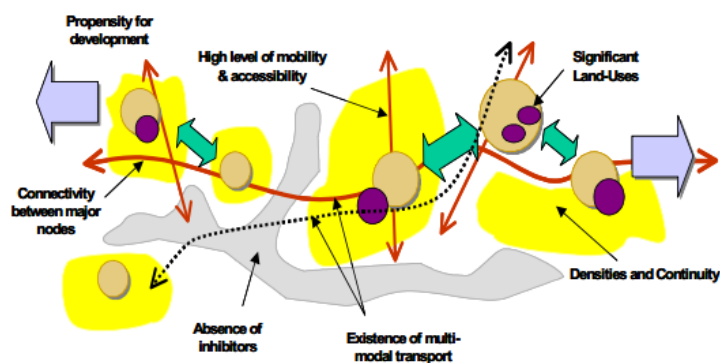


Figure 3.3: Conceptual illustration of corridors interconnected with nodes and open spaces.

Source: City of Johannesburg, 2010: 143

3.5 Strategic Integrated Transport Plan Framework for the City of Johannesburg (draft for discussion 2013)

Johannesburg's Strategic Integrated Transport Plan Framework (SITPF) 2013 is a new, as well as the first, component of the Integrated Transport Plan (ITP) for 2013-2018. Both the ITP and the SITPF were developed by the Transport Department of the City of Johannesburg (City of Johannesburg, 2013c). The Transport Department has a vision of creating "a people-centred transport system" that is able to transform the City of Johannesburg (City of Johannesburg, 2013c: 41). Their vision is only possible if policies and the development of projects are able to achieve the objectives of:

- Providing integrated transportation;
- Promoting the usage of public transportation and non-motorised transportation (NMT), such as cycling and walking, as alternative modes of choice for residents;
- Providing public transport services that are safe, of high quality, environmentally friendly, affordable and accessible to all the residents.

(City of Johannesburg, 2013c)

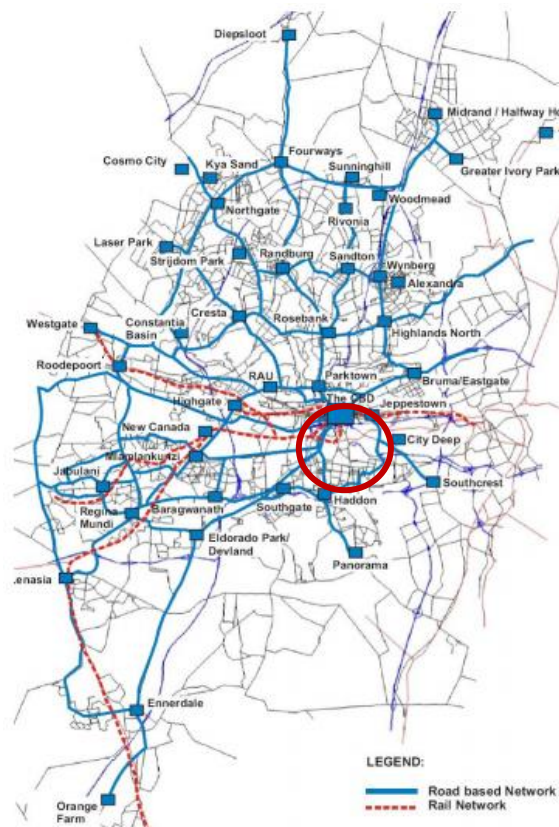
The SITPF is firstly focused on identifying the status quo of the City of Johannesburg as well as providing an overview of the short comings and major developments that the city has undergone in the past ten years (City of Johannesburg, 2013c). Secondly, it is focused on analysing the status quo of transportation in the City of Johannesburg and the SITPF provides the vision of transportation for the city, followed by a number of objectives and strategies in order to achieve its vision (City of Johannesburg, 2013c).

The 2013 SITPF has changed its emphasis from improving the mobility of private vehicles towards improving the accessibility and mobility of the population through the improvement of public transport system (City of Johannesburg, 2013c). The ITP recommended the development of a Strategic Public Transport Network (SPTN), designed in order to provide an identification of the public transportation networks that were required to develop a well-connected city network. Its main aim was to support "a compact, multi-nodal city form, by providing a legible permanent public transport 'grid' of focused high-frequency public transport routes connecting key high-density nodes and also dense residential areas", as seen on map 3.5 (City of Johannesburg, 2013c: 20). There is no identification of the Turffontein Corridor as a node or as corridor on this map however the SPTN connects City Deep, Southcrest and Haddon that are in the Turffontein Development Corridor. The Turffontein Corridor is only mentioned further into the document under the "City's Capital Investment Priority Areas" (City of Johannesburg, 2013c: 32).

The SITPF developed nine thrusts in order to achieve the vision of the Transport Department and of the Joburg 2040 Strategy. For the purpose of this research three of the nine thrusts are relevant, more specifically:

- “Thrust no. 1: Restructure and integrate the city
- Thrust no. 2: Improve and expand provision of quality public transport and use of non-motorised transport
- Thrust no. 3: Maintain, improve, extend and integrate transport infrastructure”

(City of Johannesburg, 2013c: 47)



Map 3.5: Strategic Public Transport Network (SPTN) for the City of Johannesburg, red circle highlights the Turffontein node.

Source: City of Johannesburg, 2013c: 21

3.5.1 Thrust no. 1: Restructure and integrate the city

The main outcome of this thrust is to provide the City of Johannesburg with an efficient and accessible public transport system located along development corridors with a mixture of land uses and high density (City of Johannesburg, 2013c). In order to develop spatial transit-oriented development (TOD) interventions a large investment must be placed on mass public transportation as it has been identified as being the backbone for TOD. The identified TOD corridors and nodes are highlighted in the map 3.6 however there are no TOD precincts in the south of the red circle highlighted in the map.

There are some key strategies that have been placed together in order to achieve TOD. They must have a “strong high-frequency public transport corridors” that promote “residential density along them and complexity of land use in the nodes on these corridors through attracting density and mixed-use developments to them” (City of Johannesburg, 2013c: 50).

related trips and short-distances, especially for learners. The “international standards recognise distances of 500 m to 1 km as representing a fair walking distance” and that the “recommended trip times are 30 minutes to jobs/school and 10 to 15 minutes for trips to shops or services” (City of Johannesburg, 2013c: 55). On the other hand for cycling it is recommended that a destination should not be more than 10 km (City of Johannesburg, 2013c).

The SITPF has strengthened these important elements of improving public transportation by laying out a number of key strategies. With regards to this research, the strategies that are most relevant are the Rea Vaya BRT, the Conventional Bus, and the Cycling Strategy. The City of Johannesburg identifies the Rea Vaya BRT systems as being the prime choice of mobility for mass public transportation, as it is the most suitable mode for busy corridors and plays an important role in TOD (City of Johannesburg, 2013c). Some of the strategies of the Rea Vaya BRT are focused on “continue to integrate BRT with other modes including the mini and metered taxis and non-motorised modes at a strategic and operational level” (City of Johannesburg, 2013c: 58).

The conventional bus on the other hand is seen as a limited mode of transport in its priority for public transportation; however it is seen as important in order to strengthen transport corridors by extending its services to residential areas that are predominantly car orientated. The strategy on cycling is mostly focused on increasing cycling as a preferred mode of transportation, and also increasing the number of learners that are able to cycle safely to school. There are a number of interventions that are outlined in this strategy to promote cycling in the city:

- “Creation of a dedicated network of high quality pedestrian and cycling routes;
- Integrating cycling at public transport nodes;
- NMT projects focusing on university and school learners;
- Increasing the availability of bicycles;
- Amending relevant technical roads standards and planning requirements:
 - The “Complete Street” standards will include guidelines for the provision of cycling”

(City of Johannesburg, 2013c: 60–61)

However for all of these planning elements to function together efficiently there is a need for transport infrastructure and public transportation to be universally accessible. Universal accessibility must apply universal principles that are implemented into key areas through the “provision of passenger information; sidewalks to public transport facilities; stops, stations and interchanges; and public transport vehicles” (City of Johannesburg, 2013c: 63).

3.5.3 Thrust no. 3: Maintain, improve, extend and integrate transport infrastructure

This thrust is focused mainly on the outcome of achieving transport infrastructure that is well-built, properly managed and maintained in order to support “the mobility needs of all its users in a safe and efficient manner, so that the value of the assets are preserved, and so that pedestrians, cyclists and public transport users are prioritised” (City of Johannesburg, 2013c: 63). Essentially transport infrastructure comprises of roads (all road classes, infrastructure in road reserves such as sidewalks, signage, street lighting and traffic lighting), storm water, bridges and the facilities of public transportation (City of Johannesburg, 2013c). Taking these elements into consideration increases the city’s commitment to provide NMT and public transportation that is of good infrastructural quality with appropriate design and plans. These elements are categorised and explained better in table 3.1 that follows¹.

Element	Definition
Managed Lanes	
Managed Lanes	Road lanes whose general use by traffic is restricted in some way so as to reduce travel demand, manage the flow of traffic, exploit spare capacity in some lanes, or extract more person-carrying capacity from the lanes
BRT Dedicated Lanes	Dedicated lanes reserved for BRT buses
Dedicated Public Transport Lanes	Dedicated lanes reserved for public transport modes including buses and minibus taxis, but excluding BRT buses, contra-flow lanes
Contra flow lanes	Lanes that is demarcated/constructed to flow in the other direction to improve mobility. Can include all vehicles or certain vehicles classes e.g. freight or public transport
By-pass lanes	Priority passing lane at large intersections and BRT stations for public transport modes
Public Transport Facilities	
BRT Stations	Enclosed stations for BRT buses located alongside or between BRT running lanes
BRT Station Precincts	The area within a 500 metre radius of a BRT station
Park and Ride Facilities	Off street parking facilities adjacent to major public transport facilities/stations which include rail, BRT stations and Taxi ranks
Large Public Transport Facilities	Fully fledged off-street public transport facility which includes trading stalls, holding facilities, loading bays for buses and taxis, metered taxis, wash bays, offices where applicable, commuter square, ablution facilities, control room with CCTV cameras, waste bins, tower clock, destination boards, intercom, joint management by the City and operators
Small Public Transport Facilities	Public Transport facilities mainly on large road reserves. Depending on the size of the reserve, the facility may include loading and few holding bays, few trading stalls, tower clock, waste bins, destination boards,

¹ Table3.1 was extracted and quoted directly from “table 17: the elements of Johannesburg’s public transport and NMT infrastructure” in the City of Johannesburg, 2013c: 65-67

	possible joint management by the City and Operators
Commuter Stops and Related	Public Transport lay-bys, commuter shelters with passenger information
Walk-in Centres	Facility run by the City to provide public transport-related customer services such as smartcard replacement, lost property claims etc.
Holding Facilities	Off-street holding facilities for public transport linked to major public transport facilities
Transfer Facilities	Interchange facilities for buses, taxis, metered taxis, BRT buses and rail. This could be linked to one of the above
Complete Streets	
Side walk improvements	Wide sidewalks (2.5m) for walking by the public, these will include street furniture like bins, benches, public art, greening, proper storm water management, lighting, signage, bollards and universal access
Cycling lanes	Robust bicycle lanes, side by side with traffic lanes (or following desired lines for cyclist), separated from traffic lanes
Traffic Calming	A variety of measures including roundabouts, traffic cycles, table tops, textured roads, narrow roads, narrow meandering streets, pedestrian only roads, zebra crossings, rumble strips
Parking Solutions	Demarcation and or possible construction of bicycle parking, proper demarcation of loading zones, parking restrictions, Goods loading/offloading time restrictions, on street/off street parking management, congestion charging zones
Way Finding and Signage	
BRT Passenger Information	Directional and tourist signage pointing passengers towards BRT stations or stops or from BRT stations towards major destinations in the vicinity of the station
Public Transport Information	Signage demarcating dedicated public transport lanes, direction signs to public transport facilities, destination boards or VMS, Names of Public Transport Facilities. Information signs for bicycle lanes Public Transport

Table 3.1: Description of the elements on the integration of transport infrastructure

Source: City of Johannesburg, 2013c: 65-67

3.6 Framework for Non-motorised Transport 2009

Non-motorised Transport (NMT) has been identified as an important planning priority in national, provincial and municipal planning policy in the 2008 Draft Non-Motorised Transport Policy, the 2005 Strategic Agenda for Transport in Gauteng (City of Johannesburg, 2009) and the 2011 Joburg 2040: Growth and Development Strategy, respectively. The Framework for Non-motorised Transport (FNMT) is a policy that provides the City of Johannesburg with a set of objectives and strategies that directs the development for adequate NMT networks. The document also identifies key principles that determine appropriate routes and zones that should implement NMT infrastructure (City of Johannesburg, 2009). Unfortunately, this policy was released in 2009 and does not include the identified corridors and nodes of the Corridors of Freedom or the Joburg 2040 Strategy. Therefore,

the proposed routes and zones in this FNMT are not relevant to this research, however the strategic intervention provided in this document are.

The FNMT defines NMT as the inclusion of “all forms of movement that are human powered and do not rely on engines or motors for movement” that “includes walking, cycling, rickshaws, wheelchairs, animal-drawn carts and recreational activities such as equestrian, rollerblades, skates and scooters” (City of Johannesburg, 2009: 4). However, in relation to this research the NMT that is most relevant is walking and cycling. In order for NMT to be implemented successfully it has to improve the universal access for all the different users, whether they are parents pushing prams, children, elderly or disabled pedestrians (City of Johannesburg, 2009).

The vision of the FNMT is to develop the City of Johannesburg “to be a cycle and pedestrian friendly city where everyone has access to urban opportunities and mobility, walking and cycling are safe and convenient and are the preferred modes for short distance and convenience related trips” (City of Johannesburg, 2009: 13). A number of primary objectives have been outlined in order to achieve the policy’s vision, such as:

- “To establish a dedicated network of high quality pedestrian and cycling routes across the City;
- To establish pedestrian and cycling modes of transport as preferred modes for short distance and convenience related trips within the City;
- To increase the percentage modal split of cycling and walking as preferred modes of transport for travel to work and school trips;
- To facilitate access to the City for marginalised and low income communities;
- To integrate NMT modes with other strategic public transportation initiatives within the City including the Gautrain, Metrorail and BRT stations in order to enhance local feeder services and support the successful functioning and take up of public transport;
- To promote increased access to educational institutions by NMT modes”

(City of Johannesburg, 2009: 13)

The objectives require a number of strategic interventions in order to implement NMT. These strategies are explained under a number of categories in the table 3.2².

² Table 3.2 extracted sections and quoted directly from table 7.1; 7.3; 7.4; 7.5 in the City of Johannesburg, 2009: 14-17

Element	Strategic Intervention
Road Safety	Develop a network of cycle and pedestrian paths. Designated separate cycle and pedestrian paths which are separated from motorised traffic will be important on roads which carry high volumes of traffic at high speeds
	Incorporate NMT (cycle paths and footpaths) into future road upgrades. Upgrade and maintain existing pedestrian pathways
	Implementing planning requirements for developer contributions towards cycle paths where development proposals are located in close proximity to planned and existing cycle/walkways
	All new development proposals to incorporate NMT provision in and immediately adjacent to site boundary
	Adopt Urban design standards for footpaths and cycle paths ensuring that this incorporates Universal Design
	Adopt Technical standards for footpath and cycle path design ensuring this incorporates access for the disabled
	Adopt 'Secure by Design' standards (lighting, sight lines, signage, passive surveillance etc.)
	Reduce volume and speed of traffic at points of interaction conflict by implementing traffic calming, streetscape improvements, vehicle restrictions and road space reallocation
	Prioritise cyclist and pedestrian movement within the streetscape
	Safe Routes to School program which identifies safe cycling and walking routes for children. Work with schools to appoint parents to walk with children, crossing guards etc.
Distance and Typography	Support mixed and clustered pedestrian oriented land uses which present active frontages at street level in order to support accessibility and reduce trip times from origin to local amenities. (New Urbanism)
	Link the NMT network to public transport nodes to reduce travel distances
	Reduce distances for cyclists and pedestrians by increasing road and path Connectivity. eg. special non-motorised shortcuts, such as paths between cul-de-sac heads and midblock pedestrian links
Climate	Implement a scheme of shelters along primary cycle routes with a particular focus on shared shelter facilities with existing and proposed bus / BRT shelters
Status	Promotion of cycling as a faster mode of transport. Erect electronic signage indicating to motorists in traffic how long the journey would take by bicycle
	Introduce a cycle park and ride scheme in conjunction with other park and ride schemes which will allow cyclists to commute short distances to the cycle park facility and integrate with the public transport network
	Create a Multi-Modal Access Guide, which includes maps and other information on how to walk and cycle to a particular destination
	Implement supporting signage for cycle and pedestrian routes (directional and safety). Potential to include signage indicating to drivers that cyclists are allowed use of the lane

	On-line trip planner that shows drive time & parking cost versus walking time and cycle time
	Publish online/paper maps showing preferred cycle routes: location of cycle lanes, shared lanes, parking; and roads which have a steep gradient

Table 3.2: Description of the strategic elements required to achieve successful NMT in the City of Johannesburg

Source: City of Johannesburg, 2009: 14-17

All of these elements in the strategic interventions have to be used in the design of dedicated NMT networks at both a local and neighbourhood scale. The design elements need to be incorporated as a priority to the surroundings of all public transportation nodes through the implementation of urban design techniques for NMT that adheres to the universal access of pedestrians (City of Johannesburg, 2009).

3.7 Corridors of Freedom

The Corridors of Freedom is a new spatial vision that the City of Johannesburg is promoting based on the concepts of corridors and transit-oriented development (City of Johannesburg, 2013b). In 2013 the Mayor of the City of Johannesburg introduced the Corridors of Freedom vision in his State of the City Address. In this address the Mayor outlined a “number of ‘fundamental rights’ which the city will strive to provide” including:

- “The Right to Developmental Service Delivery – where the city maintains and improves existing infrastructure, while expanding new infrastructure. Where citizens have the right to hold us accountable and become active participants in the delivery of services.
- The Right to a Spatially Integrated and United City – in which we rebuild and reconnect the divisions created by decades of Apartheid spatial planning”

(Bickford, 2014: 19)

This spatial vision is in line with many of the principles highlighted in the Joburg 2040 Growth Development Strategy (City of Johannesburg, 2013b). The main areas of focus which the Corridors of Freedom is addressing is trying to create a city that “will consist of well-planned transport arteries” that are “linked to interchanges where the focus will be on mixed-use development” (City of Johannesburg, 2013b: i), as seen in image 3.1.

The focus on TOD is associated with the restructuring of the city by creating easier and quicker connections between residents’ jobs and their homes. The Corridors of Freedom is concerned about implementing TOD because they are located on transport corridors where the provision of public

transportation, such as the Rea Vaya BRT, will increase the mobility of people in a safe and affordable manner along the corridors (City of Johannesburg, 2013b). By focusing on the improvement of public transportation, the city is attempting to reduce the high percentage of income used by households for transport which in turn would increase the income available by households for other needs, and also assist with the reduction of poverty. The fundamental characteristics of the Corridors of Freedom is that they “will consist of high-rise residential developments growing around the transit nodes, gradually decreasing in height and density as it moves further away from the core” (City of Johannesburg, 2013b: 2).



Image 3.1: This illustration is on the cover page of the Corridors of Freedom and highlights the main elements of a people orientated area that is focused on public transportation and non-motorised transport.

Source: City of Johannesburg, 2013b

The City of Johannesburg has identified a number of corridors and nodes of importance that will transform the city, one of these corridors is the Turffontein node, identified as a medium term spatial vision until 2016 (City of Johannesburg, 2013b). The main planning concepts used to develop the spatial vision are that “the most efficient urban form is compact, mixed land-use with an extensive public transport network that includes high intensity movement corridors and with attractive environments for walking and cycling” (City of Johannesburg, 2013b: 4).

There are a number of key features about transportation that provides a clear direction about the Corridors’ spatial vision. These key features include providing corridors with appropriate facilities and infrastructure that are designed with active streets that accommodate cycling and walking. Another important feature is the provision of safe streets that are complete, either through the principles of discouraging private vehicle transportation or controlling vehicle traffic through traffic

calming and reducing traffic speeds. The other key feature is the provision of transit stations and stops that are convenient to residents (City of Johannesburg, 2013b). The fundamental advantages and benefit that the Corridors of Freedom want to achieve with public transportation is the reduction of travel time for residents due to shorter distances and the increased effectiveness of public transportation (City of Johannesburg, 2013b).

3.8 Strategic Area Framework of the Turffontein Development Corridor

According to the final Strategic Area Framework (SAF) for the Turffontein Development Corridor (TDC) “the Strategic Area Framework provides the basic (spatial) mechanism for planning and implementation of the Corridors of Freedom. The document outlines the desired spatial response to the intent of the Corridors of Freedom vision, and the projects and programs required to realise this spatial vision” (IYER, 2014: 18). In essence the “SAF does not exist in isolation to other levels of planning, but is considered rather as a key component within a broader package of plans” (IYER, 2014: 18), already discussed in the first section of this chapter.

This discussion on the SAF of the TDC highlights the point of departure of the final SAF for the study area. The main aims and priorities discussed in this section of the document will influence the focus used in the implementation section of the SAF. The SAF of the TDC begins by outlining all the elements and approaches presented in the Corridors of Freedom policy, discussed previously. Fundamentally, the SAF of the TDC is focused on an “approach to re-stitch the city together, using the philosophy of Transit Oriented Development” and “corridor development to transform space” (Iyer, 2014: 12). The SAF provides a discussion of the characteristics of a corridor that facilitate their growth in an urban context:

- “Corridors are fundamentally origin and destination driven
- Corridors are generally made up of a series of multi-stranded movement systems, predicated on some form of Public or Mass Transit, with stations within walking distance.
- The streets that link the different movement systems together, the “rungs” of the ladder, are integral to the broader corridor system, very often developing as “high streets”;
- The points of intersection of the cross streets and the major corridor elements become significant nodal areas, with the propensity to become major metropolitan and regional nodes, depending on the generative capacity of the system at these points;”

(Iyer, 2014: 14)

On the other hand, policy suggests that transit-oriented development (TOD) is a critical element in the development of the study area as it would redevelop the existing urban form to accommodate transit nodes that provide density and mixed land use within walking distance. However in order for TOD to be successful it is required that a hierarchy of TOD centres be provided, as not all the transit hubs and nodes have the same potential (Iyer, 2014). Generally successful TOD are characterised as:

- “A vibrant mix of land uses including residential, employment, social services and retail activities, stimulating economic activity and significant provision for public or civic spaces
 - Moderate to higher density, with housing typologies that engages with the public environment
 - Prioritised pedestrian orientation/connectivity, including safe neighbourhoods designed for walking and cycling with sufficient facilities and attractive street conditions
 - Transportation choices, but with discouragement of the use of private vehicles
 - A road network laid out in the form of a topologically open grid
 - Convenient transit stops and stations; extend to an easy walking distance radius of 400m-800m”
- (Iyer, 2014: 17)*

Essentially the SAF of the TDC is aiming to achieve a number of outcomes able to provide some long-term benefits. Firstly it focuses on improving the urban efficiencies by providing “viable public transport service; reduced car dependency and shorter trip lengths; more people closer to work, shopping and leisure opportunities; efficient service provision; accessibility to economic and social opportunities” (Iyer, 2014: 17). Secondly by facilitating the social and spatial transformation by creating “connected neighbourhoods; integrative development that can benefit areas beyond the limit of the study area” (Iyer, 2014: 17).

3.9 How have the Spatial Policies of the City of Johannesburg influenced the Strategic Area Framework for the Turffontein Development Corridor?

The SAF for the TDC will provide guidance in the future development of the study area. However, the SAF must focus on the main theories and elements present in the spatial policies of the City of Johannesburg to guide the framework. From the discussion of the spatial policies in the City of Johannesburg there are a number of elements that are present in the SAF. In order to understand how the spatial policies of the City of Johannesburg influenced the SAF for the TDC a table was developed to identify the discussion of each policy in terms of their main concepts to change the city

and also their principles of corridors, transit oriented development and non-motorised transportation (NMT), refer to table 9.1 in the annexure.

As discussed previously there are two spatial policies in the City of Johannesburg that guide and influence the focus of all the other policies, namely the Joburg 2040 Growth and Development Strategy and the Corridors of Freedom (CoF). The CoF is the spatial policy that has influenced the SAF for the TDC the most, as all the elements discussed in the CoF are present in the SAF. One of the limitations of CoF also present in the SAF for the TDC is the lack of emphasis placed on the development of NMT. The SAF for the TDC only mentions that there is a need to provide environments that are attractive and safe for both walking and cycling. There is no further discussion of how the sidewalks should be made wider or that there should be dedicated cycling lanes. There is therefore a shortfall in the influence of the spatial policies of the City of Johannesburg, particularly in the formulation of the SAF for the TDC. NMT is identified in Joburg 2040 Strategy, the overarching policy in the city, where greater attention must be given on providing areas for NMT through the provision of pathways and streets that are adequate for cyclists and pedestrians. Fundamentally the pedestrian must be prioritised over the private vehicles. The importance of implementing strategies and principles of NMTs are present in all the spatial policies previously discussed. The Strategic Integrated Transport Plan Framework and the Framework for Non-motorised Transport further highlighting their importance and also highlight all the strategies and principles required for NMT to be implemented successfully, especially through the implementation of ‘complete streets’ and universal access.

The Joburg 2040 Strategy highlights the need to invest and scale up mass public transportation as a mechanism to curb the vehicle dominated City Johannesburg has become. According to this policy it is the Rea Vaya BRT system that will facilitate the integration of a divided city. All of the spatial policies previously discussed all agree and highlight its importance. The Rea Vaya BRT system was identified as providing an opportunity to implement corridor development and transit-oriented development. Although the Joburg 2040 Strategy only mentions this opportunity briefly, these elements are then elaborated and discussed in greater detail in all the spatial policies. Fundamentally a corridor development will provide the movement of mass public transportation and the intersection of corridors will facilitate the development of transit nodes through the implementation of TOD. However the SAF for the TDC, together with the CoF, do not discuss a number of important elements that will facilitate the successful implementation of corridor development and TOD. It is necessary to provide multi-modal transport infrastructure that can facilitate the modal shift discussed in the spatial policies. These elements are vital to achieve the

vision laid out by the CoF and the SAF for the TDC as it will support pedestrian and public transport movement, facilitating the accessibility of transit nodes and other facilities.

Another element that is not mentioned in the CoF or the SAF for the TDC, and is vital for the successful implementation of their vision, is the notion of integration. Integration is discussed as an important element in all the other spatial policies of the City of Johannesburg. There is a need to integrate all the different modes of transportation (private vehicles, BRT, Metrobus, minibuss taxi and NMTs), the integration of all transportation within the transit nodes, especially NMTs. By creating this integration the SAF for the TDC would be able to increase the level of accessibility and mobility in the study area that will facilitate the easy movement of the city's residents.

In essence the SAF for the TDC was influenced by all the spatial policies discussed in this chapter, in one way or another. The Corridors of Freedom fundamentally influenced the SAF the most, with many of the planning elements and principles of the other spatial policies also influencing the SAF. However, a number of principles were not present in the SAF for the TDC discussed above that require further emphasis in the study area.

3.10 Conclusion

This chapter discussed all the main spatial policies in the City of Johannesburg, namely the Joburg 2040 Growth and Development Strategy, Integrated Development Planning 2012/2016, Spatial Development Framework for Johannesburg 2013/2014, Strategic Integrated Transport Plan Framework for the City of Johannesburg, Framework for Non-motorised Transport 2009, Corridors of Freedom, and Strategic Area Framework of the Turffontein Development Corridor. All of these spatial policies discussed their relevance and importance in the planning process for the City of Johannesburg and their emphasis on transportation. The policies discussed the importance of implementing corridor development, transit oriented development and non-motorised transportation in an attempt to curb the use of private vehicles and the spatial segregation that still exists in the City of Johannesburg.

All of these policies brought up the need to focus the development of the city on improving and upgrading mass public transportation through the Rea Vaya BRT system and the development of corridors. The implementation of transit-oriented development will facilitate the development of compact nodes that provide the densification of mixed uses and high-rise residential development with areas prioritised for NMT. All of the spatial policies discuss these planning elements, with some

policies highlighting their importance and implementation approaches. The spatial policy of Strategic Integrated Transport Plan Framework for the City of Johannesburg and the Framework for Non-motorised Transport are two policies that not only guide the required development to achieve integrated public transportation and NMT but also provide design guidelines and the required infrastructural improvements.

The spatial policies of the City of Johannesburg have influenced the Strategic Area Framework (SAF) for the Turffontein Development Corridor (TDC). The most influential policy was the Corridors of Freedom that highlighted the need to use the Rea Vaya BRT as driving force to create TOD. The SAF for the TDC did have some shortcomings in their policy as little attention was placed on the need to implement NMT, provide multi-modal transport infrastructure, and the integration of all modes of transportation in transit nodes with NMT. These planning elements require further attention in order to be implemented.

Chapter 4

Contextual Understanding of the Strategic Area Framework: Turffontein Development Corridor



4.1 Introduction

According to the Turffontein Development Corridor (TDC) document the study area was “*identified due to its location and proximity to regional economic and industrial nodes such as the CBD, Selby, Booyens, City Deep and Kaserne freight terminals. The area is also strategically located as the gateway to Johannesburg from South Gauteng. Although the area is in a general state of decline, its strategic location results in it being attractive to people seeking affordable accommodation. The Proposed Rea Vaya routes do not intersect the study area, however there is opportunity to propose a new public transport route alignment through the study area and unlock the full development potential of the area*”(Aurecon, 2014: 15).

Based on this explanation the Turffontein Development Corridor (TDC) was identified as one of the corridors of the Corridors of Freedom policy. This chapter will focus on understanding the context and characteristics of the TDC as the study area for this research. It is important to understand how the TDC functions with regards to transportation and movement in order to provide a more concise and accurate evaluation in chapter 6. There are five sections in the outline of this chapter. The first three sections of this chapter are based on the analysis provided in the draft 2 Strategic Area Framework of the Turffontein Development Corridor. While the last two sections of this report will be based on the proposals in the final Strategic Area Framework of the Turffontein Development Corridor. This division occurs because the analysis created by Aurecon in the draft 2 is not present in the final document, and without this analysis and understanding of how the study area function would hinder the evaluation carry out in chapter 6.

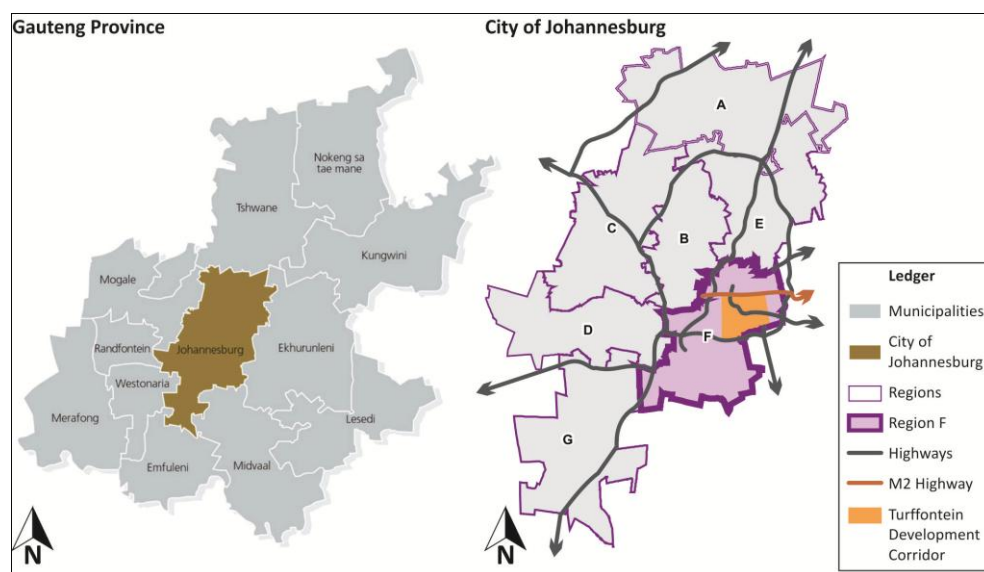
The first section of this chapter will provide a description of the location of the Turffontein Development Corridor. The second section of this chapter will discuss the general characteristics of the study area by outlining land uses and major road networks existent in the study area. The third section of this chapter will unpack the theoretical components of distance and destination discussed in the Strategic Area Framework (SAF) for the Turffontein Development Corridor (TDC). These elements were used to analyse the study area and understand how the movement networks function and what the attractors are of this movement. With regards to this research report it is vital to understand what are the main modes of transportation in the study area and how the public transportation functions. The chapter then discusses the SAF on the TDC analysis of the current level of accessibility for public transportation, how non-motorised transportation is present and finally what would be the future public transportation for the study area.

The fourth section of this chapter is focused on the conceptual framework presented in the final SAF of the TDC. It elaborates on how the framework is addressing the public transportation and what the

proposed movement framework would be. The fifth section of this chapter discusses the implementation plans for the TDC with a particular attention to unpacking the Turffontein Precinct area. This precinct area elaborates on creating a green link and rehabilitating Rotunda Park by using the principles of transit-oriented development and non-motorised transportation.

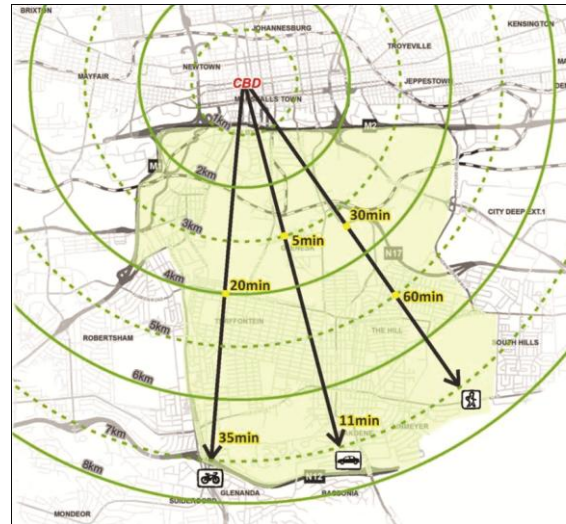
4.2 Location

The Turffontein Development Corridor (TDC) is the study area for this research report located in Region F, in the south eastern border of the City of Johannesburg within the Gauteng Province map 4.1. Region F consists of fifteen municipal wards and covers an area of 240,2km² (City of Johannesburg, 2010). Region F can be divided into two areas dissected by the M2 highway. To the north of the M2 highway lays the Johannesburg CBD and the northern suburbs. To the south of the M2 highway there are a number of industrial and residential areas, generally referred to as Johannesburg South (City of Johannesburg, 2010). The TDC is used as the main entrance to the City of Johannesburg from the southern suburbs, another common name given to the area (Aurecon, 2014).



Map 4.1: The Gauteng Provincial map highlights the Municipality of the City of Johannesburg. The City of Johannesburg map highlights the seven administration regions and the main highways of the city with a particular focus on Region F, the M2 highway and the Turffontein Development Corridor study area.
Source: City of Johannesburg, 2010

The TDC study area, map 4.2, begins from the M2 highway, which is located 1km to the south of the Johannesburg CBD, until the N12 further south of the study area, at approximately 7km from the Johannesburg CBD (Aurecon, 2014). The residential areas in South of Johannesburg are located at about 4km from the CBD. According to the Turffontein Development Corridor document this close proximity “provides great potential and opportunities to access a wide range of economic and employment opportunities situated in the CBD and Industrial Belt” (Aurecon, 2014: 13). The study area provides a great opportunity for residents who live in the area and work in the industrial areas or CBD as the southern boundary of the study area is only at a distance of 7km. This distance is relevant when translated into different travelling times for private vehicles, cyclists and pedestrians. While it takes a private vehicle 11 minutes to travel 7km it will take a cyclist 35 minutes and a pedestrian approximately 90 minutes, (Aurecon, 2014) as illustrated on map 4.2.



Map 4.2: The travel distance and time for private vehicles, cyclist and pedestrians.
Source: Aurecon, 2014: 14

The TDC document suggests that “Turffontein’s proximity to the Inner City means that the area functions as the first point of entry into Johannesburg from” the southern suburbs, this makes the area a “Gateway to the City” (Aurecon, 2014: 14). However, the area does not actually function “as a destination in itself, but rather an area experiencing large volumes of through traffic heading further north. As a result, Turffontein is not currently gaining substantial economic benefits from its strategic location” (Aurecon, 2014: 14).

4.3 Characteristics of the Study Area

This section of the chapter will discuss the characteristics of the study area, it will be predominantly based on the draft 2 Strategic Area Framework for the Turffontein Development Corridor, as all of the analysis was compiled by Aurecon and Iyer uses their analysis in compiling the final SAF and TDC.

4.3.1 Major Road Network

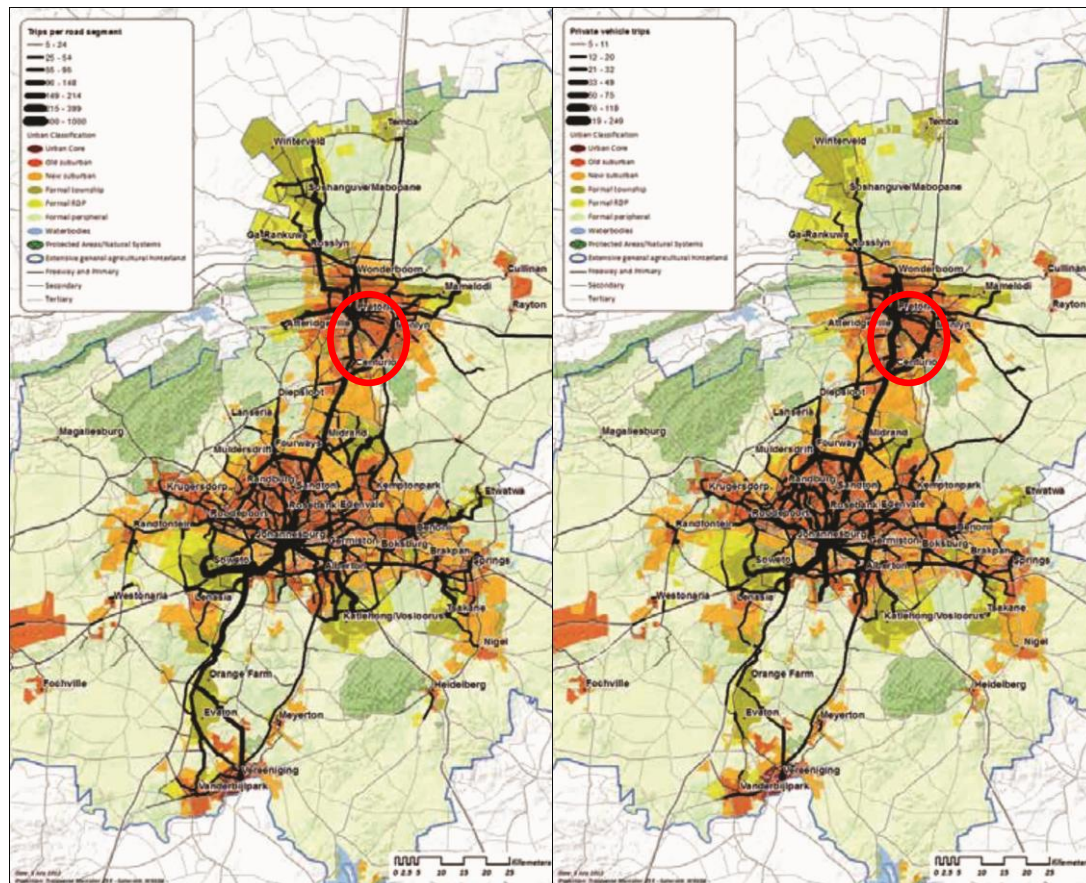
Region F, as well as the study area, is extremely well connected in terms of highways that give access to all parts of the city. The TDC is bounded by the M2 highway in the north, access to the N17 highway in the east, the N12 highway to the south and the M1 highway to the west (Aurecon, 2014), as highlighted in map 4.3. These highways provide further access to the N1, N3 and N12 highways.



Map 4.3: This map highlights the study area and also the major road networks that surround the area.
Source: www.joburg.org edited by Simoes, 2014.

Although the study area is well connected in terms of its road network the “the M1 and M2 highways become severely congested during peak periods of traffic flow” (City of Johannesburg, 2010: 22). The M2 highway is daily placed under pressure as a result of “the limited number of high-capacity east-west vehicular routes traversing the Region” (City of Johannesburg, 2010: 22). The north-south routes also experience large pressures in traffic congestion caused by the home-to-work movement towards the north in the morning and the opposite in the afternoon (City of Johannesburg, 2010). Map 4.4 illustrates the most frequent trips by land transportation and it is

evident that there are a number of people that travel from the west (Soweto) to the north (Johannesburg CBD) and south east to Alberton. When looking at map 4.5 on the other hand the black lines become thicker when illustrating the frequent trips taken by private vehicles and it is evident that there is large congestion that travels in a north-south direction and vice versa. This congestion is caused by the private vehicles travelling from the southern suburbs towards the CBD.



Map 4.4 and Map 4.5: The thickness of the black lines identifies the most frequent transportation trips and the most frequent trips only by private vehicles, respectively. The red circle highlights the study area. Source: GCRO, 2014: 33-34

According to the Region F RSDF “majority of the roads are in a fair to good condition but the pavements, walkways and pedestrian space need upgrading and maintenance particularly in nodes where pedestrian volumes are high” (City of Johannesburg, 2010: 22). These elements will be discussed further in this chapter.

4.3.2 Land Uses

As discussed previously the TDC is an area is a combination of both residential as well as industrial areas that are vital in the functioning of the City of Johannesburg, especially to the Johannesburg CBD. The study area is made up of a number of different land uses; with majority of it comprising residential areas located about 4km from the CBD and a large area of industrial activity. These residential and industrial areas are all administrated by, with regards to this study area, four different wards, namely 55, 56, 57 and 124; seen in map 4.6.



Map 4.6: TDC identifies the wards 55, 56, 57 and 124 as well as the residential and industrial.

Source: www.joburg.org edited by Simoes, 2014.

The study area is made up of the following residential areas; Turffontein, Turf Club, LaRoche, Rosettenville, Kenilworth, Townsview, Glenesk, The Hill, Regents Park, Rewlatch, Linmeyer and Oakdene, as seen in map 4.6 and 4.7. There are also a number of industrial, business and commercial areas present in the study area namely; Village Main, Park Central, Selby, Ophirton, Booyens, Reuven, and West Turffontein, as seen in map 4.6, 4.8 and 4.9. The study area is also made up of a number of private and public open spaces as illustrated in map 4.9. Perhaps the most important recreational facility is located at the Wemmer Pan near Pioneers Park and the Turffontein Race Course among many other activities. Map 4.10 on the other hand illustrates all the different social and education facilities.



Map 4.7, Map 4.8, Map 4.9, Map 4.10: These maps illustrate the different land uses present in the study area, namely residential, business and commercial, mining and open spaces and also public services and education; respectively.

Source: Aurecon, 2014: 44

4.4 Contextual understanding of the area in relation to Distance and Destination

4.4.1 Road hierarchy

As discussed earlier in this chapter the study area is bounded by a number of national and municipal highways. These highways are classified as class 1 in terms of the road hierarchy (Aurecon, 2014). Based on the Region F RSDF a highway “accommodates mainly national, regional and longer distance

metropolitan trips” where “access is restricted to the interchanges only” (City of Johannesburg, 2010: 34). In the study area the class 1 roads would comprise the N17, N1, M1 and M2.

The class 2 routes are identified as major arterials or mobility spines that provide local and regional connections. According to the Region F RSDF a mobility spine “is an arterial along which through traffic flows with minimum interruption (optimal mobility)” and is usually “the main arterial road between major nodes or between nodes and the freeway and motorway system” (City of Johannesburg, 2010: 35). In the TDC document a number of roads are classified as class 2; Kliprivier Road, Booysens Road, Turf Club Road, Rosettenville Road, Heidelberg Road and Prairie Road. All of these roads provide an important north-south connection in the study area and often “serve a significant amount of ‘rat running’ traffic, whose trips do not start or finish within Turffontein and use these routes as a short cut into Johannesburg instead of the Class 1 roads mentioned above” (Aurecon, 2014: 25). Unfortunately, only two of these roads (Prairie Road and Kliprivier Drive) provide direct access to the south of the study area and past the N12 highway, further south. The class 2 roads that provide important east-west connections are Verona Street, South Rand Road and Rifle Range Road that also bisects the more affluent residential areas (Oakdene and Linmeyer) towards the south of the study area (Aurecon, 2014).

The class 3 roads are generally known as minor arterial roads or mobility roads that provide local movement and mobility of “intra regional traffic” that “often connects mobility spines or neighbourhood nodes” (City of Johannesburg, 2010: 35). The main east-west connections encompass the Southern Klipriviersberg Road, Turf Club Street and Drakensburg Road. While the only north-south connections in the study area of class 3 are Heronmere Road and Eloff Street (Aurecon, 2014).

Class 4 roads on the other hand are known as activity streets or collectors. These streets are important local streets that provide access to activities along streets where “mobility is compromised in favour of the activity” (City of Johannesburg, 2010: 36). Class 5 roads are considered local residential streets “that serve primarily local traffic accessing the served area” (City of Johannesburg, 2010: 36). Class 6 routes are dedicated to pedestrian and cyclist; however these routes are not officially classified in this area. limiting the local accessibility between locations (Aurecon, 2014). Map 5.12 allocates the different road hierarchies discussed above to the study area, based on information from the Road Infrastructure Framework South Africa (RIFSA) (Aurecon, 2014).



Map 4.11: This map highlights the different RIFSA classifications or road hierarchies in the study area

Source: Aurecon, 2014: 26

The TDC document provides a list of objectives required to improve the functioning of corridor development and mobility in the study area:

- “The development of an alternative vehicular north-south route which clearly prioritises through traffic without detrimentally affecting local interests
- Routes with significant mobility functions be appropriately defined or reclassified including Eloff Street, Wemmer Pan Road and Rosettenville Road.
- The development of new connections to facilitate local accessibility, particularly in the form of class 6 routes through open space networks connecting Rosettenville to Wemmer Pan.
- The development of strong north-south pedestrian and cyclist links into the CBD, particularly traversing the industrial and mining belt.

- Activity routes to be established to stimulate interaction between communities and to enhance connections. Main Street, Eloff Street, Prairie Street and Turf Club Street presently have the potential to facilitate this function.
- Strengthen east-west linkages
- The proposed N17 extension dissects the study area immediately to the south of the industrial belt. The highway could, much like the M2 in the north, act as another barrier between the study area and the CBD.
- Improved North-South linkages are needed to counter this and better link the study area with adjacent areas.
- N17 also strengthens the east-west linkages in the industrial belt, and would greatly improve localised traffic within the study area.”

(Aurecon, 2014: 26)

4.4.2 Regional movement

As mentioned previously the study area is often not a destination in itself but an area where residents pass through (through traffic) to get to other areas of the city. It is not practical to disregard this movement as it not only allows for the movement of local economies but represents an opportunity to capture this movement in the study area and “generate economic development” (Aurecon, 2014: 22). According to the TDC document about “35,600 workers and learners travel to Turffontein each day to access employment and education facilities” (Aurecon, 2014: 22). The number of residents that use the area is already high however this usage could be increased by improving the road networks.

According to map 4.12 the major north-south connections occur along Kliprivier Road, Booysens Road, Prairie Street, Wemmer Pan Road and Comaro Road. The main east-west connections occur along the M2, N17, Turf Club Street, Drakensburg Road, Southern Kliprivier Road, Rifle Range Road, Verona Street, South Rand Road and the N12 highway. Of all the roads that were mentioned above there are two main north-south connections and four east-west connections in the study area. There are not enough connections in the study area for both private vehicles and local movement and it “must be recognized that continuously providing for private vehicle travel based on current trends is not sustainable and viable” and therefore “stronger emphasis should be given on providing infrastructure and directing land uses which support shorter trips via public transport, walking and cycling” (Aurecon, 2014: 22).



Map 4.12: This map highlights the major movement patterns present in the study area.
Source: Aurecon, 2014: 22

4.4.3 Localised movement

Localised movement refers to the shorter trips that occur by motorised and non-motorised transportation. These trips usually include trips to educational facilities, employment, shops and recreational areas (Aurecon, 2014). Map 5.14 highlights the main local movements in the study area however in the TDC document it makes reference to orange routes that indicate pedestrian routes, but only dark purple routes are visible.

Map 4.13 indicates that the majority of the local movement occurs in an east-west direction suggesting that this occurs due to trips between residential areas and educational facilities, recreational facilities and local commercial areas (Aurecon, 2014). These trends are particularly evident in the centre of Turffontein, LaRochelle, Rosettenville and The Hill. This trend could be

caused by the “low car ownership” in conjunction with the fact that “majority of these trips are made on foot” (Aurecon, 2014: 23). There are a number of non-motorised trips (pedestrians) that occur in the study area even though pedestrian facilities and infrastructure are inadequate. Therefore there is a need for “improving and providing an accessible, coherent and connected non-motorised transport” in order to “increase the proportion of trips made in a sustainable manner” (Aurecon, 2014: 23).



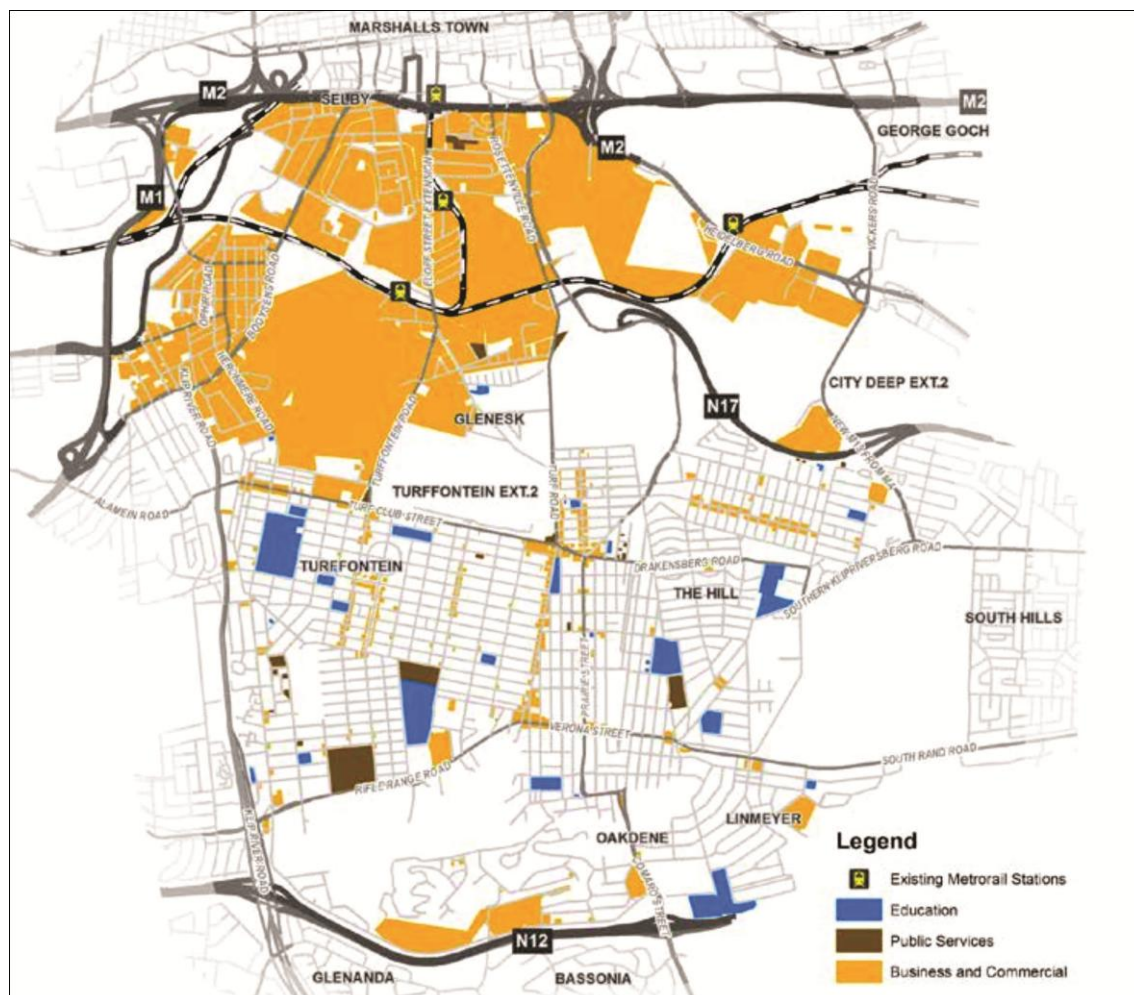
Map 4.13: This map highlights the movement within the TDC
Source: Aurecon, 2014: 23

4.4.4 Attractors and Movement Patterns

The location of specific land uses defines the type of movement patterns that occur within the study area. This movement can be directly associated with the demand that occurs due to specific services or destinations (Aurecon, 2014). Transportation is therefore considered an important element in the movement between different land uses or destinations. According to the TDC document “land uses

may be characterised as either those that attract trips or those that generate trips” (Aurecon, 2014: 18). As an example the typical trips that occur in the morning period (or peak hour) are generally created from residential areas, while the land uses that attract trips are generally those of employment and education. In the afternoon on the other hand these trips would generate movement in the opposite direction.

The TDC document suggests that “movement is derived by connecting trip generators (origins) to trip attractors (destinations) and it can therefore be appreciated that not only does land use instigate movement, but the type, intensity and mix of land uses also influences travel characteristics, for example the distances people are required to travel between particular origin-destination pairs” (Aurecon, 2014: 18). With regards to the study area these land uses - education and employment - can be considered as the main purpose of trip movements, map 5.15.



Map 4.14: Main land uses that attract movement in the study area.

Source: Aurecon, 2014: 18

The TDC document points out that “employment centres, education and health facilities and recreational and open spaces such as Pioneers and possibly Moffat Park are typically areas that attract trips” (Aurecon, 2014: 18). The study area has a number of business and commercial areas that provide employment opportunities along mobility spines and roads namely in the areas of Village Main, Booysens, City Deep, Turffontein, Rosettenville, Kenilworth, LaRochelle, Regents Park, Linmeyer and Oakdene. However, as seen on map 4.14, recreation and open spaces are not highlighted on the map. However map 4.14 does not indicate recreational or open spaces.

“When transportation and land use are well coordinated, public transport and non-motorised transport can provide more people with fast, direct and cost-effective access to more destinations, thereby increasing the possibility of people living and working or learning within the corridor” (Aurecon, 2014: 18). Although the area has a number of land uses that facilitate destination trips there is a lack of adequate public transport service, making the area predominantly vehicle oriented.

4.4.5 Main Modes of Transportation

Although land uses and road hierarchies affect the movement of residents in a city, the type of transportation used by these residents provide a better understanding of how people move around and why. Based on the TDC document the main reasons for the movement of residents in the study area are trips to work and educational facilities. According to the 2004 NHTS data, table 4.1³, the main modes of transportation used in the study area and also the modes of transportation used by resident coming into the study area are significantly different.

Main Mode of Transport	Within the study area		Coming into the study area	
	Employment	Education	Employment	Education
Bicycle	0%	2%	<1%	2%
Bus	9%	17%	7%	7%
Car Driver	51%	1%	26%	0%
Car Passenger	12%	28%	4%	33%
Company Transport	3%	0%	<1%	0%
Lift Club	5%	12%	2%	12%
Taxi	7%	11%	39%	15%
Train	1%	0%	16%	1%
Walk	12%	39%	4%	31%
Total	100%	100%	100%	100%
Total Trips	14 300	10 300	N/A	N/A

³ Table 4.1 was extracted, combined and quoted directly from table 3 and 4 in Aurecon, 2014: 19-20

Table 4.1: Modes of transportation to employment and education used by residents living in the area and those coming into the area

Source: Aurecon, 2014: 19–20 edited by Simoes, 2014

Table 4.1 provides a clearer understanding of how land uses are able to affect the movement of residents. In this study area, according to the 2004 NHTS, the main mode of transportation to work used by residents in the area is the motor vehicle (as either a driver 51% or passenger 12%) at 63% while the main mode of transportation to educational facilities is through walking at 39% (Aurecon, 2014). It can therefore be assumed that there are a higher percentage of motor vehicle owners in the study area than residents who walk. On the other hand, there is a high percentage of movement that occurs walking to school, which would suggest that there are many schools in close proximity in the study area.

The other section of the table provides data on the percentage of residents that travel into the study area. According to the 2004 NHTS the main mode of transportation travelling into the study area to work is by taxi at 39% whereas the main mode of transportation to educational facilities is as passengers in private vehicles at 33% (Aurecon, 2014). Based on this information it can therefore be assumed that at high percentage of residents into the study area travel by taxi suggesting that they cannot afford to travel in a private vehicle. On the other hand the main mode of transportation to educational facilities into the study area is made by passengers in private vehicles suggesting that the study area has high access to education.

The TDC document discusses that the study area is highly accessible by motor vehicle, as seen in the road network and main modes of transportation. However, “there is a strong demand for public transport (taxis and trains) along the corridor between Soweto and Turffontein” indicating that the study area “is easily reached from a variety of locations by private vehicle and public transport. Taking into account that 70% of Turffontein residents work externally to the study area despite the amount of local job opportunities, reinforces that fact that Turffontein is an accessible location to both work and live” (Aurecon, 2014: 20). Based on these findings the TDC document suggests that there is a need to provide and improve public transportation and non-motorised transportation with appropriate stations or stops that facilitate the local accessibility and provide employment opportunities (Aurecon, 2014).

4.4.6 Public Transportation

There a number of different types of public transportation that serves the study area and links it to the Johannesburg CBD and the surrounding areas. The TDC document discusses three different modes of transportation present in the area namely; Metrorail, Minibus taxis and Metrobus(Aurecon, 2014). However, for the purpose of this research only the analysis of Metrobus routes will be taken into consideration as it focus of the research is based on mass public transport. According to the TDC document there are no BRT plans currently in place for the study area but “based on the current movement patterns and densification strategies proposed as part of the Corridors of Freedom initiative, the future area could possibly be better served by a public transport feeder route providing a high quality link between the area and the wider Johannesburg” (Aurecon, 2014: 28). According to the TDC document the PTAL analysed that:

- “The Turffontein study area is poorly served and largely inaccessible from public transport stops
- Public transport route and stop coverage should be improved, particularly within the residential suburbs.
- Densification strategies should align and be supported by a new public transport feeder service with stops located at appropriate locations and regular frequency.”

(Aurecon, 2014: 31)

4.4.6.1 Metrobus

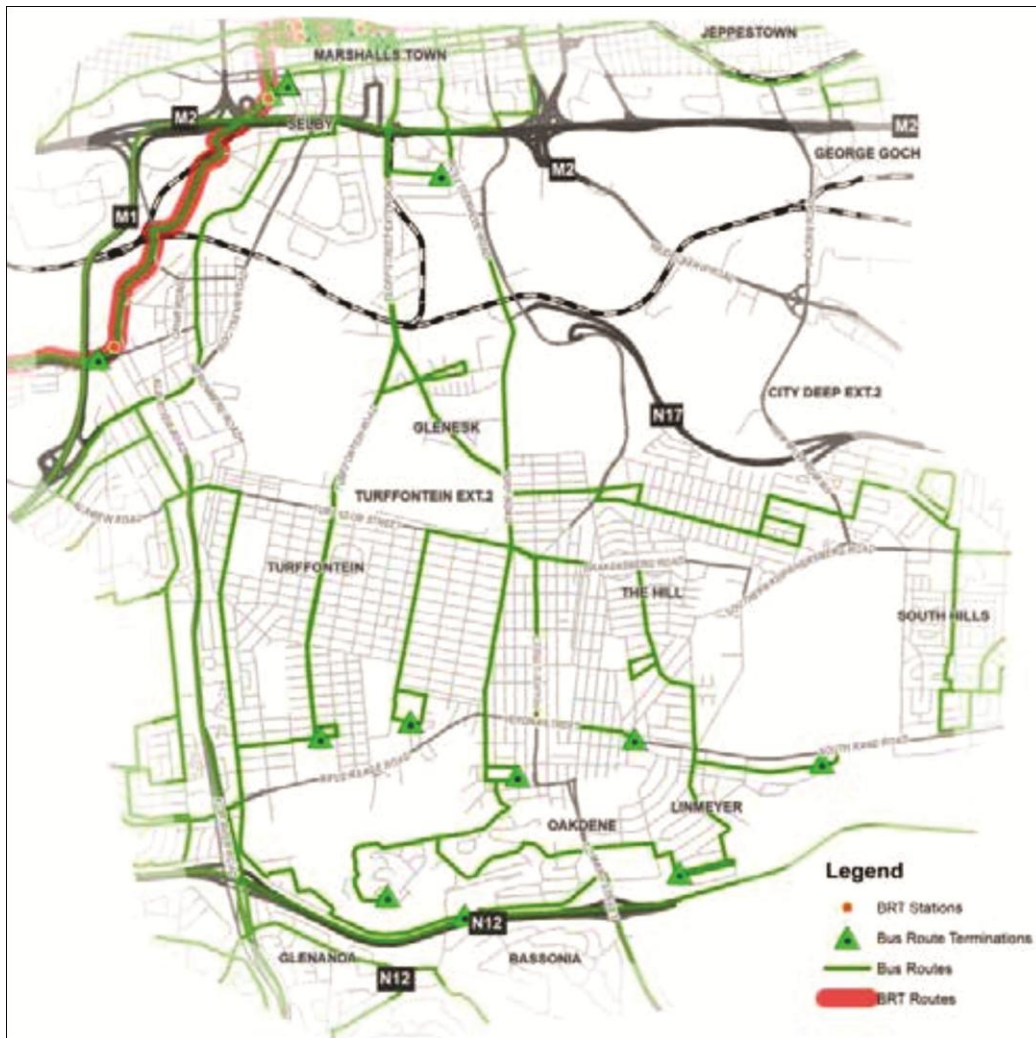
The movement patterns of the Metrobus run predominantly in a north-south direction, thus creating connections mainly between the study area and the Johannesburg CBD (Braamfontein and Ghandi Square), as seen on map 4.15. The TDC document suggests that the study area is adequately served by municipal buses in terms of its coverage network however the “irregular frequencies and operating times of these services limits the ability of local residents to solely depend on public transport as a means of transport to adjacent areas” (Aurecon, 2014: 28).

Map 4.15 indicates the existing BRT routes and stations, which in the study area are not much, and also highlights the Metrobus routes and where those routes end. As seen on map 4.11 the Metrobus routes run predominantly north-south and there are few east-west connections. There are however some important aspects of the Metrobus service that hinder the effective functioning of their service in the study area.

- “The municipal bus fleet contains only six (1% of total fleet) special needs buses, with none of these operating on any of the routes serving this area.

- Bus stops and facilities in a state of disrepair. The majority of these are in a bad condition and currently contributes to the general negative perception towards public transport in the area
- Buses run at capacity within the morning peak due to the low frequency service.”

(Aurecon 2014: 28)



Map 4.15: This map highlights the existing Metrobus routes in the study area.

Source: Aurecon, 2014: 29

4.4.7 Non-motorised Transportation

According to statistics by the 2004 NHTS, about 29% of the movement in the study area is provided by non-motorised transportation (NMT), especially to educational facilities and employment (Aurecon, 2014). NMT facilities are extremely important in the efficiency of movement in an area.

The conditions of travel by NMT are affected by the access as well as quality of sidewalks, connections to activity areas, road crossings and lay-byes. The study area “has a strong walking culture, which coupled with its proximity to the CBD, creates the opportunity to establish non-motorised transport as the priority mode in the area” (Aurecon, 2014: 32).

There needs to be considerations and appropriate identification of physical barriers and facilities in order to provide safe access and movement to all pedestrians (Aurecon, 2014). Map 4.16 indicates that all of the existing sidewalks in the study area located on class 2 and 3 roads. These sidewalks are nonetheless “considered to be inadequate as the network is discontinuous and poorly maintained” and “no dedicated cycle facilities currently exist” in the study area (Aurecon, 2014: 32).



Map 4.16: The existing NMT movement, mostly by pedestrians in the study area.

Source: Aurecon, 2014: 32

According to the TDC document the study area has a number of factors - wide road reserves, variety of facilities and the topography has a low slope making it an ideal place for NMT interventions (Aurecon, 2014). These interventions could include the improvement of “linkages to employment opportunities situated to the north of the railway line, existing recreational facilities and regional recreational-tourism areas situated to the south of the study area” (Aurecon, 2014: 32).

4.4.8 Future Public Transportation

After analysing the study area there are a number of projections made in the Strategic Area Framework in the improvement of the Turffontein Development Corridor. According to the TDC document “in the future corridor, transportation and land use will be integrated in the future Turffontein area by concentrating development along transport corridors and destinations. The study area will be served by a quality public transport service connecting the area with employment, education and recreational destinations situated in and around the study area. This will decrease the length and number of trips and increase the possibility of living, working, learning and playing within the corridor” (Aurecon, 2014: 18). Many of these strategies are suggested to be implemented through the design manual of complete streets. This will be applied in order to improve the infrastructure so as to allow for the efficient movement of people in environments that encourage residents to opt to cycle, walk and use public transportation instead of private vehicles (Aurecon, 2014).

As mentioned previously Transit-oriented Development (TOD) and public transportation was identified as the main restructuring tool by the City of Johannesburg in the Corridors of Freedom (Aurecon, 2014). The TDC document proposes that the study area is adequate, in terms of the city’s intention to transform the study area, to integrate it with the existing public transportation present in the Johannesburg CBD. These objectives are stressed further in the TDC document which states that “it is critical to connect the area to existing public transport network:

- To link Turffontein to economic opportunities situated in the CBD,
- To make Turffontein’s recreational opportunities accessible for wider region.”

(Aurecon, 2014: 30)

The TDC document began by identifying three main north-south routes that connect the Johannesburg CBD with the study area where it is vital to connect them with the existing Rea Vaya BRT system (Aurecon, 2014). These roads comprise Rosettenville Road, Eloff Street and Booysens Road. According to the TDC document the “Eloff Street and Rosettenville Roads have the biggest impact on the study area, as the majority of trips from the study area are north-south between the area and the CBD, and thus not via Booysens” where the “wider area could possibly be connected via Booysens into the existing Rea Vaya” (Aurecon, 2014: 33).

4.5 Conceptual Framework

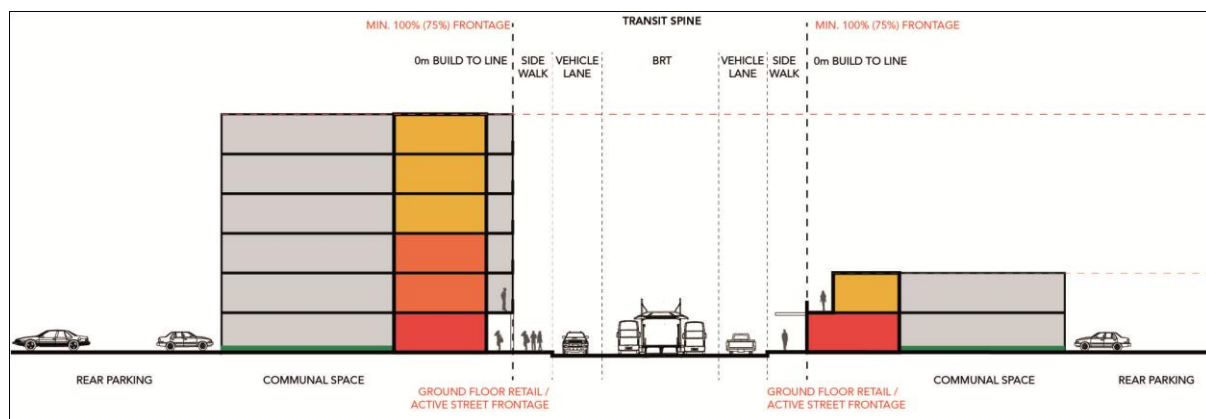
The conceptual framework of the TDC document takes into consideration the analysis of the study area and begins to identify appropriate areas for their proposed implementation. The SAF provides a vision for the TDC based on the Corridors of Freedom where Turffontein will “become a quality urban environment by providing a range of housing, economic and social amenity options with affordable higher residential density provided in mixed-use precincts surrounding quality transit service routes and stops (which provide both choice in terms of transport options as well as high frequency, reliability and user-quality); supported by an integrated public (hard and soft) open space system; connected by user friendly, high quality, continuous non-motorised transport networks; making Turffontein the premium non-motorised transport community of Johannesburg, within walking distance from Johannesburg CBD” (Aurecon, 2014: 72).

The final SAF for the TDC identifies four elements that influence the framework plan. The only element that is relevant to this research is the movement network which suggests that by “optimising connectivity within the corridor, and harnessing connections with the city” is vital to its functioning (IYER, 2014: 53). According to the final TDC document movement is an important element in the development of cities as it provides accessibility and choice either in terms of private vehicle or as a pedestrian (IYER, 2014). There has also been a shift in the perspective taken in the final TDC document as it identifies sustainable urbanism as an important objective in reducing the dependency on private motor vehicles and improving the shift towards public transportation. The final TDC document suggests that “sustainable transport includes the strengthening or replacing of current transport systems of an area with more fuel-efficient, space-saving and healthy lifestyle promoting alternatives such as bus or rail rapid transport systems, cycling or pedestrian oriented movement” (IYER, 2014: 54). It is also vital to promote and support non-motorised transportation (NMT) as a key component of sustainable transportation (IYER, 2014). With these new proposed shifts the final TDC document focuses their solutions for transportation to be people orientated as:

- “The transport system will promote the appropriate transport mode for the appropriate trip.
- Road classifications will complement adjoining land uses in terms of accessibility and mobility supported by appropriate complete street cross sections i.e. roads that accommodate the needs of all road users.
- The road network will be designed to accommodate heavy vehicles and facilitate ease of access to relevant origins and destinations.
- The network will efficiently and appropriately manage the needs of through movement along appropriate routes.

- Safe, legible, accessible, interconnected non-motorised transport networks will be developed in line with complete streets principles to facilitate access between destinations.
- Public transport infrastructure will contribute to quality living environments and will serve to stimulate private to public transport mode shift.
- A diverse and connected street network that promotes pedestrian accessibility - Good corridors connect communities”
(IYER, 2014: 54)

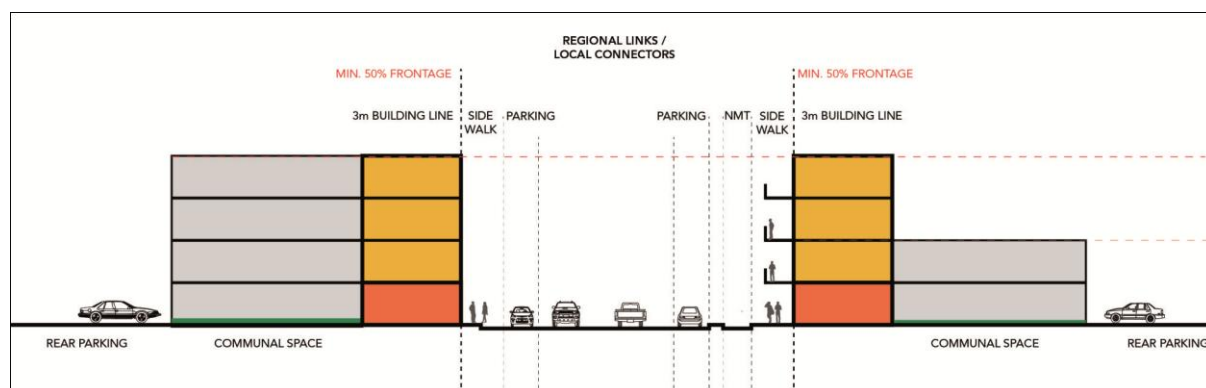
There are three main elements used in the final TDC document that support the movement framework. The first element is based on a trunk public transport spine, cross section 4.1, which is a “higher order public transport spine” that will be used in the study area (IYER, 2014: 55).



Cross section 4.1: Proposed trunk public transport spine.

Source: Iyer, 2014: 55

The second element is based on improving the regional links within the study area, cross section 4.2. These regional links are “key arterial connections” that connect the study area with the “broader city structure” as well as connecting this corridor to “key nodes, higher level movement systems, and related city-scale elements” (IYER, 2014: 55).

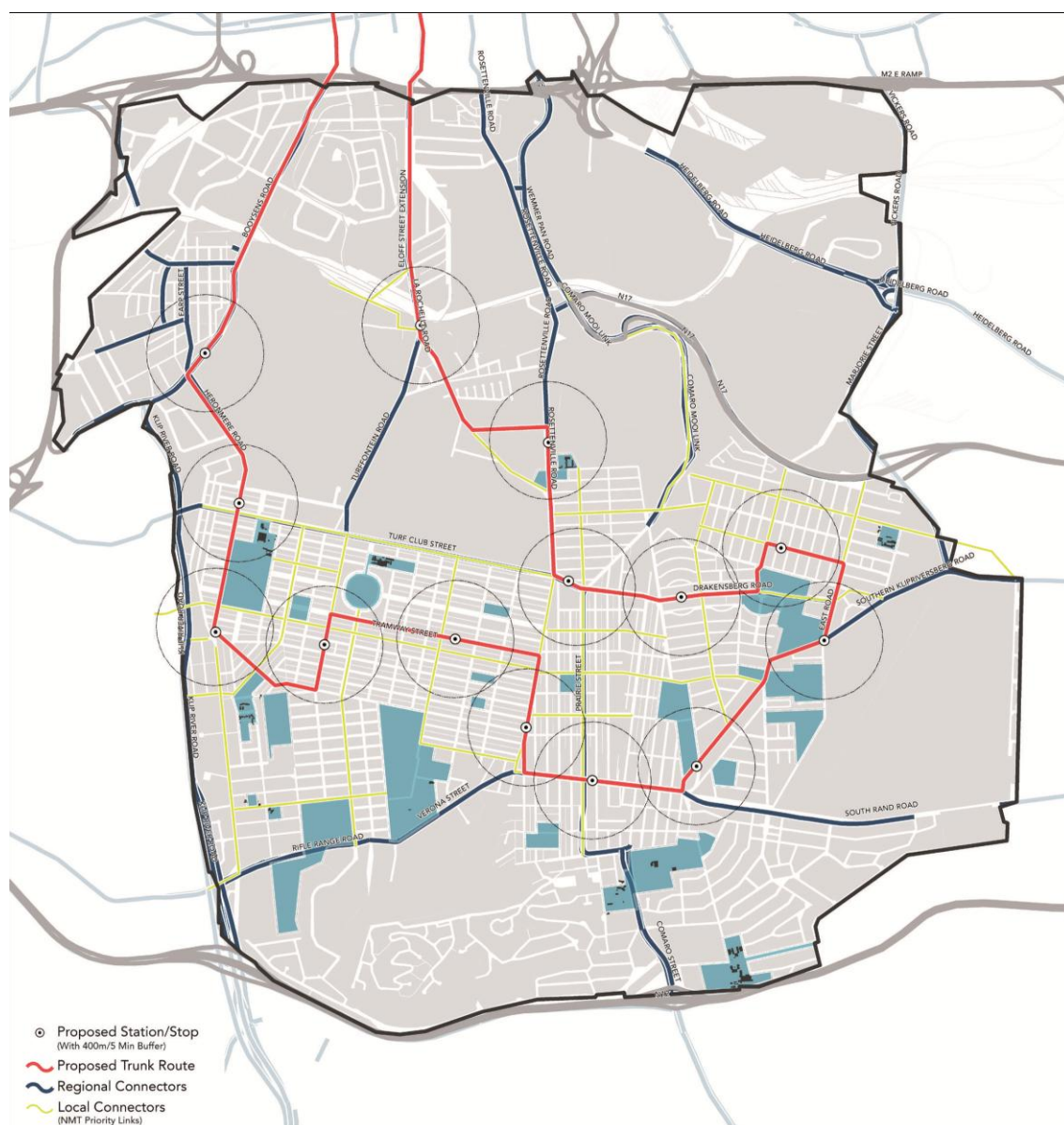


Cross section 4.2: Proposed regional links

Source: IYER, 2014: 55

the “stops are more than 700m apart then both stations will be premium stations depending on next and previous stops along the line” (Aurecon, 2014: 77; IYER, 2014: 56).

As seen on map 4.17 the stops in the TDC “were identified based on current land use mix and land use trip attractor / generator characteristics” (Aurecon, 2014: 77; IYER, 2014: 56). Therefore the first stop was positioned in the centre of the existing business district in Turffontein and then placed at 400m intervals. The TDC document states that “stops will be accessible for both travel directions and it was assumed that the stops will be situated in the median of the road” (Aurecon, 2014: 77; IYER, 2014: 56). The three key elements that informed the movement framework as well as the routes and stops for the public transportation services can be seen on map 4.19.

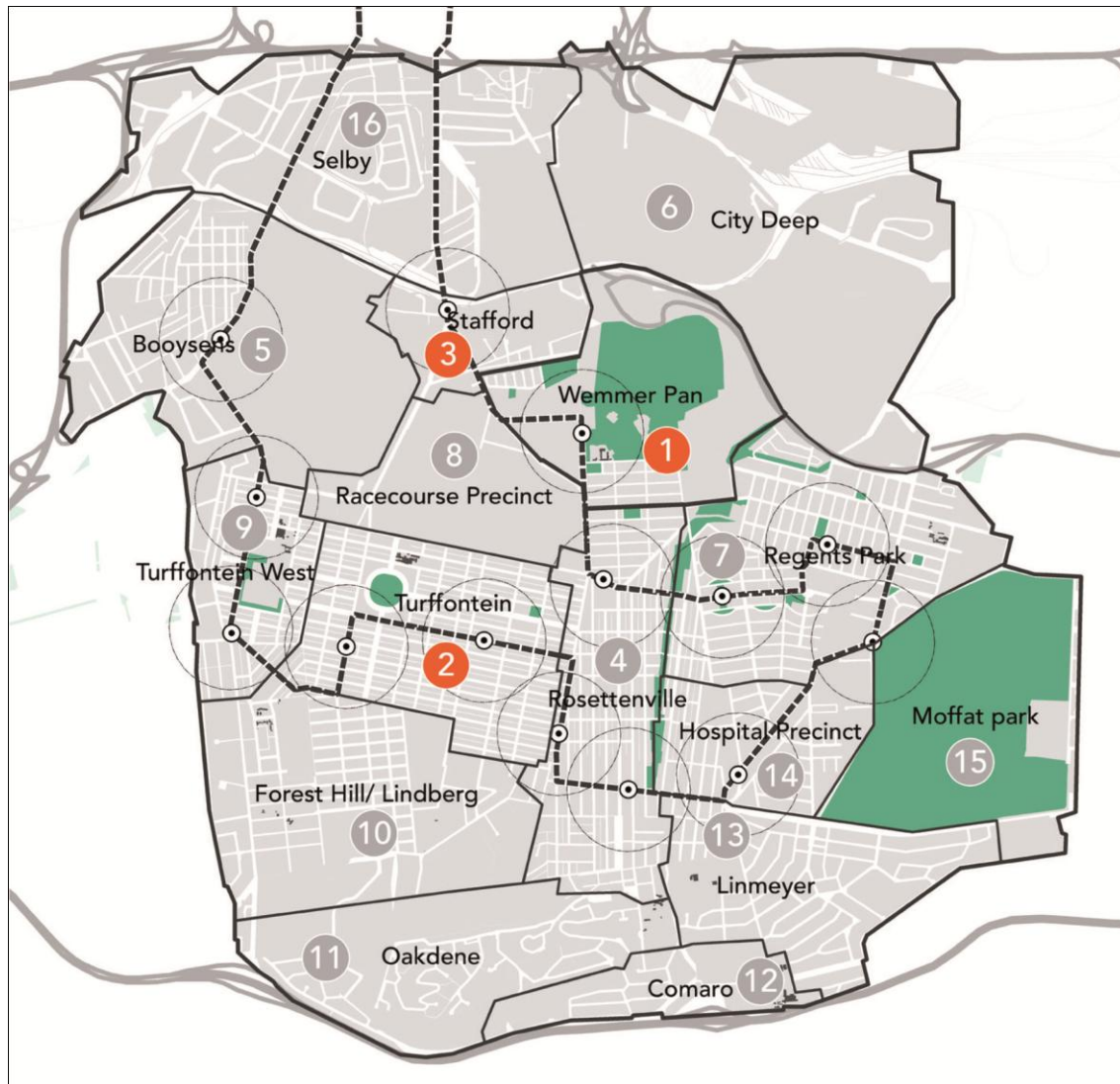


Map 4.19: The proposed movement framework for the TDC based on the three main elements; trunk BRT route, regional connector and a local connector.

Source: IYER, 2014: 57

4.6 Implementation Plan

The implementation plan in the final SAF for the TDC identified sixteen precincts in the study area, as seen in map 4.20. These precincts will incorporate all the principles and elements identified in the analysis and conceptual framework (IYER, 2014).



Map 4.20: The identification of the sixteen precincts in the implementation plan for the TDC.

Source: IYER, 2014: 81

According to the final TDC document “there is no doubt that the proposed Rea Vaya route in Turffontein will be highly influential in shaping the future urban form in its proximity, as firstly it centres on the core economic and recreational areas of Turffontein, secondly it brings with it many development opportunities which the private market is certain to identify and explore and thirdly density and land use changes are inevitable” (IYER, 2014: 88). However the influence does not only lie on the Rea Vaya but the “emphasis is also on creating a strong non-motorised transport based infrastructure based on cycle and walkways to link the area to the Inner City” (IYER, 2014: 88). The

final TDC corridor begins to address these implementation priorities by focusing on only three of the sixteen precincts that were identified. These Priority Precincts are made up of:

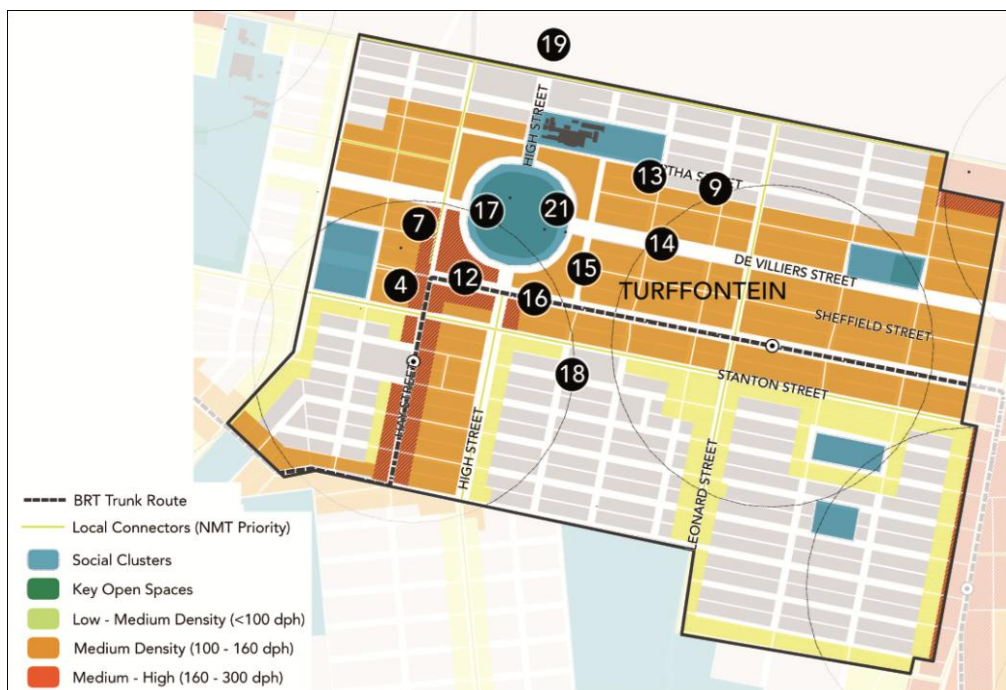
- “Wemmer Pan
 - Turffontein
 - Stafford (Booyens Precinct)”
- (IYER, 2014: 81)

Of these three precincts, the Turffontein precinct plan will be discussed further in this analysis.

4.6.1 Turffontein Precinct Area

The Turffontein area is predominantly a residential area, one of the oldest suburbs in the City of Johannesburg, but it is also made up of a small number of retail areas. This precinct has been chosen as the focus of the residential densification of the TDC due to its proximity to existing recreational, educational and social facilities (IYER, 2014). The Turffontein Precinct will not only focus on affordable housing but will also provide access to the Rea Vaya BRT route, and support the development of appropriate walkways and cycle lanes (IYER, 2014).

The Turffontein Precinct is focused around the creation of a linear park along De Villiers Street, proposed to be the catalyst of the area towards Rotunda Park (IYER, 2014). Map 4.21 highlights the conceptual plan for the Turffontein Precinct and is focused primarily on the ‘green link’ and the ‘Rotunda Park’ as pivotal in the development of this area.



Map 4.21: Conceptual plan for the Turffontein Precinct.

Source: IYER, 2014: 84

4.6.1.1 Green Link

As mentioned previously the green link is situated along De Villiers Street which is seen as the east-west catalyst connection for the development in the area. The Turffontein area is made up of grid layout with De Villiers Street and Tramway being the main east-west linkages that connect to retail areas on both side, east and west (Aurecon, 2014; IYER, 2014). According to the final TDC document this linear park “will assist in strengthening the area’s unique character and support the establishing of Turffontein as a recreational destination in Johannesburg due to its excellent non-motorised- and public transport linkages with the recreational precinct in Pioneers Park” (Aurecon, 2014: 117; IYER, 2014: 84).

De Villiers Street can be viewed as a boulevard due to its wide sidewalk and row of trees. By using these existing characteristics the final TDC document sees an opportunity in making the street a “green link between the Turffontein local node and the La Rochelle node” where the central “part will become a themed, meandering green corridor, with a service road for local access, on either side” (Aurecon, 2014: 117; IYER, 2014: 84). The area will then be introduced with a number of activities, “including a space for an urban market and a trim park, will be introduced into the themed walk, this allows for pockets of interest, creating a push pull factor leading the user through the space” (Aurecon, 2014: 117; IYER, 2014: 84). All of these elements of the proposed green link can be seen in image 5.4.

4.6.1.2 Rotunda Park

The Rotunda Park is an existing park that according to the conceptual plan will provide two interactive activity areas in order to promote fitness levels for all ages and well as provide a connection between the park and the green link (Aurecon, 2014; IYER, 2014). This connectivity will be able to create a safer environment due to an increase in pedestrian activity. The park will also be provided with an “original Portuguese fountain will be restored and placed together with a small neighbourhood amphitheatre; this will serve as a celebration of the areas rich history dating back from the early 1900’s” (Aurecon, 2014: 117; IYER, 2014: 85). These elements for the proposed upgrading of the Rotunda Park can be seen in image 4.1.

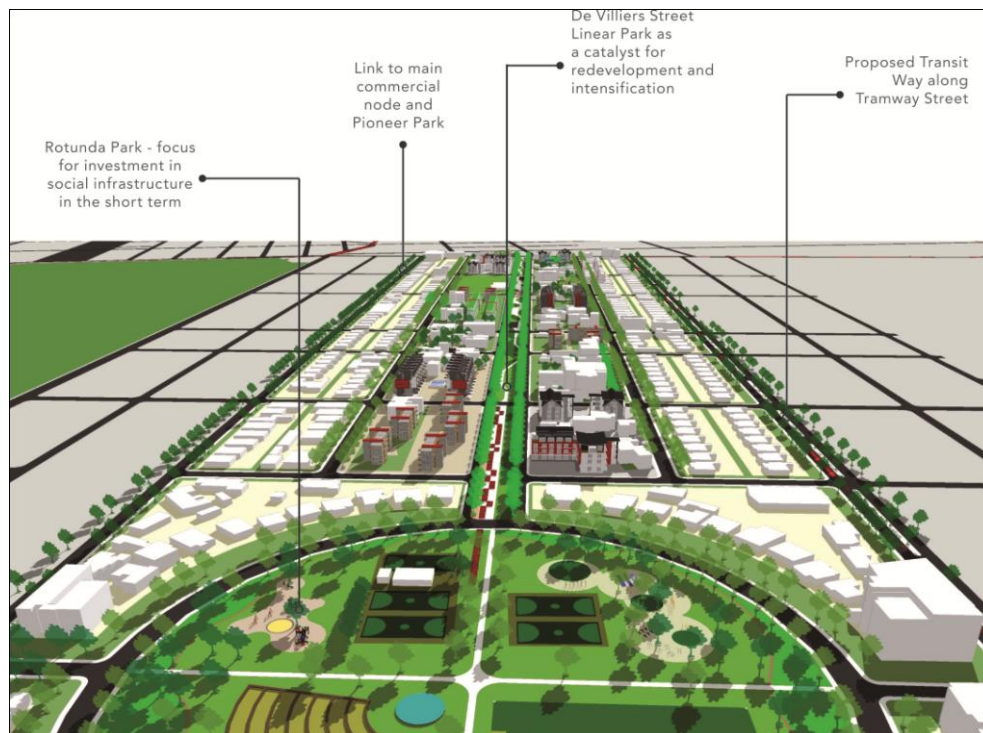


Image 4.1: Conceptual representation of the implementation plan of the Turffontein Precinct, with a particular focus on the green link and Rotunda Park.

Source: IYER, 2014: 85

4.7 Conclusion

This chapter has provided a description of how the TDC functions in terms of movement, transportation and accessibility. The TDC is located in an extremely well connected area as it is in close proximity to Johannesburg CBD and most of the metropolitan and national highways. Based on the characteristics of movement and transportation of the study area a number of concerns in the study area are that there are a lack of linkages or connections, networks and the public transportation.

The analysis of the study area suggested that “there is a lack of adequate linkages between destinations, including” many of the open pieces of land that “act as barriers between certain suburbs within the corridor” (Aurecon, 2014: 24; IYER, 2014: 34). Due to the mining belt or mining dumps and landfills the linkages of the study area, from the north-south, have resulted in only three major linkages, making the north-south linkages extremely weak. The TDC is seen as “a crucial link between Johannesburg and Gauteng South, and functions as the gateway to Johannesburg” (Aurecon, 2014: 24; IYER, 2014: 34). Apart from the linkages not being sufficient the road network is also operating near capacity due to the current network prioritising private vehicles (IYER, 2014: 33).

It is therefore required that with the proposal to densify the TDC and increase the population, the increased road network pressure will require a modal shift towards public transportation and pedestrian infrastructure. Therefore the SAF for the TDC proposes “the alignment of a high quality public transport route connecting the area with the existing Rea Vaya network” (Aurecon, 2014: 34). This would also improve the public transportation in the study area, as the transport stops are currently inaccessible and poorly served (Aurecon, 2014).

The concerns also provide the study area with a number of opportunities. As discussed in the conceptual framework and implementation plan, the TDC can be developed based on principles of TOD and support for NMT. This is proposed by the development of mixed land uses to decrease travel distance, provision of high-density housing around transit stations (IYER, 2014). There is also a need to prioritise the improvement of the public realm and infrastructure to cater for NMT. These elements can all be achieved through the complete streets principles. The next chapter will use the theory and the contextual understanding of the study area to evaluate proposed development of the SAF for the TDC.

Chapter 5

Spatial Planning Policies and Observations of the Turffontein Development Corridor



5.1 Introduction

Theory suggests that it is vital to create a connection between the development of infrastructure and strategic planning. The infrastructure of roads and the various modes of transportation shape the spatial forms of cities and help make those cities more inclusive and sustainable (Todes, 2012b). The importance of infrastructure in the urban form is directly linked to the different modes of transportation. This in turn is, and can be, affected by land uses, roads and different systems of public transportation that facilitate the accessibility patterns of a city (Todes, 2012a). The City of Johannesburg has embarked on a journey of integrating the importance of infrastructure with the city's spatial policies. It has become important to link public transportation with land uses as it facilitates the creation of a strong relationship in making transit-oriented development (TOD) and the use of public transportation (Rea Vaya BRT) systems successful by developing mixed uses around transport nodes (Todes, 2012a).

The importance of creating integration between public transportation and land uses is vital for the efficient functioning of a city. In the City of Johannesburg this has been addressed by the implementation of transit-oriented development (TOD) with a particular attention to non-motorised transportation (NMT). This chapter will fundamentally analyse the theoretical concepts (corridors, TOD and NMTs) to the Strategic Area Framework (SAF) of the Turffontein Development Corridor (TDC). In essence, this chapter will evaluate how these theories have influenced or used in the conceptual framework of the TDC.

Fundamentally the SAF for the TDC will be analysed and evaluated based on principles present in these theories; land uses, density, forces of attraction, physical form, modes of transportation, public transportation, connectivity, linkages, integration and walkability. Basically the analysis of the proposed development in the spatial framework will also be analysed based on table 9.2 of the annexure that compares these principles from the theories. The analysis of this chapter will also be based on information gathered in the interviews conducted to the key respondents (respondent 1 – private consultant, respondents 2 and 3 – Aurecon consultants) and the draft minutes from the public participation meetings, refer to annexure 9.3, 9.4 and 9.5. The chapter will then conclude with an analysis of what were the proposed spatial interventions to develop TOD and NMT in the Turffontein Precinct Area.

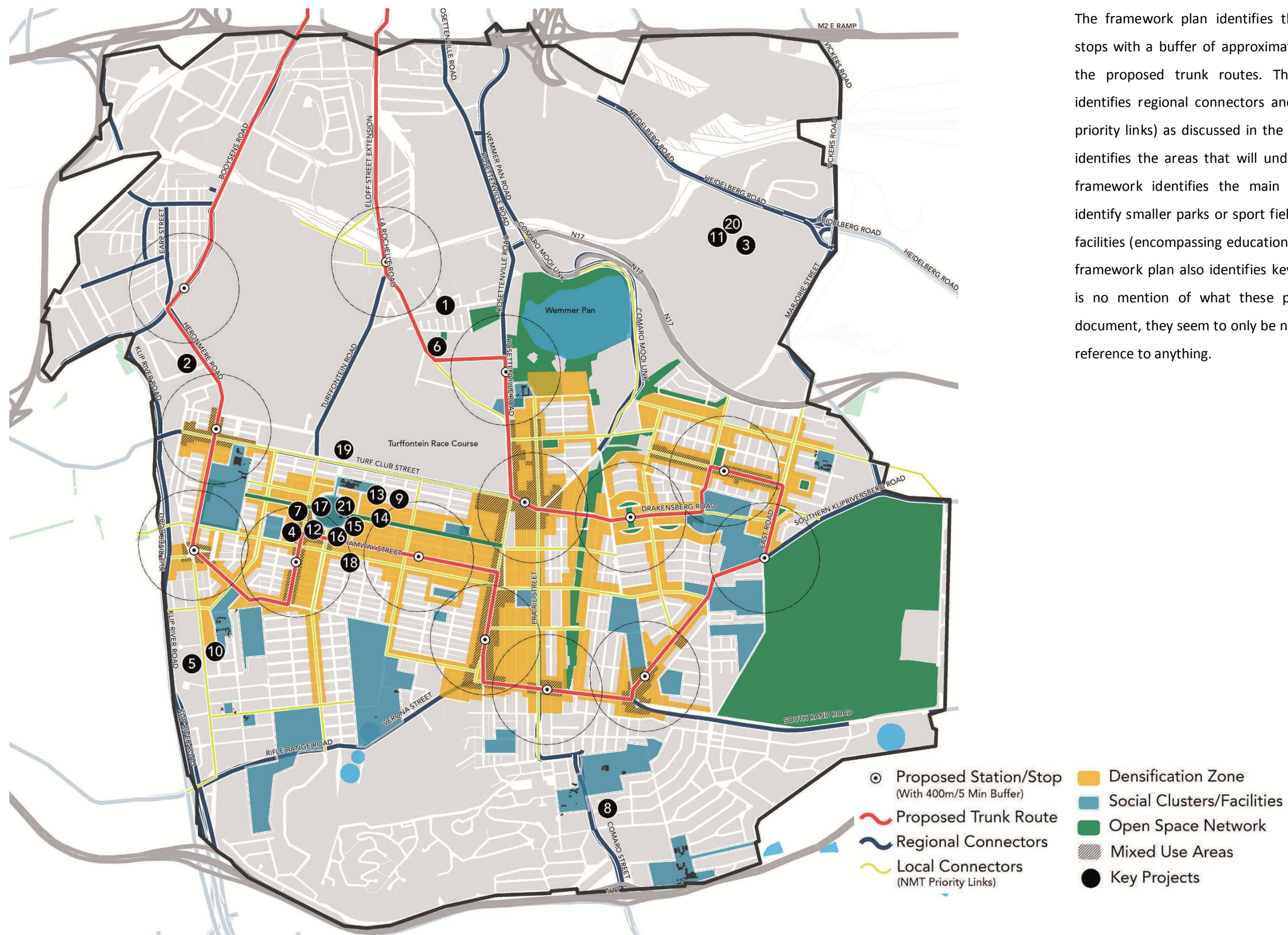
5.2 Is the proposed Spatial Framework for the Turffontein Development Corridor taking into consideration the theories of Corridor Development, Transit-Oriented Development and Non-Motorised Transportation?

As mentioned in previous chapters, the Strategic Area Framework (SAF) for the Turffontein Development Corridor (TDC) using both the draft 2 document produced by Aurecon and the final document produced by Iyer. There is a need to use both documents, not just the final one, because there are a number of aspects and basic approaches in analysing the area that were not included in the final document. The final document utilised a large percentage of the data collected in draft 2 of the TDC, however sections of the characteristics of the study area that would inform the conceptual framework were omitted in the final document. This lack of clarity on the analysis information of the study area would hinder this analysis of the proposed conceptual framework and proposed implementation, as there would be no clear understanding about how the interventions were chosen in the final SAF for the TDC.

The proposed spatial interventions in the strategic framework for the TDC will be understood and analysed using the characteristics (principles) present in the theories of the corridor development, transit-oriented development (TOD) and non-motorised transportation (NMT). These characteristics are based on principles of:

- Physical Form
- Modes of transportation
- Public transportation, Connectivity, Linkages, Integration and Walkability
- Land uses, Forces of Attraction and Density
- Urban Design Principles

The urban design principle will be discussed and used to analyse the spatial implementation of TOD and NMT in the Turffontein Precinct, in the next section of this chapter. However, before analysing the strategic framework based on these themes, it is important to get an understanding of the final consolidated framework plan presented in the final TDC document, as seen on map 5.1, it will help guide this analysis as it is the final plan for the study area.



The framework plan identifies the proposed stations or stops with a buffer of approximately 400m, located along the proposed trunk routes. The framework plan also identifies regional connectors and local connectors (NMT priority links) as discussed in the previous chapter. It then identifies the areas that will undertake densification. The framework identifies the main open spaces (does not identify smaller parks or sport fields) and social clusters or facilities (encompassing education and public services). The framework plan also identifies key projects however there is no mention of what these projects are in the final document, they seem to only be numbers that do not make reference to anything.

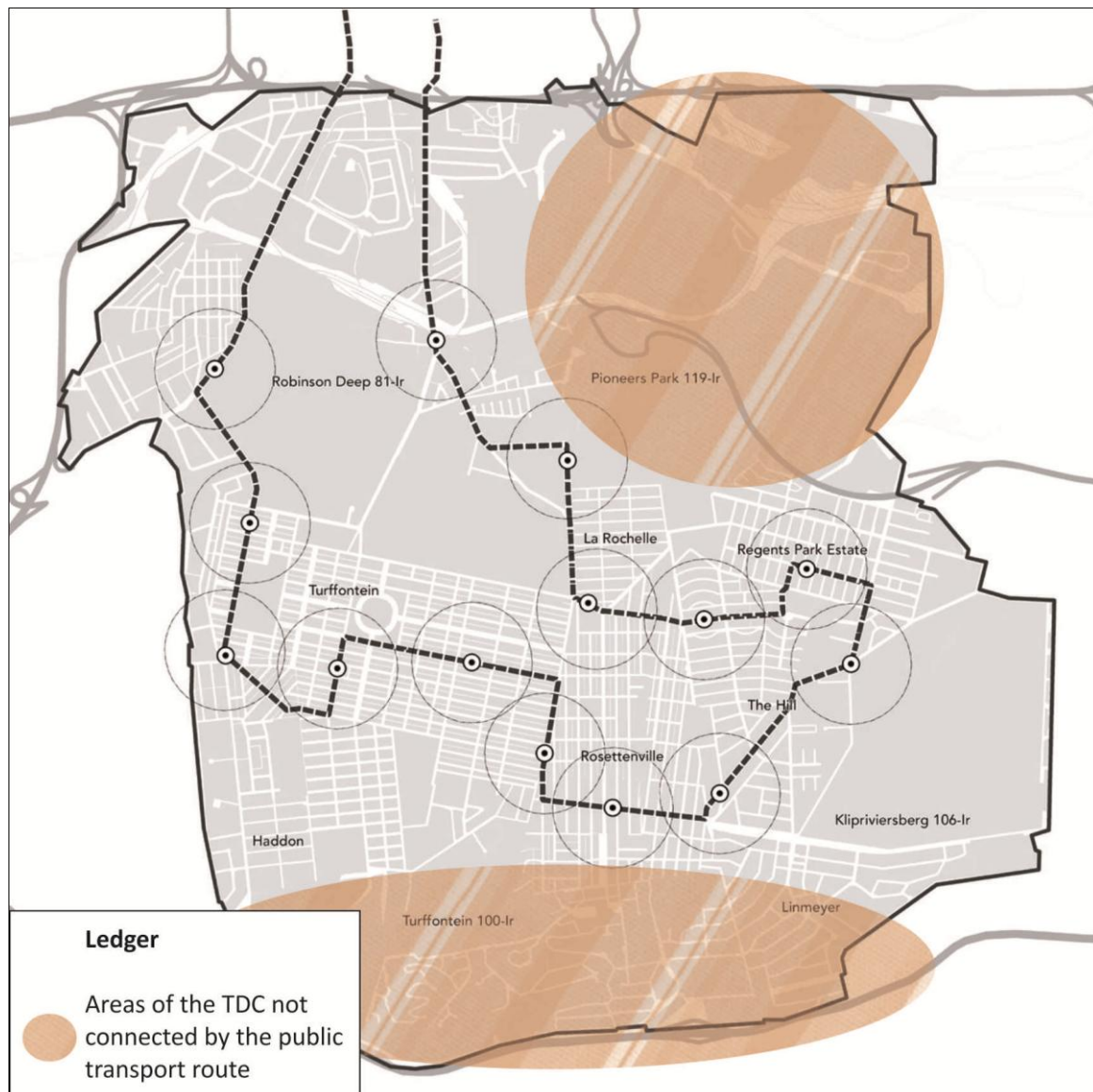
Map 5.1: The Framework Plan for the Turffontein Development Corridor
Source: IYER, 2014: 66

According to Respondent 1 (2014) a private consultant there is a mixed feeling about the SAF for the TDC, “whether they are doing the right thing or the wrong thing, I think it is a mixed answer. Let us look at the right thing, the right thing is upgrading, redeveloping, regenerating, recycling, densifying. I think there is a huge opportunity there. How they are doing it and where they doing it in terms of the planning framework I have a problem with. What we are missing is how it is going to happen and where it is a going to happen”. The next section of this chapter will therefore analyse how the theories will be implemented and if they are adequate.

5.2.1 Physical Form

Based on theory a corridor is characterised by its function, whether it caters for mobility, movement, as a transport corridor, development corridor or an activity corridor (PPDC, 2007). Essentially a corridors’ physical form is it to connect point A and B, regardless of the type of activity that occurs within it, with a number of nodes along it. Generally a corridor will always be developed along a mode of public transportation. TOD on the other hand is characterised by the compact development that occurs around a node. It is also found along a public transport route but it is based around a transit centre surrounded by diverse mixed-use development (Chen et al., n.d.).

Taking these elements and analysing the TDC it is clear that the proposed transport corridor creates a loop and does not connect the south of the study area nor the north-east. These elements were also addressed at the public participation meeting. Da Silva (2013: 6-7) made an observation and question that “the proposed transport routes will send people to the centre of Johannesburg. The dynamics of the greater Johannesburg has changed and there are now very few businesses in the CBD, so why are all the routes focused on this area?” Pienaar (2013: 6-7) responded by saying that “regarding the transportation routes being focussed on the CBD a key consideration was that it links back into the existing transport system. The inner city of Johannesburg is still the largest node in Gauteng and is a major place for work.” However, this did not answer as to why the proposed route makes a loop in the study area. It makes sense to link the area to the main transport hubs in the City of Johannesburg to facilitate the movement of resident to other parts of the city but does not address the purpose of the loop that does not connect the south of the north-east section of the study area, as analysed in map 5.2.



Map 5.2: Physical form of the Turffontein Development Corridor transport route and the area not connected by it.

Source: Base map used from Iyer, 2014: 35 and then analysed by author, 2014.

Vakaloudis (2014: 2) tries to “to find out on what basis was the route identified? The whole BRT route what was established and how was those streets identified and chosen above others?” According to Hanger (2014: 2–3) “in terms of choosing the streets the process followed was a combination of technical aspects in terms of what would be required for it to operate as a system, but what became more significant was looking at the opportunities where that system could actually become a catalyst for redevelopment and regeneration in certain areas” and basically “at this stage we have looked ideally at where that system should go and where the stops related to that system ideally should be placed for them to get the best response in that area. The final details of that

system will be based on other factors as well like things like ridership numbers once they do the proper planning in that case, as well as things like constraints and where there are constraints then they may be part of the system that needs to be reassessed. At this stage it is a proposal for that and that could then be taken further in terms of more detailed planning”. Hanger (2014: 5) then goes on to say that “the broader study area ... is a very large area, but when it comes to focussing we need to tie it down and we have gone through the thinking behind the actual route, the alignment of that route and the stations”. However, in chapter 4 (maps 4.17 and 4.18) highlighted that the route identified in the draft 2 document and the final document where the same, therefore the route was not changed nor where some of the issues raised in the public meeting taken into consideration.

According to Respondent 2 (2014) an Aurecon consultant “it does not make sense to do a loop. You would not spent R650 million to do a round trunk feeding into the city because a distance of about 6 km from the M2 to the Rifle Range or even to the N12, which is basically 7km, of which a Metro bus route would take about 17 minutes in a bus to the city if there is no traffic”. The route “was the urban designer saying that it could go here, after I had spent three-months saying in terms of costing the road and road width and infrastructure costs; saying that in terms of this, actually trying to prove this. In the end they basically just made up their mind” (Respondent 2, 2014). Barker (2014: 9) also suggests that “the focus is very inward bound and is not taking into account the surrounding areas and what is happening, but I am seeing a very interesting not necessarily an acceptable urban design framework ... again doesn’t show how the bigger picture has been taken into account”.

It can therefore be suggested that there are a number of questions and queries about the chosen route and it unfolds when respondent 2 highlights that the route was chosen by an urban designer in the City of Johannesburg. Respondent 3 (2013) an Aurecon consultant, states that the final report does not even take into consideration the routes we identified”, nonetheless this route will be analysed further below.

5.2.2 Modes of transportation

Based on the theory discussed in previous chapters, all modes of transportation must be taken into consideration. Even though there is an attempt to reduce the use of private vehicles and promote the use of public transportation and NMT. There needs to be a mixture and integration of all the modes of transportation, especially in transit nodes and interchanges (Curtis et al., 2009). These elements would increase accessibility and mobility of nodes by increasing the modal choice and modal integration. The main focus of the transport corridors are based on a mode of public transportation (PPDC, 2007). With regards to the TDC the backbone of the project is the Rea Vaya

BRT system that will link the study area with the Johannesburg CBD, map 5.1. However, there is no mention of any other modes of public transportation or how these different modes could function together in the conceptual framework and implementation, there is no further mention of the Metrobus or the minibus taxis, image 5.1, discussed further below.

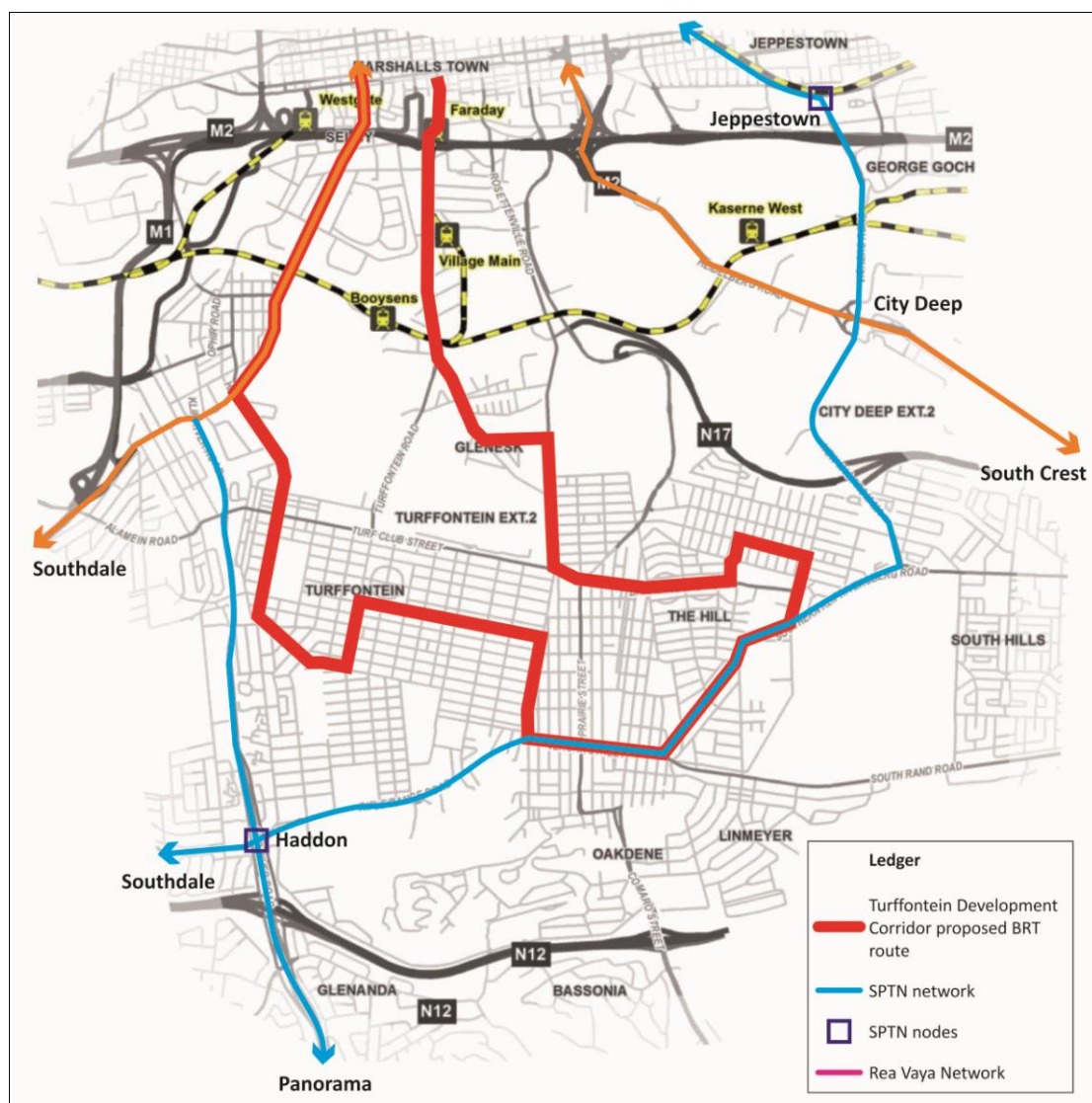


Image 5.1: This photograph highlights of the BRT and the Metrobus already service Eloff Street. This type of integration needs to be enhanced and improved.

Source: Photograph taken by author, 2014

According to Respondent 1 (2014) the City of Johannesburg is “focused politically in this area. This plan is driven by political imperative and not planning transportation logic. That planning and transportation logic has been informed by consultants who didn’t know the area. They were driven by their masters, to do certain things and ignore planning and transportation logic, because of the political imperatives. I don’t believe that those consultants really believe what they have got in that report. I don’t believe that a lot of the stuff that we seeing in this report is what the consultants would have liked to see themselves out of their understanding”. This was already mentioned previously where the route was chosen by an urban planner in the city and the technical opinions were not taken into consideration. Respondent 2 (2014) also highlights that “the Metro bus routes originate on rifle range and travel north to the city. If you spent 10% of the money and get, the problem of the Metro and it is not exactly a problem, it is just that there is a frequency of the 45 minutes or two hours that the problem. If you get a lower quality bus that takes 10 minutes there is a bus stop at various points that connect to the city”, as seen on map 4.15. At this stage the most visible difference between the proposed BRT bus route to the already existing Metrobus is that the route is longer “because while a Metrobus will take you straight to the city, a person now has to wait 30 minutes for a BRT and then travel the entire route. It is a nicer looking bus but a lower level of service than the most basic Metrobus service that is currently in place. So why, from any professional point of view, does this have any credibility” Respondent 2 (2014).

Based on the interview with Respondent 2 (2014) the Turffontein Development Corridor “was left for wishful thinking, it is very difficult because the area is in no long-term BRT plans from the city. JRA and Joburg transport do not care about Turffontein because it is 1km down from the CBD. The Johannesburg transport from the beginning says they are not interested. They also do not like Joburg strategic planning doing the transport planning for the city. BRT has nothing to do with strategic planning that is a JRA or Joburg transport department”. This argument is extremely evident in the Rea Vaya BRT route for the TDC and the Rea Vaya BRT identified in the Strategic Public Transport Network (SPTN), previously discussed in the Strategic Integrated Transport Plan Framework (SITPF) of chapter 4. If the routes that are provided in the SPTN, map 3.8 and the Rea Vaya BRT route for the TDC were compared, map 5.3, it is evident that they are not aligned.



Map 5.3: Comparison of the alignment of the proposed Rea Vaya BRT route in the final TDC and the routes and nodes identified for the Rea Vaya BRT route and SPTN route.

Source: Base map used from Iyer, 2014: 35 and then analysed by author, 2014.

As seen in map 5.3 the proposed route in the final TDC document is only aligned with the identified BRT routes and SPTN routes on Booyens Road and along Moffat Park, along Verona Street until the corner with Main Street. It can therefore be concluded that not only does the route not align with the routes proposed in the SITPF or the Spatial Development Framework for the City of Johannesburg, nor was the TDC BRT route carefully thought through as it was suggested by the city officials in the public meetings.

5.2.3 Public transportation, Connectivity, Linkages, Integration and Walkability

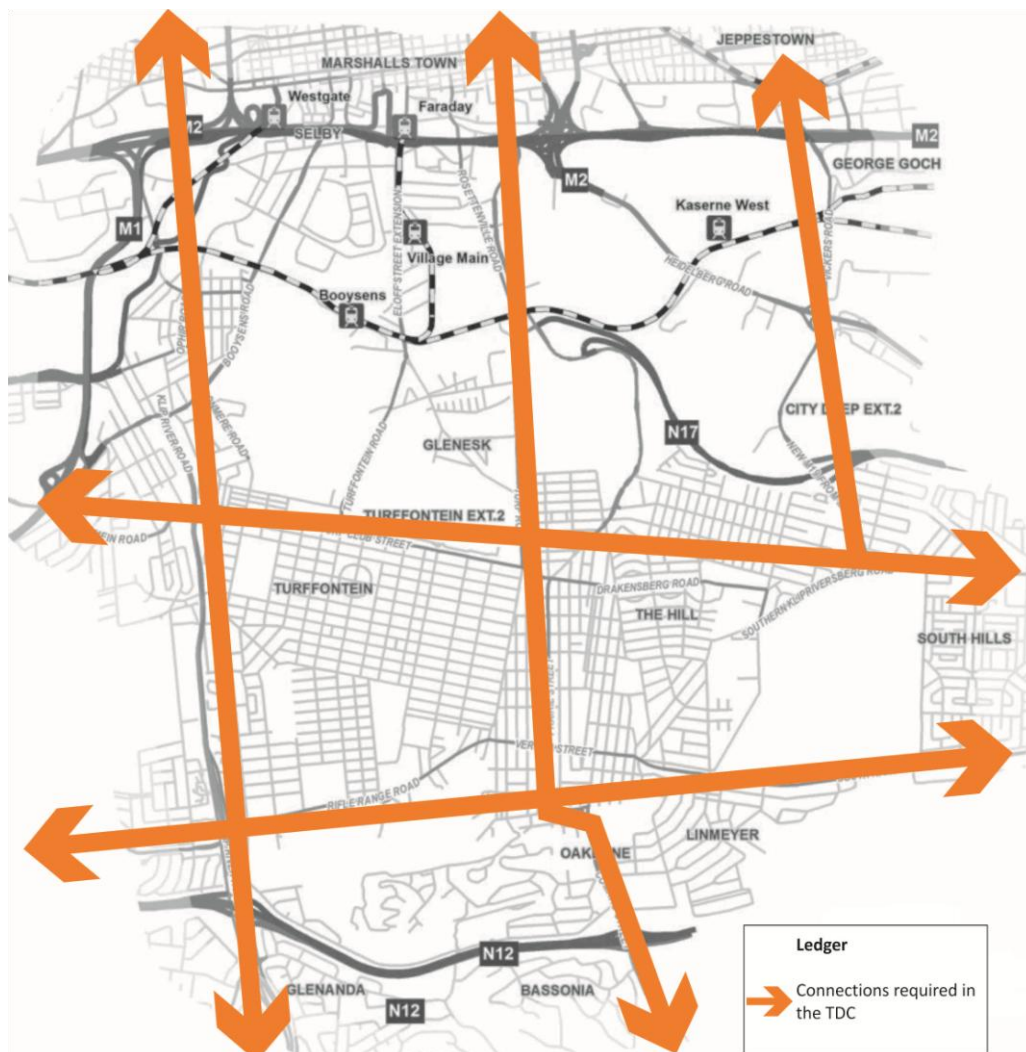
Public transportation, as mentioned on various occasions in this research report is the core principle of the theories, policies and SAF for the TDC. The Rea Vaya BRT has been identified as the backbone of the TDC. Based on theory public transportation must be improved and provide quality public transit facilities and services, especially at transit station and stops (Curtis et al., 2009). Public transportation must connect places of work and social amenities in order to increase the connectivity and accessibility of places and nodes. It is also required that public transportation provides further connections to the city-wide network of transport corridors (PPDC, 2007).

Unfortunately, this does not occur in the TDC as the BRT system only serves a portion of the study area. The areas of industry, business, social amenities and educational facilities within the TDC are not all linked by the BRT system, as seen on map 5.2. This hinders the possible connectivity and accessibility of the area.

Neither the Metrobus nor the minibus taxi's are suggested to be part of the connectivity of the study area or even used as feeders to the main BRT system proposed in the TDC, map 5.1. Nonetheless Respondent 2 (2014) pointed out that in the beginning they looked at the Metrobus routes and "would basically increase the level of service for the Metrobus routes in the area and maybe collaboration with the taxi industry because in other cities we formalised a lot of the small taxi routes to work, even in the Gautrain, to use taxi's as Gautrain feeder buses, like in Alexandra, so we tried that and they said no. We said maybe not a trunk maybe a BRT feeder route that maybe just links into Booyens because that is the trunk and they kept saying no". nevertheless in the public meeting the city suggested the opposite, saying that "in terms of accessing certain key land uses ... that is where the feeder services such as Metrobus will play a role and the non-motorised transportation system" (Scheepers, 2013: 5). This resilience from the officials of the City of Johannesburg comes through in the conceptual framework where no other modes of public transportation are considered to be integrated with the BRT system in the plan, as seen also on map 5.1.

There are no connections provided or future connections proposed with strategic areas outside the study area, apart from the connection to the CBD. The proposed BRT routes are contained within the study area, as discussed previously, and there are not enough north-south or east-west connections provided to move residents in the study area to other parts of the City of Johannesburg apart from the Johannesburg CBD, map 5.4. Barker (2014: 10) also raised this concern that there is a “need to look at the strategic picture, what is the strategic existing and future trends for development”.

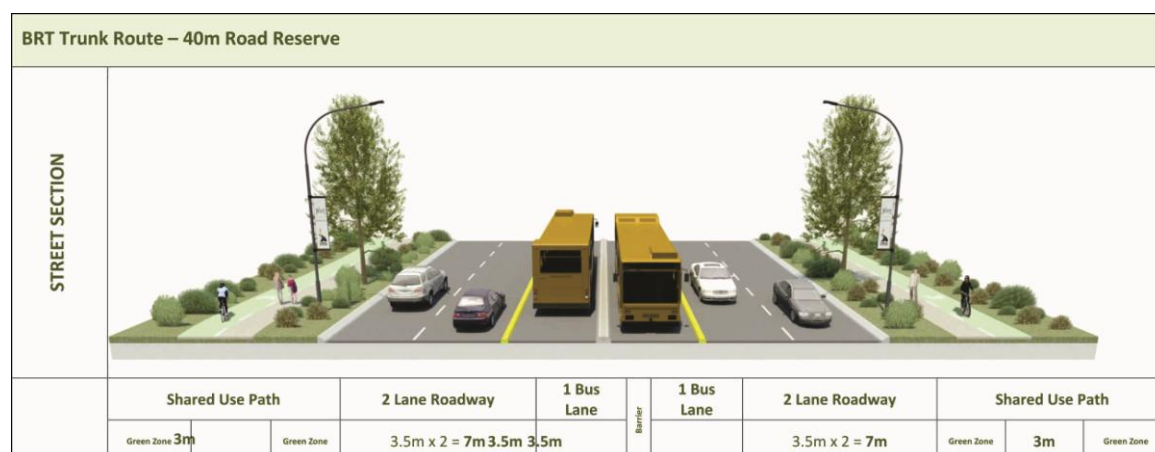
Apart from the lack of modal integration and linkages in the study area there are also inadequacies with the three key elements proposed in the movement framework. Scheepers (2013: 5) highlights that the city envisions a “population growth and density increase in the future” this “may warrant the transition of the route from feeder to trunk.” and “with the framework we were thinking about a BRT trunk route for the future, so the selection of routes were done on a geometric road reserve basis”. However, based on the final SAF for the TDC, the Rea Vaya BRT route (public transport spine)



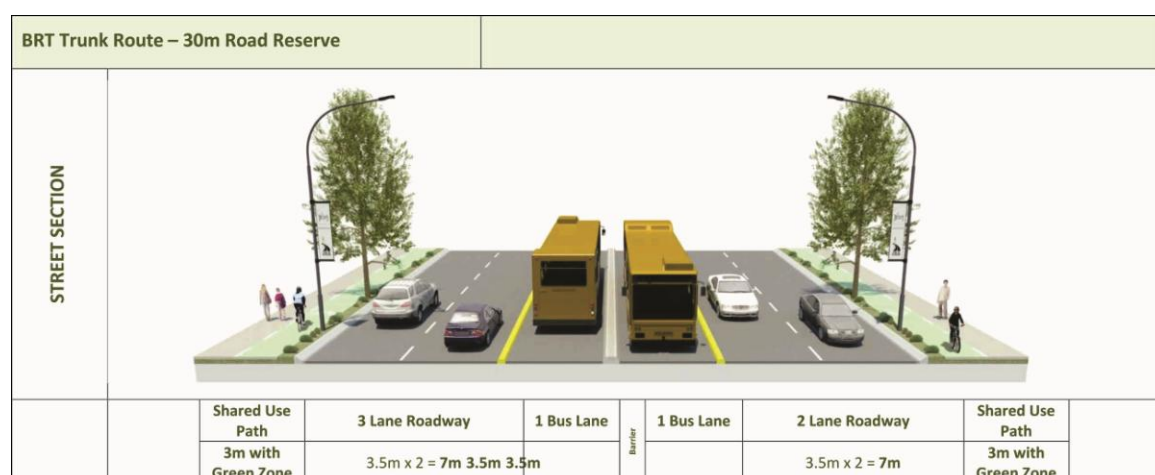
Map 5.4: The north-south and east-west connection required in the TDC in order to increase the connectivity of the study area

Source: Base map used from Iyer, 2014: 35 and then analysed by author, 2014

that is proposed in the movement framework is identified as a trunk route where “the stops will be accessible for both travel directions and it was assumed that the stops will be situated in the median of the road” (IYER, 2014: 56). However, based on the Complete Streets guidelines a BRT trunk route is placed in a class 2 hierarchy as per the RIFSA classification and requires 30-40m road reserve with lane widths of about 3.3-3.5m each (City of Johannesburg, 2013b). These design elements for a BRT trunk route can be seen on cross section 5.1 and 5.2, and these do not even include the station in the median as the final TDC suggests.



Cross section 5.2: The design elements for a BRT trunk route with a 40m road reserve
Source: City of Johannesburg, 2013b: 85



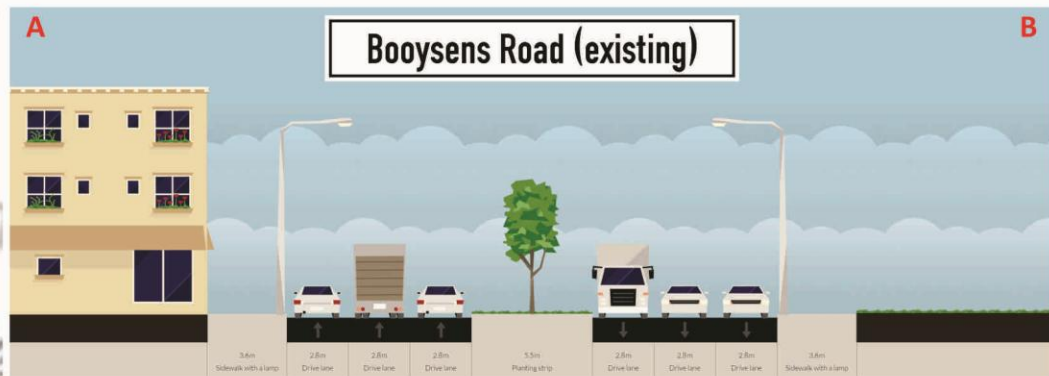
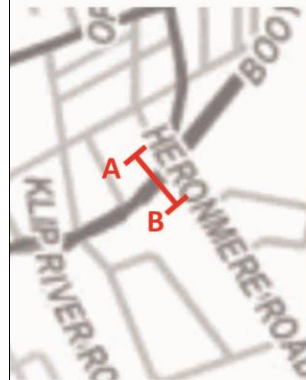
Cross section 5.1: The design elements for a BRT trunk route with a 30m road reserve
Source: City of Johannesburg, 2013b: 86

Map 5.5 provides a photographic analysis of all the proposed transit station locations in the TDC. These photographs attempt to demonstrate how the trunk route that chosen in the final TDC has flaws as most, if not all the roads, are too narrow.





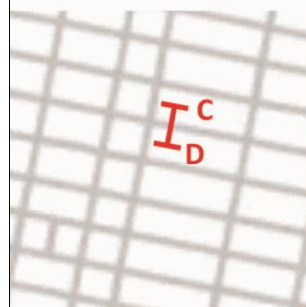
Image 5.2: Photograph of Booyens Road
Source: Photograph taken by author, 2014.



Cross section 5.3: Illustration of the existing condition and characteristics of Booyens Road
Source: Cross section designed on <http://www.streetmix.net/> by author, 2014.



Image 5.3: Photograph of Tramway Road, this road has the largest road reserve of about 40m.
Source: Photograph taken by author, 2014.



Cross section 5.4: Illustration of the existing condition and characteristics of Tramway Road
Source: Cross section designed on <http://www.streetmix.net/> by author, 2014.



Image 5.4: Photograph of Rosettenville Road
Source: Photograph taken by author, 2014.



Cross section 5.5: Illustration of the existing condition and characteristics of Rosettenville Road
Source: Cross section designed on <http://www.streetmix.net/> by author, 2014.



Image 5.5: Photograph of Friars Hill Road
Source: Photograph taken by author, 2014.



Cross section 5.6: Illustration of the existing condition and characteristics of Friars Hill Road
Source: Cross section designed on <http://www.streetmix.net/> by author, 2014.

None of the roads identified in the movement framework are wide enough to cater for a BRT trunk route. The widest roads identified are Booyens Road, part of Rosettenville Road and Tramway Street, image 5.2-5.4. The widest road identified was Tramway Street with a road reserve of approximately 40m (cross section 5.5), while many of the other road reserves range from 10-20m (cross section 5.3, 5.4 and 5.6). With regards to the RIFSA classification of roads in the TDC some of the roads identified are located on class 2, as previously seen on map 4.11. However most of these roads are not wide enough and at the same time many of the roads chosen for the BRT trunk route are located on class 3 and 4 roads, image 5.3.

Respondent 1, (2014) suggested that the concepts that the city is trying to implement are “right, but because we driven by political imperative to make it happen, we squeezing into something and we are actually going to destroy it. At the end you are not going to have space for the other stuff, because we have not designed it for that, because we have not got the space to design for it. The principle is right, put down corridors, but be bold and put down CORRIDORS. Do not squeeze it in and create this compaction of your system which is not going to work in the long term”. It can therefore be suggested that the movement framework for the BRT trunk feeder is not viable nor will it be possible to provide this infrastructure on these narrow roads. The entire route will not be able to accommodate a trunk route and therefore the route should be reconsidered and alternatives investigated, as there is just not enough space. “We have not design it with forethought about everything else we want. Now we want cycle lanes to ride down these BRT routes. Now we want to put pedestrian systems down these things. There is no space for it” (Respondent 1, 2014).

With regards to the proposed NMT routes on the movement framework for the TDC there also seems to be a lack of connectivity and linkages to the south and north of the study area, map 5.1. Unfortunately, the final SAF for the TDC makes very little if any reference to the implementation of NMTs. Their importance is highlighted but there is no explanation of how the routes were decided.

Image 5.6 demonstrates how there are people who cycle in the area, yet the proposed NMT route in the final TDC document is just that a route, as there is little explanation about its function. The final TDC document states that NMT infrastructure should connect to the inner city; however there are very little, if any, NMT routes in the northern part of the study connecting with the Johannesburg CBD.

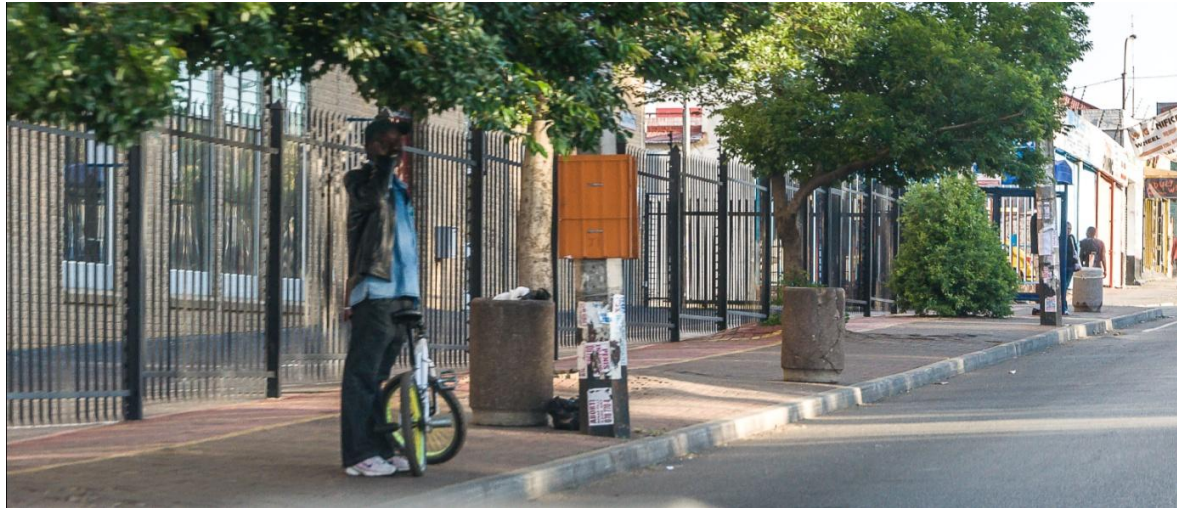


Image 5.6: This photograph highlights that there are cyclist that use the area and require adequate connections.

Source: Author, 2014

Again it appears that the reason to which there is hardly any focus on the implementation plan of NMT is caused by the city officials. In the public meetings (Scheepers, 2013b: 1) highlighted that they had “made an effort largely in relation to the non-motorised transport (NMT) to use some of the linear green open space in the area and to incorporate that into the NMT.” However, they did not go through with it. According to Respondent 3 (2013) they had “made a lot of suggestions but I do not think the suggestions made were even taken into consideration”. For example the “NMT link was identified to go through the existing linear park”, between Rosettenville, “where the NMT would go along the park. It was identified as being a safe cycling route because currently there are a lot of people cycling but they have to cycle on the road and sometimes are adjacent to a car and it is unsafe” (Respondent 3, 2013). However, even though this “connection made more sense as an NMT link” it does not even appear in the final document (Respondent 3, 2013).

There are a number of shortfalls when considering NMT. Just providing a proposed route of where NMTs will be developed in the study area is not enough. The city officials were asked by (Karam, 2013: 5) “who is the non-motorised transport being provided for?” and the answer provided by (Scheepers, 2013b: 5) “a lot of people are walking and the question for who this is, it is for everybody so we need to put those measures in place to ensure a quality urban environment”. It appears that the pedestrian is only mentioned because it is necessary. No actual attention is given to how the urban should be improved environment to accommodate the cyclist they are planning and also create connections with adequate land uses and other modes of public transportation.

The principle of integration is vital in all the theories covered in this research report. Transportation can be made sustainable by integrating it with a variety of land uses in order to reduce travelling. Integration should be made by all modes of transportation, especially NMT. There is a need to create multimodal interchanges or transit stations with NMT networks that increase the movement, accessibility and safety of pedestrians and cyclists (Curtis, 2008). Unfortunately the SAF for TDC makes little reference to the need of integrating all modes of transportation. This is extremely evident as the pedestrian and cyclist are given little reference and there is no mention of the possible integration of the Metrobus, as discussed previously.

According to theory and policy, discussed previously, the integration of public transportation with NMT is necessary, especially since they should be pedestrian orientated. By integrating the landscape and providing wider sidewalks there is an increase in the quality of pedestrian movement and walkability. All sidewalks should provide adequate pedestrian infrastructure. According to the development guidelines in the final TDC document there is a need to provide access to NMT through appropriate sidewalks and cycle paths by implementing the Complete Street guidelines. The document also states that street paving signage and furniture should be legible as well as constant with the broader TOD precinct that must be appropriately located and aesthetically pleasing (Aurecon, 2014; Iyer, 2014). As discussed, NMT is mentioned in the TDC but it makes no reference of the need for integration with TOD as does the policy. This can also be viewed in the graphical representation in the final TDC document, cross section 5.1. The proposed BRT trunk routes do not provide the integration for NMT. It is not clear from the movement framework which BRT trunk routes are combined with NMT routes, making it difficult to analyse these routes.

5.2.4 Land uses, Density and Forces of Attraction

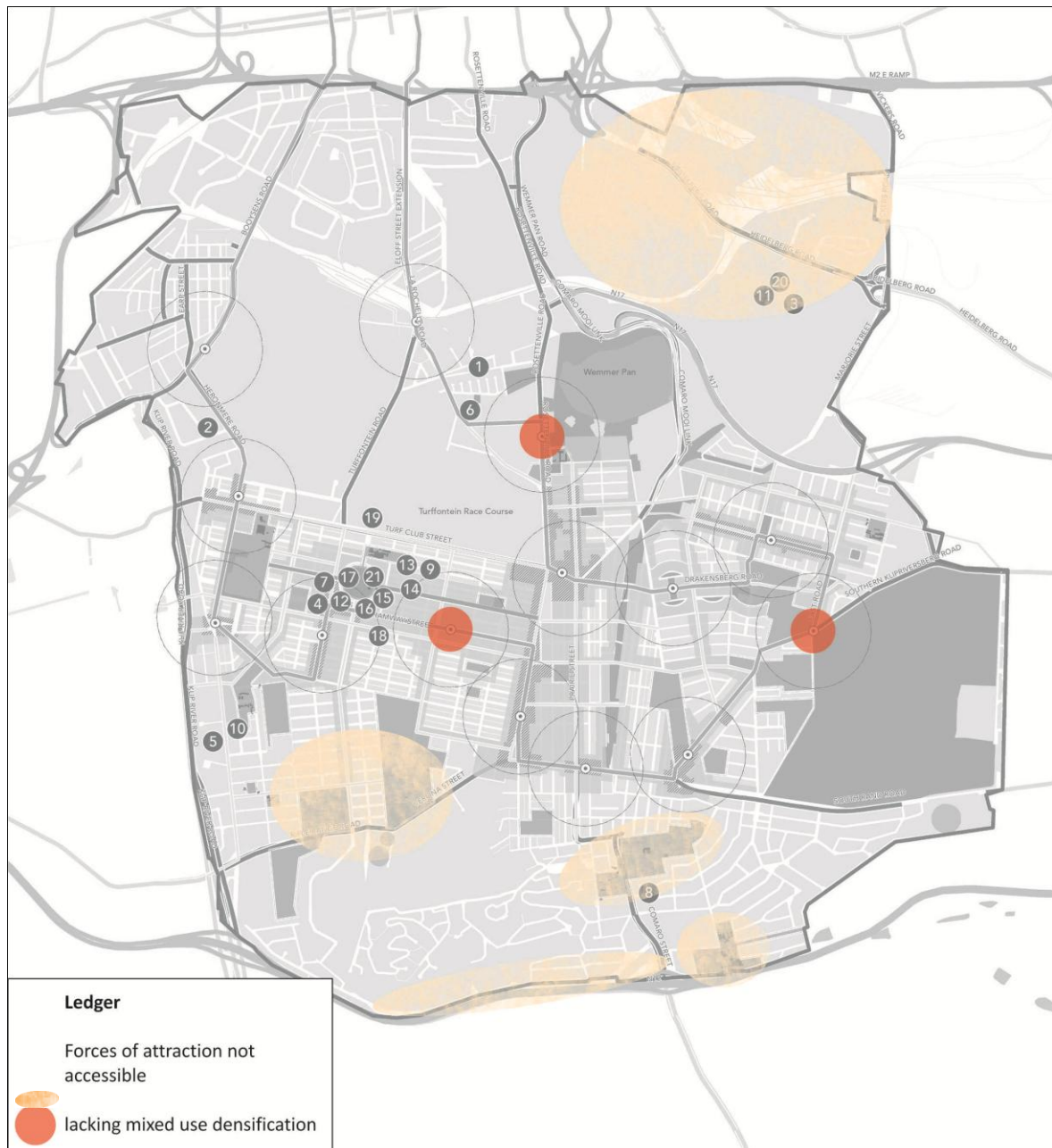
According to theory discussed in the first chapters of this research report, land use is extremely important in the development of corridors and TOD precincts. It is required to promote a wide variety of land use patterns (mixed use) that are coupled with densification. Based on theory it is proposed that density is required, especially as high-rise residential development around transit nodes with a mixture of housing types that gradually decrease as it moves away (Holmes and van Hemert, 2008). In corridor development it is necessary for development to occur as a string-on-a-bead, where there are focal points or catalytic projects along the corridor, in order to attract and increased movement (Jordaan, 2003).

The framework plan, map 5.1, identifies the densification zones of the study. This densification occurs along the transportation corridors and especially around transport stations. However, the

mixtures of land uses are not identified on all the transit stops as analysed on, map 6.6. This suggests that the focus of the framework is predominantly on the densification of providing high-rise residential development. According to Pienaar (2013: 3) in their “calculation of densities they tried to balance the densities which are proposed with the capacity of the public transportation system and also with schools and clinics and other social amenities required”. However Respondent 3 (2013) revealed the opposite where from the beginning they “identify within the proximity of the station where the station should be located then you identify blocks that should be densified and it would be in walking distance, close to schools, everything in a reachable distance. And then to get the densities up they wanted us to propose a much denser area than what was initially, or that we thought as consultants would be viable or would actually happening in the area. With a TOD densities would happen around a station and if it is a trunk it would happen in about 1km reach and if it is a feeder route it would be up to 600m and would only be within reachable distance. They did not take that into consideration, geography was never taken into consideration. So a lot of the stuff that got into the document was not necessarily our intellectual property, we were told. The area has about 280 000 at the moment, and they wanted to bring in another 500 000 people so they wanted us to work with a density of plus minus 800 000 people that would mean that there would be houses in the industrial area.” Many of these trends are in the conceptual plan as what they have proposed goes against the principles of TOD because the transit nodes require a mixture of land uses in order to increase accessibility and movement within and around a node. If the transit stations are only residential there will not be enough movement at various times of the day making the movement lower than places that have as a force of attraction, a variety of land uses.

From this discussion it also evident that the city officials were concerned predominantly on increasing the densities and future population of the study area, and not necessarily using their policies based on theory to develop a conceptual plan that would be successful.

Focal points can also be understood as forces of attraction. Different land uses are important in the type of attractor a corridor can become. Fundamentally a corridor can include single, dual or multiple attractors through the development of clusters or agglomerations (PPDC, 2007). These attractors are usually associated with certain types of land uses; entertainment, educational facilities, transit stations, social facilities or places of employment. It is also important to note that for a corridor to be successful as well as safe for pedestrians it has to provide land uses and activities on both sides (PPDC, 2007).



Map 5.6: The Framework Plan for the Turffontein Development Corridor with the forces of attraction that are not accessible and nodes that have very little mixed use and densification

Source: Base map used from Iyer, 2014: 66 and then analysed by author, 2014

This would also be required as the proposed BRT trunk route does not access all of the existing attractors in the study area. The BRT route does not provide access to all the educational facilities, businesses, commercial areas, industrial areas or entertainment areas, map 4.8-4.11. As discussed previously, there are at least two areas of the TDC that have not been provided access through the BRT routes, map 5.6. These areas are predominantly City Deep and The Glen, among others. This issue was also raised in the public meeting by Barker (2014: 10) that suggested that there is a need to take the BRT route “down to The Glen or perhaps swing it up into the City Deep area? I don’t

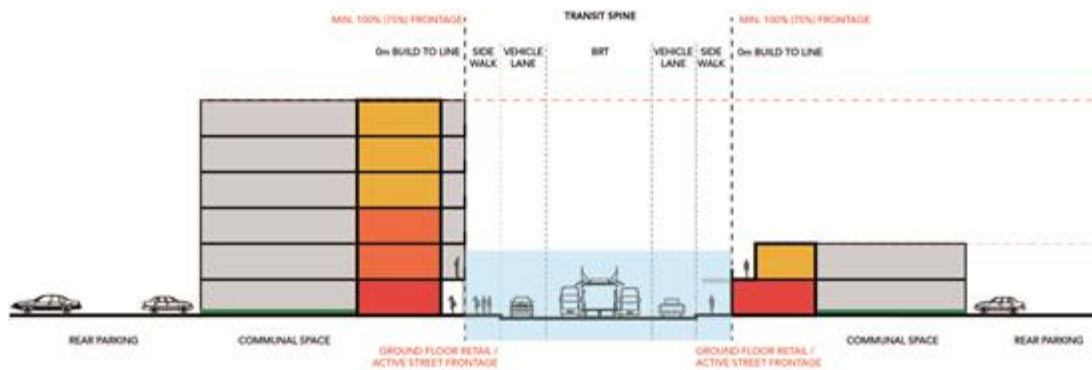
know if you are aware but there is a very large industrial development being planned just north of the N17 – City Deep Extension 4” where there are “employment opportunities and the economic opportunities. It seems to have taken a static picture of what we’ve got now, but where are the trends of development which would then support where we are going to with public transportation”. This lack of connectivity to the main attractors of movement in the area will not produce the sufficient number of residents required for a BRT system to function efficiently. There is a need to connect residential areas however the areas mentioned above also require these connections for the working force and learners to reach their destinations, as these are some of the main generators of movement.

5.3 What are the proposed spatial implementations to develop transit-oriented development and non-motorised transportation in the Turffontein Precinct Area?

There is no better way in which to analyse how the SAF for the TDC are implementing their principle of TOD than at a precinct level, Turffontein Precinct Area. This section of the report will also investigate how NMT has been introduced at a precinct level. However, in order for this analysis to occur it will first be necessary to understand the urban design principles suggested in the theory of TOD and NMT.

5.3.1 Urban Design Principles

There are a number of urban design principles that apply to the development of TOD and NMT. TOD is generally compact and supportive of public transportation. It also encourages that mixed use development occurs along transit corridors, based on infill and redevelopments. It is also suggested that high density development should occur at 100-150m from the transit station and from 150-500m the density begins to decrease and after 500m density decreases further (Chen et al., n.d.). Another important principle in TOD is the development of pedestrian friendly street networks where walking will take 5m to the nearest transit station or 500m (Chen et al., n.d.). NMT is focused on providing dedicated streets and pathways for cyclists and pedestrians. The sidewalks should be wide and provide connections to public transit facilities. Many of the principles for NMT should be applied based on universal access and the Complete Streets guidelines to public transport and public infrastructure (Culwick, 2013).



Cross section 5.7: This graphical representation highlights how the SAF wants to implement the trunk routes but do not cater for NMTs.

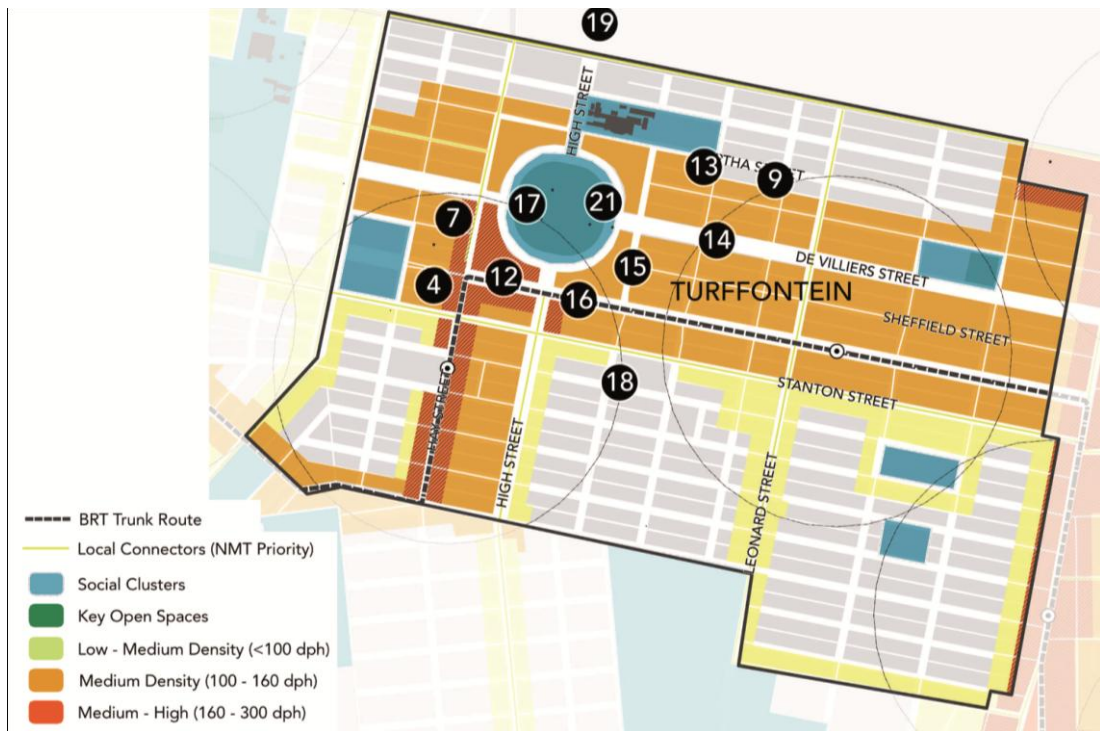
Source: Cross section used from Iyer, 2014: 55 and then analysed by author, 2014

5.3.2 Turffontein Precinct Area

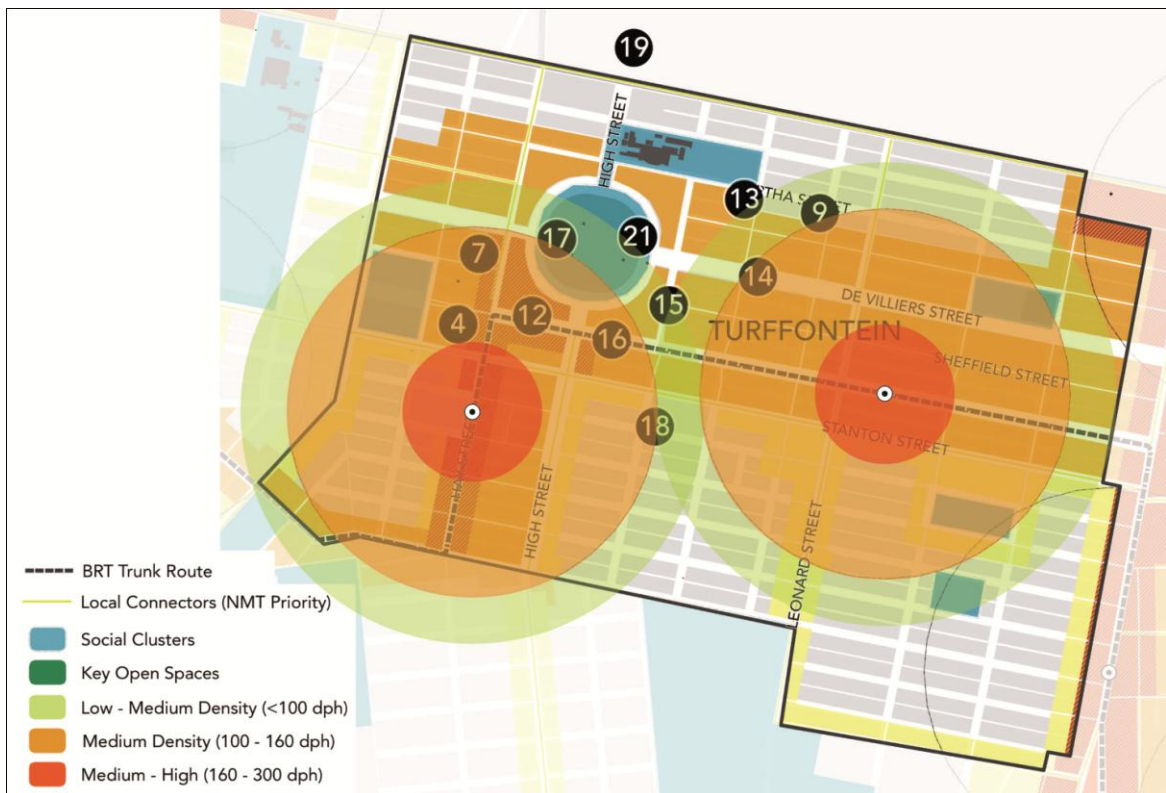
There are a number of interventions envisioned for the Turffontein Precinct Area. It is predominantly focused on providing affordable housing with access to the Rea Vaya BRT route, and is supported by the development of appropriate walkways and cycle lanes (Iyer, 2014). There is also a meandering green corridor that is proposed to be developed on De Villiers Street that connects to the rejuvenated Rotunda Park.

Based on the urban design principles of TOD and NMT there are a number of spatial elements that are missing in the Turffontein Precinct. TOD plays a great focus on mixed use density around transit stations however one of the transit station in the Turffontein Precinct only caters for medium density and there, map 5.7. In map 5.1 there is an identification of where mixed land uses should be developed, however this is not present in map 5.7. The density should be increased as Tramway has a large road reserve and would ultimately benefit from the development of high-rise mixed-use, map 6.8. Perhaps this is not evident in map 5.7 based on the city's focus on densifying the study area to accommodate more people, as discussed previously by respondent 3.

Based on the urban design principles discussed previously, a TOD precinct requires not only a dedicated public transport system, Rea Vaya BRT, but also high mixed use density around its transit station. Therefore the development on the two transit stations identified in the Turffontein Precinct needs to increase the mixed use density around the transit station, followed by medium density and only after 400m would the density become low, as exemplified in map 5.8.



Map 5.8: Conceptual plan for the Turffontein Precinct
Source: IYER, 2014:84



Map 5.7: Conceptual plan for the Turffontein Precinct with the required density and mixed land use
Source: Base map used from IYER, 2014:84 and then analysed by author, 2014

In order to achieve a successful TOD precinct it is necessary to provide dedicated pedestrian and cycle lanes that make the precinct more accessible and walkable to all social and educational facilities. In map 5.7 there are a number of local connectors with NMT priority, however Rotunda Park and many of the other social and education facilities are not connected through NMT principles, as highlighted with the pink square in map 5.9.

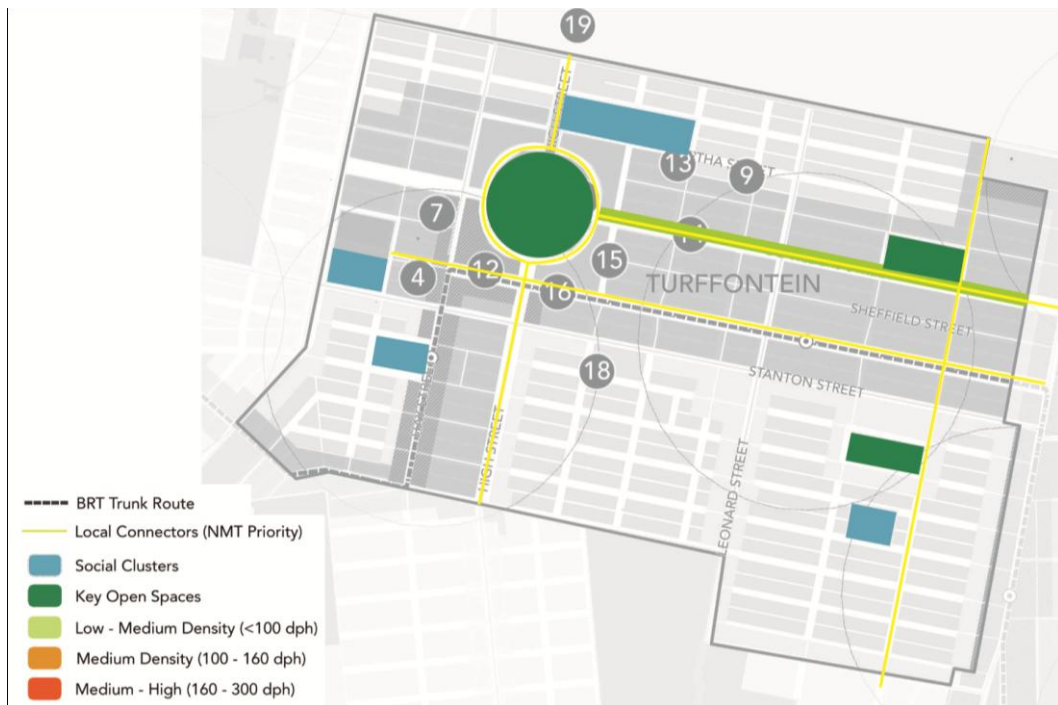
Map 5.10 identifies the NMT routes that should be part of the precinct plan in order to connect it to the BRT route and also all the schools, open spaces and social facilities present in the precinct. If these dedicated NMT routes are not provided or placed in the conceptual plan then there is a chance that it might be omitted in the detailed precinct design. This will increase the accessibility and walkability of the precinct. De Villiers Street which is proposed to develop a dedicated NMT route through the linear park is omitted from the conceptual plan, map 5.7.

According to Respondent 3 (2013) “it would be necessary to revitalise that area from an urban design perspective and everything else should be revitalised as well. The linear park cannot do the only thing because the houses adjacent to the linear park would also need to be reconstructed or there would be bigger houses needed or apartment blocks. That connection was only considered because De Villiers Street is the only road with the biggest road reserve in the neighbourhood, in South Africa. So it made sense to take away all that tar and to make it a park but that would be in dream land”. This would create problems of accessibility to houses adjacent to the proposed linear park.



Map 5.9: Highlights a section of the precinct plan that does not provide NMT paths.

Source: Base map used from IYER, 2014:84 and then analysed by author, 2014



Map 5.10: Provide further connections through NMT routes to BRT route, open spaces and social cluster
Source: Base map used from IYER, 2014:84 and then analysed by author, 2014

5.4 Conclusion

This chapter has provided an analysis and evaluation of the theories guiding the Strategic Area Framework for the Turffontein Development Corridor with regards to the proposed implementation of the development in the final TDC document. Essentially many of the theoretical concepts discussed in this research and present in the spatial policy of the City of Johannesburg are absent in the proposed implementation. In essence the analysis conducted by Aurecon in the draft 2 TDC was in depth however as the Respondent 3 (2013) suggested “what is in the analysis gets watered down in the conceptual framework” and gets misplaced.

The evaluation of this chapter established that the spatial framework was unsuccessful in the proposed Rea Vaya BRT route. Not only did it not connect the main attractors of the study area (employment and residential) it also did not propose the most adequate route for a trunk BRT system, as many of the roads are too narrow. There was also no attempt in the proposal to integrate all the other modes of transportation, as the city officials had discussed in the public meeting, especially the use of the existing Metrobus routes. How the integration would occur between non-motorised transportation (NMT) and the proposed BRT network was also not explored sufficiently. The final document’s cross section of a trunk route did not take into consideration the NMT priority

lanes nor was their mention of how the walkability of the new developments increase, either through the widening of sidewalks or improved public infrastructure. All of these lapses were present in precinct level, as many of the principles of TOD and NMT were not adequately conveyed.

Perhaps the numerous omission highlighted in this analysis could have been caused by the timeframes given to the consultants. According to Respondent 2 (2014) “all the time frames are politically driven because every time we met with the City of Johannesburg, the Mayor wanted a number of things. Basically it was impossible because you get the same amount of time to do one focus of study in six months, where you would only focus on transport, MNT, land use, property studies and you would get eight months to do only that. Basically we were tasked in nine months to do NMT, infrastructure, everything it was basically 11 work streams. In the end you have no money, no time and they asking you to solve stuff that if you isolate it you would spend 6 months and ask R2 million just to solve that.” In addition to this “the city was more worried about how the houses would look, and about 90% of the things you propose, like the infrastructure we proposed, they are not going to do” (Respondent 2, 2014).

In conclusion the City of Johannesburg “have not thought it through, they have got these wild ideas and concepts and they throwing them in and putting money to it and that is what I find such a pity. There is good capital investment now going into the implementation of something which has not been properly thought through” (Respondent 1, 2014).

Chapter 6

Conclusion and Recommendations



6.1 Introduction

This research report was focused on the evaluation of how the Strategic Area Framework for the Turffontein Development Corridor integrated the concepts of corridor development, transit-oriented development (TOD) and non-motorised transportation (NMT). This was achieved through a discussion of the principles used to implement these theories. In addition, the research also provided a discussion of how the spatial policies of the City of Johannesburg have utilised these theories in their policies. Nevertheless, a discussion of the current characteristics of the Turffontein Development Corridor study area was provided in order to assist in the evaluation of how these theories shaped or influenced the final conceptual framework for the study area. In essence this research provided an insightful perspective of the manner in which the City of Johannesburg translates its policies into the Strategic Area Framework through the use of the previously mentioned theories. In addition, the manner in which decisions were taken with regards to which strategic proposals and possible interventions would be used was enlightening as it provided an understanding of how the decisions were taken and the final conceptual framework established.

This chapter will provide an overview of the outcomes encountered in this research as well as provide some recommendations that could possibly improve the Strategic Area Framework (SAF) for the Turffontein Development Corridor (TDC). This will be followed by a discussion of several limitation encountered during the process of this research and perhaps provide a choice of suggestions for future research.

6.2 Overall Outcome of the Research

Chapter one fundamentally provides the overview of why this research was chosen, how the research would be conducted and what were the existing literature on the chosen research. Essentially there is no literature on this research as the Corridors of Freedom is a new spatial policy in the City of Johannesburg. In addition the final document of Strategic Area Framework for the Turffontein Development Corridor was only approved on the 4th of September 2014 and the precinct plans are still being compiled and therefore there is still no implementation of the project. This chapter also discusses the research methods for this report, as it is an evaluation research were it analyses if the policy has informed another policy or project and if this project would be worth pursuing. A chapter description is then provided in order to understand how the evaluation will be carried through.

The literature review is discussed in chapter two where it unpacks the understanding of the theoretical concepts of corridors, transit-oriented development (TOD) and non-motorised transportation (NMT). Essentially a corridor development “seeks to promote intensity, to encourage non-motorised and public transportation, to encourage a mix of activity, to promote small businesses, to pursue vigorously greater integration, and to improve equity and convenience” (PPDC, 2007: 26). “It is about the integration of the elements of public structure to create a logic to which a wide range of decision-makers can respond in their own interests, while improving the public benefit. It builds on and reinforces existing opportunities, while also creating new ones” (PPDC, 2007: 26). These principles are also present in the notion of TOD. “NMT has to be seen as a crucial partner to public transport and not merely an affordable option for those who cannot afford other modes. This transition will require commitment and bold decisions in the policy, planning and social spheres” (Culwick, 2013: 14).

The third chapter of this research report provided a discussion of a number of spatial policies in the City of Johannesburg. The policies encompass the Joburg 2040 Growth and Development Strategy, Integrated Development Planning 2012/2016, Spatial Development Framework for Johannesburg 2013/2014, Strategic Integrated Transport Plan Framework for the City of Johannesburg, Framework for Non-motorised Transport 2009, Corridors of Freedom, and Strategic Area Framework of the Turffontein Development Corridor. Essentially this chapter was trying to answer the sub question of *“how are the elements of corridor development, transit-oriented development and non-motorised transportation present in the various spatial policies in the City of Johannesburg?”* These policies were discussed in order to understand how these spatial policies used these theories to guide the City’s future development. Fundamentally all the spatial policies discuss these theories, however some place more emphasis on one than another. The Joburg 2040 Strategy is a strong promoter of the need to invest in mass public transportation in order to integrate a separated city. The theories of TOD and NMT are addressed in all the spatial policies, however greater emphasis is given in the Strategic Integrated Transport Plan Framework and in the Framework for Non-motorised Transport, specifically for NMT. In addition, these spatial policies facilitated the evaluation of how these policies and their theories influenced the Strategic Area Framework for the Turffontein Development Corridor.

The chapter also tried to answer the question of *“which spatial policies informed or influenced the Turffontein Development Corridor?”* One of the most enlightening results from this evaluation was that the SAF for the TDC was influenced by the Corridors of Freedom policy and since there was no mention of the necessity to develop NMT, the TDC policy also made little mention about the

importance of the pedestrian and cyclist. This was also evident as neither policy discussed the importance of providing integration between all modes of transportation, and between transit stations and NMT. Unfortunately, although the SAF for the TDC was influenced by the theories of corridor development and TOD, some of the critical elements that make these concepts function efficiently were not present in the TDC policy.

Chapter four provided a descriptive contextualisation of the Turffontein Development Corridor study area. The location of the study area was discussed in terms of its proximity to the Johannesburg CBD, approximately 1km from the northern boundary and 7km from the southern boundary. This proximity was identified as being the driving factor for the selection of this area as one of the City's Corridors of Freedom. Even though it was established that the study area is extremely well connected in terms of the existing movement system (national and municipal highways) there is still a lack of strong north-south and east-west connections and is affected by a large amount of through traffic. This chapter fundamentally tried to discuss the current characteristics of the movement patterns and the state of existing public transportation (Metrobus) in the study area. It was concluded that although the area is serviced by the Metrobus the transport stops are inaccessible and poorly served as they have a low frequency rate.

The chapter also provides a discussion of the final conceptual framework and implementation plan from the SAF for the TDC. They were discussed in order to understand how the SAF for the TDC had utilised the concepts of corridor development, TOD and NMT in the Turffontein Precinct area. How these theories were utilised on the conceptual framework was evaluated in the following chapter.

The fifth chapter of this research report provided the evaluation of the case study of the Strategic Area Framework for the Turffontein Development Corridor. The chapter tried to answer the question of *"how have the principles of corridor development and transit-oriented development been integrated into the proposed strategic framework for the Turffontein Development Corridor?"* Fundamentally this question was answered through the evaluation of the principles from the three theories discussed, the key respondent interviews and the minutes from the public participation process. The evaluation of these elements established that many of the principles from the theories were absent in the proposed implementation plan. One of the main findings in this evaluation was that the principles were absent not because of a lack of understanding of the study area but because of the short timeframe to complete the analysis, coupled with the situation that the proposed interventions suggested by the consultants were dismissed by the city officials.

The main flaw in the proposed final conceptual framework was the preferred Rea Vaya BRT trunk route that according to consultants will not be able to be implemented in many parts of the route identified as they are too narrow. The absence of integration and NMT in the policy section of the SAF for the TDC was evident in the final conceptual framework. Another question answered in this chapter was if *“the pedestrians and cyclists (non-motorised transport) integrated into the proposed strategic framework for the Turffontein Development Corridor?”* There was no mention of the need to integrate the various modes of transportation or what was meant by providing NMT routes and integrating them. These omissions became increasingly evident in the Turffontein Precinct area where not even the mixed land uses were identified around transit stations, and this is one of the principles of all the policies, including the SAF for the TDC refer to.

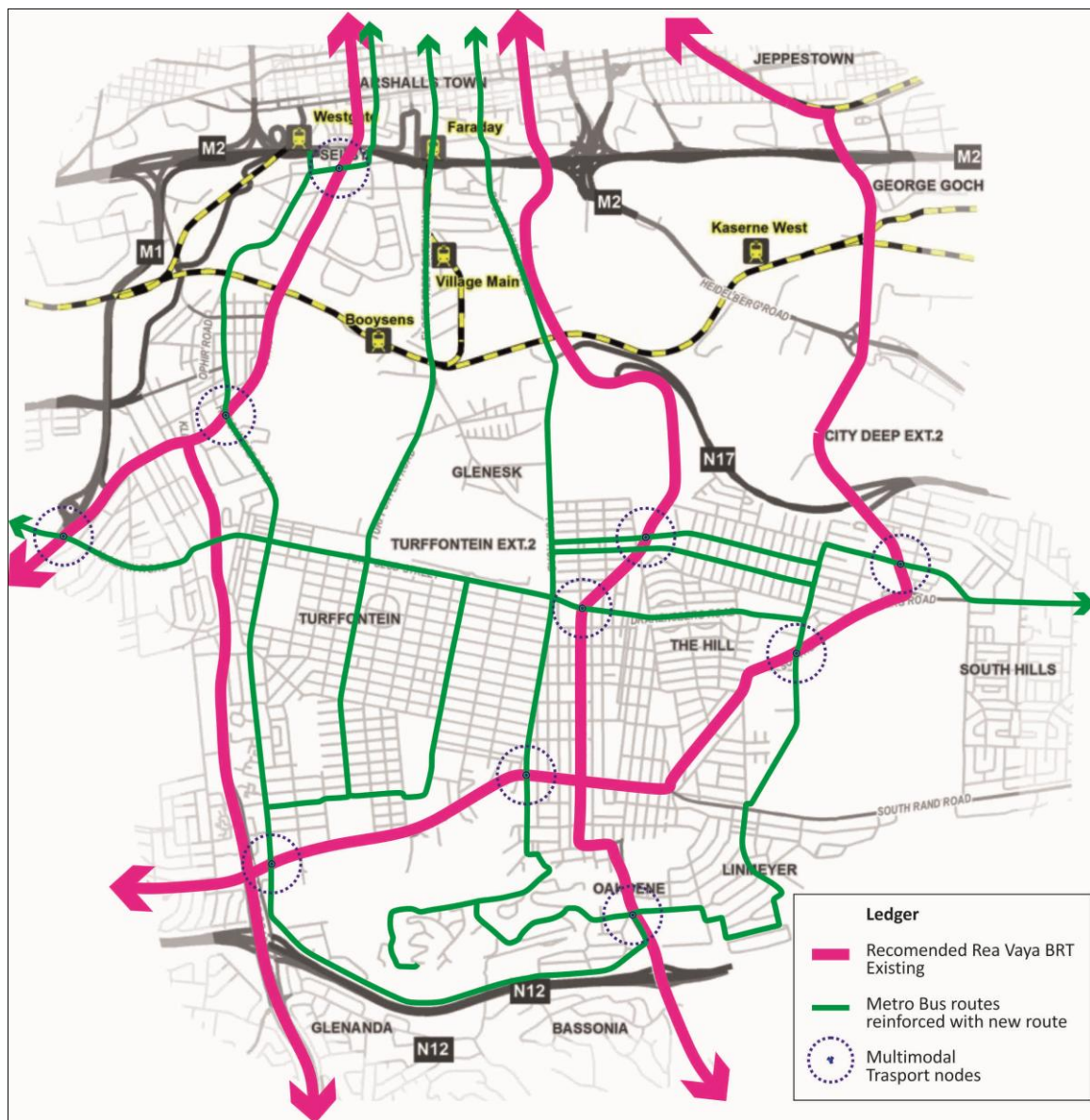
6.3 Recommendations

One of the main outcomes from the evaluation of the proposed public transportation routes identified in the final conceptual framework for the TDC was that the proposed BRT trunk route was not appropriate for the study area. There were a number of flaws around this proposed route. The route is described as being a loop that does not provide accessibility to all the key attractors in the study area. The proposed trunk route will not be able to be developed regardless of the future increased densities, the road reserve is not wide enough, as analysed in chapter six. It is therefore recommended that the proposed trunk BRT route be re-examined.

It was analysed on map 5.3 that the proposed BRT route by the SAF for the TDC does not align with the routes identified for SPTN and Rea Vaya BRT routes from the Strategic Development Framework and the Strategic Integrated Transport Plan Framework, map 3.2 and 3.5 respectively. Perhaps the starting point of a new route should be focused on aligning the identified routes from the spatial policies in the City of Johannesburg. Map 6.1 provides the recommended route. It took into consideration one of the elements suggested by Respondent 2 (2014) that *“the trunk route would make sense if you connect it to the south of the site to Alberton. This would make sense in the long term as it would later join up with the proposed BRT route in Eukereleni”*.

Respondent 1 (2014) also suggested that *“if you talking long term thinking and planning in terms of the infrastructural investment why not take it down to Riffle Range Road. Rifle Range Road has a massive road reserve all the way. Kliprivier Drive is a total system and along it you have the Booysens node, the Southdale node, you got your housing areas, Coloumbine Avenue, all along here*

and create your transit orientated nodes of development, you got the road reserve put it in here with non-motorised transport and public transport systems”.



Map 6.1: Recommendations of the possible future Rea Vaya BRT and Metrobus routes with multimodal transport nodes to service the Turffontein Development Corridor

Source: Base map used from Iyer, 2014: 35 and then recommended by author, 2014.

Fundamentally these two suggestions are in line with the recommendation proposed in map 6.1. Essentially this recommendation suggests that a Rea Vaya BRT route would be provided in the study area. However, instead of confining it within the study area, as the final conceptual framework suggested, it provides those regional connections discussed in the spatial policies. As discussed in chapter 4 majority of the through traffic of the study area originates from the residential areas south of the N12, therefore if the city is trying to promote the usage of public transportation and create a

shift away from the use of private vehicles then the Rea Vaya BRT system must access the areas that are car orientated. This is fundamentally the reason why three north-south connections were recommended, and as mentioned by respondent 1 creating a BRT route through Comaro Street down towards Meyersdale could provide a future connection with the BRT system in Alberton.

This recommendation also suggests that the existing Metrobus service remains, with only some new proposed routes. Essentially the Metrobus would serve as a feeder into the Rea Vaya BRT system as well as compliment and access the area that would be more difficult with the BRT infrastructure. Therefore it would require that the level of service be increase as well as improve the conditions of bus stops and the public infrastructure around it, in order to make it pedestrian and cyclist friendly. The Rea Vaya BRT system would be a commuter corridor whereas the Metrobus would service activity and some local corridors. This recommendation would facilitate the initial integration of two main modes of public transportation with the provision of multimodal transport stations where they intersect. This would be the stepping stone for at a future creation of a network for the minibus taxis. Respondent 1 (2014) suggests that more thought should be given to “a far more efficient taxi system. Let us create a more efficient taxi system which is also more flexible. The south is old city, narrow streets small blocks. Let us fit taxis into existing infrastructural limitations and at the same time we would be upgrading a fundamental element of our transportation system and use the main roads as main movement spines”. The NMT network would work along the BRT routes and Metrobus routes with a number of local connections increasing the accessibility to social and education facilities. Focus should be given on providing wider sidewalks with dedicated cycle lanes, the improvement of public infrastructure (lighting, seating, pedestrian crossing, green landscaping and shelter with bicycle facilities).

At the same time there is also a strong belief and recommendation that the TDC, at first, would require an improvement of the basic infrastructure. “There is not enough water, the electricity network is 100 years old so even if you don’t do anything in Turffontein and if you just do the stuff you suppose to do in the area, and in terms of the degradation of the infrastructure of the area and the public environment. If you just fix that, then the rest of area will take care of itself. You don’t have to force every single thing” (Respondent 2, 2014). Respondent 3 (2013) expressed a similar view stating that “Turffontein needs a boost, it needs infrastructure. If you revitalise all the parks, upgrade it to the standard it needs to be, make all the bus services that are there currently to run in a more frequent manner. Because if there is improved services, improved everything then development would happen on its own. You don’t need to identify densities, if you identify parks, public spaces, to meet a level of service. people go to where services are good. It’s the best cycling

route. I asked one of the city officials “what if you took out all the densities in this document and upgraded the schools, public services, upgraded the sidewalks and the street lighting? What then would happen? Wouldn’t densities happen in those areas because people react to what is there?”

6.4 Research Limitations and Potential Future Research

Unfortunately the research process experienced a number of limitations. Essentially these limitations were based on the absence of key interviewees, quantitative data and detailed design precinct plans.

A number of key respondents initially identified as potential interviewees were not available. Initially the key respondents were supposed to be city official, consultants and ward councillors. Unfortunately many of the city officials I emailed were unable to assist me but did refer me to Krishni Gounden, the person responsible for the Turffontein Development Corridor. Regrettably Krishni Gounden was away for a few weeks and was unable to assist me, an interview date was then made but due to external events the meetings never took place. This caused a limitation on the research as I was unable to get a better understanding of how the City of Johannesburg viewed the TDC and their opinion of what was being proposed. Unfortunately I was also unable to get hold of any of the four ward councillors that fall within the study area, nor did any of them reply to my emails. This caused a limitation because I was unable to understand how the ward councillors, that know the area, felt about the proposals by the City. Due to these limitations it was necessary to make use of the minutes taken from three public participation meetings about the TDC in order to enrich my research about the different questions and points raised by community members, the city officials and the consultancy agency present.

It proved difficult to access any quantitative data for the area. Initially it was identified that quantitative data was necessary in order to understand the movement of residents in the study area based on the type of transport movement preferred and what was the purpose of their trip. Unfortunately all the data that was available on transportation was predominantly municipal, provincial or national. On the other hand the census 2011 at a ward level did not provide any information of the transportation of people. Later into the research I was able to speak to someone from the GCRO that would be able to provide me with data at the ward level for the wards identified in the TDC. Unfortunately due to the need for release forms I was only able to get the data on Monday 20th of October, and due to time limitations I was unable to analyse the data and incorporate it into my research.

Another limitation in the research was that initially I believed that the final SAF for the TDC would provide more detailed precinct design plans that would allow my research and evaluation to be based on the principles of my theoretical concepts. Unfortunately the final document remained conceptual, even at a precinct level, and this limited the research. Especially in terms of analysing NMT, as table 3.1 and 3.2 would provide an appropriate evaluation of how the principles outlined were incorporated or not into the design of TOD and NMT. Nonetheless, this limitation for this research could provide the basis for a future research based on analysing how the precinct plans in the TDC have incorporated or not the principles laid out in the spatial policy of the City of Johannesburg based on TOD and NMT.

6.5 Will the focus on Transit-Oriented Development integrate the various modes of transportation as well as cater for the needs of Non-Motorised Transportation in the Turffontein Development Corridor?

In conclusion the research identified that the Turffontein Development Corridor does not integrate the various modes of transportation. The SAF for the TDC did not refer to the need of integrating all modes of transportation or the need of integrating transit station with all modes of transportation, especially NMT. This was evident through the analysis of the spatial policies of the City of Johannesburg as well as in the evaluation of the proposed conceptual framework and implementation plans for the TDC.

Essentially there is a need to “address corridors and movement as an integral part of city life” to “enrich our activity spines, corridors or other movement patterns to be more than simply the movement people in cars, but the movement of people with cars and people without cars” (Jordaan, 2003: 10). However there “must be caution in assuming a new ‘one size fits all’ approach and then applying this to all urban arterials” these “urban arterials differ according to the prevalent design philosophy, and some urban arteries do not offer the same built form potential” (Curtis and Tiwari, 2008: 8).

Nonetheless it must also be noted that “transit-oriented development is not a panacea” even though it is considered that “it has the potential to contribute to improvements in all the areas mentioned above. More intensive mixed-use development alone can allow an increase in walking and bicycling within the neighbourhood; when a transit connection is added to the mix then auto-free travel to other parts of the metropolitan area become more feasible” (Belzer and Autler, 2002: 1).

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8. Annexures

8.1 Policy Comparison Table

Policy in the City of Johannesburg	Main Concepts	Principles of Corridors	Principles of Transit-Oriented Development (TOD)	Principles of Non-Motorised Transport (NMT)
Joburg 2040 Growth and Development Strategy	<ul style="list-style-type: none"> Invest and scale up mass public transportation Improve connectivity and affordability of public transportation Transportation is a vital element to increase the integration of a divided city there is a lack of integration between different modes of public transportation Need to integrate various modes of public transportation Reduce the usage of private vehicles and support a shift towards public transportation Modal shift between private vehicles, BRT buses, bicycles and walking Rea Vaya BRT system provides opportunity for corridor development and TOD in many nodes Improve access to key infrastructure through appropriate design Provide or improve access to social amenities with 1hour walking distance in neighbourhoods Active street edges Improve gaps in public transport Improve linkages of green spaces Provide multi-modal transport 	<ul style="list-style-type: none"> Only mention that the Rea Vaya BRT system provides opportunities for corridor development 	<ul style="list-style-type: none"> Only mention that the Rea Vaya BRT system provides opportunities for transit-oriented development 	<ul style="list-style-type: none"> Urban fabric provides pathways and streets for cyclists and pedestrians Need appropriate infrastructure Wider sidewalks Dedicated bicycle lanes Bicycle storage facilities Lay byes for public transport

Policy in the City of Johannesburg	Main Concepts	Principles of Corridors	Principles of Transit-Oriented Development (TOD)	Principles of Non-Motorised Transport (NMT)
	<p>infrastructure with mass transit interventions</p> <ul style="list-style-type: none"> • Transport nodes with mixed-uses • Provide investment in areas for NMTs • Eco-mobility • Prioritise pedestrian over car 			
Integrated Development Planning 2012/2016	<ul style="list-style-type: none"> • On-going expansion and extension of the Rea Vaya BRT • Restructuring and integration of all modes of public transportation • Increase focus and support for cycling and walking • Focus less on the construction and maintenance of roads for private vehicles • Focus more on the construction of complete streets for residents who walk and use public transportation • Compact city by improving infrastructure for TOD • Improve public transportation • public transportation nodes • spatial integration • investment in public infrastructure on mass public transportation • promote NMT and support cycling 	<ul style="list-style-type: none"> • Key priority transport corridors • Identify Turffontein as a relevant node and corridor 	<ul style="list-style-type: none"> • Using BRT as a catalyst to promote cycling and walking • Integration of all modes of public transportation network • Universal access to mass public transportation and integrate multiple nodes • Knit urban form together through mass transit along corridors that strengthen connection • Corridors with inclusivity and high intensity mixed-use developments • Appropriate urban design of complete streets • Improve accessibility, walkability and safety of the urban form and streets • High-rise residential development growing 	<ul style="list-style-type: none"> • Cycling and walking • Complete streets • Improve accessibility, walkability and safety of the urban form and streets

Policy in the City of Johannesburg	Main Concepts	Principles of Corridors	Principles of Transit-Oriented Development (TOD)	Principles of Non-Motorised Transport (NMT)
			around transit nodes gradually decreasing in density and height	
Spatial Development Framework for Johannesburg 2013/2014	<ul style="list-style-type: none"> Public transportation to promote inclusive access to the city Attention to transit-oriented development (TOD) guidelines Support an efficient movement system Multi-modal transportation and land use patterns that support public transport and pedestrian movement Improve existing public transport infrastructure Invest in Rea Vaya BRT, Strategic Public Transportation Network (SPTN) and NMT Increase accessibility Nodal development Increase the accessibility and proximity of public transport to nodes 	<ul style="list-style-type: none"> Initiating and implementing corridor development High volume transport routes that connect major activity centres and nodes Regional and inter-regional accessibility Provide various modes of movement High-density mixed land uses Maximising already dominant movement flows Variety of road hierarchies (activity and mobility spines) connect to open spaces and all interconnected through nodes 	<ul style="list-style-type: none"> Well defined and legible urban environment Highly accessible Variety of land uses are concentrated and serviced Contained urban form Focused on transportation, movement pedestrian orientated Urban infrastructure (pedestrian networks, squares and parks) Strong pedestrian connectivity to improve access of nodes for pedestrians and public transport users Reduce dependency on private vehicles 	<ul style="list-style-type: none"> Support cycling and pedestrians
Corridors of Freedom	<ul style="list-style-type: none"> Transit-oriented development Maintain and improve existing infrastructure Expanding new infrastructure Appropriate facilities 	<ul style="list-style-type: none"> Corridors Corridor transit-oriented development Developments along transport corridors 	<ul style="list-style-type: none"> Restructuring the city Quicker and easier connections to jobs and homes Located on transport 	<ul style="list-style-type: none"> No mention of NMTs

Policy in the City of Johannesburg	Main Concepts	Principles of Corridors	Principles of Transit-Oriented Development (TOD)	Principles of Non-Motorised Transport (NMT)
	<ul style="list-style-type: none"> • Spatial integration • Well planned transport arteries linked to interchanges • Extensive public transport network • Transit stations and stops • Mixed-use development • High-rise residential development growing around transit nodes and decreasing gradually in density as it moves further away • Compact urban form is the most efficient • Active streets with attractive environments for walking and cycling • Complete streets that are safe • Discourage private vehicle transport • Control vehicle traffic through traffic calming and reduce traffic speeds 	<ul style="list-style-type: none"> • Provision of transport (Rea Vaya BRT) will enable fast, safe and affordable mobility along the corridors • Well planned transport arteries • High intensity movement corridors • Dedicated transport stops • Productive land uses and economic activities • Reduce private vehicle use • Promote public transport • High-density housing 	<ul style="list-style-type: none"> • Provide public transportation (Rea Vaya BRT) to increase mobility in a safe and affordable manner 	
Strategic Integrated Transport Plan Framework for the City of Johannesburg (draft 2013)	<ul style="list-style-type: none"> • People-centred transport system • Provide integrated transportation • Improve accessibility and mobility through improve public transport system • Promote usage of public transportation that is safe, high quality, affordable and accessible • Mass public transportation (Rea Vaya BRT) 	<ul style="list-style-type: none"> • Efficient and accessible public transport systems along development corridors • 	<ul style="list-style-type: none"> • Large investment on public infrastructure – mass public infrastructure as the backbone • Strong high-frequency public transport corridors • Residential density and mixed-use development along corridors • Identify public transport 	<ul style="list-style-type: none"> • Cycling and walking • Best mode of transport for convenience trips and short distances • Increase number of learners that cycle to school safe • Create dedicated network of high quality pedestrian and cycling routes • Integrate cycling at public

Policy in the City of Johannesburg	Main Concepts	Principles of Corridors	Principles of Transit-Oriented Development (TOD)	Principles of Non-Motorised Transport (NMT)
	<ul style="list-style-type: none"> • Integrate BRT with other modes of transportation • Promote usage of NMT • Compact multi-nodal city form • High-frequency public transport routes connect to high-density nodes • Mixture of land-uses and high density • Identification of TOD precincts • Access to NMT • Universal accessibility of transport infrastructure and public transport • Provide adequate transport infrastructure 		<p>corridors</p> <ul style="list-style-type: none"> • Development of integrated transport hubs and nodes • Improve pedestrian and cycling environments • Encourage NMT by decreasing long trips and increasing number of short-distance trips 	<p>transport nodes</p> <ul style="list-style-type: none"> • Increase availability of bicycles • Complete street guidelines • Provide passenger information • Sidewalks to public transport facilities • Stops • Stations • Interchanges
Framework for Non-motorised Transport 2009	<ul style="list-style-type: none"> • All forms transport movements that are human powered – walking and cycling • Improve universal access • Promote cycle and pedestrian friendly city • Preferred mode for short distances • Dedicated network of high quality pedestrian and cycling routes • Integrate NMT with other modes of public transportation 	<ul style="list-style-type: none"> • No mention 	<ul style="list-style-type: none"> • No mention 	<ul style="list-style-type: none"> • Separate cycle and pedestrian paths from motorised traffic • Cycle paths • Apply urban design standards • Safety by design (lighting, signage, etc) • Prioritise cyclist and pedestrian movement streets • Identify safe walking and cycling routes to school • Shared shelter • Electronic signage for the use

Policy in the City of Johannesburg	Main Concepts	Principles of Corridors	Principles of Transit-Oriented Development (TOD)	Principles of Non-Motorised Transport (NMT)
				of cyclist on a lane
Strategic Area Framework for the Turffontein Development Corridor (FINAL)	<ul style="list-style-type: none"> Well planned transport arteries Medium- and high density housing along transport arteries and around transport hubs Transit nodes or precincts Invest in bulk infrastructure Expand and improve public transit infrastructure and facilities Supported by social infrastructure Reduce the use of private vehicles Most efficient urban form is compact, mixed use Extensive public transport network with high intensity movement corridors Attractive environments for walking and cycling Dedicated transport corridors Re-stitch the city together using TOD Build a new city along and around mass transit movement lines 	<ul style="list-style-type: none"> Key public transport corridors Transit corridors that carry large numbers of people Corridor development Origin and destination driven Made up of a number of movement systems with stations in walking distance Streets that link to different movement systems Nodal areas where cross streets and major corridors intersect Function as mobility and accessibility Rea Vaya BRT backbone of public transport 	<ul style="list-style-type: none"> Vibrant mix of high density residential development, office, retail and recreational spaces Walkable precincts anchored by transit facilities Along transit corridor Transit nodes Hierarchy of TOD centres (not all are transit hubs or nodes) compact and mixed-use Vibrant mix of land uses Prioritised pedestrian orientated connectivity Reduce use of private vehicles Road network laid out in an open grid topology Convenient transit stops and stations (walking distance radius 400m-800m) 	<ul style="list-style-type: none"> Provision of walking and cycling movements Design for safe walking and cycling with sufficient facilities and attractive streetscapes

8.2 Theory and Policy Characteristics

Characteristics	Corridors	Transit-Oriented Development (TOD)	Non-Motorised Transportation (NMTs)	Spatial Policies in the City of Johannesburg	Strategic Area Framework for Turffontein Development Corridor
Land Uses	<ul style="list-style-type: none"> • Provide wide range of land uses • Mixed or fixed • 'string-on-a-bead' • Focal points or catalytic projects along a route • Density 	<ul style="list-style-type: none"> • Increase access of mixed-use residential or commercial area 	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • High-density (intensity) mixed land use developments • Land use patterns that support public transport and pedestrian movement • Variety of land uses are concentrated and serviced 	<ul style="list-style-type: none"> • Mixed use • Vibrant mix of land uses
Mode of Transportation	<ul style="list-style-type: none"> • Private vehicles • Trucks • Various modes of public transportation • Mixture of these modes • Wide range of options for transportation and movement • Interconnection of different modes at corridor intersections • Transport interchanges allow movement and access of pedestrians and commuters • Hierarchy of activity along the corridor • Require small corridors 	<ul style="list-style-type: none"> • Variety of choices of transportation • Centred on a form of public transportation • Reduce private vehicle dependency • Increase number of transit riders • Provide effective modes of non-motorised transport 	<ul style="list-style-type: none"> • Cyclists • Walking • Multimodal transportation • Reduce private vehicle dependency • Supports the use of public transportation 	<ul style="list-style-type: none"> • Reduce the usage of private vehicles • Support shift towards public transportation • People-centred transport system • Promote NMT • Pedestrian orientated • Support cycling and walking • Provide investment for NMTs • Modal shift • Prioritise cyclist and pedestrian movement streets over private vehicle • Increase focus and 	<ul style="list-style-type: none"> • Well planned transport arteries • Invest in bulk infrastructure • Expand and improve public transit infrastructure and facilities • Reduce the use of private vehicles • Dedicated transport corridors • Key public transport corridors • Transit corridors that carry large numbers of people • A number of movement

	<p>(predominantly pedestrian corridor) that intersect and feed main corridors</p> <ul style="list-style-type: none"> Corridor interchanges should increase pedestrian movement (development or location of primary generators) Integrate land-use and transport Increase or maximise accessibility and mobility Increase modal choice and modal integration 			<p>support for cycling and walking</p> <ul style="list-style-type: none"> Less focus on the construction and maintenance of roads for private vehicles Key priority transport corridors Variety of road hierarchies (activity and mobility spines) connect to open spaces and all interconnected through nodes Well planned transport arteries linked to interchanges Identify safe walking and cycling routes to school 	<p>systems with stations in walking distance</p> <ul style="list-style-type: none"> Streets that link to different movement systems Nodal areas where cross streets and major corridors intersect Public transport and pedestrian spine Prioritise pedestrian oriented connectivity
Public Transportation	<ul style="list-style-type: none"> Increase use, efficiency and quality 	<ul style="list-style-type: none"> Improve public transport Quality public transit facilities and services Public transport station Surrounded by high-density development High service quality Is frequent Connects social amenities and places of work Increase accessibility 	<ul style="list-style-type: none"> Upgrade public transport Provide bicycle share schemes 	<ul style="list-style-type: none"> Invest, scale up and improve existing and future mass public transport and infrastructure Improve connectivity and affordability of public transportation Expansion and extension of BRT (catalyst) Strategic Public Transportation Network 	<ul style="list-style-type: none"> Extensive public transport network with high intensity movement corridors Rea Vaya BRT is the backbone of public transport

				(SPTN) <ul style="list-style-type: none"> • Provide adequate transport infrastructure • Increase number of learners who cycle to school • Increase availability of bicycles 	
Physical Form	<ul style="list-style-type: none"> • Characterises its function • Mobility, movement and transportation corridor • Access or activity corridor • Development corridor • Activity spine • Activity strip or street 	<ul style="list-style-type: none"> • Compactness and contained • Small activity nodes • Transit centre with a diverse mixed-use development 	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • Nodal development (identify TOD precincts) • Public transport nodes • Transit stations and stops • Compact city by improving infrastructure • Compact multi-nodal city form • Contained urban form • Development along transport corridors • Active streets for walking and cycling 	<ul style="list-style-type: none"> • Transit nodes or precincts • Compact and mixed use • Corridors function as mobility and accessibility • Hierarchy of TOD centres (not all are transit hubs nor nodes)
Forces of Attraction	<ul style="list-style-type: none"> • Land uses • Type of entertainment • Single, dual or multiple attractor • Multimodal corridor or strip attractor • Intensity of corridors can also cluster or agglomerate (based on their accessibility) 	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • Attractive open spaces 	<ul style="list-style-type: none"> • Land uses • Residential • Educational facilities • Social facilities • Employment 	<ul style="list-style-type: none"> • Origin and destination driven

	<ul style="list-style-type: none"> • Activities that generate movement (schools, transit stations, high movement interchanges) • Must provide activities and land uses on both sides of the corridor • Safety of pedestrians crossing the corridor • If the corridor is too wide it must be 'pinched' or narrowed 				
Connectivity and Linkages	<ul style="list-style-type: none"> • Link places and nodes • Interaction and connectivity between nodes within the corridor and on its extremes • Increase accessibility 	<ul style="list-style-type: none"> • Connect with city-wide network of transport corridors 	<ul style="list-style-type: none"> • Accessibility is fundamental in public transit nodes • Develop high quality NMT networks • Create pedestrian linkages between public transport and NMT networks 	<ul style="list-style-type: none"> • Identify public transport corridors • Improve access to key infrastructures and social amenities • Improve linkages of green spaces • Corridors to strengthen connection • High volume transport routes that connect major activity centres and nodes • Increase accessibility, mobility and proximity of public transport to nodes • Regional and inter-regional accessibility • Strong pedestrian 	<ul style="list-style-type: none"> • Provision of walking and cycling movements • Road network laid out in an open grid topology to increase mobility • Streets that link to different movement systems

				<p>connectivity to improve access of nodes for pedestrians and public transport users</p> <ul style="list-style-type: none"> • Dedicated network of high quality pedestrian and cycle routes 	
Integration	<ul style="list-style-type: none"> • Make transport sustainable by integrating it with land uses (mixed) to reduce travelling • Encourage the development of urban environment that promotes walking and cycling • Integrate land use planning with transportation <ul style="list-style-type: none"> • Designed through spatial planning strategy, provides at various scales land use and transport network 	<ul style="list-style-type: none"> • Transport with land uses 	<ul style="list-style-type: none"> • Motorised and non-motorised transportation • Create multimodal change • NMT networks and public transportation 	<ul style="list-style-type: none"> • Transportation is vital to increase integration • Integrate all modes of public transport including NMT • Integrated transport hubs and nodes • Provide multi-modal transport infrastructure with mass transit interventions • Spatial integration through the development of corridors • Integrate multiple nodes • Integrate cycling at public transport nodes 	<ul style="list-style-type: none"> • Integrate the city using TOD
Density	<ul style="list-style-type: none"> • Minimum density of uses • Generate high density of people 	<ul style="list-style-type: none"> • Highest housing densities located closest to transit centre • Mixture of housing types • Density decreases as it 	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • High-rise residential development around transit node and then gradually decrease in density as it moves further 	<ul style="list-style-type: none"> • Medium- and high-density housing along transport arteries and around transport hubs • Vibrant mix of high

		spreads out from centre <ul style="list-style-type: none"> • Mixture of land uses 		away <ul style="list-style-type: none"> • Residential density and mixed-use development along corridors 	density (residential development, office, retail and recreational space)
Walkability	•	<ul style="list-style-type: none"> • Walkable, high-quality pedestrian environment • Pedestrian friendly • Integrates landscaping • Remove any barriers that hinder the walkability • Sidewalks should provide adequate space • Pedestrian infrastructure 	•	<ul style="list-style-type: none"> • Improve accessibility, walkability and safety of urban form and streets • Pedestrian orientated 	<ul style="list-style-type: none"> • Attractive environment for walking and cycling • Walkable precincts anchored by transit facilities •
Urban Design Principles	•	<ul style="list-style-type: none"> • Compact and transit supportive • Encourage infill and redevelopment along transit corridors • High density development should occur 100-150m from the transit station • At 150-500m density begins to decrease from transit station • 500m until the end of TOD area densities decrease further • Pedestrian-friendly 	<ul style="list-style-type: none"> • Adequate parking facilities for bicycles • Restrict car access to certain areas • Reduce parking bays • Adopt complete street design 	<ul style="list-style-type: none"> • Active street edges • Provide pathways and streets for cyclists and pedestrians • Wider sidewalks • Sidewalks to public transport facilities • Dedicated cycle lanes and paths • Bicycle storage facilities • Lay byes for public transport • Apply urban design principles • Design using complete streets 	<ul style="list-style-type: none"> • Convenient transit stops and stations (walking distance radius 400-800m) • Design for safe walking and cycling with sufficient facilities and attractive streetscapes •

		<p>street networks</p> <ul style="list-style-type: none"> • Walking to a transit station is appropriate if it takes about 5min or about 500m • Avoid long blocks • Decide appropriate location of parking supply • Public spaces the focus of development 		<ul style="list-style-type: none"> • Universal access to mass public transport and public infrastructure • Pedestrian networks • Squares • Parks • Control private vehicle traffic through traffic calming and reduce traffic speeds • Stops • Stations • Interchanges • Separate cycle and pedestrian paths from motorised transport • Safety by design (lighting, signage etc) • Shared shelter 	
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8.3 Minutes from the Public Participation – 9 October 2013



DRAFT MINUTES

FIRST ROUND PUBLIC MEETING HOSTED BY THE CITY OF JOHANNESBURG (COJ): STRATEGIC AREA FRAMEWORK (SAF), TURFFONTEIN DEVELOPMENT CORRIDOR

1.1 PUBLIC MEETING AT EUREKA HOUSE, SPRINGFIELD, 9 OCTOBER 2013

PUBLIC MEETING	VENUE	TIME	TOTAL PEOPLE ATTENDED
9 October 2013	Eureka House, Springfield	18h30-21h00	26 [Refer attached attendance register]

1.1.1 PROGRAMME

TIME	SUBJECT	PRESENTER
18h30-18h40	Welcome, introductions and rules of the meeting	Facilitator, Mr Tebogo Sebege (TS): Aurecon SA
18h40-18h50	Opening address	Executive Director, Development Planning: Mrs Yondela Silimela (YS)
18h50-19h10	Introduction to the Corridors of Freedom concept	Assistant Director, City Transformation: Mrs Krishna Gounden (KG)
19h10-19h40	Presentation on the Strategic Area Framework & Nodal Intervention Strategy	Mr James Scheepers (JS): Aurecon SA
19h40-20h30	Question and answer session	Facilitator, Mr Tebogo Sebege and project team
20h30-20h50	Way forward for the project word of thanks	Director, City Transformation: Mr Herman Pienaar (HP)
20h50-21h00	Meeting closure	Facilitator, Mr Tebogo Sebege: Aurecon SA

1.1.2 ISSUES RAISED DURING QUESTION SESSION AND RESPONSE

[Note not all commentators identified themselves prior to raising their question, in these instances no commentator details have been completed]

[For purposes of simplifying reading, issues and responses have not been captured verbatim]

ISSUE	COMMENTATOR	RESPONSE
Does the plan propose to extend the Joburg CBD further south, with reference to housing, businesses and so forth? What measures have been put in place for the proposed	Vathiswa Nangogo, resident	(HP) What we are trying to achieve is to take look at the movement corridors and so move job opportunities and the places where people live closer to each other. Higher density environments will be supplied with the necessary public amenities such as restaurants,

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ISSUE	COMMENTATOR	RESPONSE
walkways? How long is it going to take for this project to roll out? Why is the timeframe mentioned in the presentation so long? My concern is that over such a long time the community, their needs and their environment will change, will this not influence the whole project.		shops, dry cleaners. The plan aims to make sure that the connection between the inner city and places like Turffontein are far better. (HP) We talk about high density but actually what we envisage with the plan is creating a better urban environment to live in, and being able to walk within a pleasant and safe environment. In this sense safety is a key issue, therefore measures such as the overlooking of buildings and ensuring eyes on the street at all times as part of the design is an important aspect of the plan. CCTV cameras may be used along the cycle lanes which will be linked to the emergency response unit. We also anticipate that the more people use these walkways and cycle lanes the greater the chances for community policing. We also welcome inputs and ideas on how to ensure that these areas are safe and are used by the people. (HP) The SAF is considered a long term project. Within the next seven years there is a high probability that a lot of the development can take place. From the City's side in terms of putting the public amenities in place, the walkways and certainly some of the densification it is considered to be feasible within the next three to seven years. Within the shorter term period there is quite a lot that can be done. A lot of the development will also rely on the opportunities that the market offers, the City can only develop so much and provide the infrastructure but the rest will be reliant on other sector development and on developers coming in or owners of properties re-developing their properties into higher densities. That depends a lot on the economic situation and the demand for these types of developments. Our projections in terms of the housing need within Johannesburg and the growth of the population within Johannesburg shows a great need for housing. Different housing types for different income groups will need to be provided for. The approach to the roll out is one of growth and management, where we

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ISSUE	COMMENTATOR	RESPONSE
		<p>put in infrastructure to sustain development, and if the developments accelerate the infrastructure programme will be accelerated. We hope to be far enough with the project to include the initiatives that the Council will be responsible for into the next three year budget. Once that is done we will be able to communicate to the public what the interventions and projects will be over the next few years.</p> <p>(YS) In terms of the long term planning you noted that things will change over time and we will need to sit down and reevaluate the plan when that happens. The true test of a responsive government is to see how easily it is willing to change when circumstances change.</p>
<p>From the presentation it does not seem as though you have taken into account the provision of educational facilities. The plan proposes densification but the existing schools are already at capacity. Another concern is the provision of health amenities. The existing institutions are already very stretched and will be unable to deal with the massive densification proposed.</p> <p>In terms of the Rea Vaya proposed down Main street the proposal should consider connecting to the South Rand Hospital as this area is an important node.</p> <p>What about the existing urban management issues we have in this area. There is a lot of highjacked housing and a lot of drug dealings, how will the City deal with these problems when moving forward with the project.</p> <p>Talking about property by-laws, I know Council approved the draft private property by-law for public comment, but I have not seen anything to date in the public domain for comment. Where can we view this document</p>	Councillor T Meyers	<p>(HP) In our calculation of densities we tried to balance the densities which are proposed with the capacity of the public transportation system and also with schools and clinics and other social amenities required. In the calculations and project proposals we aim to accommodate these and will look at what land the City needs to assemble to ensure that these facilities can be provided. The schools are a bit trickier in the sense that it is a Provincial Government competence and that we need to engage with them to ensure that they include this on their programme as well. But from the City's side we do not want to leave it to a decision that must be made from Province's side that may or may not happen, but our whole approach here is that the roll out of the project needs to happen as a comprehensive package, so that as the densities are created that the public facilities are in sync with those.</p> <p>(HP) The other issue with the schools is that a normal high school currently requires about 4 hectares, this type of model of schooling within a higher density environment is just not viable. Different school concepts need to be considered where there would be shared sports fields and that the actual school building may be multi storey.</p> <p>(HP) The issue regarding highjacked housing and slumming goes hand</p>

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ISSUE	COMMENTATOR	RESPONSE
<p>for comment.</p> <p>Another issue is when the inner City gets cleaned out, that spill over takes place towards the South and West of the City and then we get affected by it.</p>		<p>in hand with the issue regarding the mind-set of the people. How do we go about changing the mind-set? The City requires the community's help with this process of changing mind-sets. The City can change the urban environment and the way that it functions but we require input on educational programmes, campaigns etc. that can assist with changing the mind-set of the people. The City's view on the existing slum housing and overcrowding is that it proves that there is a definite need for the provision of housing that must be satisfied. The thinking is that with re-development and with appropriate housing typologies the City can start satisfying the housing need and at the same time work with law enforcement to start sorting out the problem of illegal occupancy.</p> <p>(YS) There is a concern that the highjacked buildings is not simply about a shortage of housing but because of a criminal element so the City is interacting with SAPS in this regard to determine how to deal with the issue.</p> <p>(YS) Turffontein is one of the six priority areas identified for law enforcement in terms of planning control and building control, and with the provision of housing, by-laws can be enforced as the City does not run the risk of having evicted people that have nowhere else to go as there is no other housing available for them.</p> <p>(JS) Some of the urban management issues can be addressed with ownership. Rental property constitutes a significant portion of the properties in Turffontein. But with the introduction of various housing typologies there could be a shift from rental to ownership, and when you own a property that ownership brings about a change in mind-set.</p> <p>(JS) In terms of the BRT, the BRT which we are talking about initially</p>

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ISSUE	COMMENTATOR	RESPONSE
		<p>starts off as a feeder route it is not in the order of a trunk route such as you see on Empire Road. However the population growth and density increase in the future may warrant the transition of the route from feeder to trunk. From a geometric perspective in terms of road reserve requirements the City has to work within a certain bound and we need to keep that in mind. With the framework we were thinking about a BRT trunk route for the future, so the selection of routes were done on a geometric road reserve basis. In terms of accessing certain key land uses such as the hospital referred to, that is where the feeder services such as Metrobus will play a role and the non-motorised transportation system. The accessibility to these facilities will not be compromised by the BRT.</p> <p>(YS) I will obtain your details and provide you with feedback on the by-law and where it can be obtained or viewed for comment.</p>
<p>It is a grand plan, congratulations. In my humble opinion there is a major shortcoming though, has the City considered the mind-set of the people in the area where the plan is proposed. The people in the area have a different mind-set. With all respect many people in the area have a slum mentality. An example of another area is for instance Hillbrow which was once upon a time a place where I could walk, smartly dressed in the evening. It was clean and neat. Unfortunately people with a different mind-set moved into the area and turned it into a slum. The proposed plan is fantastic but until we train the population to change their way of thinking, this plan will go nowhere.</p>	Errol Clarke, resident	<p>(HP) The issue regarding hijacked housing and slumming goes hand in hand with the issue regarding the mind-set of the people. How do we go about changing the mind-set? The City requires the community's help with this process of changing mind-sets. The City can change the urban environment and the way that it functions but we require input on educational programmes, campaigns etc. that can assist with changing the mind-set of the people. The City's view on the existing slum housing and overcrowding is that it proves that there is a definite need for the provision of housing that must be satisfied. And the thinking is that with re-development and with appropriate housing typologies the City can start satisfying the housing need and at the same time work with law enforcement to start sorting out the problem of illegal occupancy.</p> <p>(JS)With regard to the change of mind-set there also needs to be a change in mind-set with the norms and standards which we are used</p>

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ISSUE	COMMENTATOR	RESPONSE
		<p>for the provision of urban schooling. Should the proposed densities come into play in the future years the current model of schooling and its space requirements is not sustainable, here a mind-set change will need to be introduced.</p> <p>(YS) With new people entering Johannesburg they do not know yet what it means to live in a specific area and the rules of engagement in that area and therefore we expect them to change. The truth is that many of us who are residents in Johannesburg also need to change, for instance I may no longer live in a 1000m² property with my own garden, I may now have to share gardens. Driving into town becomes a drudgery and I now need to take public transportation. So we often think changing is something others need to do, but we also have to look at ourselves and realise that we need to change. What concerns me though is when feedback from members of the public indicates that this change needs to be driven by the State. Essentially what the members of the public are saying to Government is help us change. Herman made the point that there are things that we as the State can do, we can invest in the public environment, we can invest in housing, but the change of mind-set is something that individuals need to take responsibility for, or within our organised structures, such as residents or ratepayers organisations.</p>
<p>Wish to commend the CoJ on the initiative as it is time that there is investment in the South of Johannesburg. Why does the plan not make provision for proposing a Gautrain route to the South?</p> <p>It appears from the presentation that all the proposed transport routes will send people to the centre of Johannesburg. The dynamics of the greater Johannesburg has changed and there are now very few businesses in the CBD, so why are all the routes focussed</p>	Alberto da Silva, resident and rate payer	<p>(HP) The Gautrain is a tremendously costly service to put in, although it cannot be excluded as a future option, but far into the future. If you look at the type of patronage that you need for that system to be viable then you really need a lot of people over a large area to make it happen. The Gauteng Province has had some discussions on a conceptual level about expanding the service.</p> <p>(HP) Regarding the transportation routes being focussed on the CBD a key consideration was that it links back into the existing transport</p>

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ISSUE	COMMENTATOR	RESPONSE
<p>on this area?</p> <p>I have a concern about the densification. Densification in Hillbrow turned it into a slum, densifying without amenities will be a problem.</p> <p>I notice on the maps in the presentation to the South of Johannesburg, the N2 going right through to the Turffontein racecourse there is a substantial amount of mining land that has not been proposed for development, is this land being considered at all for development?</p> <p>Another issue with the south is that it stinks as a result of the huge municipal landfill site, which has a very negative impact on the area. Is the Municipality considering closing the landfill site?</p>		<p>system. The inner city of Johannesburg is still the largest node in Gauteng and is a major place for work.</p> <p>(HP) Economic development to the South of Johannesburg is a key issue and we are looking at how we can create better opportunities for economic development which we will try to address further within the framework.</p> <p>(HP) The mining land is an area of great potential for economic development and job creation, we want to make sure that the link through that portion of land between the inner city of Johannesburg and the southern area like Turffontein is well established with proper links. I can however not give a clear answer on the development of the mining land as such development is complex due to constraints for instance in terms of the mine dumps and it is costly. But over time it will be developed. What we are trying to do now is provide the backbone and structure to ensure that when it is developed it develops in an integrated way.</p> <p>(HP) The intention is to put the framework forward to Council not only as a plan for development but a programme for development and the programme needs to be incorporated into the City's capital investment plan so that it goes hand in hand with the social and community amenities that need to be provided, so that within the programme within a particular area it will include both hard infrastructure and amenities as part of that programme to be budgeted for over the medium term.</p> <p>(HP) The issue regarding the municipal landfill site is noted and the City needs to consider it further to see what are the issues and the future of the landfill site and how the issues can be addressed.</p>

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ISSUE	COMMENTATOR	RESPONSE
		<p>(JS) According to our knowledge the landfill site still has about 15 years worth of operation. There is currently a methane gas to energy proposal associated with that landfill site which will then extend the operational period to around 15 years (8 years as a landfill site). It is likely that only in phase 3 of the SAF this site will be rehabilitated and re-developed.</p>
<p>I wish to support planning and interventions in the South of Johannesburg. I want to understand the process of consultation that has taken place up to date for the plan. How have you identified what you have identified, what consultation has the City undertaken. The City has met with us and we know about a consultation with Wits as they have a huge amount of research, have you taken that research into consideration? What is the process going forward as I am seeing a potential fatal flaw with comments such as 'let's shape this plan together' but the plan has already been drawn up.</p> <p>What options does that leave us with as the plan appears to be very fixed. You are talking about a Strategic Area Framework, but yet there has already been some detailed design? We don't even know the standard strategic area yet? What are the dynamics of the area, what do the people say, what does business say? Have you consulted with businesses in the area, what do they want will the plan allow them to carry on existing?</p> <p>I am seeing too many assumptions and not enough justification. You talk about a mind-set, with respect you don't understand the minds of the affected area, do you understand what the people want in this area? It</p>	<p>Andrew Barker, development consultant [ABDC/SOJO]</p>	<p>(HP) Your concern about the public participation is noted. For us this has been a very tight process. We have put forward a proposal to indicate that this is our thinking around the area and our understanding of the area and we want to know where we are on target and where we may have missed some things. It is at forums such as this and during the comment periods that we obtain that important feedback and identification of other options which may require further investigation. This is the opportunity to participate. We decided against the blank sheet approach and wanted to put something on the table for discussion and to elicit a response and to see whether you agree with it or not.</p> <p>(YS) With the current proposal we wanted to put something on the table for discussion. If there is anything which you have seen today which you think may be fatally flawed we rely on these meetings and interactions with the public to be notified of incorrect assumptions which we have made. It is incorrect to assume that we have no insight into how this area functions. Besides the research which gets done some of us are residents in this part of the City. If there is any part of the proposal which you believe in terms of your knowledge is fatally flawed you need to tell us. We need to determine whether we agree on the basic principles such as where there is public transportation it is most fitting to put the highest densities with mixed land uses. If we are in general agreement on that principle we are on the same page.</p>

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ISSUE	COMMENTATOR	RESPONSE
<p>concerns me that we are going to have a wonderful plan but it's just going to sit on a shelf and do nothing.</p> <p>We have massive housing problems in the area and yet none of these problem areas are touched upon in the plan. If you densify you should not take open space away and yet your plan identifies Moffat park as a development area. The residents do not want Moffat park developed for housing. What urban development plans and precinct plans have been considered, as I am aware of only one.</p>		<p>(HP) From the Mayors' announcement and from the Growth and Development Strategy [GDS] [developed towards the end of 2011], there was a clear pronouncement from the City that we want to fundamentally restructure the City so that it functions to a degree that is more inclusive, more integrated and to get closer to economic opportunities. From that came the notion of Corridors of Freedom as a means by which we can start to achieve these goals and those principles have been set out in the GDS. What we are trying to do now is give effect to those principles and describe what that would look like in real terms. We are trying to get to the areas where there are the highest potential for those principles to be realised.</p> <p>(HP) The concern has been raised that the plan may not materialise. The City's capital budget process for the next financial year has already started and that budget will determine the investment of the City over the next three years and needs to be submitted to National Treasury by March next year to be approved by May next year. What we are trying to do, is to prepare the plan in such a way that at least the broad or major investments that needs to happen, can be included in this round of the budget programme. Otherwise we effectively lose another year before we start with implementation. The National Treasury is forcing us to do three year budgets and they are becoming stricter requiring us to change the budget in the intermediate years, so you could potentially lose out on a three year period before you can start with implementation. There is therefore a matter of urgency related to the project and we are asking the communities to work with us within this time constraint and so we can elicit as much as possible input for incorporation into the plan without missing the gap for implementation. The Mayor is serious about implementing this plan and it is a golden opportunity that we need to try and work towards.</p>

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ISSUE	COMMENTATOR	RESPONSE
		<p>(HP) We need further clarification on the strategic aspects, we need further input on what they are and if there are any other proposals.</p> <p>(JS) This is a Strategic Area Framework and the terms of appointment was really to test the theoretical bounds of this densification and prepare a proposal which can be put on the table for discussion and criticism. The densification was tested from a public open space perspective, from a social amenities perspective to see to what extent the system could carry densification in future and what infrastructure needs to be invested in, to support those densities. In the same breath the Moffat park development although it falls just outside the study area, the Moffat park development application and its parameters were assumed as part of the densification scenario, we know that the application is still pending with a decision, but those design parameters were taken into account for testing the infrastructure capacities. If the Moffat park development does not go through it certainly means that there is more elasticity in those services which will be available. So it was included only to test the theoretical bounds.</p>
<p>A major problem in the area is filth and rats. Our parks are filthy, so we need to know what the Municipality is going to do about cleaning the area up. The residents have been responsible up until now for cleaning up, why is City Parks not cleaning up? We have a concern about safety, the service lanes are being used by thieves as easy entrance and escape routes. We want to know what the Municipality is going to do to keep us safe.</p>	Rosie Wallace, resident	<p>(YS) This issue will be taken up with the Regional Director of Urban Management and Environmental Health, because we have specific interventions which must be implemented around rodent control, and I will personally take the issue up with Environmental Health.</p>
<p>If you talk about densifying Turffontein is expropriation on the cards.</p>	Mrs Chane, resident	<p>(YS) Generally expropriation has a negative connotation, but it works on the principle of willing buyer willing seller. If the State requires</p>

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ISSUE	COMMENTATOR	RESPONSE
<p>Will the existing standing houses and homes be affected, what will happen to the people living in those homes?</p> <p>Have you considered all the people who are unemployed will they be able to afford the new housing?</p>		<p>your land for provision of a public service, but you are not prepared to sell, then the State can expropriate. However expropriation does not mean that your land gets taken away for nothing, a fair market price will be paid. It is simply a mechanism to force you to trade with the State when that land is required for provision of a public good/service. I cannot say expressly that there will be no expropriations as part of this proposal, but the principle is that your land may be needed for a public service and you will be compensated.</p> <p>(YS) If your property is situated next to the public transportation corridor the value of your property increases as you now have the option to rezone your property for a higher density so your home now becomes an economic asset. It will be up to the property owner to decide what they want to do with their property. Some properties may be of heritage value, in which case the heritage regulations will apply and you may have to seek authorisation from the heritage authority.</p>
<p>If you are trying to build a suburb and the infrastructure in the suburb is not working such as sanitation, the roads are poor and security is bad how can you build? What has happened to past project proposals which were made?</p> <p>The two week comment period is not acceptable</p>	Mr Pestana, resident	<p>(YS) One of the resounding comments we have received following our public meetings up to date is that it is very difficult to get people to see a long term vision when we are not sorting out the daily issues.</p> <p>(JS) The SAF focusses very much on infrastructure specifically at bulk level to provide water, sanitation and energy. Calculations have shown that about a 150 million Rand investment is required within the first seven years of the roll out of the project for sanitation in the Phase 1 period. Infrastructure has been taken into account in the planning.</p> <p>(HP) I accept that the timeframes are very tight. We are not asking people to accept the document within 2 weeks this is the first round for comments and there will be a second round for engagement and</p>

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ISSUE	COMMENTATOR	RESPONSE
		<p>comment. We will take the issues which were raised here today and at the following meeting and following comment period for consideration in finalisation of the document. If there are specific problem areas which the public identifies which requires further discussion and such discussion cannot take place at a forum such as this public meeting then let us know and we can arrange for such discussions to take place.</p>
<p>Wish to note that smaller local development companies do not get invited to tender for development. How can SMME's become involved in the development associated with the plan?</p>	Resident.	<p>(HP) The provision of jobs and economic opportunities is a critical issue which the City has recognised. Part and parcel of the Corridors of Freedom is to leave an economic footprint which is as wide as possible. Empowering local people and SMME's economically is an issue the City will consider further.</p>
<p>Provide us with the url where the SAF documents can be accessed.</p> <p>Further meetings have been proposed, will they be the same as this one or will different information be available.</p>	No details provided	<p>(KG) Draft SAF document will be available on City website – you will be notified once it becomes available;</p> <p>(KG) Round two meetings will be held on the 28th and 30th of October where more detail will be presented as well as the implementation plan identifying projects within the precincts to be rolled out and comments will be captured;</p>
<p>I question whether 2 weeks is a reasonable period in which to obtain comments from communities and community organisations and Councillors. I am very concerned about the public participation undertaken for this process.</p>	Andrew Barker , development consultant [ABDC/SOJO]	<p>(HP) I accept that the timeframes are very tight. We are not asking people to accept the document within 2 weeks this is the first round for comments and there will be a second round for engagement and comment. We will take the issues which were raised here today and during the following meeting and following comment period for consideration in the finalisation of the document. If there are specific problem areas which the public identifies which requires further discussion and such discussion cannot take place at a forum such as this public meeting, then let us know and we can arrange for such discussions to take place.</p>

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8.4 Minutes from the Public Participation – 14 October 2013



DRAFT MINUTES

FIRST ROUND PUBLIC MEETING HOSTED BY THE CITY OF JOHANNESBURG (COJ): STRATEGIC AREA FRAMEWORK (SAF), TURFFONTEIN DEVELOPMENT CORRIDOR

1.1 PUBLIC MEETING AT THE FOREST HILL HIGH SCHOOL, FOREST HILL, 14 OCTOBER 2013

PUBLIC MEETING	VENUE	TIME	TOTAL PEOPLE ATTENDED
14 October 2013	Forest Hill High School, Forest Hill	18h30-21h00	21 [Refer attached attendance register]

1.1.1 PROGRAMME

TIME	SUBJECT	PRESENTER
18h30-18h40	Welcome, introductions and rules of the meeting	Facilitator, Mr Tebogo Sebege (TS): Aurecon SA
18h40-18h50	Opening address	MMC, Development planning: Councillor Roslynn Greeff (RG) of CoJ
18h50-19h10	Introduction to the Corridors of Freedom concept	Assistant Director, City Transformation: Mrs Krishni Gounden (KG) of CoJ
19h10-19h40	Presentation on the Strategic Area Framework & Nodal Intervention Strategy	Mr James Scheepers (JS): Aurecon SA
19h40-20h30	Question and answer session	Facilitator, Mr Tebogo Sebege and project team
20h30-20h50	Way forward for the project word of thanks	Director, City Transformation: Mr Herman Pienaar (HP) of CoJ
20h50-21h00	Meeting closure	Facilitator, Mr Tebogo Sebege: Aurecon SA

1.1.2 ISSUES RAISED DURING QUESTION SESSION AND RESPONSE

[Note not all commentators identified themselves prior to raising their question, in these instances no commentator details have been completed]
[For purposes of simplifying reading, issues and responses have not been captured verbatim]

ISSUE	COMMENTATOR	RESPONSE
One of the things that haven't come into your design considerations is the environment. The environment should be a key design element. The GDS 2014 says that environmental sustainability shall lead development, and	Andrew Barker, development consultant [SOJO business and tourism]	(JS) We will ensure that in the project list for implementation that the EIA component is included and budgeted for. We have made an effort largely in relation to the non-motorised transport (nmt) to use some of the linear green open space in

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ISSUE	COMMENTATOR	RESPONSE
<p>here it seems that it came as an afterthought. Many of these studies and many of these design proposals should have a proper Environmental Impact Assessment [EIA] done upfront and this includes Rea Vaya. Rea Vaya got away without any EIA. It is important that it needs to be considered particularly in an area like this.</p> <p>I noted that it is proposed to lengthen the sprint lane on Wemmerpan, a huge amount of work has been done on that already. Rowing South Africa has done extensive studies on that and I don't think it is feasible.</p> <p>One of the things which happens too often with the plans is that there is no institutional structure or implementational follow through. We worked extremely hard with the Pioneer park/Wemmerpan plan to put together institutional structures for implementation and it relies very heavily on the leasing and the ownership and the tenants issues being resolved very rapidly. I would hope that this plan also looks at some sort of institutional structure and system going forward.</p> <p>There is a lot of potential in this plan and there is a very dynamic community with dynamic participants in the community and I think we need to look very carefully at how we can structure something as an on-going process to ensure that implementation does materialise.</p> <p>We need to look at upgrading, regeneration and revamping what we've got as opposed to building new stuff such as the Moffat park area. This is applicable to hard and soft infrastructure and social services. We have</p>		<p>the area and to incorporate that into the nmt. There are issues surrounding this for example maintenance of these spaces if they are not well maintained it could result in security issues, but the idea is to incorporate as much of the green open space in the nmt network as a continuous network, thereby adding to the maintenance of those areas by increasing the use.</p> <p>In terms of the Wemmerpan sprint lane we are aware that there are some feasibility questions about it, and that the feasibility studies are still on-going, we therefore borrowed from the UDF and included the feasibility study there and included costs for that. But if the outcome proves that it is ultimately not feasible, then so be it but we believe it is still on the table so we kept it in, rather than just losing that intervention.</p> <p>(HP) The difficulty with the environment in which we must operate is that you are working in 5 year political cycles interfaced every three years with a National election cycle and you are required to produce things in these timeframes. There is therefore no guarantee that direction won't change with the takeover of for instance a new mayor. In this case however there really is a lot of momentum which has been built up behind these Corridors. There is a lot at stake as we have already been given money for implementation, and we are not yet ready for it. We are scrambling around to get tangible projects that we can implement straight away. It is one of the few instances where as we are planning the money for implementation is being budgeted for. With this kind of political will it is really a matter of getting the institutional organisation well geared for the implementation. What we are really trying to do with these strategic plans is to put the building blocks in</p>

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ISSUE	COMMENTATOR	RESPONSE
<p>a basic framework already let's fix the existing up and focus management and maintenance on existing facilities as opposed to creating a new area which will also need maintenance and management.</p> <p>This area has been identified as part of the SOJO/SID network, and we have started with three areas, Gold Reef City, Ormonde Crown City and Crown. We have linked in as part of the Edcon Gold Reef City project to Penmore Towers.</p>		<p>place for this to develop. Although we do not own a lot of land within this area the intention is that the City will assimilate some land especially for the lower income groups and for social housing. It is about the creation of a framework and the structure for the private sector to latch on for development to happen. If you look at the over crowding taking place there is clearly a demand for housing.</p>
<p>What is the level of inclusivity in the implementation of this project? For example you talk about the provision of housing, what are the criteria for this housing in terms of affordability. In terms of the economic nodes proposed along the Corridors of Freedom, has inclusivity been considered here. For example we have informal traders, will they be included in the economic nodes.</p> <p>You have not talked about the social status of the area in your presentation, during a recent survey we did people talked a lot about the issue of crime in the area.</p> <p>Do you understand the demographics of the area and have you considered the impact the project could have on surrounding areas?</p>	Lulama student Ngoqwane, Wits	<p>(HP) The very concept of Corridors of Freedom (CoF) relates to the notion of inclusivity. From a housing perspective, we have been involved in a study which preceded the CoF called the Sustainable Human Settlements Urbanisation Plan, which has been approved by the City. During this work we dissected the housing market in terms of the different income levels of housing demand, what are the housing typologies that relate to those income levels. We then made allocations within strategic areas within the City to set particular targets for housing development within the City.</p> <p>We looked at the contribution of various areas within the City toward meeting that housing need overall, and we made sure that within these parameters there is a mix of housing typologies, income groups and so forth per area so that a pattern is not created where the poor is located in once specific area. The Corridors have also been allocated notional targets for housing and various housing typologies within the different income groups. What we are trying to do within these exercises is to see how far we can push those numbers. In terms of our trajectory for the housing need the lower income is the largest group which needs to be catered for. In certain cases the City is looking at assimilating strategically located land for social</p>

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ISSUE	COMMENTATOR	RESPONSE
		<p>housing which will mainly be rental stock which gets provided, but this will also depend on the mix of housing that we put into a particular area and testing the market to see who can provide the different housing typologies.</p> <p>(HP) Economic integration is equally important. In this sense we are trying to move away from the notion that the second economy means informal stalls that are put up, but to rather provide opportunity for these to have a rightful place in the total economy and so eliminate the segregation between formal and informal. We want to have the informal trade sector be a part of the form giving and design elements in this new City that we build. We want an inclusive economy within the Corridors and we are going to create opportunity for informal business, micro business and small business to find foothold within these areas.</p> <p>(HP) The key issue with getting a high density urban environment right relates to social and community amenities and making sure those bases are covered. Over the course of November we will have further discussion on the property side with SAPOA, the banking sector and with the education departments and fraternity to look at how we make sure that those facilities are part of the development.</p> <p>(HP) In terms of the design and the facilities we want to put in place a design for safety is key. With the roll out between UJ and Doornfontein we are looking at CCTV cameras as part of that pilot to make sure that we increase the safety. Hopefully that will be successful and we can roll it out with all the other nmt projects as well. But at the end of the day you can only do so much for safety through design and through a plan like this.</p>

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ISSUE	COMMENTATOR	RESPONSE
		Safety will to a far larger extent depend on community processes.
<p>Regarding the transport plan mentioned during the presentation, do you know what the ridership is on the buses?</p> <p>There is another mode of transport which I am surprised you did not mention in the presentation which carries over 50% of road users?</p> <p>Who is the non-motorised transport being provided for?</p> <p>The announcement for the meeting indicates the purpose of the meeting to be to defining the development vision, not to look at the plan.</p> <p>The City and Aurecon have been invited by Wits, more than once to come to the University to obtain the research and data following the transport surveys which were done on the streets.</p> <p>I have some issues pertaining to the presentation. With the housing typologies you said it could go up to 8 storeys in the provision you said maximum 6 please clarify.</p> <p>The 250 000 population that you have mentioned, if you do a simple population projection can you tell me how many years it would take to grow from a population of 80 000 to 250 000, it would be many years into the future passed the year 2050. If you have prepared the plan based on a population of 250 000 nothing will get implemented.</p> <p>If you have walked the area and looked at the housing in</p>	Aly Karam, Wits planning department	<p>(JS) According to NHTS 2004 the taxis do make up about 50% of ridership at present. From the SAF perspective by introducing the densities that we have in the plan we are theoretically testing the bounds of the different systems (energy, water, transport) and the recommendation for the BRT feeder route and eventually a trunk is based on densification. Currently the taxis play a big role but they will not be able to cope with the proposed capacities when the population starts hitting 250 000 and beyond. It is typically in that scenario that the taxis would take up ownership in the BRT. So it is with this in mind that the BRT is being proposed. Currently they will play the role that they are playing</p> <p>(JS) Initially the DOT always used warrants for the provision of nmt, so there had to be a minimum number of people walking before we could put in a bit of public infrastructure, but this process was abandoned in the mid 90's and the reason for that is that nmt infrastructure should form part of a quality urban environment and so the warrants were discarded.</p> <p>(JS) A lot of people are walking and the question for who this is, it is for everybody so we need to put those measures in place to ensure a quality urban environment.</p> <p>(HP) I note the point that there is an underestimation about the population figures. You may not agree with the census figures, and we take it that there are more people living here than what census says. We agree that it is a long term plan; I think it was certainly a shock for us to see that over the last decade Johannesburg has grown by 38% population wise. The</p>

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ISSUE	COMMENTATOR	RESPONSE
<p>the area you will become aware of the densities, your densities are incorrect, because you have not gone into the houses and talked to the people.</p> <p>The typologies which were presented have no relationship to urban City life. The pictures in the presentation are different to the architectural expressions.</p> <p>If the people of the area do not attend these meetings and look at the proposals and ask their questions it will create problems.</p>		<p>projections that we were working on were at a current population figure of about 3.8, turns out to be 4.4 so we were under by about 700 000 people. If this growth continues then I think you are looking at a 20 year period, however the point is less about the numbers. But more about what ever number it is and however quickly it happens how do we create the space for the City to be restructured in terms of the way it functions, where the people live and how the function within the City.</p> <p>The plan has been designed in a way, especially if you look at the infrastructure modelling that we are busy with now to see what those densities do or don't do, to get it to a point where there are critical cut off points for the provision of infrastructure and before you get to a second phase of infrastructure investment that the trigger mechanism for that is that you reach about a 80% development capacity before you start to release the next phase of development. An element of urban growth and management is being built into the plan.</p> <p>(JS) The 250 000 is a rough calculation on the tipping point between feeder routes and trunk routes, so we do not need to wait until we reach 250 000 before we intervene in the public transportation. The tipoff is really based on the finances, once the business plan and operational plan is prepared the actual tipping point between feeder and trunk will be calculated. I think there is an expectation that this plan will be everything to everybody, but it is not the ITP, its purpose is not to calculate in detail when the change between feeder and trunk comes in, it is just testing the parameters of the system in order to influence which direction we should be going in and when.</p> <p>(JS) In terms of the typologies, your point is well made. The purpose of these typologies and architectural designs are not</p>

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ISSUE	COMMENTATOR	RESPONSE
		<p>meant to be a blue print for what development should look like in the area. The urban design guidelines do allow a fair amount of room for the City to implement certain design requirements into the area. Each of these will go through the usual development process when the application comes in. The typologies play a role in visualisation, but it's not to say that those are the only typologies which will be allowed, once you review the draft document you will note that the design guidelines are a lot more flexible.</p> <p>(HP) Going forward we would like to set up a workshop with Wits to obtain the research and data which is available as this would be very beneficial. This needs to be done within the next 2 weeks.</p>
<p>Sustainability is about the social environment too. The presentations given and the plans proposed are great but there are hardly any residents who have attended tonight's public meeting, and they are the ones that need to comment on this plan. We have had interactions with residents and can provide information, so we need to see more detail as to what is being proposed.</p> <p>You need to be creative with your public participation, you need to go to the streets with your plans, present your plans and get ideas from people and obtain their comment. For instance of all the people we have interviewed recently about 90% of them utilise some form of public transport, very few are walking.</p> <p>Urban management is poor at the moment and there is not that much that needs to be done in these areas at the moment but yet the City is not coping with existing issues.</p>	Jen vd Bussche	<p>(HP) In terms of the public participation we would have preferred a lot more people at this meeting as well and we need to see how we can do it differently. We have done some interviews in the streets as well, to get some input. The idea is also that when the programme starts to roll out in terms of implementation that the participation process will continue.</p> <p>(JS) We have to become creative with the public participation, our initial intentions were that we would print out A0 plans that people could get involved with providing suggestions on the designs and contribute to what the urban environment should look like. But at the moment the public participation process seems to be focussed largely on urban management issues. So at this stage we are not even getting to the point where we are obtaining design input as the process is being overrun by other urban management issues. It is our intention to get more design input from stakeholders during the second round of public participation. The current plan is not cast in stone and the draft</p>

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ISSUE	COMMENTATOR	RESPONSE
<p>For instance broken water and sewer pipes. If the City can't manage with the existing small infrastructure problems how will the City manage a giant new plan?</p> <p>People should be involved at the beginning at the design process. When people own projects they take care of their projects.</p>		<p>document is currently available for comment. Given that the timeframe for implementation is so long into the future there will be on-going work on this plan. There will be opportunity to change the plan over time. Instead of starting with a blank piece of paper we have started with a design concept, a SAF concept which is on the table to be criticised.</p> <p>(HP) The issues around urban management are serious and the City has taken cognisance of it. This issue has been highlighted at all the participation meetings across all the corridors. We are looking at how to make urban management more effective especially within new high density environments. We are looking at changing our model so that it adapts better. We need high levels of collaboration with communities to resolve these issues.</p>
<p>You mentioned spearheading implementation, in theory usually these plans are spot on but when it comes to practise they do not unpack themselves as intended. I know that the Government does not own much land in the area, so since it is a long terms plan are there any small steps being taken to perhaps start to buy property.</p>	Muhammad Tayob, Wits student	<p>(HP) The difficulty with the environment in which we must operate is that you are working in 5 year political cycles interfaced every three years with a National election cycle and you are required to produce things in these timeframes. There is therefore no guarantee that direction won't change with the takeover of for instance a new mayor. In this case however there really is a lot of momentum which has been built up behind these Corridors. There is a lot at stake as we have already been given money for implementation, and we are not yet ready for it. We are scrambling around to get tangible projects that we can implement straight away. It is one of the few instances where as we are planning the money for implementation is being budgeted for. With this kind of political will it is really a matter of getting the institutional organisation well geared for the implementation. What we are really trying to do with these strategic plans is to put the building blocks in place for this to develop. Although we do not own a lot of land</p>

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ISSUE	COMMENTATOR	RESPONSE
		within this area the intention is that the City will assimilate some land especially for the lower income groups and for social housing. It is about the creation of a framework and the structure for the private sector to latch on for development to happen. If you look at the over crowding taking place there is clearly a demand for housing.
What are the criteria for the occupants of the housing developments? There are many people who are not earning any incomes.	No details provided	(HP) We have not set criteria yet, and it is not the place of the SAF to set criteria. What we have set within the framework are basically targets for the housing need which we are trying to address.
Will the affordable housing also be available to non-South African people. From our research we realised that the majority of people living in this area are not South African.	Thabi Mndawe, Wits student	(HP) The Turffontein area has historically been a reception area for migrants and it is still performing that same function today. Our whole approach to this area is that it could and should fulfil that function and that is why in our modelling we also push the rental market. Where people are non-qualifiers for purchasing, everyone qualifies to rent.
I am struck by the scale of the plan and I am wondering if the Corridors of Freedom will allow for anything that's not mega. Is budget available for the small interventions that can be made quickly within these political cycles you have referred to for instance fixing of the street lights, providing better bus stops etc.	Sian Butcher, Wits	(HP) Within big projects like this it is easy to lose detail. We are looking at the opportunities for small projects, we are definitely not excluding the smaller projects because those are often the ones that make a real impact on the ground. Going forward the capital programmes will be comprehensive in terms of the infrastructure that gets provided. A major emphasis is put on the public environment, it is in these areas where the detail of facilities big and small comes into play. It is in that sense where the better input we can get into what the need is and what would make a difference on the ground is significant.
Work on service delivery is being done every day and issues pertaining to service delivery are not what the purpose of the meeting is about as the meeting is discussing a new development.	Patrick Phosa, Region F, stakeholder management and liaison	Noted

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1.1.3 WAY FORWARD (MRS KRISHNI GOUNDEN)

- Further questions or comments must be sent to Krishni and Angeline as per the contact details provided in the information leaflets distributed at the meeting;
- Two more public meetings are scheduled for the 28th and 30th of October;
- The intention is to have the technical process completed by the end of November;
- Presentations will be sent to everyone on the attendance register and it will be placed on the City's website;
- Draft SAF document will be available on City website – attendees who completed the register will be notified once it becomes available;
- A 2 week comment period is provided following the upload of the SAF document, comments to be submitted to CoJ;
- Follow up Round 1 public participation meeting scheduled for 14 October 2013, which will be a repeat of this meeting;

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8.5 Minutes from the Public Participation – 24 March 2014



MINUTES

THIRD ROUND PUBLIC MEETING HOSTED BY THE CITY OF JOHANNESBURG (COJ): STRATEGIC AREA FRAMEWORK (SAF), TURFFONTEIN DEVELOPMENT CORRIDOR

1.1 PUBLIC MEETING AT EUREKA HOUSE, 69 MALBOROUGH ROAD, SPRINGFIELD, 24 MARCH 2014

PUBLIC MEETING	VENUE	TIME	TOTAL PEOPLE ATTENDED
24 March 2014	Eureka House, 69 Malborough Road, Springfield	18h00-20h00	24 [Refer attached attendance register]

1.1.1 PROGRAMME [Refer attached agenda]

TIME	SUBJECT	PRESENTER
18h00-18h10	Welcome and introductions	Facilitator, Tebogo Sebege (TS): Aurecon SA
18h10-18h30	Public Participation process to date	Angelina Ramahlo (AR) of CoJ
18h30-19h00	Revised Strategic Area Framework presentation	Paul Hanger (PH): Aurecon SA and IYER Urban Design
19h00-19h45	Comments and questions	Facilitator, Tebogo Sebege and project team
19h45-20h00	Closure and Way forward	Director, City Transformation: Herman Pienaar (HP) of CoJ

1.1.2 ISSUES RAISED DURING QUESTION SESSION AND RESPONSE

[Note not all commentators identified themselves prior to raising their question, in these instances no commentator details have been completed]
[For purposes of simplifying reading, issues and responses have not been captured verbatim]

ISSUE	COMMENTATOR	RESPONSE
One if the things that seems to have been forgotten or overlooked or just hasn't been mentioned, the word taxi was mentioned once by Paul, are taxi associations aware of this are they involved in it, what role would they play in feeding into a BRT type system because there has been opposition around the country where the taxi	James Welsh – Head Master St Martin's School	(HP) The issue with transportation in general and with this plan is quite tricky because our Transportation Department is currently busy with their integrated transportation plan process and these processes don't always sync up so nicely. In effect we are jumping a bit ahead of their game in terms of putting land use and high identification of uses forward and the proposal of

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ISSUE	COMMENTATOR	RESPONSE
associations haven't necessarily been all that friendly towards this massive capital investment that is going to put them out of business. If the taxis are involved are we going to have some kind of formalising of how taxis operate and pull in because at the moment they stop at roundabouts, they stop at streets and they block intersections in the downtown area, what is going to be done about all that?		the routes that we have made are now being taken into their transportation plan but as Paul said there are still quite a bit of evaluation and linking it into the overall transportation network that has to happen. They have also indicated from their side is that that starts to link into how the taxis and the taxi associations are going to be managed within the total network, a lot of the work has been done more on the Empire-Perth side in terms of sorting out that relationship with the taxis, but they indicated that in their process of the integrated transportation network that we deal with all the modes of transport within that process and then look at how it effects the framework on this side. At least the framework starts to provide a platform within which that further planning can in fact happen, it is a bit of an iterative process at the moment but certainly it is something that isn't being left out totally.
Firstly I want to find out on what basis was the route identified? The whole BRT route what was established and how was those streets identified and chosen above others? We would also like to know if the red bus, the hop on hop off, has been taken into account along the route. With regards to the opens spaces, Wemmerpan, is the development in the pan itself? For accommodation and densification and why is that and who have been consulting with the Wemmerpan tenants. I don't see anyone represented here and there are so many other open spaces where housing can take place instead of in the pan itself. Also the fact that it is 4 and 5 stories high in the pan, it is really blocking up a huge view to the water.	Nicky Vakaloudis – CEO: SOJO Business and Tourism	(PH) In terms of choosing the streets the process followed was a combination of technical aspects in terms of what would be required for it to operate as a system, but what became more significant was looking at the opportunities where that system could actually become a catalyst for redevelopment and regeneration in certain areas. A lot of the proposals around the alignment and the stations related to identifying areas that would benefit the most from that investment, in other words if we had to bring in a route with a station that station can have a positive impact on the surrounding area and it can lead to reinvestment in for instance commercial areas that may be in decline even at a localised area but it is certainly seen as a catalyst for investment and development in certain areas. It is a combination of looking at where it would work technically but also looking at where it would have the best impact or the most significant impact on investment in the area, and that varies across different areas. The other thing to consider as well is the

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ISSUE	COMMENTATOR	RESPONSE
		<p>catchment and looking at where that route and that stations could be placed to try to maximise the catchment or the settlement within a walkable distance of those stations. There isn't only one specific criteria there were a number of factors that were considered in coming up with that route. What is in this project is not a final BRT route what we are putting down is a proposal for a higher order public transport service in this area. That still needs to go through a process of proper planning and through that processes the issues of things like taxis would be looked at in that context as well. At this stage we have looked ideally at where that system should go and where the stops related to that system ideally should be placed for them to get the best response in that area. The final details of that system will be based on other factors as well like things like ridership numbers once they do the proper planning in that case, as well as things like constraints and where there are constraints then they may be part of the system that needs to be reassessed. At this stage it is a proposal for that and that could then be taken further in terms of more detailed planning.</p> <p>(PH) Wemmerpan is quite conceptual and the intend with the Wemmerpan development is to look at some development within the city's land holdings there and not in the pan itself and certainly not touching any environmental areas that may be sensitive. It is looking at almost an edge to the existing La Rochelle area and it would not be just a simple development ringing La Rochelle it would be a logical extension of that grid and it would ensure that access is maintained and views and things aren't compromised. As I indicated in that transect approach, what we have tried to show here and this isn't a final development plan, we have developed this sort of diagram to get a sense of the sort of numbers that could be</p>

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ISSUE	COMMENTATOR	RESPONSE
		<p>accommodated, we are cognisant to the fact that anything close to that edge needs to be sensitive further in one would have higher stories but certainly along the edges it would drop down. Again this is very conceptual at this stage and any plan or development on that side would need to go through other processes at a more detailed level. What has come out of the framework is the opportunity and the potential and also the city's investment plans for this park and there intend is to invest a significant amount of money in the park, so one is also looking at other opportunities around there. There would be a more detailed process that would be followed in that regard as well.</p>
<p>I was quite interested in the Booysens Transit-orientated Development (TOD) the station there by Wembley, around the corner from us and the attempt to uplift it, but right next to that is the municipal landfill site which will have a negative effect on your efforts. Do you have a plan to address or shut down the landfill site? Which is having a negative effect on the whole area not just the area that you are busy trying to spend money on?</p> <p>You are developing the subsystem but you are not going to be able to realise your investment because people don't want to be on top of a landfill site. There are odours and big trucks driving past and it is very industrial so the benefit and the investment, you won't have a market, open space and other transit going through there. I am not sure you will be able to achieve that with this huge landfill site sitting on the southern side of it, and I think it is something that needs to be addressed. I don't know why that landfill site is in the middle of town it is Turffontein, Rosettenville and they all border that landfill site and it is real problem, they chop down top star so</p>	Alberto Da Silva - Resident	<p>(PH) In terms of the landfill site the ideal is if we can close it down and move it to somewhere else, but the reality is that it is one of the key landfill sites that the city has at its disposal at the moment, and whilst we can't recommend that it must be moved what we can do is use this process to guide its future use. When it closes down one would need to look at what happens on that site obviously we are limited in terms of what can happen there, it is something that we can say it is no longer a landfill site let's use it for something else, we are very limited in terms of long term options for that site. One certainly wants to look at a scenario where there is certainty about what would happen and that we don't have at this stage because there isn't a date saying the site will terminate on this date or it won't. It is not an initiative that we can factor in as a definite.</p> <p>(PH) If one also looks at the initiatives proposed around the station they focus very much on the more localised activity, the movement in and out of that station and how we can on the one hand get it through to either the industrial areas or to Turffontein and the residential areas, but also specifically how we can use that energy within the station precinct itself. The</p>

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ISSUE	COMMENTATOR	RESPONSE
that you can see from town that there is a landfill site. Nobody likes to have a landfill site in their backyard.		landfill is a legacy that we need to deal with in this area it is not something that is going to be determined through this process unfortunately, there are a lot of other factors related to that landfill. (HP) To comment on the landfill, it is something that we will take forward and investigate a bit more, a landfill generally in the city is a major issue and a problem but there is a change in terms of the strategy of how to deal with waste in general and this should be part and partial of how we deal with it. I can't give you an answer now but it is certainly something that we will look at in more detail with the relevant agencies.
<p>What I don't understand is that you are going to spend millions of rands building something and you cannot even fix the potholes that are in all our streets.</p> <p>The second thing is why you have excluded The Glen there are hundreds of people walking down to The Glen every single day and there are no pavements for them to walk on, there are no bicycle paths and there are no taxis going down there, there is actually no transport.</p> <p>My biggest concern is the urban management, once again the potholes are notorious around here and nobody fixes them, nobody does anything, you moan, you complain and you phone but nobody does anything. How can you spend millions on this and you can't even fix the things right now.</p>	Phillip Venter – Resident	(PH) One of the issues that touch across a number of the questions relates to the scope of the study area. Now this ultimately is a corridor project even though there might not be a defined corridor at the stage but it is a framework really focussed on the area of influence of a potential corridor in that area and the role that investment in that area could play in terms of encouraging further growth and investment. The broader study area, yes it is a very large area, but when it comes to focussing we need to tie it down and we have gone through the thinking behind the actual route, the alignment of that route and the stations. That alignment really determines the more detailed focussed area of the corridor project and certainly one can say no it should go down to The Glen or it should go up to proposed developments further out. The bottom line is we've had to try to focus as far as possible on what is there in terms of the existing thresholds of support for such a system, obviously we need to get a system that works as much as it can with the population that is there and using that then as a basis for future growth and future densification over time. It still needs to work and it needs to serve existing

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ISSUE	COMMENTATOR	RESPONSE
		<p>communities in that area, it has focussed very much then on where those existing patterns of settlement are, where the existing opportunities are. It doesn't mean that The Glen isn't part of the bigger picture and certainly through investment in Non-Motorised Transport (NMT) we can have a look at it in a bit more detail, but investment in things like NMT are one of the areas where it would start to integrate these peripheral developments to the main focus area.</p> <p>(HP) The urban management issue are in all the corridors and all the densification areas and is coming up as a really serious issue. There is a process underway at the moment where the urban management department has been tasked to work out an urban management strategy and plan specifically for the corridor areas to see how we deal with that in a far better way than we have done up to now, to make sure that we actually provide the capacity and the systems within the city to be able to deal with it especially in the corridor and the high density areas, in a far better way. That is a process that is unfolding there is certainly a lot of emphasis on this there is a high scent of awareness that this is an issue that we need to tackle and make good with. Although a plan like this can't cover that issue as well it is an outflow of the plan and within the city we are acutely aware of that but it is not being addressed specifically within the plan as a solution.</p>
What I want to request from the city is that they should consider giving the youth and residents of those places where development will be taking place the required skills in order for those youth and residents to benefit on those developments.	Isiah – Resident	(HP) The issue about local residents being part and partial of the whole development process in terms of being able to partake in the development and the contracts that will go out for the upgrading and everything, that is also a central issue and we are working closely especially with the implementation agents, all of them have programmes for local business employment and empowerment that goes together with these programmes.

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		What we have also picked up in the other corridor sessions were there is an issue around the communication of those programmes and what must people do to partake in that, we have taken it up especially with the main development agent which will be the Johannesburg Development Agency (JDA) so that they go with a programme of communication, making sure that people are able to actually participate in the actual construction and project processes as well. I am sure it will happen in the Turffontein area as well.
<p>A question on the development within the park in the Wemmerpan area, it seems like a very unusual thing to place housing development smack bang in the middle of that space when there are spaces along the outside edges along that street that would be more appropriate for housing development, it is such an amazing open space and it would be a real shame to lose that open space as a public gathering space. So can I propose that that gets relooked at around which parts becomes housing and which parts are retained as public space?</p> <p>Questions around the taxis again I would like to follow up on the comment from Mr Welsh, when I spoke to the taxi associations late weren't aware of this process at all and I did try to find them this week but unfortunately I didn't try hard enough and I didn't get anyone here tonight. Why aren't they included in the processes, because it is too difficult, is it because it is better to involve them, from what we can understand from the discussions some of these developments may not happen for a number of years yet with so much pressure and money and political pressure being pushed on the Louis Botha and the Empire and Perth corridors, is it because this is going to take</p>	Jennifer van den Bussche – WITS	<p>(PH) The concern over the park and this also touches on an issue that Andrew brought up, whilst we might call it a Transit Orientated Development (TOD) it certainly doesn't take anything away from its strategic focus as a sports and recreational area, that is something that is accepted and something has been approved in the framework. Whilst there may be opportunity for new housing of the periphery of the existing settlements it doesn't change the focus at all of what the city sees the role of that area and it is certainly seen as a sports and recreation focus. A TOD doesn't necessarily mean that all has to be residential and the residential is a small part of that bigger picture, the investment in things like the facilities that will come with that are really the focus of that.</p> <p>(PH) In terms of the taxis, we have spoken about the whole notion of taxis and I think once the transport department actually go into more detail about the public transport alignment, the route, that interphase with existing operators be that taxi operators or bus operators would be through that process. Then one would be able to determine what the impact is and how they would feed into that system, it is difficult to go to a taxi association with a line drawn on a paper there needs to be details of what level of service what that level of service is</p>

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<p>some time, so we bring the taxis into it a bit later. It is very interesting because some of the developments I noticed in some of the diagrams in the document there are a lot of taxis that go east-west but those routes are not included in the document, it just seems that there isn't a great lot of engagement with any of the taxi drivers at all still although there is more than the last document, thank you very much for that.</p> <p>In relation to public participation, in November there were six of us around the table that weren't from the city and there was a discussion of there being a number of specific forums around business groups, taxi groups, traders etc. four of those people that were at the meeting said that they never heard of the meetings that were supposed to happen including the business forums, it would have helped to involve the small businesses and help to involve the migrant communities as well. We know that some of the migrant communities are not going to turn up to city venues in city buildings. What happened to that process, and now we only have two weeks to comment on this document, but we are still having meetings in a venue at night time where people without cars cannot access safely and cannot get home late at night, what is the proposal going forward with the public process and engaging people in commenting or is it because that it is not going to be implemented for some time, so therefore it is not really that urgent yet, let's do it later.</p> <p>The budget.</p>		<p>what it means in terms of passenger numbers for them etc. it is certainly a process that would happen in a lot more detail as the transport department focusses on the more detailed planning of that route.</p> <p>(HP) In terms of the public participation issues that has been raised, the business forum meeting certainly it is by no means a perfect process that we have run, but subsequent to the last meetings that we've had we have also looked at trying to analyse how will we in a more effective way be able to participate, we felt at this level, it is a fairly high strategic overall level there is a certain level of participation we can do at this level and a lot of more detail work will have to be done in any event after the approval of this plan and that it might be more appropriate at that detailed level to deal with localised and in a large extent informal communities in some cases but that we deal with those issues on a local level at more of a project level of detail. In a certain sense yes we have pushed that kind of participation out to look at it in a more detailed level of implementation as well we think it would probably be more appropriate and more meaning full at that level.</p> <p>(HP) The city run on a three year budget cycle, in terms of capital budgeting the next three year draft budget are being announced at the end of March by council then it will go through a city wide participation process and then the final budget gets approved at the end of May. In that three year projects has already been put into that budget in all three the corridors and in Turffontein as well, they are mostly concentrate on the upgrading of the public spaces, open space facilities, social facilities etc. as a starting point and also some of the engineering infrastructure requirements for the</p>

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Will we find out about that, which ones are being prioritised, which public spaces what sort of infrastructure, is that available for public comment as well?		densification that is envisage. Those programs are being lined up into the city's medium term expenditure framework as well. (HP) I can provide you with more detail specifically around Turffontein, it might be difficult to actually elicit that from the actual entities projects lists that will be published, so you probably will need a bit more detailed discussion around a map to get exactly to that, but we can.
The first question we must step back and look at what we are doing here. With respect I am seeing a very good urban design framework I am not seeing a strategic area framework, the study area that you have identified excludes the area up to the M2 and down to the N12 which would then include The Glen and I am just wondering whether this Corridor of Freedom (CoF) as we have raised right at the beginning should actually be reformulated in terms of focusing on the residential aspect and the east-west development corridor which is also identified as a CoF but a later priority then pick up the employment areas. And I mentioned in the first meeting there is a sort of grey overlap area, what concerned me is what we call it; a Turffontein strategic area framework and the initial study area which was put out, the focus is very inward bound and is not taking into account the surrounding areas and what is happening, but I am seeing a very interesting not necessarily an acceptable urban design framework. I know the devil is in the detail and it is possibly in the report, but certainly what we have been presented here again doesn't show how the bigger picture has been taken into account. How are the population distributions being taken into account, where are the population concentrations going to be to	Andrew Barker – Development Consultant – KLPSA – IPROP – SOJO	(PH) In terms of that bigger picture obviously what I have tried to do in this presentation is focus more on the changes that have happened subsequent to some of the previous work, there is that bigger picture and that bigger picture does acknowledge a lot of the things that are happening like the City Deep extension and Denver hospital etc. That study area is fairly focussed in terms of the proposals coming out in that area and it certainly wouldn't possible to tie in every initiative in that broader area south of the M2 for instance into what should be quite a focussed and strategic framework for supporting a future corridor in that area. (PH) The integrated open space, the Moffet Park area we haven't considered in detail in the specific proposals that is coming out of this, it is really a separate issue to this at the moment it hasn't been a focus of the corridor per say it hasn't been an influence in the corridor per say, we haven't changed anything that is currently being proposed in the Moffet Park area, there may be one or two of our maps that are a bit misleading and we will make sure that those discrepancies are firmed up for the final report. (PH) in terms of Wemmerpan the leases are still an issue and that is something that would need to be worked through, but

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support the social or are the social going to be the triggers for the population, in the globular sense we have gone straight down to building forms and shapes and things like that and I believe that that needs to be explored and discussed and be part of the thinking process. The question of the basis and logic of the route, again I must support what Nicky is saying and I hear what you are saying that this is sort of a first thrust, but again it would be informed by having a look at that strategic picture. What is a strategic area framework, because we do perhaps need to take it down to The Glen or perhaps swing it up into the City Deep area? I don't know if you are aware but there is a very large industrial development being planned just north of the N17 – City Deep Extension 4, and which we have mentioned and explained to the consultants when we had meetings with them and that hasn't featured anywhere in the plans and the employment opportunities and the economic opportunities. It seems to have taken a static picture of what we've got now, but where are the trends of development which would then support where we are going to with public transportation. If you take it up to the M2 you've got the Denver Hostel area, now is there a separate system looking at the Denver Hostel? There is a group of people who are needy, who are requiring good transportation access to employment opportunities and yet we are focussing on one small area. That is why I say we need to look at the strategic picture, what is the strategic existing and future trends for development.		again it needs to happen in that bigger context of Wemmerpan and its role in the city. It is not just a case of us wanting to put housing on it, it is a case of looking at Wemmerpan, looking at the facilities that are there, drawing on the existing framework that is there and looking at how one can actually start some of those projects to provision and there are projects indicated in the short term budget that start to do that. It is certainly not a case of disregarding of what was done in the past as I indicated the focus for that area is very much still on that role of a sports and recreation node for the area. What the focus on public transport does is actually broadens that in terms of getting people to access that a lot easier than before and also creating it as a significant node that corridor area. (PH) The linear park, the point is noted at the moment we focussed on the area between Rotunda Park and Main street we haven't considered the area west of Rotunda Park at this stage we can have a look at that but at this stage it is certainly not in the shorter term budgeting project proposals.

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<p>When we talk about integrated open space and the importance and you came out very strongly about the importance of open space and the pressure on these resources, I see a nice big green blob for Moffet Park but thereon it seems to be ignored either as open space or as housing areas. I have a fundamental concern about Moffet Park being turned into a high density housing area and taking open space away when we are looking at densifying this general area, and again I think we need to see the numbers, what is the open space provision, how is the housing and the density, what are the requirements of the anticipated population in this area from a strategic point of view. Therefore let's look at the resources and it goes to the Wemmerpan, this little glitch that you now say is conceptual but you must have some very definite thinking around it. The northern shore of the Wemmerpan for example, has that been taken into consideration? As that has raised its head again and that was a development that was squashed and now seems to be back on the agenda. Moffet Park and what is happening there we would be very interested because we saw that as an opportunity for the area as open space if we going to densify we are going to need open space.</p> <p>The vacant land for developable areas and looking at existing facilities and I think Mr Welsh will be well placed to give us some comment on school capacity in this area and the provision of schooling facilities. My understanding from some time back when I was involved in education in this area, there is a huge problem in terms of capacity and we've got to look at 'out of the box' thinking in terms of providing facilities for social issues</p>		

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<p>such as schooling. I think you touched on it but from what I am seeing we are not allowing for that expansion where are those expansion areas going to be? Again this is the existing where is the future and where are those areas going to be looking at?</p> <p>Looking at densification and intensification Moffet Park is not even coloured and I am very happy about that, but I am just worried that it is going to suddenly pop up and this report is being used to justify change in a spatial development framework and suddenly we have a new policy which puts housing all over that which is totally against what the people in the area actually want, never mind the legal process.</p> <p>I find it interesting that you talk about Wemmerpan being a transit orientated development. 2007 if I remember correctly we approved the Pioneer Park – Wemmerpan urban development framework, now has that been taken into consideration in terms of preparing the proposals in this area? A huge amount of work went into there, there were substantive and good quality public participation engagement in that process and we came up with a very reasonable and acceptable plan. The fact the city has done nothing with it because they can't sort out the leases in the area is another challenge. I really need to understand why we have got this shift to a transit orientated development and perhaps we need to rethink it because that was going to be a sports recreation – tourism type facility and now we are putting housing all over the open space and we are taking that away and I think we need an explanation why we have shifted away</p>		

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<p>from that approved policy and that approved policy would give us an opportunity to get to some implementation sooner rather than having to approve policy later.</p> <p>You talk about a linear park on the Turffontein local strategies, I assume that you are talking about that east west link that comes through the Rotunda Park but it is not shown in green, sorry it may just be a graphic issue but I assume you are turning that street into a linear park. One of the proposals that we have put and I don't know if it has been taken up and I certainly can't see it is this concept of the east – west should actually be stretched from Main road through to Kliprivier drive. Kliprivier drive is an initiative which we are leading with SOJO as a biodiversity corridor within which we hope to integrate public non-motorised transport facilities and although it is not a CoF it is another initiative, it is certainly going to provide additional transportation and facilities. I am not seeing that linkage across, again it comes from this inward focus and not seeing and understanding what is happening on the periphery on the outside areas because just on the other side of Kliprivier drive you've got industrial areas, you've got employment areas, you've got Southdown node and you go all the way down to Booysens with a very important economic node, again it has come down to this inward focus without looking at the bigger picture.</p> <p>Moffet Park is green under your local strategies for Rosettenville – happy with that.</p>		

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<p>You did mention though when you were talking of the eastern areas about new growth currently happening around the park edges and I would love to know what you are talking about on that.</p> <p>I can only endorse Mr Da Silva's concern about the refuse disposal site. We have huge problems with our members in that area and while it may have seized or may seize operations there will be a long lasting smell around that area which is not conducive to investment. We have tried to set up initiatives with the pick it up people to address that and in terms of their operations and clean up and everything else but unfortunately we have not been successful. If you can do something about this it would be great but I also know there are waste energy initiatives being looked at and those obviously could have some impact, but that is one hell of a mountain to move and put through a waste energy plants but certainly a magic resource. Again there is an initiative that is right in the middle of this area and how is that being taken into account? These initiatives that we put on the table are right up front I haven't had the opportunity to read through the report so I hope a lot of the details will be in the report, otherwise we will be putting them on the table again. Hopefully they will be taken into consideration because they will be happening.</p> <p>A lot of issues but there is a lot of questions that I feel needs to be answered, there is a lot missing and a lot more opportunities. You spoke about a lot of opportunities but I don't believe you have actually picked up some of the realities of opportunities actually</p>		

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<p>happening and that really does concern me.</p> <p>Comments – The advertising and promotion really needs to be looked at. Jennifer put through a whole lot of ideas right up at the front and I don't think any of those ideas were taken up and that is why we are getting upset, you have a different audience here that don't necessarily read newspapers, we've got to think of the target market and who we are trying to get in here and start to address them and adverts in newspapers which are cold clinical and totally uninformative are an absolute waste of time and money quite frankly. I am sure if you speak nicely to Laurelle because she is very accommodating if you do buy newspaper adverts space speak to her about some copy as well banner it on the local newspapers get them to banner it on their notices. If you bought the space that is fair enough but then give her some copy and ask her to help you actually promote it. I am sure she will come to party with it and the other local press will as well.</p> <p>The other thing is on the budget I was at Nasrec recently I was at one of the events there, I was appalled at the condition of that area we have these lovely pictures which are translated into projects and budgets but are then not maintained. I think part of the budgeting process must include ongoing operational maintenance budgets. Invariably what happens with respect all the capital stuff is done and everybody is gung over these wonderful pictures and projects put it in the ground and nobody looks after it. Nasrec is an embarrassment we have a world class facility and you can break your neck from within 200 m of the place, the paving, the landscaping it is</p>		

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<p>an absolute embarrassment and I happened to be taking some guests and it was really embarrassing. Please look at the capital budget but make sure the operational budgets are also there that the open space and the maintenance of these things are taken into account by the appropriate departments, otherwise it is a waste of time and investment money.</p>		
<p>What concerns me, yes it is easy to say the public participation is low but the advert was only put in a week ago I was speaking to Angeline two weeks before and suggested that we run it for two weeks but they didn't have budget. So how can you not have budget to put an ad when you want residents and people to attend and put their opinion forward. But yet there is going to be a massive budget going in this, I feel that the residents aren't a concern here and whatever is going to be done is going to be done irrespective of what we like or the people staying in the area like.</p>	Laurelle Williams - tameTIMES	(HP) The issue of an advert running for only one week, I think it is unfortunate that it happened like that but certainly it is not the intention to give people not enough lead time or to not have enough people here. My apology for that, we should have given more lead time for that but that is the way it played out.
<p>Comment – We acknowledge that most of the projects we identified that Paul shared whether it is Wemmerpan or the Linear Park, the upgrading of Rotunda Park most of those initiatives actually require a bit of lead time investigation engagements as Herman said on a much more detailed level so in terms of the three year capital planning we have pushed most of the projects out to the second and third year to start then. In some of the other corridors there are projects that are more ripe and ready to go because they had different planning processes beforehand. In Turffontein we will do some spade work in the meantime but you will probably start seeing some processes unfold in the second and third year of the medium term budget.</p>		

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<p>If this was a committee that was trying to organise a church bazaar in this building which is about as big as a fairly big church on a really busy road surely something like a banner across the front of the building so that people could see, because there must be thousands of motorists who have a huge role to play in this whole process in terms of being rate payers, entrepreneurs, factory owners, industrialists and so on, surely a banner on the front of the building saying there is a public meeting on such and such date, street pole advertising.. Newspaper advertising, today's newspaper is tomorrows wrap for fish and chips, one needs to elevate this whole thing so that this room is full. I do commend the city in using existing facilities; I hope there is no charge being made. I came to this building at exactly six o'clock and there were three police cars parked outside the front door was locked I waved in front of the door hoping that somebody would see me through the reflecting glass luckily somebody did and the security personal came to the door and said go round, that is not good enough we need this place full so that the city and everybody else involved understands the depth and the breadth of the feeling about all of this.</p>		

1.1.3 WAY FORWARD (HP)

- Providing your comments, written comments through on the actual document
- We have a suggestion for an Open Day, that we come to a venue such as this or any other venue that people may feel is more appropriate and that we will be available from 14:00 until 20:00, and all the maps and all the things will be there. If anyone wants to come in and talk a bit more about detail, specific areas and specific questions that they have, the team will be available to facilitate and answer questions. We haven't got a date for that yet but between the team we will sort out a date and we will inform the stakeholders. Suggestions for a date and venue are welcome.