The Planning Process Around an Integrated Transport Node/Station: Indingilizi

Nduduzo Nyanda

0601193Y

School of Architecture & Planning

University of Witwatersrand

Johannesburg, South Africa

Supervisors:

Prof Aly Karam

Prof Claire Benit-Gbaffou

A research report **proposal** submitted to the Faculty of Engineering and the Built Environment, University of the Witwatersrand, in partial fulfilment of the requirements for the degree of Masters of Science.

14 June 2019

Declaration

I declare that this research report is my own unaided work. It is being submitted for the degree of Masters of Science in Development Planning to the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination to any other University either.

X  14.06.2019

Candidate's Signature
Mr Nduduzo Nyanda

Abstract

The South African minibus taxi industry is responsible for providing transport for more than 60% of the population and workforce in urban areas, but it is still regarded as informal. This rendering of it as informal can be traced back to the apartheid era and the structural laws put in place by the government, which still are continued in post-apartheid South Africa. In trying to address this at a local level, Cities like Johannesburg have initiated a transit oriented development programme, which aims to incorporate the minibus taxi industry into the bus rapid transit system, and use it and the development of its support infrastructure to drive economic growth and development along key strategic routes/corridors throughout the City (*The Corridors of Freedom*).

As well cutting down on congestion, the programme is meant to redress the socio-political and economic disparities created by apartheid spatial planning, using a bus transit system to 're-stitch' the racially and economically segregated City back together. This also extended to the minibus taxi industry through their incorporation into the system as shareholders (PioTrans),

The first two phases (1A & 1B) of the system (Rea Vaya) which link various parts of Soweto to the Johannesburg CBD are functioning, with most affected taxi entities on-board as shareholders of the system. Spatially however, the stations are designed as silos and have not been integrated in with existing transport networks or any surrounding infrastructure. All stations except one, Indingilizi in Dobsonville. Here some attempt has been made to try and house the various transport modes and operators into one transport interchange.

From face value, the attempts with Indigilizi seems like a good start at an integrated transport node in the CoF ought to look like, as it tries to integrate the Rea Vaya with the minibus taxis operating in the area. However, upon closer inspection one realises that the systems are in fact not integrated. At best one can say all the operators are just located in (and not even sharing) one space. This speaks to exclusionary nature of the operational design of the node, as even traders have chosen to operate outside along the street and not in the formally built structures in the node. The building's physical design is also exclusionary as it is fenced off and does not integrate with its surroundings.

Acknowledgements

I would like to acknowledge and show my appreciation to those who have shown support and encouragement to me throughout this whole process and have helped make this possible.

Firstly, I would like to thank the South African Research Chair in Spatial Analysis and City Planning, University of the Witwatersrand funded the National Research Foundation (NRF) for funding this research. I would also like to acknowledge support from the Andrew W. Mellon Foundation funded through the Architecture, Urbanism and the Humanities Initiative at the Wits City Institute based at the University of the Witwatersrand, Johannesburg. The financial support of the Andrew W. Mellon Foundation towards this research is hereby acknowledged. Opinion's expressed in this paper and conclusions arrived at are those of the authors and are not necessarily attributed to the Andrew W. Mellon Foundation or the Wits City Institute and Wits University.

Secondly, I would like to thank my parents and family (my mother especially) for constantly encouraging me and believing in me. For all the emotional and financial support throughout my studies, and for all the love. It really is appreciated. I would then like to thank my supervisors, Prof Aly Karam and Prof Claire Benit-Gbaffou. Thank you for the guidance, patience and support you've given and shown me throughout the years and especially for this process. Had it not been for the both of you, I truly do not think I would have ever persevered this far in my studies or even realised my passion for planning.

I would like to thank and acknowledge the people and organisations that helped make this research possible, by giving of their time and resources (at times). That was really appreciated. Specifically, I would like to thank Lisa Seftel from the City of Johannesburg for all the help and for opening the many doors which granted me access to various departments within the City and other respondents. The JRA and City's Development Planning department for the resources used in this research, thank you. I would like to thank Edwin Foster for the assistance with the minibus taxi industry, as well as DORLJOTA and MDN to agreeing to participate in the research.

I would also like to make a special mention to the late Mr Oupa Tsobani from DORLJOTA, who helped immensely with not only the cross referencing of information but connecting me with the other minibus taxi associations also operating from Indingilizi.

Lastly, I would like to thank my partner for being there for me. Thank you for your patience and understanding the mood swings and bouts of depression and anxiety I suffered through this whole process.

Thank you.

Contents

List of Diagrams, Graphs, Figures Images, Maps & Photographs

Figures

Diagrams

Graphs & Tables

Image

Maps

Photographs

Chapter 1

What is Going on With Transport Integration?

Introduction

The ever-popular global trend of framing development in modernist terms has seen a rise in developing countries punting for cost-effective planning alternatives to the conventional, capital intensive means employed by the global North. In trying to match the global North in development, cities in the global South have thus tried to adapt these modernist development models to better suit their needs and their budgets. Some of these development models are in transport development and take on the form of Transit Oriented Development (TOD) and Bus Rapid Transit (REA VAYA) systems.

The Bus Rapid Transit system is promoted in developing countries, as a more affordable and less capital-intensive mass transit system and alternative to rapid rail transit (Paget-Seekins, 2014). This in light of how most of these Cities have had to try and create a functioning public transport system, that is inclusive, cheap and which tries to provide a formal transport system for the (usually) poor and marginalised population who have been displaced in the city's periphery (Paget-Seekins, 2014). In the global South, Bus Rapid Transit systems are also implemented as a response to unregulated and 'informal' modes of transport that usually operate in the urban space. In South Africa, the minibus taxi is a clear case and example (Venter: 2012).

Synonymous with using violence as a dispute resolution tool (Sauti: 2006), the minibus taxi industry in South Africa (and in most parts of Africa) has for the most part of its history been left to its own device. In South Africa, this is because the apartheid and transition governments (and to some extent post-apartheid) did not really know how to effectively deal/regulate the minibus taxi service (Khosa: 1991).

Between acknowledging the minibus industry as an essential service which not only provides transport to 66% of the 40% urban population that relies on public transport (Trans Action Capital: 2014), it is also important to note that it is largely black owned and supports a rural population through remittances (Domestic Remittances in South Africa: 2016). The post-

apartheid government also had to look at ways of regulating and incorporating an industry that was consistently responsible for and associated with some of the most horrific road accidents and fatalities in with formal transport systems.

Luckily, the City of Johannesburg (City of Joburg) had already identified TOD's as a necessary trajectory that needed to be employed in order to not only create economic opportunity through development, but also a mechanism that would try to incorporate the minibus taxi industry into the formal public transport sphere. This was also seen as a means of creating an African solution for creating an *African World Class City* (City of Joburg, 2008).

Through the implementation of its TOD, the Corridors of Freedom (CoF), The City of Joburg saw how transport could also be effective at not only delivering access and opportunities to the poor, but how it could also be used as a mechanism that could help stich together the apartheid segregated city (Corridors of Freedom, 2013).

Found along the CoF, is Indingilizi node/station in Dobsonville Soweto. This former taxi rank was identified by the City of Joburg as a potential scaled down node that could help achieve the CoF's economic development mandate, while also serving as a transport interchange point between the REA VAYA and operating minibus taxi operators.

This research will look at the planning process of this node/station. It will try to see if "better planning practices" such as public and stakeholder participation programmes were employed in the station/nodes conception and implementation processes. This will also address questions of whether the node/station was actually built for the people/community who use it or not. The research will also look at the spatial planning and design of the station/node in relation to space it occupies. We will look to see whether the station/node has successfully fulfilled its mandate of being a CoF TOD, and whether it is an effective vehicle at driving or creating economic opportunity.

Justification

This research will show where the gaps are in the execution of what the station/node at Indingilizi is supposed to achieve versus the thought process. This relates to the CoF's mandate for node/station and what it is meant to fulfil. In the section of the paper which deals particularly with the research site (Chapter 5), we will formulate questions around the three elements which should help in the understanding of the spatial process around the

integration of node like Indingilizi. These are the “Better planning practices” employed, the building processes and opportunities and whether or not the node/station does create economic opportunities in and around its space.

Better Building Practices

This research report will investigate the participation process the City of Joburg took in engaging the various stakeholders in Indingilizi about the function of the ‘upgrade’ and its design. These stakeholders will include the affected taxi associations and their drivers: DORLJOTA and MNA (WATA could not be reached after numerous attempts); the street entrepreneurs operating in and around Indingilizi, the Rea Vaya and the various state entities (City of Joburg Department of Transport, Johannesburg Development Agency, the Johannesburg Roads Agency and Johannesburg Property Company) officials and their affiliates involved in the project.

In Chapter 5, the power dynamics among the various stakeholders will be interrogated. With respect to various entities, we will look at which entity at various points in time yielded the most influence/power. How this power was enforced or negotiated and how it would have been yielded (if it was). This particularly related to interactions between the City and the taxi associations; entrepreneurs and community (businesses); the businesses and the entrepreneurs, REA VAYA, City and taxis, and the taxi association with each other, the REA VAYA, the City, the entrepreneurs and businesses.

Building Spaces for People

With respect to the design of the physical structure, this report tried to engage the various stakeholders and try to discern whether the infrastructure development of Indingilizi and the “inclusion processes” from them their perspective were a success or not. With respect to the taxi associations and their drivers, I will try and find out what was their involvement in the design process, whether they have/had different views as to how the physical structure should be and where the various associations should operate and how their commuters also feel about the structure.

With respect to the street entrepreneurs, I will try and find out why most have chosen to operate outside the physical structures provided for them in Indingilizi. In terms of the new infrastructure, how this structure serves their needs and whether the project designers and

managers consulted them on how they saw the site would look like. I will try to understand why they chose to operate along the footpath between the node and Elias Motsoaledi and not the Dorothy Nyembe Park (maps will be provided later to clarify all the locational issues).

With the City officials, I will ask a set of similar questions so as to try and gain an understanding from a state perspective. I will try and understand how the site and its design speak to the conventional idea of densification and how it is meant to serve as a catalyst for this (CoF) imagined type of development in the area and the Soweto corridor?

Creating Economic Opportunity

Here we will look at how the operations of the area and site and try to discern whether in fact the City managed to create economic opportunity for existing and potential entities. These would include the entrepreneurs already selling and servicing the commuters and taxi drivers, the surrounding businesses in a 500m radius and of course the minibus taxis operating in the space.

To fully understand and appreciate' the 'rationale' behind the site's spatial planning; the research will look at the policies that informed the final result and aimed to 'create' the economic opportunity. These include development policies like the Corridors of Freedom transport plans, the City of Joburg's Growth and Development Strategy 2040, the Gauteng Provinces development plans and the National Development Plan (2013).

Conceptual Framework

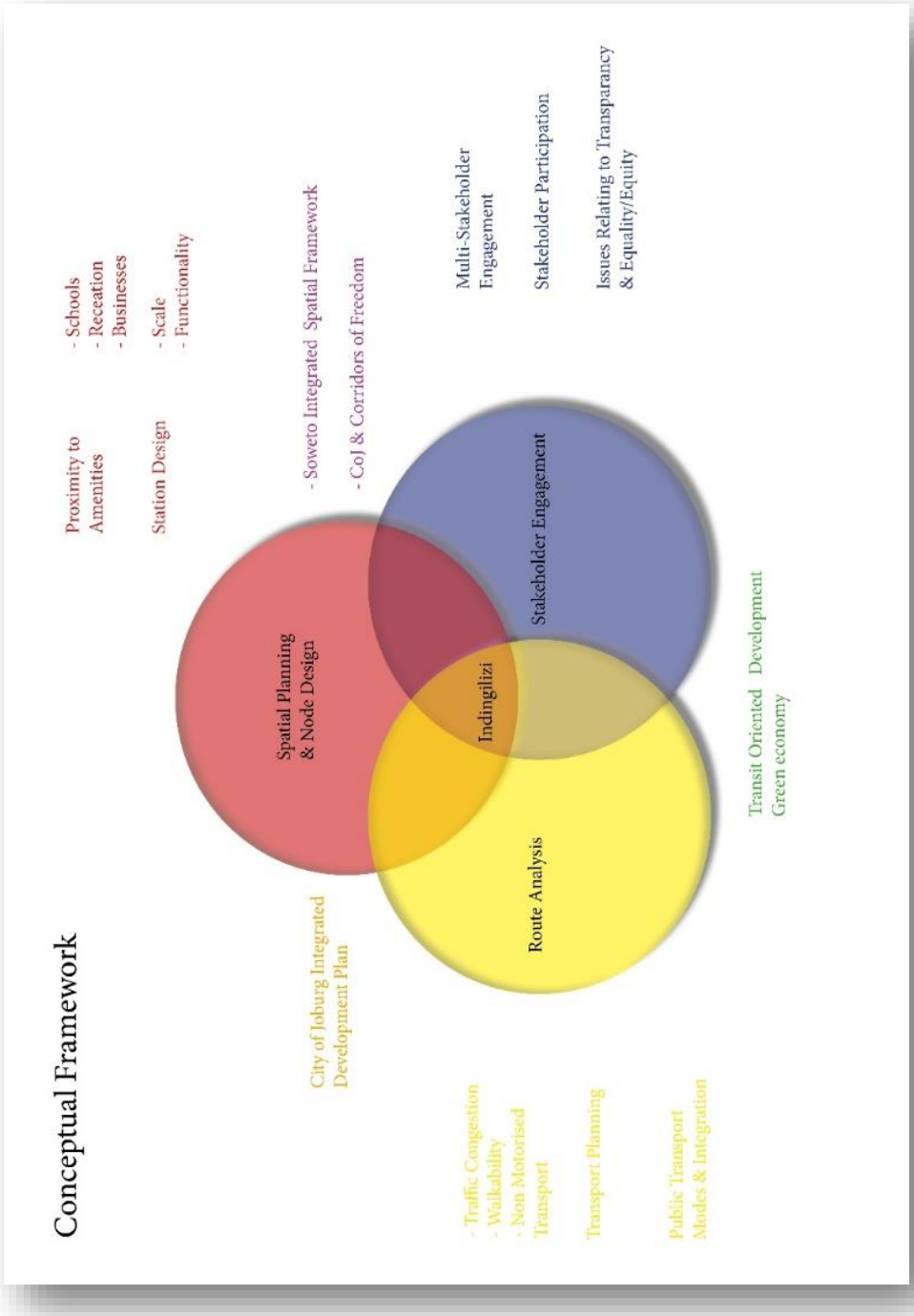


Diagram 1: Conceptual Framework (Nduduzo Nyanda: 2016)

In better understanding how Indingilizi fits in in the CoFs, how it has been affected by them through its formalisation/development and who is affected. The above conceptual frameworks tries to square off three planning elements which would fundamentally be the

building blocks for the site and how they actually affect the sites surrounds and the stakeholders.

For instance, the spatial planning and design of the node should assume a consideration and a way of integrating Indingilizi with existing amenities like Dorothy Nyembe Park, Dobsonville Mall and possibly Khwezi. Did the formalisation of the space achieve this given it's an integral part of what would make Indingilizi a success?

The same goes for the Route analysis and stakeholder engagement. Given the space already had multiple stakeholders who engaged with the site at various levels and indifferent ways, was enough done to incorporate their needs and contributions in the space's formalisation/development?

The answers in most cases are both yes and no.

Research question

Has the spatial planning and transport infrastructure upgrade/formalisation of Indingilizi positively affected operators and been a positive contributor to the Corridors of Freedom?

Sub-questions

1. *What was the thought process behind the formalisation of the space and did it fulfil any planning ordinances or spatial development frameworks?*
2. *Has the formalisation of Indingilizi been well integrated in with the existing surrounding infrastructure and transport networks (if at all)?*
3. *How were the stakeholders (traders, three taxi associations and existing transport operators) who already service the area involved in the planning and formalisation of the new site?*

Chapter Overview

In Chapter one I introduce the research and try to briefly explain how we came to choose the topic. I also try and place in into context as to where it would fit as a body of work in academia.

In this instance, I am looking into the spatial and transport planning process around what is meant to be and is designed to seem as a multi-transport node.

The academic grounding of the research provides the theoretical context to the various elements at play documented in the in-field research section of the paper. In our case, the nature of transit-oriented development (TODs) places them in 'green' policy space, which up until recently has mainly existed in developed spaces (cities). However, as with the situational adoption of a popular policy, it would require a contextual and location rethink when applied in any other environment. In this research's case, TOD's would have to incorporate the existing minibus taxi and bus industries. It would also have to account for Apartheid spatial planning.

Chapter three walks the reader through my experiences in trying to gain access into the space and to people who were responsible or had an influence on the formalisation of the research site. The methodologies documented to try and explain what strategy and subsequent tactics were employed.

The fourth chapter tries to lay a foundation for the research by providing the backdrop of the local/municipal policies and plans which framed the development of Indingilizi. The chapter also tries to position importance of the situational location of site in Soweto with respect to Johannesburg. This further tries to explain how policies were meant to inform Indingilizi's development.

The fifth to seventh chapters present the findings from the in-field research. Beginning with the various stakeholders involved in the development and formalisation of Indingilizi, the fifth chapter discusses the various roles the stakeholders had (still have) as well as the various relationships they had (have in some cases) with each other. The sixth chapter takes deep dive into the actual structure itself and its position. Given the planning and policy backdrop provided in the fourth chapter, chapter five will look deeper at the various stakeholders' roles with respect to the site.

The seventh chapter tries to give a macro-scale analysis of the implications that followed from the formalisation of Indingilizi. This chapter primarily focuses on the transport planning and logistical element of how the space operates regional in Soweto and in parts of Johannesburg.

The final chapter concludes with surmised recommendation of what all affected parties can do to better improve the function of the site.

Chapter 2

The Academic Grounding

Introduction

This chapter aims to use an academic framework to better explain and discuss the different rationales that went into the conceptualisation and development of Indingilizi into a transport nodes/station. We will begin by examining the concept of spatial planning and how Indingilizi fits in or has been incorporated into its existing space. This will help in later chapters when we discuss how the space/site Indingilizi occupies could have been better utilised especially given Indingilizi's location.

Tying Indingilizi's spatial occupation with the main theme of the research report – transport planning, we will discuss how Indiniglizi fits the transport node "mould" in both its current form, as well as in its conceptualisation and development. This is especially important for two reasons. First, by comparing and differentiating what Indingilizi is with what it ought to have been. Secondly, given the opportunity of strictly conforming into what a node should be in the strictest sense, we can then argue that no node does fit this/these criteria and to expect one to totally, defeats the functional and location specific purpose of what a transport node is supposed to fulfil and be. For instance, in low density, spatially separated cities like those found in South Africa it would tend to be counter intuitive to invest in mass transit infrastructure without concrete plans to also develop the nodes and corridors where the mass transit service will be operating along. By not investing in and creating the supporting infrastructure you run the risk of creating an unsustainable system that will haemorrhage more resources and funds than any returns on investment it is meant to yield. However, by not even attempting to try and provide some form of mass transit system and its supporting infrastructure, economic hubs like City of Joburg run the risk of stagnating growth and the economy.

We will also look into how policy plays a role in the shaping of transport and spatial planning, particularly with regards to the South African space. In this chapter particularly, we will look primarily at how policy shapes the interactions of the main transport operators in South Africa

and how this plays out in and amongst them and with the state (at which ever level the operator interacts with the state). This will help in providing the necessary backdrop of understanding stakeholder engagements in Indingilizi better (Chapter 5).

2.1. Spatial Planning

The European Economic Commission defines *spatial planning* as a practice concerned with "the problem of coordination or integration of the spatial dimension of sectoral policies through a territorially-based strategy" (Cullingworth and Nadin: 2006). Because this coincides with issues relating to governance, spatial planning then also becomes a public-sector function, aimed at influencing future spatial distribution of activities. Also included (in its list of functions) is the creation of organized land uses, which meet the demands of economic and infrastructural development. This development also has to be balanced with the need to protect the environment, while trying to achieve socio-economic equity (UNECE: 2008).

Spatial planning has to be concerned and cognisant of various other governing factors that may affect or have an impact on the spatial framework/fabric. These include laws, policies and legislations (UNECE, 2008). These may either have a direct effect on how spatial planning ought to function, or an indirect cause that may place limits on how far spatial planning may go. However, the key role of spatial planning is the "promotion of a logical arrangement of activities which reconcile with competing policies and goals" (UNECE, 2008). Its scope also varies. Spatial planning should also be concerned with the identification of long and medium-term objectives, and their reconciliation with appropriate strategies which address land use and its management, development and policy coordination relating to transport, agriculture, socio-economic development and environmental issues (Koresawa and Konvitz: 2001).

In the South African context, spatial planning then becomes an important and integral component needed for the delivery of socio-economic benefits for the civic (Dewar and Kiepiel: 2012). This is usually achieved through the creation and implementation of sound spatial policies that seek to not only address current infrastructural and social shortcomings, but more so the delivery of basic services and goods which would ensure the socio-economic stability needed to garner further investment needed for development.

There are challenges to spatial planning, which academics and practitioners have identified. These include but are not limited to the effects of liberalism and globalisation sustainable

development, regional integration and market economy reforms as well as demographic change (engineering news: 2016). All of these challenges are externalities and factors which planners have to bear in mind when planning. Even though typically in a free market (liberal) system, they have no power over them (Spatial Transformation in SAns Cities: 2011).

In relating this framework to actual spatial planning, (Dewar and Kiepiel: 2012) article on the *Spatial Development Framework* tries to show how spatial development frameworks have fallen short of meeting their mandates in South Africa, because they not only do not follow an integrated approach in their design and implementation, but also because they are poorly implemented. They also argue that regional spatial planning in South Africa although based on four central pillars (namely the environment, economic development, human settlement and service provision) considers each pillar in isolation when being designed and thought through. This they argue is also indicative of each state entity (local or national) when policy is being designed. Each entity works in a silo and thus fails to fully and adequately integrate their strategies into one holistic strategy and regional spatial plan.

This is evident in places like Indingilizi and Soweto. The City of Johannesburg has an Urban Development Frameworks (UDF) in place to try and redress apartheid spatial planning for the area. However, because Soweto is not a well-resourced area nor is it desirable for big businesses, it means the City of Joburg must source funding for the UDF's primarily from state and international donors. This is because most businesses in the local private sector are already involved in City Improvement Districts (CIDs) in their own areas (think Sandton, Rosebank and Braamfontein Improvement Districts).

A low tax and rates base in areas like Soweto (previously disadvantaged) also means the fewer previously white only areas are the only source of direct revenue for the City. This is why cities like the City of Joburg have to pool and redistribute resources throughout the City in order to fund the various projects located in under-resourced areas like Soweto. Hence how Indingilizi came about.

Resource deficits and allocation are not the only reasons and explanation for the problems in the implementation of spatial plans and planning. Dewar and Kiepiel (2012) discuss the roll

segregation in regional spatial planning in South Africa played by closely examining how regional strategies and policies at times have a contradictory role to more localised spatial plans in South African cities. This is evident in how provincial and national spatial plans tend to contradict the more localised plans and policies municipalities try to implement (ibid). Although usually aligned to a similar goal of socio-spatial justice and equity, how these goals are either imagined or reached by the different spheres of the state comes into contention.

For instance, the current Corridors of Freedom to which Indingilizi is a part of try to "re-stich" the racially and economically segregated areas of the City of Johannesburg using rapid bus transit (the Rea Vaya) (City of Joburg: 2006). As a knock-on effect of the transport development, they are also meant to encourage mixed land-use along the corridor to promote more localised economic development along the bus routes (ibid). The Gauteng Provincial government on the other hand tries to use policy to achieve a similar result. The provinces main strategy for transport led development from its policy document The Gauteng Spatial Development Framework 2030 (2030) highlights the development of inter-precinct transport nodes and an integrated transport payment system for all public transport modes. These two plans are in-line with National Development Plan (NDP) and its proposal for use of transport to drive regional economic and spatial development (Dewar and Kiepiel: 2012).

Development frameworks tend to be reduced to land use management tools by municipalities and inevitably fail to show the initial intention of the capital expenditure and budgets. Dewar, D, Kiepiel, J (2012) argue this shows departmentally the 'silo-mentality' of planning in municipalities to separate and isolate responsibilities to different departments, instead of having them all work together. They also argue on how this has the inevitable consequence of spatial plans being produced which either have an idealistic, utopian frame of reference or ones that are shaped by personal experience and disregard the theoretical aspects needed to design and implement a successful spatial development framework (SDF). Dewar, D, Kiepiel, J (2012) also argue that the isolation of the various disciplines and departments responsible in the development of regional SDFs is also reflected in how the four pillars are thought of and thus "symbiotically" incorporated into an SDF. They demonstrate this in their analysis of the core agendas of each pillar and by later suggesting insights *gained from different disciplinary perspectives* which illustrate ways of integrating them.

A classic example of integration is in how Indingilizi was built. The brainchild of the City of Johannesburg's Department of Transport, its design and construction had to be managed by the Johannesburg Development Agency (JDA). However, its day to day running post-construction would be the responsibility of the JRA and partly the JPC (trader stalls). Theoretically this is all well and good, except because all the entities were focused on the one site area (Indingilizi), they all pretty much failed to plan for the infrastructure around Indingilizi. This explains why and how Indingilizi subsequent to its construction was not (and still is not) part of the Dobsonville UDF. Indingilizi does not integrate with other important sites located within a 5km radius of it, thus illustrating a serious oversight in planning by these Cities entities which claim to be building an integrated City.

Dewar and Kiepiel (2012) cite various academics and work in spatial planning highlighting how fundamental theories that apply to regional SDFs are usually overlooked by municipalities when creating the SDFs. For example, and specific to South Africa Dewar and Kiepiel (2012) highlight how the socio-economic disparities that exist in different communities of a municipalities are not entirely dealt with when contriving an SDF. Due to the spatial injustices brought about by apartheid spatial planning, more non-white areas and communities are not only located further away from opportunities and capital, but are also located in areas/zones which are peri-urban. Dewar and Kiepiel (2012) show how this not only contributes to urban sprawl in South African cities and municipalities, but also how sprawl makes harder for municipalities to provide services for non-densified settlements. This in turn makes it not only an expensive exercise for the municipality but also any capital needed to be attracted in order to try and spur economic development. When analysing the four core agendas/pillars municipalities use when creating an SDF, Dewar and Kiepiel (2012) begin by providing the theoretical framework for each pillar which most municipalities don't utilise when discussing or addressing the attributes associated with the application of that pillar.

When analysing the environmental pillar, Dewar and Kiepiel (2012) highlight how the function of this pillar involves understanding that human activity should occur within the framework of accepted ecological principles and aspects. They describe these principles and aspects as the dynamic socially constructed relationship between landscapes and humans. They further

argue that to better preserve the three landscapes humans occupy (wilderness, rural and urban) two issues should be addressed when considering development.

The first is in what Dewar and Kiepiel (2012) refer to as the McHargian-informed methodologies and analysis. Through the observation of how the different landscapes interlock, are laid out, their histories, natural importance to other landscapes and the role they play culturally to different people, planners here to try and identify “no go areas” of development as appose to “potential development areas”. This forms the basis of the second issue which aims to regulate and reduce the ecological impact settlements on the landscapes. With respect to the environment versus development debate Dewar and Kiepiel (2012) main argument here aims to show that the localisation of activities in the designated spaces/landscapes not only stops the immediate degeneration of the environment and ecosystems as a whole, but actually promotes the efficient use of landscapes and resources, further prompting in economic sustainability and development of settlements.

Dewar and Kiepiel (2012) describe the economic pillar as the pursuit of both economic growth and equitable distribution. Here, the use of policy incentives to encourage economic growth are also meant to be used to create spatial equity and resource/capital distribution into areas which have either been neglected or previously regarded as undesirable. However, Dewar and Kiepiel (2012) also argue that these policies are designed to promote this equitable economic growth and development will not succeed if preconditions ascribed in central place theory to a settlement are not in place first. In other words, history has shown that forced development in spaces are not seen as desirable, necessary or convenient in some way by people, fail to develop or grow sustainably Teitenburg (2003).

Dewar and Kiepiel (2012) further emphasise the point by citing Braudel (1984) and his theory of *balanced and unbalanced growth*. Meant to also highlight the necessity of distribution issues when dealing with economic growth and development, loosely put, Braudel (1984) points to how growth and development are usually achieved through the slow, deliberately and continuous interactions between the various factors of production. This process allows for the transformation of structural relations between “land, labour, capital, the market, the state and social institutions” (Braudel: 1984). In essence, this long-term approach to

development requires a more organic and holistic stance which tries to accommodate and understand the needs and various positions of all factors involved.

Dewar and Kiepiel (2012) introduce the human settlement pillar/agenda through the continued "long-term" analysis they formulated in their analysis of the economic pillar. Dewar and Kiepiel (2012) reemphasise the fact that pre-existing factors of production determine the attractiveness of a location to not only attract more resources needed for development, but also the longevity and sustainability of that economic growth. In short, people will move/migrate to areas where they feel they have a better chance of accessing opportunities and have access to a better quality of life. Therefore, planners have to consider socio-political, economic and environmental factors when considering settlement planning Dewar and Kiepiel (2012).

Theoretically, Dewar and Kiepiel (2012) draw on *Central Place Theory* and its three thresholds when explaining how settlements are hierarchically categorised depending on their location, size and 'resource potential '. The first threshold is characterised as a space's minimum potential to sustainably attract goods and services. The second threshold looks at the range a space occupies in relation goods and services. In other words, location/settlement desirability is defined by not only its distance away from goods and services (opportunities), but by also the experience for people to get to or bring in resources. The third threshold looks at the hierarchical order of goods and services in relation to the frequency in which they can be accessed in a location.

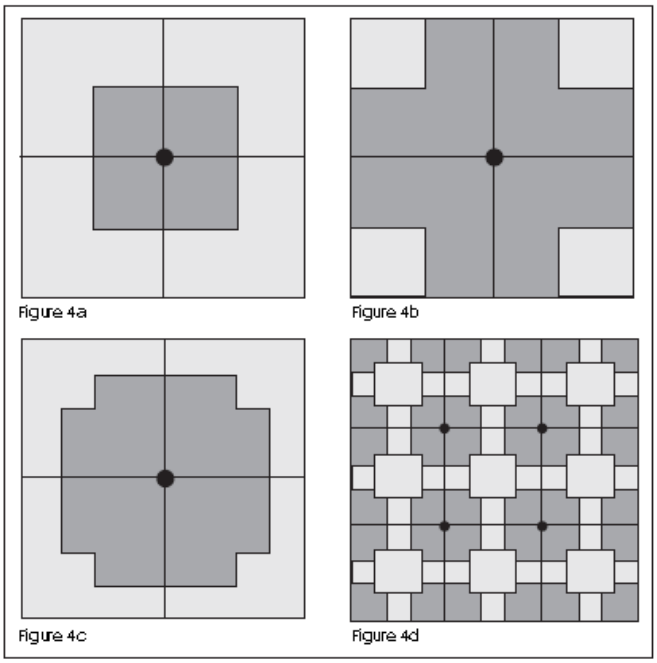


Figure 4: The network of landscape character zones, showing how different configurations meet desirable objectives to different degrees. Figures 4c and 4d reflect optimal patterns.

Source: Dewar & Kiepiel, 2004: 51

*Diagram 2: Central Place Network - **Source:** Dewar, D, Kiepiel, J (2012)*

In explaining the *Central Place Theory*, Dewar and Kiepiel (2012) show how the four thresholds explain the spatial distribution of large centres in relation to smaller satellite centres that they service. They also explain how larger centres of development which are usually further dispersed away from each geographically, usually offer differentiated services and goods, as opposed to being in direct competition with each other regionally. Dewar and Kiepiel (2012) reemphasise the fact that location and settlement size/growth is still dependant on its potential to pool in factors of production in the long term. Considering that resources are finite and scarce; the social and utility agendas are explained as ways people move (from and within a location) in the most efficient way to develop the infrastructure that best optimises an investment in a settlement. Similar in theory to the human settlement agenda/pillar in theory (central place theory), here too exist a hierarchical dimension to service production, with regional infrastructure/services framing the network of resource/service distribution of a location.

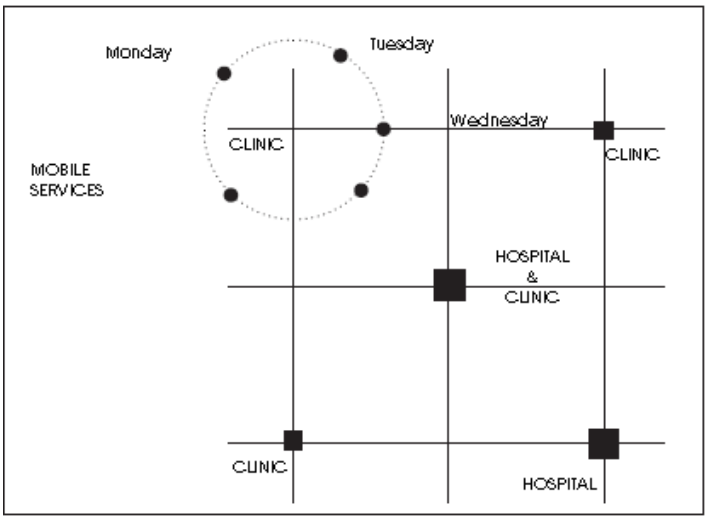


figure 3: Hierarchical investment network made up of both line and point-related coordinated services
source: Adapted from Dewar & Kiepiel, 2004: 50

Diagram 3: Hierarchical Investment Network ***Source:*** *Dewar, D, Kiepiel, J (2012)*

2.2. Transport Planning & the Operators

Another aspect of transport planning focuses on the provision and the financing of public transportation assets, particularly those relating to roads and public transit systems (Rodrigue, 2013). Here planners try to address transit and transport related problems both specific and broad at a local level (usually municipal) and a higher level in the form of policy (national legislation and local bylaws) (Rodrigue, 2013).

The transport planning process has a number of similarities with policy processes. Because identifying a problem, seeking options and implementing the chosen strategy are essential steps in planning, transport planning (like spatial planning) tends to deal with localized problems, however with the solutions adopted in transport planning tend to be much more exact and specific than policy directives (UNECE, 2008).

What needs to be understood, is that transport (and thus its planning) is a multidisciplinary science and endeavour also means understanding how it needs to also borrow different methods from different disciplines, this when trying to solve/rectify a problem. However, what also needs to be understood of the discipline (transport planning) is that the specific

purpose of transportation is to "**fulfil a demand for mobility**, since transportation **can only exist** if it moves people, freight and information around" (Rodrigue: 2013).

For a long-time transport planning has been dominated by traffic engineers, who sought to provide more "mechanistic" and one-dimensional approaches to solving traffic and transport planning (especially passenger) related problems (Rodrigue: 2013). In short, they sought to model solutions for these problems, which more often than not usually resulted in predictable, "expansionary" infrastructure and capacity solutions. These thoughts approached neglected the fact that transport as a discipline (and as previously mentioned) is multidimensional, lending from disciplines such as economics, politics, sociology, architecture, philosophy, mathematics, physics and others just to name a few (Rodrigue: 2013).

An inclusion of planning professionals in the transport discipline has translated into better incorporation and application of the various other disciplines in the transport planning process (Van Assche: 2013). This has translated in the better identification, understanding and dealing of the various socio-political and economic problems that may manifest as infrastructure problems, like congestion. An example of this is in traffic and congestion, through the implementation of "***better management systems"*** and the creation of ***"smart cities"***. Here, planners have identified how better understanding a neighbourhoods' needs and encouraging mixed use developments, does better at not only decreasing ills such as traffic congestion but also increases resident quality of life by cutting down commuting times and distances, while also bringing economic opportunities closer to them (Van Assche: 2013). Transport planning therefore has found ways of integrating spatial planning practices and policies with transport initiatives (Van Assche: 2013). This especially in light of growing global trends which have seen increases in urban migration patterns. This has thus meant finding innovative ways of dealing with private car congestion, like car-pooling, creating traffic calming zones and better public transport.

2.2.1. TOD's and Integrated Transport Nodes/Stations

As the name suggests Integrated transport nodes as a concept are areas of infrastructure that incorporate more than one form of public transport, for ease of access for commuters (ctod,

2016). These are associated with transit-oriented development (TOD) as a concept, which are usually defined as more a compact development within easy walking distance of transit stations/nodes (typically around 500m) (ctod, 2016). TODs are also typically mixed use entities, consisting of housing, employment opportunities, shops, restaurants and entertainment. In essence TODs are really about creating walkable, sustainable communities for all people of all and incomes, while primarily providing more transportation (ctod, 2016).

Characteristically, TOD's are meant to increase location efficiencies so that people in and around the area can access these areas easier either (preferably) through the use of non-motorised transport (NMT) such as walking or cycling or through other transit methods. In theory, this is meant to allow economic opportunity growth in their affected areas, as the ideas goes walking or travelling commuters make it easier for entrepreneurs and businesses to set up shop along the routes leading to and in the node to service the commuters (ctod, 2016). This spurs development of the node and area and increase economic opportunity and employment.

There are three different types of TOD's, Corridors, Nodes and Linkages (ctod, 2016). Nodes are typically characterised by how they centrally accumulate economic activities within accessible transport systems. Linkages are the infrastructure which supports flows between nodes. Corridors on the other hand are described as an "accumulation of flows and infrastructures of various modes with their development linked with economic, infrastructural and technological processes. When these processes are involving urban development, urbanization corridors are a system of cities oriented along an axis, commonly fluvial or a coastline since historically they permitted cities to main transport and commercial relations" (Rodrigue, 2013).

For our intended purposes, we will only be considering the TOD as a place of intersection; a place which provides its community with economic opportunity, employment, shopping and most importantly multi-integrated transport. In our case, Indingilizi is such because conceptually it was planned as an integrated transport node/station (ITD/S) development which would integrate the REA VAYA with the minibus taxi.

2.2.2. Bus Rapid Transit Systems

Paget-Seekins (2015) describes how the Bus Rapid Transit System (REA VAYA) that is being adopted around the world, especially in cities in developing countries as a cheaper form of mass transport is being done by using a neo-liberal framework. She argues how this is an inherent ideological contradiction, because the REA VAYA system is meant to be a form of more affordable infrastructure for these cities which are trying to improve their transit infrastructure. However, in cities in Latin America where they have 'successfully' implemented the transit system, the buses are actually run by private companies which in turn service their respective city. Meanwhile, these cities opened themselves up to a myriad of contradictions that challenge neoliberalism and the fact that they (cities) exist in the global south.

Beginning with the business end of the mass transportation industry, Paget-Seekins (2015) first argues for how and why there is a need for this type of mass transportation in developing economies. She argues that from an infrastructural view implementing a REA VAYA system is cheaper and less capital intensive when compared to more conventional modes of mass transit (rail). She also argues that the implementation of the REA VAYA system specifically that no other traditional bus service systems allows for longer and larger coaches on the road, which in turn allow for a larger ridership at one go and thus less carbon emissions.

From the state's perspective, Paget-Seekins (2015) argues how the implementation of the REA VAYA serves to try and formalise an informal market is good not only for the state and civic (commuter), but also most of the transport service provider operating in the cities. She points out how in developing urban settings the majority of transport service providers are private. They are also at most times informal and "under-regulated", and they tend to make use of smaller vehicles, which inevitably contributes to growing levels of traffic congestion in these cities. Paget-Seekins (2015) tries to argue for how their buy in into the system makes sense financially and logistically because for every two vehicles they trade in to join the system, fewer vehicles will be on the road. Less vehicles means less congestion, especially considering how one lane will be cordoned off exclusively for the REA VAYA. Financially the operators stand to gain in that their formalisation and incorporation into the system means that they will always be in business, and will be able to draw from an assumed stable income.

However, Paget-Seekins (2015) points out how this model can financially hurt the operators in the medium term. The assumption that removing the “under-regulated” vehicles from the road will decrease city congestion and thus improve road and commuter safety is based on the premise that the “under-regulated” vehicles hold some value in the first place. That their trading in their smaller vehicles to buy into the system the larger buses would thus off-set the loan amount of acquiring the larger bus. The reality however shows this to be untrue. Paget-Seekins (2015) highlights how some operators struggle to even qualify for a loan because they do not operate in the ‘formal’ economy and do not qualify for credit. How in some instances, their vehicles do not even qualify for trade in or even collateral to buy into the system and to acquire the buses.

Paget-Seekins (2015) tries to show this contradiction by first setting out the parameters and working analyses for all ideological components which make up a REA VAYA system and trust contrasts them with their practical application in the global south. Starting with the concept of neoliberalism, Paget-Seekins (2015) discusses how the term should not be regarded in a monolithic sense, but rather in its applicable sense when considering what it means for a city or state to adopt neoliberal policy/practices. Paget-Seekins (2015) argues that with this level of generosity in its definition, we begin to move away from the normal rhetoric and argument that easily equates and associates it with free market systems and a shrinking or non-existent state.

Instead, Paget-Seekins (2015) argues we should rather look at it to imply “a transformed state and market relationship around a new set of interests and elites … a concept of entrepreneurial urban governance” (Harvey, 1998). In short, cities and states have moved away from a model where they provide services to the civic, and instead rather outsource and administer this function to service providers. Paget-Seekins (2015) suggests that this model allows for the creation of progressive political and economic opportunities in increasingly regulating cities of the South, thus also allowing for the creation of more redistributive and developmental tools (Parnell & Robinson, 2012).

The second contradiction Paget-Seekins (2015) highlight is in how the REA VAYA system requires the formalisation of informal transport operators. Seeing as the REA VAYA is a neo-liberal concept in how it has been modelled to operate (through the use of private operators servicing the city/state), the formalisation of this proponent “is not inherently a neo-liberal

proposition" Paget-Seekins (2015). The fact that the state is the one responsible for the coordination, organisation and administration of the whole system, places a higher level of ownership of the system on the state more than it does on private operators. Paget-Seekins (2015) also explains how although the actual operating of the buses is left in the hands of the private operators, administratively the system is not. This fact on how this function still falls under the state/city is a total contradiction with how a neo-liberal system ought to run. The fact that the state/city is the one controlling the licencing and in turn regulating who can operate in the system (permits wise), ideologically and operationally moves the system away from a neo-liberal one to a state/command operated system.

The public transport systems in most cities of the South was in fact originally neo-liberal in how they were structured, operated and funded prior to the implementation of REA VAYA systems. The introduction of REA VAYAs operationally reduced operator and market autonomy and relinquished this function to the state/city Paget-Seekins (2015). This was because in some cases (South America and Africa) where public transport services were privately operated and run, and where the state/city's role only extended to the issuing and regulation of operating licences and the regulation of vehicle safety (Paget-Seekins 2015). This then extended to their day to day operations, where in most case even as far as human resource functions.

Financially, where before operators relied on profits made from consumers and routes to operate and regulate fares and did not receive any subsidies from the state (Paget-Seekins 2015). The introduction of the REA VAYA by the city/state meant that in order make a success of the project; the state/city would have to incur the substantial capital and initial operating costs needed to keep the system afloat (Paget-Seekins 2015). This meant regulating fares and keeping them as low as possible, to keep the system competitive with other long-distance operators. This meant substantial subsidies for the system. This in effect meant that public funds went into a system which was meant to run on its own (Paget-Seekins 2015).

However, to better understand how this pseudo neo-liberal transport structure came to be implemented in developing cities with strong socio-political policies, Paget-Seekins (2015) explains how the actual funding mechanisms and institutions of the REA VAYA systems are at the centre. Without getting side tracked with individual states' socio-political histories, Paget-Seekins (2015) explains how the institutionalisation of western democratic practices in

Bogotá Colombia was used in conjunction with its then privatised public transport system to springboard the REA VAYA system. The positionality of Bogotá as a city of the global South, with a complex "political-economic history" meant this system could be promoted as a cheaper mass transit alternative to similar cities in the global South.

The BRTs success in Bogotá, meant international development and financial agencies like the World Bank, the IMF and other NGO's could use Bogotá's success as a template and 'prerequisite' should they too require transport related developmental funding. This model also meant that these cities and states would have to also adhere to and implement neo-liberal policies that these international donors ascribed to and were propagating, (like the good governance model).

2.2.4. The Taxi Industry

In his article, *Routes, Ranks and Rebels: Feuding in the Taxi Revolution,* Khosa, M (1991) tries to contribute to what he refers to as "the emerging, yet scanty" literature on the operations and origins of the minibus taxi industry. Khosa (1991) tries to give a more 'objective' history of the minibus taxi industry in South Africa, but in so doing, like most other academics falls in the trap of only concentrating on the violent nature of the industry. They do not generate nuanced work or analysis on the industry or specific associations. Even when they write about the industry's violent nature, they also fail at adequately explaining as to why this is, and instead homogenise the industry and the various associations.

Regarding my research and Indingilizi, I will not focus on the violent nature of the industry, because that is not the focus of my research. Instead, I will use the literature on the violent nature of the industry to try and explain some of the outcomes of not only the processes of negotiations for the implementation of the REA VAYA system along the various routes, but also the relationship the various stakeholders operating from and around Indingilizi have with not only Indingilizi, but also each other.

Part of understanding the violent nature of the minibus taxi industry, lies in understand its violent history and subsequently the hostile relationship it has with the state. Khosa (1991) points this out the chronological assessment of growth of the industry since its inception in 1920 (Khosa: 1991). Emerging as a response to service an underserviced commuter, Khosa

(1991) highlights how the privatised black owned minibus and private bus companies emerged as direct competition to state run rail and bus services which did not provide adequate transit services to a predominantly non-white working population located in the urban periphery (Khosa: 1991).

The inadequate provision of formal transport for the black population is still clearly visible today, even with the attempts the post-apartheid state through the City of Johannesburg tries to make in addressing these. In our case in point, Indingilizi, in the implementation of the Corridors of Freedom (CoF), the City of Joburg has tried to provide a reliable transit service for the commuter population of Soweto. Previously only serviced by Metrorail (an SOE[1]) run by Prasa and Metrobus (run by the City), Soweto's over 1.3 million population has been underserviced by an unreliable train service (Metrorail) and an equally inadequate bus service that only operates two routes in and at certain periods of the day (Metrobus).

The introduction of the Rea Vaya (REA VAYA) along main routes and at regular intervals throughout the day meant this commuter population was finally receiving a more reliable, regular and more importantly *public* transport service. The construction of Indingilizi and implementation of its service routes (C1, C2 & C6) means commuters in the Dobsonville area as well as its surroundings now have access to the Johannesburg CBD through various routes, as well as to other parts of Soweto.

However, it is important to note how protectionist the state has always been (and still continues to be but under different guises). Since the conception of the minibus taxi, the state has gone as far as implementing legislation and policies which not only intentionally stifled the growth of the industry, but also served as legal pretext to discourage the largely African owned industry from trading and growing the business, especially in urban (then pre-and apartheid) South Africa. This, all in the name of protecting inefficient and inadequate state owned transport companies (Khosa: 1991).

This was evident in how the state (pre-and during apartheid) tried to not only restrict the number of vehicles a minibus taxi owner could have and operate, but also up until the late 1980s, the type of vehicle as well. Until the 1980 and illustrated in table 1, Khosa (1991) shows how the apartheid state restricted not only the number of minibus taxis an owner could have,

[1] **SOE**: State Owned Entity

and therefore the number of permits issued out in total, but also the type of vehicle and thus subsequently the number of passengers an operator could load and transport. The table below not only illustrates the restrictive nature of the state in not only the issuing of permits (ratio of applications to the actual number issued), but also the growth of the larger capacity carrying kombi later in the 1980s when the state started relaxing its restrictions on the industry (Khosa: 1991).

Table: Permit Applications and Licences Granted in Johannesburg (*1984 – 1990*)

Year	Applications	Licences		
		Sedan	**Kombi**	**Total**
1984/85	29788	389	12	401
1985/86	33733	379	307	689
1986/87	45630	3600	750	4350
1987/88	57552	89	6898	6987
1988/89	48521	291	4602	4893
1989/90	56248	2070	13090	15160

Table 1: *Showing Permit Applications and Licences Granted in Johannesburg* ***Sources:*** Correspondence with Peter G, Geringer, 5 June 1990. Permit applications are for both temporary and permanent permits. Figures differ slightly from figures cited in *Race Relations Survey* (1990), p.85 and by McCaul, *No Easy Ride*, p. 20-21. (Khosa, M (1991))

However, the state still uses these mechanisms to try and control and regulate the industry. Because the REA VAYA was running along already existing minibus taxi routes, the City of Johannesburg negotiated with taxi associations operating along these routes to share them. This show of good faith worked for the most part, however some operators refused to negotiate and others it seems did not at all, and the City continued to implement the system albeit the violence that ensued McCaul and Ntuli (2011).

In Indingilizi, the City of Joburg negotiated with only one taxi association operating from the site. The other associations only had members negotiate with the City. The terms of

negotiation meant operators would have to submit their vehicle's operating permit and vehicle in order to buy into the system. This meant they would then no longer be permitted to obtain a permit allowing them to operate along that route, even should they acquire a new minibus taxi after the negotiations. The problem with this is twofold (Edwin Foster Interview: 15/09/2016).

Firstly, taxi associations and not their member operators "own" the routes. So, for the City to negotiate with taxi association member owners was underhanded, opportunistic and reckless. The three operators still operate from the routes and some have even lost members to violent infighting. The City (when REA VAYA buses were targeted) also fell victim to gun violence, this then also placed commuters lives in danger. The City should have made sure all associations and their members were on board, otherwise it should have chosen to operate the REA VAYA on a different route system while it still was operating, this could have helped in avoiding violence (Thami Moyo Interview: 10/10/2016).

Secondly, this was an opportunity for the City to not only address the spatial injustices created by the apartheid state and system on marginalised communities, but more so the socio-economic structurally racist injustices the apartheid system also created within them. The incorporation of some of the taxi owners and associations into the REA VAYA system through the creation of an empowerment company which should someday be able to run the system on its own is a good start, but this does not address the structural and equity problems that do and will exist in the business.

Another issue with the newly formed bus operating company is in the structure of its ownership. Only taxi owners were made partners in the system, while their drivers were kept as drivers, only this time they were given benefits. There was no real change in structural ownership, thus no real opportunity of equity transfer for non-taxi owners in the new company. Even the queue marshals were only assimilated into the system as either bus station officials or regular staff members. There has been no real mention of them getting any real equity in the new venture too. Similar outcomes were observed in Bogotá when that system was rolled out. Little to no mention was made of former taxi and private bus driver upward mobility in the newly developed bus company (Edwin Foster Interview: 15/09/2016).

Secondly, the issue of using transport as a way of spatially transforming an area should involve as many active role-players and stakeholders as possible from the beginning. One gets the impression that the City and province did not (and still continue to) do enough to try and get all transport players in the same room when initially formulating the Corridors of Freedom. It does not seem like transport operators were involved in the brainstorming of how they could be involved or assimilated into the system. Instead, various interviews with operators and City officials point to the few mass meetings operators (namely taxi operators and associations) were invited to, which only informed them of the City's intentions with the REA VAYA and how they would then fit in.

Had the initial meetings rather been between each association and its members, there might have been the added foresight of incorporating the minibus taxi system in with the Rea Vaya, maybe even as a feeder system for the trunk routs (Edwin Foster Interview: 15/09/2016). Had there been meetings prior to its construction the system might have been designed better to also feed in better with the other bus services operating in the City like PUTCO and Metrobus. The duplication of bus stop infrastructure (and neglect of the Metrobus) alone seems like an inefficient use of funds. What is more concerning is in how the province has this plan to integrate all public transport services within the province and have them all use one integrate payment method, yet there has been no plan detailing how this would happen (GSDF: 2030).

The roll out of the REA VAYA service though somewhat successful, does not seem entirely well thought out. The reason why the minibus taxi has been so successful is because of its dynamic nature and ability to adapt to change quicker and better than most other public transport services Venter (2011). The minibus taxi although operating from a determined route, is still flexible enough to afford its commuters the chance to be picked up or dropped off from any location along that route. The REA VAYA cannot. It has set stops, some of which are not close enough or just far enough for commuters' preferred destinations. Couple this with the pioneering nature of the minibus industry to provide services to developing/developed un-serviced areas (developments like Waterfall Estate and its new

mall[2]), the City ought to be instead, looking at ways of incorporating the taxi service into its public transport network as opposed to competing with it.

In Conclusion

What I tried to bring together in this chapter, is an academic framing of the policies which the City and its various institutions (will be discussed in Chapter 4) probably used in developing plans as well as site like Indingilizi. This was discussed in parallel with the realities that these policies and plans exist in, especially with respect to what they were/are trying to address.

For instance, reconciling the minibus taxi's dynamic nature with the violence inherent within that industry requires the City and State to take ownership of the fact that they left (and still do) the industry to it own devices. This exemplified in how even in spatial planning process, no existing infrastructure or new infrastructure is built to accommodate and formally integrate this mode of transport outside of taxi ranks. Roads are built and upgraded without them in mind. Add to this how the industry receives little assistance in subsidies even though it transports a substantial proportion of the population, begs the question around how we are even considering introducing new forms of transport without addressing the shortfalls of the existing ones.

This then speaks to how the state particularly is not necessarily failing to plan, but rather it is failing to implement its plans, precisely because it does not fully grasp the magnitude of its own plan given its context. This is evident in how quick it was to implement the Rea Vaya system without address the fundamental question of the 1st and last mile (to be discussed in chapter 6). Then the stations are too isolated and far to walk to. Given apartheid spatial planning (which is being perpetuated by the system) no real development is being brought to these communities, instead we are still seeing the export of labour and resources to the developed northern parts of the City. Therefore, unfortunately no spatial redress is happening. This theme will be further looked at in chapters 5 when I deep dive into the stakeholders found in Indingilizi as well as in chapter 7 when we assess the routes.

[2]A shootout between rival taxi associations over servicing commuters coming from the Mall of Africa, a new route in the Waterfall Estate development, Midrand. (The Citizen: 2012)

Chapter 3
Research Operation

In addressing questions of which relayed to the spatial design of Indingilizi and its planning, what was assessed was the actual thought process behind the station (Indingilizi), the actual physical structure's layout and design, the structure's surroundings and the how's and why's which the City chose when designing the space. The research took the form of qualitative research as most of it was interview based, with the bulk of the supporting literature being borrowed from academic sources through comparative case studies.

Using learnings from the previous chapter in guiding the research, I also looked at the spatial history of the site and tried to gather as much information as I could which could explain why it would work better as transport node. As much as I would have liked to get archival data to corroborate the interviews, none existed and I was thus forced to use the interview process and thus cross reference interviews with various individuals which had differing interests. This is what directed the research to adopt a more qualitative approach.

For instance, my interview with Veronica Mosiapoa (interview: 13/03/16) about when DORLJOTA occupied the site (Indingilizi) corroborated with when the City came to acknowledge the association's occupation of the site Lisa Seftel (Interview: 09/08/2016). This was further substantiated by the chairperson of MDN Mr Thami Moyo and managers at the JRA. This process was followed throughout the process of this research with having to either call, email and text interviewees to verify or help substantiate claims and new information attained in other interviews.

Most documented information pertaining to Indingilizi that does exist and is specific to the research came as a result of its inclusion in the City's Rea Vaya system and it being identified as a major stop/station. Therefore, most information relating to the site was either obtained from the City and JRA (websites and digital archives) or from the press – with respect to any 'controversies' covered about the Rea Vaya system.

The taxi association members and executives interviewed alluded to the fact that they did not have any formal documentation relating to the site, other than that relating to designated

official routes. However, they all had formal agreements/documentation (which they would not share) for their premises and members who did join the Rea Vaya in the case of MDN only had route and vehicle 'recapitalisation' documentation/agreements. DORLJOTA was the exception, and that only related to the management of the facility (again I was not granted access to this document).

With respect to framework, the research engaged and cross-referenced transport and planning legislation like National Transport Act to the Municipal System and Structures Acts & SPLUMA in trying to understand the regulatory framework the City used in justifying its design and participation processes (Walters: 2006).

In engaging key stakeholders, this research sought to understand the dynamics of their engagement with each other and that with the various City entities. With respect to the City, I managed to set up interviews with most of relevant planning officials and committees which had inputs on the site (JRA, JDA, transport department, planners and JPC) and tried to find out:

- If and how they engaged the various 'community' (taxi associations, entrepreneurs etc.) about the site and the REA VAYA and how these engagements played and continue to play out?

- How they came to agreement with each other, how they worked with each other and how this relationship played out?

Why Indingilizi

Indingilizi came to be chosen as the research site because of two reasons. Firstly (and most importantly) to investigate whether the City of Joburg had in fact taken ToDs seriously, I had to choose and interrogate an existing structure which had claims to fit the description of a transport node. Hand in hand with this the City of Joburg's flagship Corridors of Freedom project was meant to be its answer to transit oriented development for the City of Johannesburg. This in turn helped narrow down the geographic location of where the study had to happen.

Secondly, and informed by the first reason, I then began asking around and was directed to the site, Indingilizi. This came after I had initially considered using another site along the Rea

Vaya route. Initially, I considered studying the Regina Mundi site which is located next to the Thokoza Park Rea Vaya station. Commuters there had 'appropriated' the parking lot and used it as a park and ride system. The station is on a trunk route for the Rea Vaya and is located on the busiest road in Soweto, Chris Hani Road. The development of bus station (Thokoza Park) thus saw more minibus taxis start using the bus stops located around the station as pick up and drop off points for commuters. This informality thus peeked my interest at looking at the site.

Luckily however, I managed to get a hold of Lisa Seftel from the Department of Transport at the City of Johannesburg. She then pointed me in the direction of Indingilizi and explained how it would be more suited for my research purposed, particularly given the fact that it was a purposefully developed site unlike the Regina Mundi/Thokoza Park site, which would have ended up being more speculative in proposed intervention. She also explained how because the site had been developed by the City and had a coloured past (to be discussed below in the research), it would make for better research as resources would be available.

Given it had been a while since I had been in the area where the site was, then visited the site and saw the development and was intrigued by how much had been done and how the area looked and functioned. When I compared it with the Regina Mundi/Thokoza Park site, I chose to look into Indingilizi.

Getting the Interviews

What proved especially challenging was to continuously having to reach out and reschedule meetings and interviews with the various stakeholders (City, taxi association and entrepreneurs). With City officials, the department of Transport and Lisa Seftel were easy to get a hold of and kept their scheduled interview times. She even managed to point me in the direction of the various project leaders in the other City departments. The other City departments however proved to be more of a challenge.

At the JRA I successfully managed to get a hold of Steve Chauke who referred me to Ramathudi Monageng. Mr Monageng kept his first scheduled interview but refused to have the interview recorded, however he did agree to allow me to take notes. This proved a little bit challenging as his job was more technical and required more information. During his interview, he mentioned the commissioned GIBB (2016) research report on the making the

system more financially viable but then stated that he could not issue me a copy and that I would have to request one from the Information officer. She did eventually grant me a copy on condition that I share my research findings with her.

After interviewing the taxi associations, I had to reschedule another interview with Ramathudi Monageng, which had to be rescheduled twice due to his busy schedule. It was when I had one of these meetings rescheduled after arriving at the JRA and waiting an hour, that I had my mobile phone stolen. I did manage to get another interview with Ramathudi Monageng in February 2017 at 06:30am because he was going on leave and that was the only time he had available.

The JDA proved more difficult. The website did not mention the entity's involvement with Indingilizi which made trying to reach some one frustrating. After sending numerous unanswered emails to their enquiry address, I finally had to get help by asking colleagues and my supervisors for help with any contacts at the JDA. I got one with Nicole Pingo who forwarded me onto Matt Jackson, who after a month forwarded me onto Lwazi Sikiti. After 3 months of calling and emailing him, I finally managed to get an interview on the 15th of December 2016. I was promised documentation relating to the construction of the site as well as the architect but have not received any correspondence from him since.

Nobody from the JPC could help at all, even after numerous attempts. Either people would not know what I was talking about and keep trying to refer me to the planning department, or they would keep putting me on hold and never getting back to me. This after repeatedly explaining to them that all I wanted to find out was their stall management process (in general), it did not have to specifically relate to Indingilizi. They would flat out refuse me that information.

The taxi industry was tricky at first, but proved to be the more pleasant and easier to deal with. Lisa Seftel again assisted me with getting interviews with Veronica Mosiapoa. She was the first interviewee and managed to give me a big picture view of what exactly was going on with different key stakeholders. Her interview was particularly helpful because of her positionality. She was the PRO and Media Liaison Officer of DORLJOTA at the time, a member and minibus taxi owner, had joined Pio-Trans, the Bus Operating company set up by the City

for minibus taxi owners who would run the Rea Vaya from that route and was renting[3] out a stall at Indingilizi. Unfortunately, I could not get a follow up interview with her to help corroborate new information I obtained.

Fortuitously, in July 2016 I met Edwin Foster (randomly) who agreed to help me with my research. He explained that his family of Foster Toyota (2017) were merchants in the industry and over and above that he also owned minibus taxis and his operating routes were in Eldorado Park, Johannesburg as well as Johannesburg to Maputo. He also generously agreed to help connect me with Oupa Tsobani, an executive at DORLJOTA. Edwin Forster also granted me an interview where he helped explain to me why he thought the REA VAYA and most of the state's initiatives were badly thought out, this especially in execution and in them trying to muscle out the minibus taxi industry[4].

Mr Oupa Tsobani (now late) was also very helpful, to the extent that he personally provided me with the personal details of MDN and WATA's chairpersons. I called each one and explained how I got their details, who I was and what assistance I needed from them and they both agreed to meet me. I unfortunately only met with Mr Thami Moyo from MDN and his Head of Training and facilitation Samson Mngadi. However, Mr Manzini from WATA, was not as easy to get a hold of and was always either dealing with a crisis or out of town. I even asked if it would be okay to meet anyone else from WATA but he never did get back to me, to the point that I suspect he was even avoiding my calls. The last attempt I made at trying to get a hold of him was in February 2017.

With respect to the traders/micro-entrepreneurs I managed to meet and get in contact with a gentleman from the South African Informal Traders Association at a PlanACT meeting. He forwarded a colleague's detail (who was based in the area) but I could not get in touch with the colleague or the gentleman.

The Metrobus service had its route details made available on various websites and after checking these I soon realised that they did not really have a real stake in Indingilizi. PUTCO on the other hand did not have its route information on the website and after visiting the

[3] Loose use of the word renting here. As it will be discussed later, The JPC had not collected any rent from the traders or made any attempts to communicate with them. Some of the stalls are vacant while others are used for storage by the traders who then trade along Cele Street.
[4] Further discussed in Chapter 6 (Route analysis)

site to take pictures I saw a bus stop and offload commuters a few meters away from Indingilizi. I emailed their contact service which responded timely and they confirmed that they did have a route which passed by Indingilizi.

In summation, gathering information about the minibus taxis and Indingilizi was not that hard. What was hard however was getting an 'in' and building the relationships that would allow me to gain access to more sources in both the minibus taxi industry as well as the state. The interviews in the state even proved trickier as post local government elections, and the ANC losing the CoJ to the DA and its coalition, city officials became cagey and non-committal.

Since the research revolved around the design and functionality of Indingilizi, there was no real need to spend too much time engaging the other bus operators. Another reason was because Metrobus did not really have anything to do with the station and as will be shown in chapter 7, is only affected in so far as routes are concerned. Data relating to routes were accessible through the internet. PUTCO however did interact with the Indingilizi (even though the City was unaware) and its route information had to be corroborated telephonically and through them (they sent through the route information found in the appendix).

In Summation

All in all, how I went about gathering data and information had to rely heavily on the interviews because there was not a lot (if any) documented information on the process involved in the formalisation of Indingilizi. Apart from documentation on the existing structure (which either made reference to the site in conjunction to a project – if CoF or SDF) there is very limited documented on the various stakeholders still to this day. For instance, the City only has some visibility on the minibus taxi operators but did not (or refused to acknowledge) on the PUTCO bus service, and there was still no oversight on the traders, even though they stored (instead of trading from) the storage units. It was only through the interviews that I was able to get information on the various stakeholders and eventually map out their relationships and (in some instances) key objectives.

This is what helped frame the research aim and guide the research.

Chapter 4

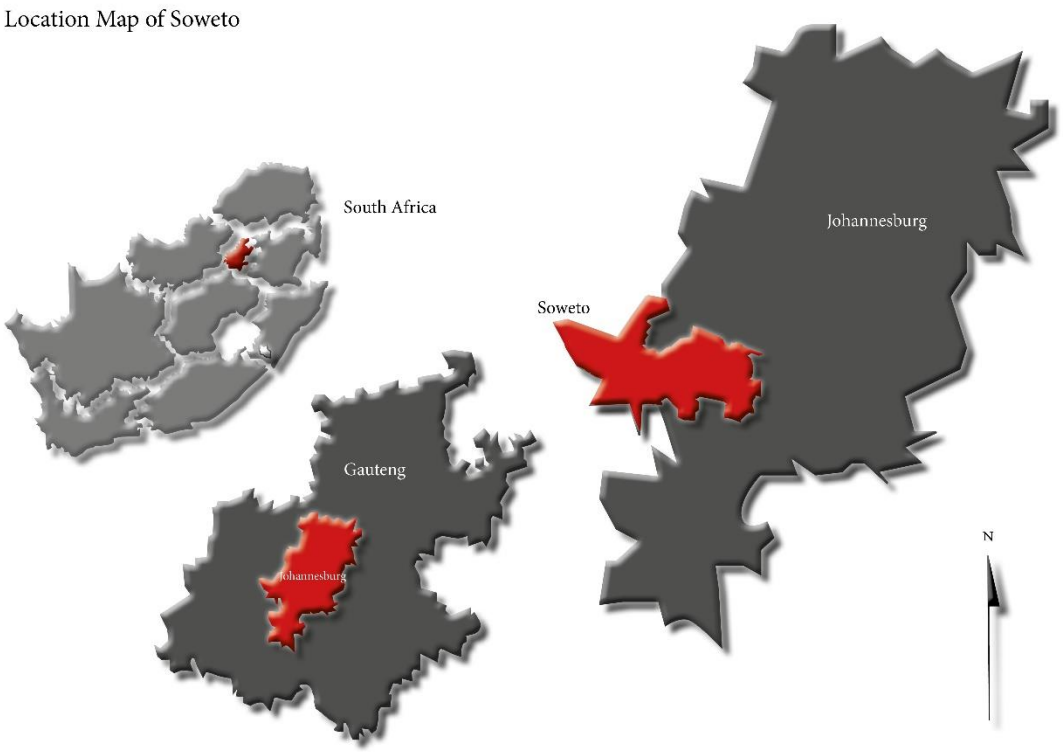
Policies & Planning

Introduction

This chapter aims to discuss the various policies it has drafted and implemented over the tenure of its current IDP. The main idea is to try and understand how each of the four main policy frameworks drafted in the City's IDP have translated into projects which aid the City in fulfilling its mandate of creating spatially inclusive development and equitable economic growth. This will also frame how it will discuss the creation and effective operation of the research site, Indingilizi.

The chapter will begin by providing a brief overview the research site, particularly its location in Soweto, Johannesburg. Building on this we will introduce the area's spatial development framework and discuss how this was not really taken into consideration when the site was developed. As will be explored in conjunction with the various other policies and white papers, this chapter will show how the development of Indingilizi was a missed opportunity by the City to capitalise on existing initiatives and policies

4.1. Soweto



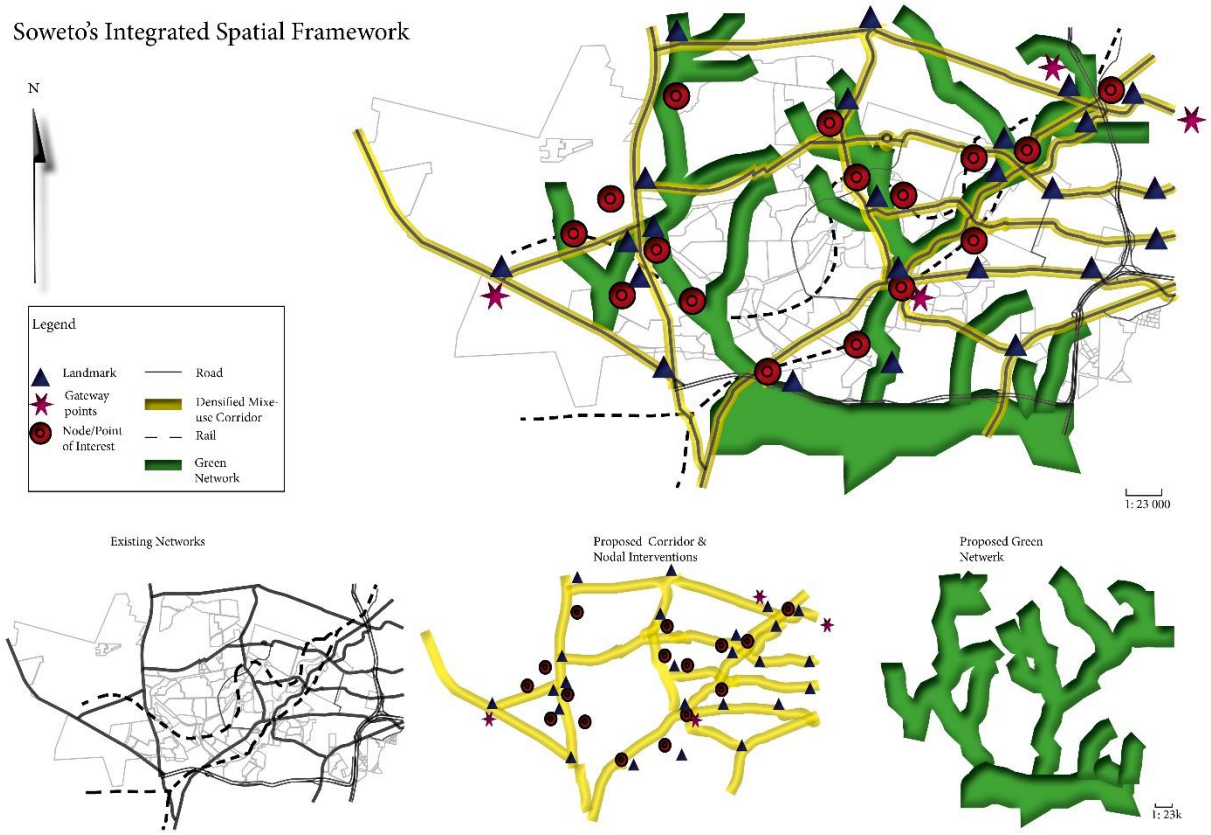
Map 1 Soweto Location - Source: (*Nduduzo Nyanda: 2017)*

The largest township in Johannesburg and home to over 2 million residents (Census: 2011), Soweto a predominantly black area was intentionally neglected by the apartheid government which only saw it as a place to house the cheap labour it needed to build its white formal economy (Bonner & Segal, 1998). It is no wonder why the purposeful underdevelopment in infrastructure spend that went into the area during apartheid, has led to Soweto being a net exporter of its labour force and thus unable to develop and grow a competitive economy.

The City's post-apartheid administration has sought to try correct this through the implementation of the various projects and programmes which are lined up in its IDP, like the Smart City programme, Green & Blue economy, Jozi@Work and Corridors of Freedom (IDP: 2015 -2016). Concentrating particularly on infrastructure spend, these programmes aim to develop the Soweto area into an economic hub, in-line with the Gauteng provincial government's plan of developing key areas of the province (GSDF 2040).

Taking into consideration Soweto's socio-economic situation, the City of Johannesburg embarked on a plan which sought to not just develop the economic potential of Soweto, but holistically turn the area into a desirable destination which attracts investment and business, as well as recreational/tourism capital. This strategy would align Soweto's development with the *Compact City* model which is also being rolled out throughout the City (IDP: 2015-2016). Also spearheaded by transit-oriented development, the idea is to create mixed-use developments along transport corridors, which feed into nodes. These nodes or points of interest (Soweto ISF: 2008) which would require densification, would in turn be used to attract investment which would then develop local businesses and the local economy.

4.1.1. Soweto's Integrated Spatial Framework



Map 2 - Source: *Adapted from the City of Joburg's "Soweto Integrated Spatial Framework 2008, P.42 -48 (Nduduzo Nyanda: 2017)*

The integrated spatial framework was based on five guiding principles which sought to transform and develop Soweto spatially. Although drafted in 2008, the Integrated Spatial

Framework drew heavily on transit-oriented development, as it recognised the need to promote densification along its major routes. The spatial integration framework was thus premised on five guiding principles, of which four directly related to transit infrastructure development. These principles were/are Soweto ISF: 2008):

1. The establishment of a developed public transport network, which would help in the creation of easy access for the marginalised. It would also afford access to opportunities previously deemed inaccessible.
2. Along these established public transport networks, the increasing of densities and the intensification of their mixed uses. By combining the two, the compact city model can be realised.
3. The creation of the compact city, allows for walkability while also allowing residents to "live, work and play" in the same vicinity.
4. Denser, compact cities allow for the more efficient use of space. This also translates to the smarter design and creation of green spaces.
5. The more efficient use of space helps in the preservation of sensitive and sentimental spaces, like heritage sites.

As seen in Map 2 (Above), the targeted areas of development and densification are located along the main arterial roads. Page 47 of the spatial integration plan also mentions how development in Soweto would also be guided by the further development of the Rea Vaya, especially leading to specially target areas like the *Jabulani Precinct* and the *Dobsonville Node* (Soweto ISF: 2008).

4.1.2. Indingilizi

Photograph 1 – Photograph of Indingilizi inside (Nduduzo Nyanda: 2017)

Initially, Indingilizi came about as a response by the City of Joburg's transport department to try and formalise a space which was being used by commuters to get around Soweto and to get to the Johannesburg CBD from Dobsonville. This was also the reason why the City of Joburg chose to also introduce Rea Vaya routes in the space. Initially the space was occupied by the DORLJOTA minibus taxi association, a minibus taxi association which operates predominantly in the western areas of Johannesburg as well as in the West Rand District. Later other minibus taxi operators (MDN and WATA) also came to operate in the space, but only because they operated in different areas and only used the space as a node to drop off and pick up passengers going to or residing in their operational areas.

When the City of Joburg embarked on formalising the space, it did so after it had introduced its C1 Rea Vaya bus route in 2008, which operated between Indingilizi and the Johannesburg CBD. The site area had no formal structure to it, but the City of Joburg's Rea Vaya service was growing in popularity in the area. This was because adjacent to the site there was a fenced off space which DORLJOTA used to park its vehicles at night, and commuters used as a parking facility during the day. The City of Joburg's transport department then saw this as an opportunity to develop the infrastructure on both sites. By developing the infrastructure on

both sites, the City of Joburg's transport department would be able to address a design issue that had plagued other popular REA VAYA stations found along the CoF.

All the formally built structures the City had built up until that point were located in the middle of the road, and in residential areas (like Soweto) had not made concessions for parking facilities for commuters who would have chosen to drive to station instead of either walking or using a minibus taxi. At stations like Thokoza Park, commuters had started using the park and the Regina Mundi Church's parking facilities, and some local community members were benefiting from this as some started charging parking fees, while others started selling goods and food to commuters during peak commute hours in these parking spaces[5].

Indingilizi was different, in that it was "upgraded" or built to accommodate the current status quo. Since it was also located along a thin, but busy arterial road (Mashinini road), also meant the City of Joburg could not replicate its "middle of the road" design for the area, there simply was not enough space to do that. This meant the City of Joburg had to build a structure on the undeveloped site that would not only accommodate all the transport operators that were based there, but also the traders who sold their goods and around the site.

The City of Joburg's transport department saw this as an opportunity to develop the site in line with what the City had envisioned as a transport interchange for its CoF. The development was to also be mixed use, to fully accommodate all entities that were operating there previously. The importance of the site to be mixed use spoke particularly to the City's IDP and Soweto's Integrated Spatial Framework core philosophy for developing the Soweto area using TODs. The main idea of the Indingilizi modelling a mixed-use development would play into what the CoF were mandated to do. They would help the area be better positioned to be able to accommodate higher mixed land-use densities which are what the CoF and the Soweto ISF are propagating for. Without imposing a criterion for the type of economic activity, by only providing supporting infrastructure, more 'organic' and location specific economic growth would occur in the area.

[5] What makes the original Rea Vaya stations feel even more isolated in their design is the fact that traders are not allowed to sell in or around the stations.

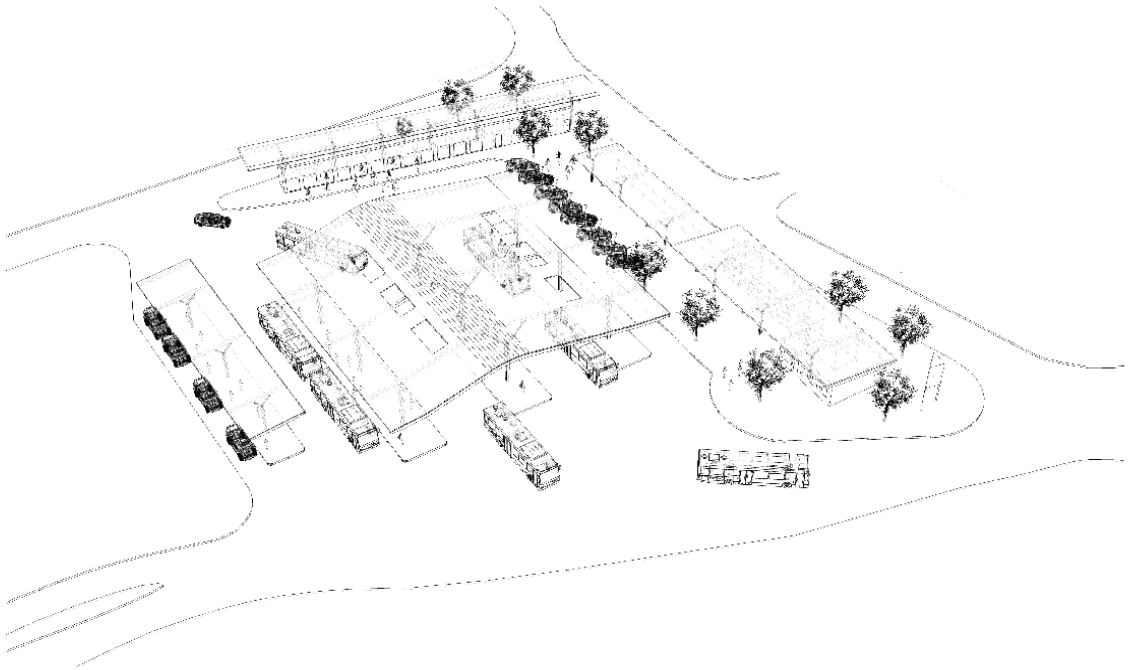


Image 5 – Architects Impression of Indingilizi - Source: *Rea Vaya REA VAYA: Playing a catalytic role towards Integrated Transport Infrastructure Presentation P.25 (13/03/2013)*

4.2. The City of Johannesburg's IDP

Image 1: *What is an IDP (City of Joburg)* ***Source:*** *(IDP 2015 – 2016)*

Over the years, the City of Johannesburg has evolved and redeveloped its strategic development approach for the City in order for it to better fulfil its mandate to its citizens. Primarily guided by the vision of its 2040 growth and development strategy, the City's recent development strategy and vision has become: -

> *"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 - Joburg GDS 2040 Strategy*: 2011) (Joburg 2015-2016 IDP: P2)*

In becoming a "World Class African City", and fulfilling this vision, the City of Johannesburg has had to adopt ambitious short and medium-term mandates and goals through its IDPs. These IDPs aim to not only address current and periodic obstacles which the City needs to address, but also set and achieve short to medium term targets which are aligned with the long-term vision (City of Johannesburg - Joburg GDS 2040 Strategy*: 2011*). The five year IDPs which are the medium-term plans for the City are also legislated by the Municipal Systems Act 2000, and are meant to be revised periodically (preferably annually) to address any unanticipated by problems that may have risen in a fiscal year.

For instance, one of the City's desired outcomes from its 2015-2016 IDP is the creation of "an inclusive, job intensive, resilient and competitive economy that harnesses the potential of its citizens." (IDP: 2015-2016). This desired outcome is still in-line with both medium and long-term goals and visions in creating a "World Class African City", however given the fact that the City of Johannesburg is the largest economy, located in a developing country, it will have to address obstacles particular to the developing space. An example of these obstacles is dealing with push migration. The City of Johannesburg attracts a substantial unskilled/semi-skilled population from the rural areas or other urban areas across South Africa and from throughout Africa. These people come to Johannesburg because the City houses the largest economy on the continent – (GDS 2040 Strategy*: 2011*), and thus come to seek out a better life for themselves.

For the many unskilled migrants who even manage find employment in the City, usually find minimum wage paying employment which hardly affords them adequate housing within the City or their places of employment. This means they usually have to find informal forms of housing in informal settlements around the City or even within abandoned or hijacked buildings in the City centre. For those who find themselves in the informal settlements, this usually means travelling longer distances to their places of employment, usually by minibus taxi. This means they incur high travel costs and usually have to engage in multiple trip chains in order to get to their places of employment and back. Couple that with the menial wages they earn, they usually end up trapped in a cycle of poverty because most of their wages end up paying for food, rent and transportation (GDS 2040 Strategy*: 2011*).

For those who find themselves living in hijacked or abandoned buildings, usually have to share small, cramped apartments with numerous other individuals and sometimes families. They have to pay relatively higher rents than those in informal settlements because of their closer proximity to economic opportunities and amenities. But they are as if not more prone to being evicted from these buildings and homes by the City and landlords than those who live in informal settlements.

In order to achieve its vision of becoming a "World Class African City" the City of Johannesburg would have to address these and other challenges that come about because of forced

migration (GDS 2040 Strategy*: 2011*). The City would have to strike a balance of not only furthering development for its own sake in attempting to attract investment to drive economic growth, but also customising it to adequately address these challenges which are specific to it in a developing context. It would also have to proactively address these concerns while it also dealt with the post-colonial and apartheid legacy it has been left with, which has people of different races, ethnicities and classes divided and settled in different parts of the City (GDS 2040 Strategy*: 2011*).

In its strategic development approach, the City of Johannesburg coordinated the IDP's vision and its outcomes to a list of interim priorities and focus areas the City of Johannesburg deemed significant and necessary in addressing these and other challenges its facing. These Priorities are *(IDP: 2015-2016)*:

Priority 1: *Financial stability & resilience*

Priority 2: *Agriculture and food security*

Priority 3: *Sustainable human settlements*

Priority 4, 8 & 9: Economic growth as constituted by:

Priority 4: *SMME & Entrepreneurial support*

Priority 8: *Investment attraction, retention and expansion*

Priority 9: *The Green economy*

Priority 5: *Engaged and active citizenry*

Priority 6: *Resource sustainability*

Priority 7: *Smart City*

Priority 10: *Safer City.-*

Each one of these focus areas or listed "priorities" are what inform a 'house' anagram the City of Johannesburg's has formulated for its IDP. This anagram is made up of the various growth and developmental programmes the City of Johannesburg has implemented in trying to achieve its short to medium-term visions, which build up to its long-term 2040 vision and goal. The various "flagship" programmes try and incorporate and communicate each of the

priorities, in their quest in delivering the IDP's mandate. Each of the flagships programmes although governed by their own policies and mandates, each is designed to positively affect and change the current spatial status quo. The four-main flagship programmes/projects the City of Johannesburg has embarked on are the Corridors of Freedom, Jozi@Work, Gren & Blue Economy as well as the Smart City project. The last three however have been scrapped by the newly sworn in Mayor, Herman Mashaba. Although each of these projects has its own set of deliverables and mandate, each one still directly impacts the others in some form or another. (IDP 2015 – 2016). For the purpose of the research I will briefly explain each programme, but will primarily focus on the Corridors of Freedom, as they directly influence and affect this research and Indingilizi, the research site.

The Four Pillars of the IDP

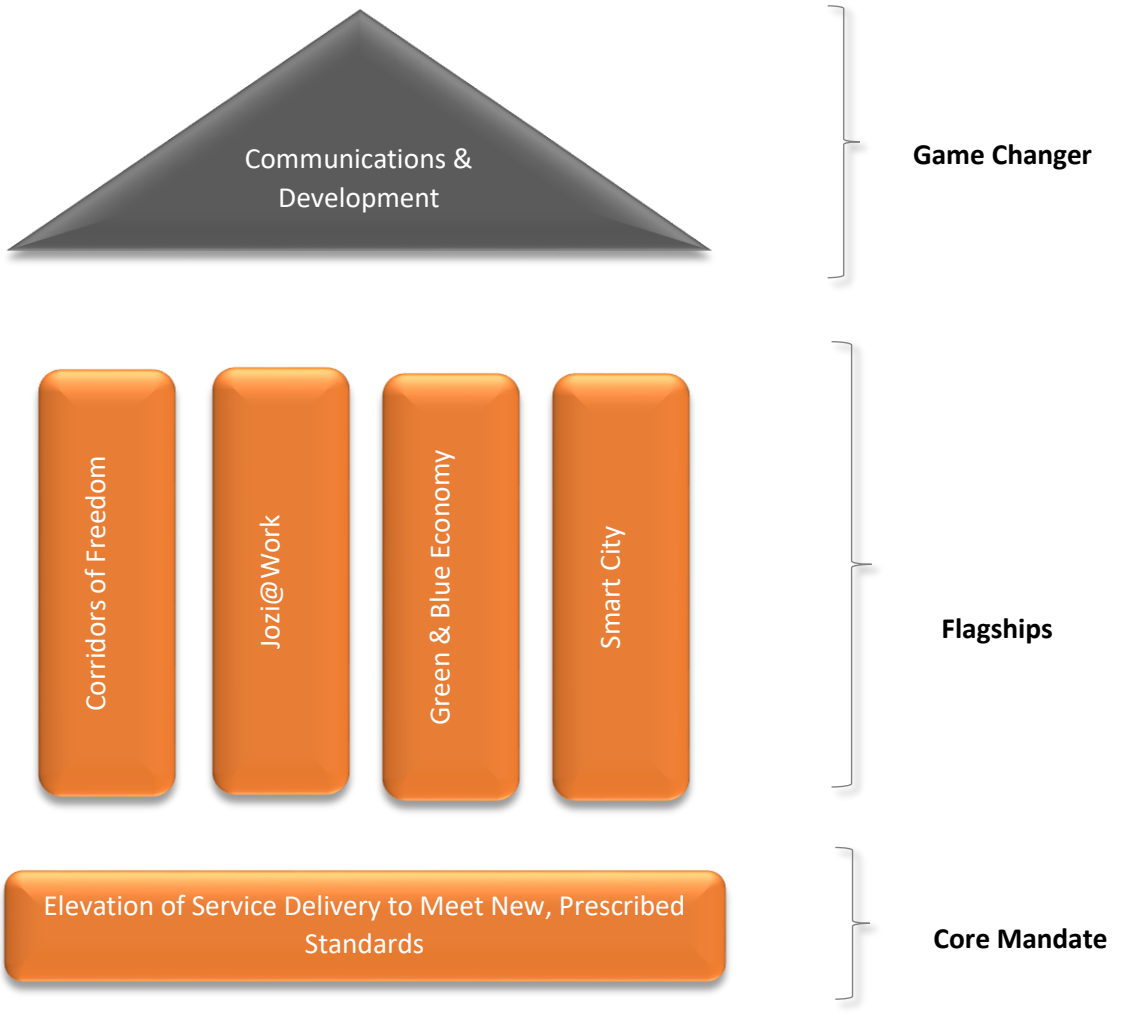


Image 2: *Four Pillars of an IDP* ***Source:*** *(City of Joburg)*

4.2.1. Smart City Programme

The Smart City Programme is the City of Johannesburg's attempt at providing "affordable and universal access to communication services" (IDP 2015 – 2016) for residents. This has been done through the role out of various smart infrastructure and product services all aimed at either improving service delivery to residents or bringing much needed infrastructure services to previously underserviced and marginalised communities across the City.

The smart service infrastructure the City of Johannesburg has rolled out, is aimed at assisting the City of Johannesburg improve its service delivery capabilities, especially considering the billing crises it experienced preceding its introduction (Mail & Guardian: 2011). These services include the introduction of smart-metering services for water and electricity services, so residents can also monitor their own consumption and thus pick up on inaccuracies in their utility bills. It is also envisioned that the system will extend further to just online monitoring and payments. In the bigger scheme of things, integration of the data acquired from smart-metering and its constant real-time monitoring will in future help in the formulation and implementation of growth and development policies for the City of Johannesburg.

The roll out of smart infrastructure is also aimed at helping to improve the lives of marginalised residents and communities around the City (City of Joburg: 2015). These are largely the non-white communities which were underdeveloped by the apartheid government and are located farthest from centres of employment or opportunity. Smart infrastructure in this instance comes in the form of over 900km of new fibre-optic networks laid across the City providing free WIFI internet to these communities. The idea here is to assist residents in these communities gain access to essential communication services otherwise deemed too costly. For students, the free internet is envisioned to assist with homework and school research. For the unemployed, the internet can assist in either helping them access online job search portals, or even better yet, helping them start their own business (City of Joburg: 2015).

This programme speaks to a number of the "priorities" listed by the City that need to be addressed, such as *priority 1* and the creation of a resilient City for its residents. The roll out of the infrastructure allows residents to become self-sufficient in their endeavours, while

providing them with tools (through the services) within their communities to develop and access opportunities (*priorities 4, 8 & 9)*. The added investment in these communities that have been previously neglected, also translates into the re-investment into these communities in both the human capital sense and in the physical infrastructure which in itself address the reinvestment in sustainable human settlements as well as in a sustainable resource (priorities 3, 6, 7 & 8) (IDP 2015 – 2016: P173).

4.2.2. Jozi@Work Programme

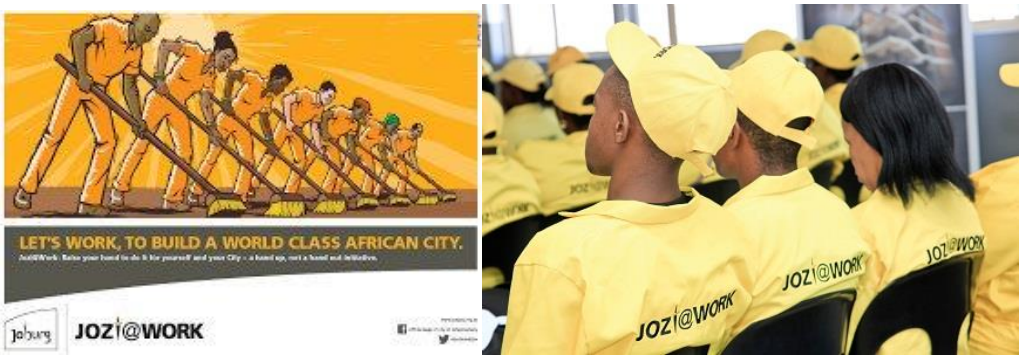


***Image 3**: Jozi@ Work **Sources**: 2016 & 2015*

The Jozi@Work programme was a City and community partnership programme launched by the City's former executive mayor, Parks Tau. The initiative aims at empowering communities to actually take charge of their own development and service provision. The programme seeks to encourage development and employment creation in marginalised communities by encouraging community members to form community based closed corporations and cooperatives to which the City would tender localised service delivery work.

For instance, the City of Johannesburg (through this initiative) would award tender work to a cooperative or community-based company in its own community to cut grass or paint road signs on tar surfaces. This is to ensure local communities benefit directly through employment opportunities for services rendered to itself (City of Joburg Jozi@Work: 2015). This would also ensure that members of that community are also upskilled while earning an income, so as to try and get them to start up their own businesses in whichever form of artisan skills they may have learnt. This then ought to help kick start the local economy as more people would have been empowered to start up small businesses with the new skills they would have learned (IDP 2015 – 2016: P172). In the long run, the City would then benefit, as it would be fulfilling

its mandate of helping to alleviate unemployment and poverty, while simultaneously improving service delivery and its tax base to improve the sustain the improved service delivery (Priorities 1 – 9).

4.2.3. The Corridors of Freedom

Image 4: *Corridors of Freedom* ***Source:*** *2016*

The *Corridors of Freedom* are a transport led spatial transformation initiative devised by the City of Johannesburg to try and "re-stich" the City's racially and class sprawled and divided neighbourhoods (IDP 2015 – 2016: P172). The main aim of the project is to develop a series of transit networks which operate along main arterial routes, connecting previously disadvantages and marginalised communities with areas of opportunity. The project also aims to create new areas of economic opportunity and development in the previously disadvantaged and marginalised communities, by developing mixed land-use nodes and transport interchanges in these communities. The hope is to create new economies and industries in these communities through the implementation of the other mentioned policies and programmes (Jozi@Work, Blue & Green Economy & Smart City), although largely driven by transit oriented development and infrastructure spend in the long run (CoF: 2016).

The transit aspect of the project is based on the development of a Bus Rapid Transit system, which would provide "fast, safe and affordable mobility" (CoF: 2016) to commuters along its corridor networks. This would also serve in developing a dependable, formal transport network, which connects various parts of the City together. In essence, the REA VAYA system, or *Rea Vaya* is meant to provide cheap and reliable transport to Johannesburg residents where Metrorail and the Metrobus do not have access to, while also providing a safer alternative to the minibus taxi (CoF: 2016).

Spatially, the Corridors of Freedom have been earmarked to span across the City of Johannesburg, with the first two phases having already been rolled out. These two phases, Phase 1A & 1B, provide access to the Johannesburg CBD for residents of Soweto, Noordgesig,

Westbury Eldorado Park and communities along parts of Main Reef road, New Canada road, parts of Beyers Naude Drive as well as the Soweto Highway.

The newly developed arterial routes of the Corridors of Freedom are meant to attract new economic development along them, furthering the idea of "re-stitching" the City of Johannesburg together. The newly created mixed-use developments are also meant to attract much needed higher densities, which are needed to ensure the transit system is operationally sustainable (CoF: 2016). Spatially these mixed-use densities are also meant to translate into what the City of Johannesburg refers to as "Live, work and play" (CoF: 2016) corridors for residents for the previously segregated (class and race) residents of the City. The transit infrastructure is also meant to support the *Green & Blue economies*, through the development and support of *Non-Motorised Transport* (NMT) like bicycle lanes, and new small and medium informal enterprises (CoF: 2016).

The Corridors of Freedom are also meant to formalise and try to regulate the minibus taxi industry, by incorporating the industry into the REA VAYA system. Through the creation of operating companies or "Special Purpose Vehicles" (Rea Vaya: 2016) which will run the system (PioTrans[6] and Litsamaiso[7]), the City negotiated ownership agreements with various minibus taxi associations and minibus taxi owners. The agreements saw minibus taxi owners hand over a vehicle (or as many as they wanted to) to the City for a lump sum (R740 000.00 per minibus taxi) and shares in the Bus Operating Company (BOC). The minibus taxi owners also received a monthly payment of R 7500.00 for the duration of the 12-year contract as compensation for income lost during the initial roll-out phase for members of the BOC, and until the system itself starts turning a profit (Lisa Seftel interview: 2016).

Policies and programmes like the Corridors of Freedom have thus informed the construction of projects like Indingilizi, in Dobsonville.

[6] PioTrans Litsamaiso Bus operating company operating the bus rapid transit ('REA VAYA') service between the Johannesburg CBD/Braamfontein and Soweto (Rea Vaya:2011).

[7] Litsamaiso Bus operating company operating the bus rapid transit ('REA VAYA') service between the Johannesburg CBD and Braamfontein/Parktown with Soweto, as well as Auckland Park and Cresta (Listamaiso: 2017).

4.3. Transport Policies & Planning

Policies relating to the regulation of the transport and planning space in South Africa are drafted and implemented by the three spheres of government. Specific to the South African context and thus Indingilizi case, in the *Overview of Public Transport Policy Development in South* Africa, Walters (2008) discusses the various ways the South African public transport system was 'overhauled' in order to try and accommodate and better develop the various transport systems that exist in South Africa. Walters (2008) discussed the pending plans and policies that were drafted at the time by national government, in their efforts, who tried to modernise the public transport system.

Starting with the White Paper on National Transport Policy 1996, Walters (2008) tries to show how the state did not necessarily fail at identifying shortfalls in the public transport sector when it drafted these policies. Walters (2008) instead shows how failure only came because of when these policies had to be implemented. With respect to state run entities, Walters (2008) argues that because most if not all of the public operations and entities are segregated in their operations, this had a directly negative impact on the commuter and the public transport system as a whole as there was (and still is no cohesiveness in operating) and is the fundamental reason why more commuters chose to opt out of both the formal and informal public transport[8] system and prioritised the buying private vehicles.

What is interesting to note with all three spheres of government and in their drafting of legislation and policies concerning public transit is in how all three profess to be drafting policy for the commuter when most of the policies at a macro-level and at best an operational level, and not addressing the concerns of the actual commuter. For instance, National policy (discussed in better detail below) largely seeks to speak to operators, and instead of setting out their mandate, seeks to regulate their operating framework. For instance, bus companies have to adhere to operating (mechanical, legal and human) and financial criteria for them to be able to eligible to service commuters. Minibus taxis are largely unregulated and from a

[8] For the sake of this paper, we will refer to the minibus taxi industry as an informal public transport operator only because it is a quasi-regulated industry in so far as how involved the state is in regulating its actions and operations. The formal public transport space will refer primarily to the commuter bus and rail industry (both public and private), only because the state has legislation and mechanisms in place which do regulate these entities' operations.

national stand point only need to adhere to vehicular roadworthy standards as well as those relating to their permits and the driver.

Provincially the similar legislation set by national government is expected to be implemented. However, provincial government is then supposed to set more stringent detailed criteria for the operating of public transport operators (minibus taxi and buses). They also expected to go one step by also designing development/urban frameworks which are meant to help operators plan and shape their future growth in-line with how the state envisions it through the National Development Plan (NDP). For instance, the Gauteng government's GDFS 2030 aims to integrate public transport payment systems in the near future. This is meant to lower costs and better integrate the different public transport systems currently operating in the province, similar to the Oyster card system used in London in the United Kingdom. Along with other policies aimed at creating new transport corridors which link different parts of the province together and the creation of precinct nodes to help spur development, these plans spatial development plans seem to not only be ambitious in nature, but more so over reaching, especially given the provinces constitutional mandate when it comes to planning (GSDF 2030).

With local government and municipalities, they are supposed to not only create the spatial development frameworks which are meant to meet the needs of their constituencies, but also ensure these development frameworks are aligned with both national and provincial mandates (NDP especially). Municipalities also have the task of ensuring not only are their plans are aligned with the other two spheres of governments', but also implemented even with limited resources at their disposal. What places municipalities under greater pressure is the fact that they are the one sphere of government that is expected to ensure all policies and programmes created by the other spheres of government are implemented. It is also the first in the line of fire should the programmes not work or prove inadequate. This is problematic for municipalities because of how they approach civil problems and programmes as opposed to national and provincial government.

Municipalities have to focus on trying to improve the day to day running of their municipalities, which also means dealing with the micro and minutiae details the other two spheres of government do no look at. For example, relating to transport and bus companies, municipalities are the ones unions usually engage with, and not necessarily province or

national government. They only engage these levels of the state only when there is no resolve with local government. Minibus taxi operators engage the local government when dealing with issues relating to permits and routes (even though it is largely province and national government's mandate to build the roads). Below I unpack how each operator is affected by transport legislation and relate it to Indingilizi.

4.3.1. Bus Operator Regulation

Walters, J (2008) describes how the policy and legislation that governs the commuter bus industry is a culmination of the initial *White paper on National Transport Policy of 1996*[9], the *National Land Transport Transition Act of 2000* and the *Moving South Africa Strategy (MSA 1998)*. The Department of Transport (DoT) signed an agreement with the heads of organised labour and the Southern African Bus Operators Association, to regulate the labour aspects of the tendering systems (for subsidies). In short, operationally, the policy governing the commuter bus industry focuses more on contractual service agreements between bus operators than on the actual operations of the services for commuters.

For instance, the *White Paper on National Transport Policy 1996* makes mention of how operators may obtain permits, licences, contracts and tenders. Very little is mentioned of exactly what their duties are and to what extent they are liable to the commuter. Instead, the only mention of a relationship between the operator and the commuter is made with respect to the sphere of government that operator will have to engage with when either making applications for licencing or operating. This, coupled with the mention of the Constitution alludes to the fact that each bus operator depending on who they service (province or local government) is then subjected to their laws, rules and regulations Walters (2008).

This becomes slightly problematic because of the geographic area most bus services cover. Some bus services like Putco service commuters in different municipalities. These municipalities have different bylaws. So, for this bus company to only see province or national government as the authority they will adhere to, undermines the local government structure, especially since local government is the sphere responsible for maintenance of local

[9] **The White Paper on the National Transport Policy 1996** was

infrastructure like roads or bus stops even if they were built by province or national government (Municipal Structure Act 2000).

4.3.2. Minibus Taxi Regulation

With respect to the minibus taxi industry, the most legislation that has been ascribed to the "regulation" of the industry pertained to its recapitalisation which is mentioned in both the *White Paper on National Transport Policy 1996* and the *Moving South Africa Strategy (MSA 1998)*. In short, in a move which was aimed at making the industry safer for commuters, the state offered a R50 000.00 subsidy to operators to have their 16-seat minibus taxi's scrapped and for them to purchase either 14-seaters or 19 – 35 seater minibus taxis certified by the South African Bureau of Standards (SABS). In Johannesburg, the move was coordinated in-line with the REA VAYA negotiations and the 2010 World Cup. Overall, the Taxi Recapitalisation Programme was aimed at reducing the number of minibus taxis on the road from 120 000 to below 80 000 Walters (2008). By reducing the number of minibus taxis on the road and getting operators and owners to buy the newer certified minibus taxis, the state could somewhat 'regulate' the industry by knowing exactly who owned how many taxis and in so doing know exactly who operated which route and thus made how much (Walters 2008).

The unfortunate part of this strategy was two-fold. Firstly, like most policies legislated, the inconsistency of its implementation was to be its downfall. During the years leading up to the World Cup, law officials and traffic regulators held consistent roadblocks, checking minibus taxis roadworthiness. Those vehicles which were not deemed to be were confiscated and eventually scrapped. This after the grace period for operators to comply had expired. Thereafter, permits were either confiscated or withheld if vehicles or the drivers failed to meet regulatory standards. However, after the 2010 World Cup these roadblocks started becoming few and far in between, and some operators reverted back to using the 16-seater Toyota Hi-Ace Walters (2008).

The second reason why these policies failed was because of the failure of their implementation and the policy did not receive the necessary support (Walters 2008). From the minibus taxi operators' side, the newer vehicles were not making enough money or were losing operators and owners money. For instance, the 14-seater minibus taxi during peak commute times meant they were losing two passenger fares, which meant over the two or three-hour peak time they would have to either rank one extra time just to meet targets or

(from the owners' perspective) get another vehicle. Given the state would only subsidies R50 000.00 for the one (which had a going rate of over R300 000.00) meant the owner had to then put pressure on the driver to try and cover each fare lost some time during the working day (Edwin Foster Interview: 15/09/2016).

While the 19 to 35-seater minibus taxis would take longer to fill up during peak and especially off-peak commute times (Edwin Foster Interview: 15/09/2016). This was further exacerbated by the fact that operators that chose to buy these larger minibuses received the same R50 000 subsidies even though these vehicles cost substantially more to purchase, to run and to maintain (Edwin Foster Interview: 15/09/2016). What also made things worse was the fact that in areas like Johannesburg, the implementation of the Rea Vaya came around the same time (2009) (Rea Vaya: https://goo.gl/kfCajl), which meant these minibus operators did not have enough time to not only try and adjust to operating using the new larger/smaller minibus taxis before now having to compete directly with a fully subsidies system, even if they bought into it (MDN and DORLJOTA associations).

4.3.3. Transport Policy & Legislation application

The *"silo-ing"* of the different public transport operators, coupled with a public's "buy-out" is what makes it harder to adequately plan and operate an efficient public transport system. Walters (2008) points out that because the different public transport services are not integrated, this leads to longer commuting times because of the non-existing coordination between the operators, which then leads to operational inefficiencies that inevitably require more immediate funding, which translates to higher fare prices for commuters.

With the introduction of the Rea Vaya system this is evident. Although heavily subsidised, the systems pricing has seen significant increases over the years. This is as it tries to compete as oppose to complement with the minibus taxi industry and other transport systems. In a (2015) study funded by the Department of Science and Technology titled *Integrated Planning, Development and Modelling* (IPDM), they found that the average Rea Vaya user saved around 2% on their daily travel fare, when compared to minibus taxis (IPDM: 2015). These prices have

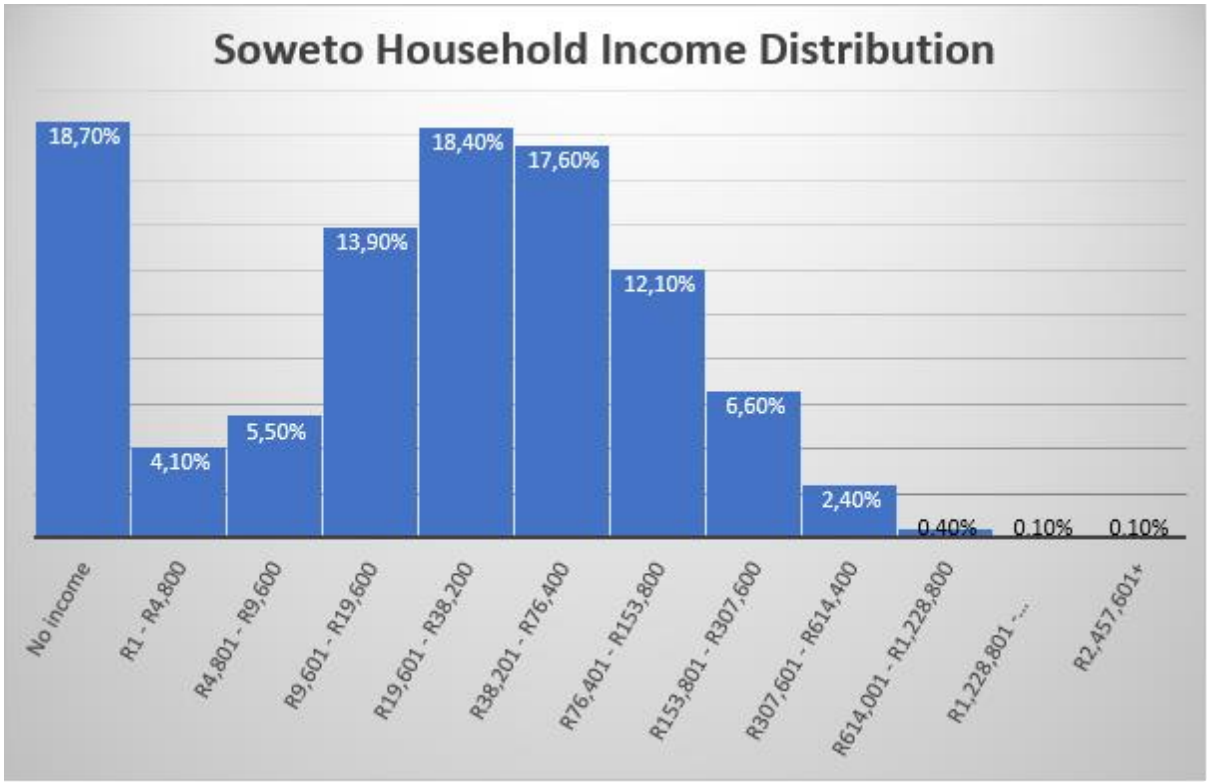
since increased by 12% p.a. over the years even though the price of fuel has come down[10]. However, minibus taxi fares have risen slightly less in comparison**,** this to the point that some instances Rea Vaya ticket prices have exceeded their taxi rivals on average. So even when compared with those minibus taxi operators which have higher fares the Rea Vaya is at a disadvantage to the Rea Vaya because minibus taxis are able pick-up and drop off commuters closer to their destinations than the Rea Vaya.

In other policy implementation issues Walters (2008) illustrates disconnect between policy and its implementation when she assesses the results of a National Household Travel Survey that was carried out in 2003. The study, which intended to try and understand the transport needs of households and commuters, so as to gain a better understanding of the typical costs they incurred using public transit (from the state's perspective). This was then intended to help the state in the identification, formulation and implementation of new projects, and in building new and appropriate infrastructure, which would then be better aligned at benefiting commuters and the economically marginalised.

The IPDM 2015 study found issues of affordability linked directly to the fact that the different public transport providers operated independently and that there was no synergy and synchronicity in the industry. Couple that with the legacy of apartheid spatial planning which places the most economically marginalised members of society farthest away from economic opportunities and their places of employment, further drives up what they have to spend on transport costs. The study found only around 10.7% of households surveyed had a total income of over R 6000.00 per month (p.m), while the clear majority and the rest of the households (around 83.1%) had an income of R 6000.00 p.m and below. This coupled with the fact that most commuters also complained about how most formal forms of public transport, like trains and buses as either being inaccessible and located inconveniently from their homes or places of employment or not being available at all, meant they ended up spending more of their income on transit and connecting with different modes of transport just to get to and from work/opportunities. This explains the large percentage of road commuters also said they preferred to use the relatively more expensive and informal

[10] International Brent crude oil prices reached their highest levels in 2005 (US$ 147.02/barrel) this after the US occupied Iraq after it did so earlier in Afghanistan. The halt of oil exports and drilling in Iraq and reluctance of OPEC to increase supply caused market panic of potential oil shortages, which then subsequently led to the spike in oil and then petrol prices (FT: 2008).

minibus taxis, simply because of the industry's reach and ability to adapt and meet new transit demands Walters, J (2008).



Graph 1: Soweto Household Income Distribution (Stats SA Census: 2011)

Graph 1 above illustrating Soweto's Household Income Distribution, shows how a considerable percentage of residents in the area (18.7%) have no income and are most probably dependant on social grants. Over 78.2% of households in Soweto take home just over R 6000.00 per month (an average of around R 6373.18 to be exact), which coincides with the national figures Walters (2008) drew to our attention. Couple this with findings from the same study which showed that commuters used a considerably proportionate portion of their income on travel as so did those who used the more expensive minibus taxi and private vehicle options (between 30 - 40%), this then seemed to infer that the relatively lower price paid by commuters on subsidised modes of transport do not pay off in the long run, simply because they still ended up spending more time in transit for only fractionally less fair.

Similar findings and induction can be made of Indingilizi. The GIBB (2016) study could only account for between 20 – 50% bus utilisation/occupancy during peak times for the C1 route for the Dobsonville area. The bus in total only reached just over 80% capacity once it left Diepkloof, which means between each of the 18 stops (From Indingilizi to Diepkloof) the bus would fill up by an average of 4%. However, once it reached the Booysens area and for the next 14 stops, it would empty at a rate of around 6%[11].

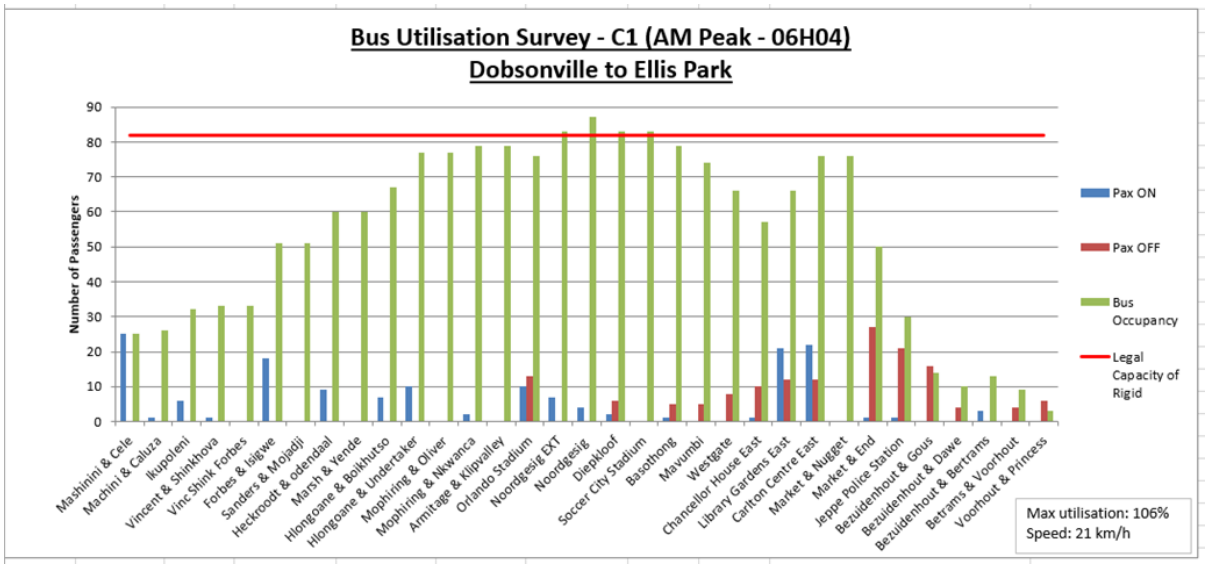


Diagram 4 : Bus Utility Survey C1 - Source: (GIBB: 2016)

Commuters also complained about the issue of time**.** The same household study highlighted how the average travel time for commuters using the various forms of public transport varied from around 90 minutes per trip on a train (the longest), to around 65 minutes per trip on a bus, 50 minutes per trip on a taxi, around 35 minutes by car and to the quickest 25 minutes if you are walking[12]. What is interesting to note from the study, is in how (except for walking to an extent[13]) the quicker the mode of transit is, the more expensive and smaller it is in its

[11] Using the graph provided (with no actual data) total occupancy rate of around 85% is assumed for the C1 bus route, given its maximum threshold is given at 80% (GIBB: 2016).

[12] The walking data related to people who lived closer to either their places of employment or places of recreation, which meant a distance of less than 5km.

[13] Technically speaking walking could be considered the most expensive form of transport, should we also consider property prices and rents in the equation. The convenience of living near where one works in a City like Johannesburg means they are living in relatively more affluent and developed areas which would demand higher prices for rentals.

capacity to carry passengers. This is because the larger forms of transport are not only able to carry more passengers in one load when compared to minibus taxi's or private vehicles, but because they are able to means they are to keep their costs lower.

Also and as important is the fact that larger forms of public transport are subsidised by the state while minibus taxis, maxi taxis and private vehicles are not Walters (2008).

Conclusion

This chapter demonstrated how the City of Johannesburg has been over the years, formulating and enacting various policies and action plans/programmes to try and address the developmental challenges it faces. Given that the growth policies have spanned over three administrations[14] (Masondo with the Corridors of Freedom, the Rea Vaya and Soweto's ISF and Tau with the Smart City Programme and Jozi@Work and currently Mashaba continuing the Corridors of Freedom, it is good to know that some continuity with respect to how an envisioned growth trajectory can be realised.

In the Soweto area, where Indingilizi is situated the vision has always been the economic development of the area through the creation easy access points and movement for people living in Soweto and working elsewhere through transit development. This is evident in the ISF with the various entry and exit nodes planned for, as well as in the various corridors prioritised to try and increase the level of access for Soweto residents to the northern economic hubs/opportunities located in areas like the CBD, Rosebank, Randburg and Sandton.

While understanding the need to create ease of access for the people in areas like Soweto, through the creation of infrastructure like the Rea Vaya, the policies adopted seem to also address the need to develop these previously underdeveloped areas. These policies seem to speak to the issue which recognises the importance of attracting money/capital into an area and keeping it there long enough so that it is able to compound itself with in that area. This helps areas (and people) move out of poverty.

[14] All programmes accept Jozi@Work which was discontinued by Mayor Herman Mashaba shortly after he took over after being elected in 2016 (City of Joburg: https://goo.gl/BTguLD)

Spatially, given that these areas (like Soweto) have the potential to become economic hubs, it would only make sense to couple the infrastructure policies with policies which seek to further develop the human capital necessary to maintain and further develop the capital infrastructure investment made by the City. These policies also have to be cognisant of the fact that many of the people in need of these skills and infrastructure are not professionals and need to be upskilled first (Jozi@Work). However, these same policies must still take into account the fast pace and trajectory the world is moving into, where information and IP hold higher value than the ability or capacity to manufacture (Smart City Programme).

With respect to transport operators and their regulation, there seems to be massive oversights in terms of what the City (and quite frankly the state) aim to achieve with what has and is being implemented. With respect to the bus services little regard is given to municipalities by the bus companies (unless they are run by municipalities) as to how to operate. The private bus companies only seem to serve their own interests and will only adhere to regulation pass down by the provincial and national spheres. This is problematic for the local spheres of government because it then makes the process of transport planning that much harder, because they have to account for services that would much rather engage with provincial and national bodies, purely because that is where they receive their subsidies.

With respect to Minibus taxi operators, it seems not enough is being done to regulate the day to day operations of the industry or even incorporate it into the formal economy. It is very clear that the industry services the majority of the commuter base, yet subsidies only go to the bus services. Yet like the bus service the minibus taxis operate across various municipalities, which thus makes it harder for municipalities to regulate. Meaning the buck ought stop with province and national.

In short, the City has been able to create policies (although not perfect) which seem acknowledge the heterogeneity and complexity which occupies its various regions, particularly those in areas like Soweto. However, as will be discussed in the coming chapters, having beautiful polices is one thing, having the ability to apply them effectively is another. Being able to bridge the gaps between the short oversights and assumptions policies infer about situations and stakeholders is major feat which the (at certain points) City miscalculated.

Chapter 5

Stakeholders & Their Relations

Introduction

This chapter seeks to look at the different stakeholders that interact with each other and which have a stake in Indingilizi. By turning our attention to the stakeholders, we look at not only the politics and power relations at play at Indingilizi amongst the various stakeholders, but more so – in relation to our research question and topic, try to see if these relations/inactions work in trying to make a success of Indingilizi as transport node/interchange.

Starting by providing an introducing to each stakeholder, this chapter will try to contextualise each stakeholder's role within the chronological context of the making of Indingilizi station. This should help in discerning roles of responsibilities towards Indingilizi and help in understanding the existing power relations. It is important to note that the theme of power relations among the various stakeholders will feature again in a later chapter when transit routes are discussed. That however will be in the context of the analysis of routes which will be on a macro-scale. However, in this chapter, we aim to understand the power and political relations of these stakeholders on the micro/medium scale which is in relation to Indingilizi, the research site.

We will look at four main actors at this level and each of their relationship with the site. Beginning with the state/ city level, with the municipal department of transport: we will discuss how and why it thought to bring about the infrastructure development in Indingilizi. Since the department is also technically the custodian of the site, we will look at how it managed to get the project off the ground and completed**.** The other state entities which played a role in the construction and or the operating of Indingilizi will be introduced in-line with the department of transport. These are the Johannesburg Development Agency (JDA), the Johannesburg Roads Agency (JRA) and the Johannesburg Property Company (JPC). The JRA which still runs a substantial part of the operations at Indingilizi, will be discussed in greater detail, primarily because unlike the other entities it still has an on-going relationship with Indingilizi.

The main other stakeholders are the taxi associations. The two taxi associations that will be discussed in this chapter (and throughout the paper) are the Dobsonville, Roodepoort, Leratong, Johannesburg Association (DORLJOTA) and the Meadowlands, Dube and Nood (MDN) taxi associations. There is a third association, WATA, but unfortunately after numerous attempts, interviews with the association could not be secured. Here, the relationship between each association and the site will be interrogated. Again, without getting into the route dynamics which will be discussed fully in a later chapter, our aim here is to try and understand the relationship each association has with the site, the City and with each other. This should help in understanding power relations on the site between the associations as well as with the City and surrounding community (if there is one).

Lastly, we will introduce the other stakeholders that do operate in or around the site, namely the traders which have had structures built for them in Indingilizi; and the PUTCO bus company which loads and off loads its passengers along Cele Street in between Indingilizi and the park and ride facility. Here we will discuss what these two stakeholders have seemed to become/rendered either as 'forgotten/invisible'. We will discuss why they have been relegated down to the bottom rung of the power ladder.

Stakeholder Relation Anagram

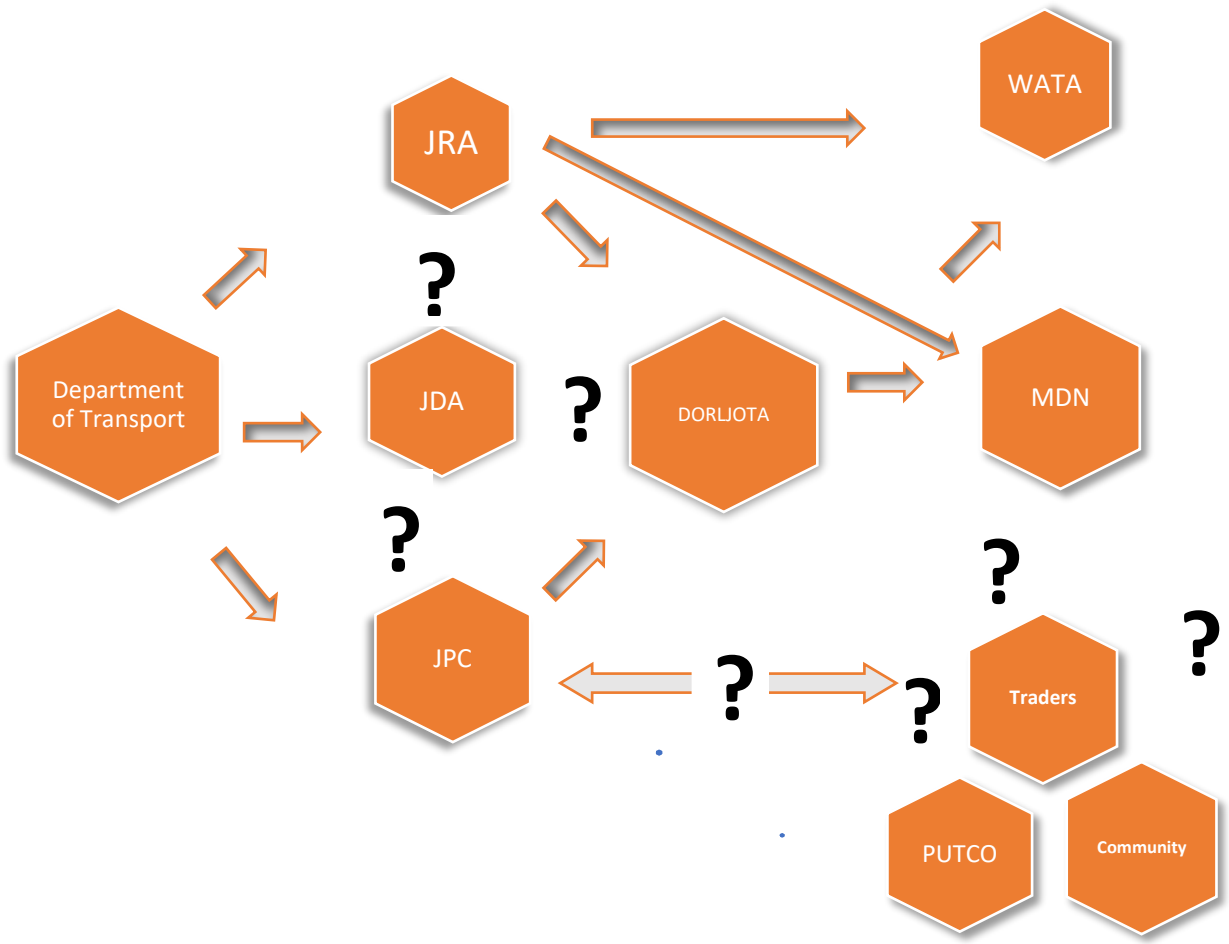


Image 6 – Stakeholder Relation Anagram *(Nduduzo Nyanda: 2016)*

5.1. Departments and Agencies

This section will take a look at the different government agencies that were involved in the development and inevitably the operation of Indingilizi. We will look not only at each government department's mandate/role in the development of Indingilizi, but we will also discuss how inclusive (community and external stakeholders) it was initially in its plan to develop Indingilizi. In gaining a richer understanding of the operation of the space (Indingilizi) we will show how each department operated in a silo and how this translated to the space not functioning optimally for it's intended purpose.

5.1.1. City of Joburg Department of Transport

The main driver of the Indigilizi station project. In realising the need to build a formal structure of the Rea Vaya for Dobsonville commuters, the City of Johannesburg's Department of Transport also saw Indingilizi as an opportunity in creating an inter-transport node and exchange facility for most of the transport facilities operating from the site. This would not only benefit commuters and the community in terms of creating a formal structure which would shield them against the weather and the elements while in transit, but also the City of Johannesburg in the form of an easy win for its *Corridors of Freedom* project (Lisa Seftel Interview: 2016). In line with the *Corridors of Freedom*, the construction of the facility would embody the project's philosophy of creating economic opportunity for the marginalised communities in Johannesburg, through the roll out of transport-oriented infrastructure development (CoF: 2013). The project was initiated by the department with the full support of the then MMC of Transport and executive mayor.

The City of Johannesburg's Transport Department began by initiating dialogue and negotiations with DORLJOTA, one of the main taxi associations, in not only assimilating its operations in the inter-transport node, but also in helping to run the node. Although the site was and still is technically public property owned by the City of Joburg, the City saw it fit to rather negotiate the property in which Indingilizi was to be developed with DORLJOTA who still consider themselves as owners of the property (Lisa Seftel Interview: 2016).

Lisa Seftel, Executive Director at the Transport Department at the City of Johannesburg, highlighted how over the years, and to the City's understanding, the property that DORLJOTA claims to own, actually belongs to the City of Johannesburg. She described how over the years, the Johannesburg Metro police had regularly evicted the minibus taxis off of the now 'park and ride' site in the evenings and at night when they used the property as overnight parking. She also described how more recently (before Indingilizi was formally developed) when the Rea Vaya started operating along the road, DORLJOTA had "illegally" erected fencing around the park and ride facility for people to use during the day and for minibus taxis to use at night. However, the Metro Police would come over and remove the illegally erected fencing and later parked minibus taxis.

What is important to understand about the land that Indingilizi occupies (park and ride facility as well), is that although DORLJOTA lays claim to the land, when asked, nobody at the

association could produce any documentation or title deed showing that it owned the land that it operates from. This was reiterated by the City of Johannesburg (Lisa Seftel Interview: 2016) when it stated that technically that land still belonged to the City, but because DORLJOTA had put it to good use, it made no sense for the City to try and seize it, especially since it being used as a minibus taxi interchange was it being used as a public good.

It was also with this line of thinking that the City chose to approach DORLJOTA and the other associations when it was negotiating their inclusion and involvement in the Rea Vaya system. The City understood how the minibus taxi industry managed to create a popular and functional – although still very informal transport network and interchange on Indingilizi, and in order to formalise the infrastructure, it would have to also formalise operations on the site, even if it were to forego the opportunity to also formalise the operating entities (minibus operators), especially given the time constraints with the upcoming World Cup in 2010 which was to be hosted in South Africa and Johannesburg.

In a timeline, the City began and concluded its negotiations with DORLJOTA first, before it began talks with the association over the formalisation of Indingilizi. This is explained in how the site was operational as a Rea Vaya stop during the FIFA World Cup in 2010, but only had its infrastructure formalised in 2013.

Nevertheless, the City began and concluded the negotiations over the land with DORLJOTA only after it had negotiated with some of its members on getting those interested in formalising their operation and buying into the Rea Vaya system as stakeholders in one of the bus operating company. This meant those taxi owners who bought into the Rea Vaya would have to relinquish their route operating licences and the minibus taxis operating on the Rea Vaya route to the Johannesburg CBD. By doing this, the City ensured that the Rea Vaya secured the necessary commuter ridership numbers for the bus service for its Johannesburg C1, C2 & later C6 routes.

As per City regulation, the City's Department of Transport (DoT) solicited the services of the JDA, The JRA as well as the JPC in order to build and help run the infrastructure and operations in Indingilizi. The JDA was responsible for sourcing the architect and building the physical structure that currently is Indingilizi. The JRA was to insure the new infrastructure held up to regulation and it would also help manage the site and its operations going forward. The JPC

was meant to help the JRA manage the trader stalls that were built for the traders which operated from Indingilizi.

5.1.2. Johannesburg Development Agency: In charge of designing and constructing the facility?

Lwazi Sikiti from the JDA (Development Facilitation Unit) confirmed that the JDA was brought in specifically to construct the physical structure that is Indingilizi. Lwazi further explained that even though the station did technically fall within the Corridors of Freedom, this was a project they as an agency are heavily invested in and generally have a vested interest in. Because it was a City DoT led project they (the JDA) had not made any plans to try and develop the infrastructure surrounding the station so as to incorporate it with the design and hopefully encourage its densification, as so laid out in the CoF's requirements for transit-oriented development. Lwazi insisted and reiterated the fact that they were there simply to try and "formalise an existing informal operation[15]" (Lwazi Interview: 15/12/16).

5.1.3. Johannesburg Roads Agency: In charge of logistics and managing transport operations

The JRA was and still continues to be responsible for the coordination of the operations that happen in Indingilizi, particularly for the Rea Vaya. The JRA is also responsible for the coordination of traffic and the various transport elements that affect the site and that the site in turn also affects, like general traffic and congestion monitoring, road and transport infrastructure, as well as the general management of the site's facilities. As the City of Johannesburg's primary transport custodian, the JRA was instructed to conduct a traffic and congestion feasibility study of the area prior to its construction. This was done and as so explained by Ramathudi Monageng (the operations manager of the REA VAYA in the JRA) that the results from the studies permitted for the development of the transport infrastructure leading to and from Indingilizi.

Ramathudi Monageng explained that the usual morning and afternoon congestion typically experienced in urban settings was also considered of the area, the impact of formalising and

[15] The operation in this case was the actual infrastructure that made up Indingilizi.

introducing a formal structure to the area and site would not negatively impact the site as much. Mr Ramathudi explained that Indingilizi benefited from the fact that although it was located on a relatively busy arterial route (Cele Street), it was located far away enough from the other main centres in Dobsonville which do experience higher volumes of traffic and congestion, like near the Kwezi station and Dobsonville Mall / PUTCO bus depot on Elias Motsoaledi Road.

Seeing as the JRA would then take over the responsibility of managing Indingilizi on behalf of the City, post construction, the JRA was also present when the City was negotiating the site's processes with DORLJOTA. This was described as a process necessary to bring about a sense of collegiality between the JRA the operating seeing as most of the interaction between the transport operators were with the City's DoT. Mr Steve Chauke from the JRA explained that as a show of good faith, the JRA allowed DORLJOTA to appoint the on grounds station manager, which they trusted could manage the day to day running of the station and was paid by the City as an external contractor. This station manager would then liaise regularly with officials at the JRA who would in turn manage the station from a higher up, logistical level.

5.1.4. Johannesburg Property Company: the (absent) owner of municipal assets

The JPC was essentially brought in to manage the trader infrastructure in the facility. They were meant to be responsible for the running of these spaces as well as assist traders in that space. However, from what the various officials from the other City departments allude to, the JPC was not involved in the design of the station nor the design of the trader stalls. They were purely brought in to manage the stalls as would a property manager would by collecting rent and ensuring those spaces were functional. Lwazi Sikiti from the JDA even highlights how it was the JDA which did the research pertaining to the traders and their needs in Indingilizi:

> "…basically, there were existing [street] traders who were selling dry goods, that's why we catered for traders selling dry goods. There was no one selling cooking in that point in time. So, if there were people… the idea was not to attract more traders. It was to make sure we formalise an existing situation." (Lwazi Interview: 15/12/16)

When asked about the running of the trader's stalls and the general relationship between the City, the traders and the taxi associations, the JRA, the City's DoT and DORLJOTA were all

quick to point out that the JPC was somewhat absent. Lisa Seftel highlighted how since the handover of Indingilizi to the JRA, the City's DoT was under the impression that the JPC was managing the traders and the stalls. She described how the relationship between the traders, Indingilizi and the JPC was meant to be one where traders would approach the JPC to lease out the stalls. The JPC would then designate a stall for them and charge tem R95 per month for its rental use. Lisa Seftel does point out that the City's DoT was aware that not all of the stalls were occupied, but was under the impression the JPC was handling those concerns.

The JRA on the other hand had a hands-off approach to the trader and stall issue. They state that apart from the actual operations of Indingilizi, they are not mandated to run the stalls and traders. Their functionary duties include bus scheduling and the stations' logistical operations as well as transport related infrastructure which directly affects commuters, drivers and staff working in Indingilizi. This would include the physical structure or the station, station manager's office, public and staff toilets, driver change rooms as well as pay points. All of these facilities (with the exception of bus scheduling, pay point related operations) are directly managed by the onsite manager. The trader stalls are not transport related infrastructure, even though they are located in the station. They are considered commercial infrastructure which is the responsibility of the JPC.

DORLJOTA on the other hand states that they have tried on numerous occasions to get a hold of the JPC so as to sort out the rental issues. Ms Veronica Mosiapoa, the former Media Liaison Officer for DORLJOTA, stated that they as an organisation tried numerous times to try and sort out the trader stall leasing issue. As a trader herself (one of her many ventures) she states:

> "the officials at the JPC are hard to get a hold of. Even when you do manage to get a hold of a person they might not be the right person. When you finally do get a hold of the right person whose job it is, they might not get back to you. Then you're left wondering." (Veronica Mosiapoa: 13/03/2016)

Veronica Mosiapoa states that she technically occupies her stall illegally, and that she's very aware of the fact that she has to pay rent. She claims to have moved in to her designated stall after it was allocated to her by the JPC, but since then, she has not paid rent because she does not know who to pay rent to. Veronica Mosiapoa also attributes her non-rent paying to the

fact that since she does not know who to pay her rent to and does not know whose responsibility the stalls are at the JPC, she does not know who or even how to lay any grievances she may have the stall and its infrastructure. For instance, she highlights how the stalls do not have electricity and water facilities. Most people who sell goods in and around the station sell food related items. They need running water to wash and prepare or electricity to cook or preserve. Instead, none of these facilities are available in the station stalls and traders are expected to come to the stalls with the food already prepared and with no way of keeping it warm for customers –

> "The JPC people were the ones who were talking to us with respect to the allocation and running of the stalls. Before they started working in that place, they took the contact details of everyone who was working in that place. We'd come to the meetings and they knew who to invite to the meetings. Now the communication between us and the JPC has died. I tried several times to contact a guy by the name of, I can't remember his name… Loyiso! And we were supposed to be paying rent there, but we are not. I'm not paying rent there and I'm the only one operating there because I do not have their banking details. And it's only R90 per month. You try to contact them, and they say yes we will come or they will call, but nothing happens. So the communication between us the stallers, if you can call us that and the JPC has broken down." (Veronica Mosiapoa Interview: 13/03/2016)

During her interview, Veronica Mosiapoa stressed that the City consulted with them on Indingilizi but also raised an interesting point, particularly regarding the design and operation of the station from a trader and an operator's perspective. Although she points out (over and over) that they were consulted, she also continuously refers back to the trader issue and how the facilities are inadequate and badly located. This however should not be the case **IF** they were **really** consulted about the space. For instance, she makes reference to how the sidewalks leading to and located around Indingilizi were meant to be paved and formalised so as promote walking. These were going to be developed alongside the stalls located inside Indingilizi so as to ensure traders have a functional, designated space that is attractive for pedestrians. However, the sidewalks are all still not paved. The stalls have no electricity or water and are awkwardly located to the back of Indingilizi and away from commuter foot traffic, which means they make less sales and which is why they continue to choose to operate along the un-kept pavements along Indingilizi.

"We attended meeting with them. But we found out that the stalls are not conducive, because there is no electricity. They are not allowed to cook in those stalls. They say you must cook from home and bring the food and sell, which is not possible. The mothers that are selling tea and vetkoek in winter are out there in the street, but the City does not want them there." (Veronica Mosiapoa Interview: 13/03/2016)

Photograph: 2 *- Photograph showing trader stalls which have no water or electricity and their proximity to the toilets (Nduduzo Nyanda: 16/9/2017)*

5.2. Taxi Associations

DORLJOTA was the taxi association involved in the design and construction of the station. It appears the other taxi operator, MDN, which also operates in and around the area was not engaged as extensively as DOLJOTA was. As is discussed below and later it seems as though the City of Johannesburg's Transport Department as well as its various entities that were and are involved in the operation of Indingilizi did not seem to pay the other two minibus taxi operators (MDN & WATA) who operate from Indingilizi the same favour. To fully understand

why, we have to get a better understanding of who MDN are, especially in relation to DORLJOTA and Indingilizi.

5.2.1. DObsonville Roodepoort Leratong JOhannesburg Taxi Association (DORLJOTA)

***Image 7: DORLJOTA Logo - Source**:* https://goo.gl/3vL9OI

DORLJOTA was initially formed in the 1960s (Veronica Mosiapoa Interview: 13/03/2016) by taxi owners who saw a gap in the market for a taxi service for commuters living in Dobsonville, its newer extensions and un-serviced areas in its surrounds. This gamble to service this far western area of Soweto turned out well, as the association soon discovered that the informal settlements, townships and suburbs in the West Rand were also not serviced. This is what inevitably informed where the association would locate its operational headquarters, the Roodepoort CBD, as this is described as a "central" location for the association: primarily given the fact that it operates between the West Rand and the Johannesburg CBD. Organisationally, the association is made up of ten executive portfolios, some with a subcommittee which help run association. These portfolios are Chairman, Vice Chairman, Secretary, Deputy Secretary, Treasurer, D.C Chairperson[16], Grievances, Training Officer, Public Relations Officer and President.

DORLJOTA has managed to corner a significant market in the taxi route industry as it has managed to gain a monopoly on the West Rand and Western parts of Johannesburg. It is one of the largest and one of the most successful taxi association in the Gauteng region, boasting over 176 routes[17] which stretch from as far west as Kagiso (Leratong Hospital), Slovo Ville and

[16] **DC Chairperson**: Disciplinary Person

[17] See appendix for full list. DORLJOTA. (2011) *Dorljota Fares 2011.* [Online] Available From: https://goo.gl/J9JuOe [Accessed: 11/01/17]

Witpoortjie, and as far east as all the way to the Johannesburg City Deep Area. The association also operates in a few larger taxi ranks along the Witwatersrand[18] and has a substantial number of routes stemming from and servicing parts of the Dobsonville area.

Operationally, and prior to the Rea Vaya, members who joined DORLJOTA were assigned routes to operate their minibus taxi from. This was (and still is) because the association services a specific area (West Rand and west of Johannesburg), which it has a monopoly over and which up until recently with the increase in population (give or take fifteen years) has not had a substantial commuter base. Overtime, and with the growth in routes experienced in the western parts of Johannesburg, the association has become more flexible towards its members, and they able to request preferences to operate in some routes over some others (Veronica Mosiapoa interview: 13/03/2017). This was implicitly expressed by two female operators who explained which routes they operate from and how they came to operate from them.

The first interviewee, Ms Veronica Mosiapoa, a member of DORLJOTA who owned numerous minibus taxis, and was its Media Liaison officer at the time of the interview, stated that she came to be in the minibus taxi industry through her father. He was one of the founding members of the association and she then came to inherit her father's minibus taxis and their routes when he passed on, and because she was the only sibling she was not contested. She states that because she is a single woman running multiple routes, she has preferred to have her minibus taxis operate the Dobsonville to Roodepoort route, the Dobsonville to Johannesburg CBD route and Honeydew routes. She states that these routes are convenient for her in that, she is able to attend to the vehicles and their drivers quickly, the routes are familiar to her and the routes are close to where she lives. This means she is even able to transport the drivers to and from main ranks in the mornings and evenings.

Her colleague, a widower, inherited her husbands' minibus taxi when he passed on. She has since chosen to have her minibus taxi operate in and around Dobsonville. This way, she claims to have access to the vehicle during the day should and during low commuter peak hours should she need to run errands. But most importantly, because it is her primary source of

[18] **Witwatersrand: "**A region of northeast South Africa between the Vaal River and Johannesburg. It has been one of the richest gold-mining areas in the world since the discovery of gold there in 1886."(Free Dictionary: https://goo.gl/0luJpX)

income she is able to monitor it and make sure the driver meets his daily quotas (Veronica Mosiapoa interview: 13/03/2017).

5.2.2. Meadowlands Dube Noord Taxi Association (MDN)

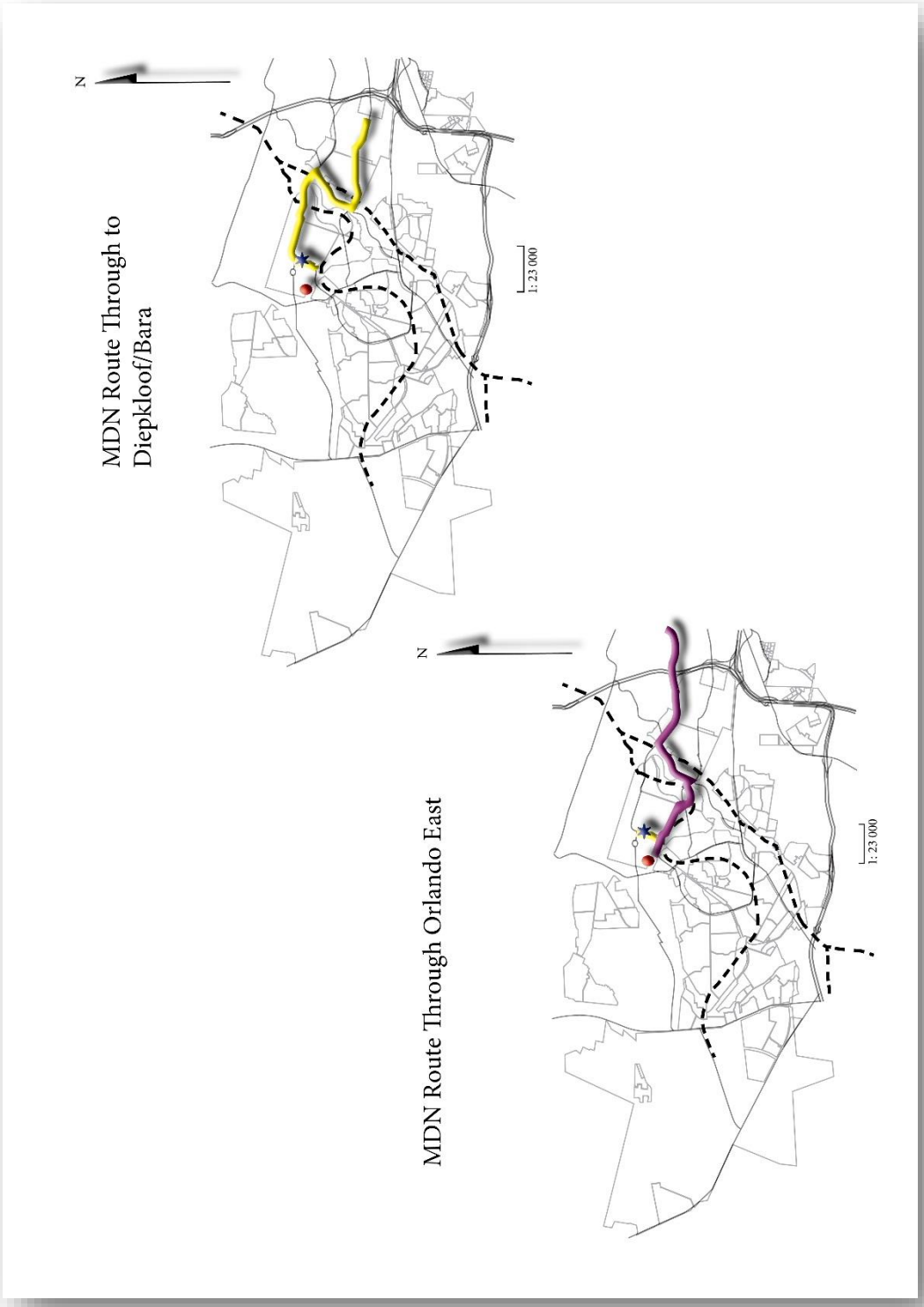
MDN was started in 1960, as a minibus taxi service that sought to service commuters needing to get to the Dube train station from Dobsonville and Meadowlands (see map 3 below). The original headquarters were located close to the Dube train station. Its executive committee was made up of the eight original founding members. Although those founders have since passed, the association has still kept the same executive structure which in descending order is made up of a Chairman, Vice-chairman, Secretary, Treasurer, DC Chair Person, Grievance Officer, Training Officer and the PRO[19].

The taxi association has an extensive network of routes, not only operating inside Soweto, but also extending right all the way through to the Johannesburg CBD. Although primarily providing a commuter transit service for the Meadowlands area, MDN does also service other areas in the inner more central parts of Soweto. Routes[20] for commuters include one for commuters wanting to get to the Jabulani Mall; another is the route from Meadowlands to Maponya Mall; a route from Dobsonville (Indingilizi) to Johannesburg Park Station; a Meadowlands to Diepkloof route via Orlando and M'zimhlophe (an area north, north east of Orlando) and of course the original route between Meadowlands and the Dube train station.

[19] PRO: Public Relations Officer

[20] For this paper's intended purposes, we will only look at the routes that affect Indingilizi directly, whether the minibus taxi service begins or ends there or simply passes through. MDN has other routes that are not included here.

Map 3: *MDN Routes to Johannesburg & to Jabulani Mall -* ***Source:*** *(Nduduzo Nyanda: 2017)*



Map 4: *MDN Routes to Diepkloof and through Orlando East -* ***Source:*** *(Nduduzo Nyanda: 2017)*

MDN's training officer, Mr Samson Mngadi, explained how the City never fully approached them prior, during and after the construction of Indingilizi. Firstly, he highlights how during

the initial negotiations, MDN as an association never came to an agreement or formal understanding with respect to routes with the City, regarding the Rea Vaya. Secondly, he reemphases' the fact that the City did not approach them (MDN) in the same manner it did DORLJOTA when discussions regarding the design and construction of Indingilizi were conducted. He concedes that the site technically belongs to DORLJOTA, but says the way things were done, it seems as though MDN and WATA were purposely side-lined.

Mr Mngadi highlights how the initial approach the City took early on to negotiate its inclusion into the Rea Vaya system earlier on seemed underhanded, because when the DoT approached MDN as an association and failed in persuading the association to join the Rea Vaya, Mr Mngadi points to how the City then began approaching its member owners and drivers individually and behind the association's back. Of those members who were persuaded into joining the Rea Vaya and its operating company and had multiple vehicles with MDN then faced another problem. They now had to disclose to the association that they had gone behind its back and joined the Rea Vaya, but still wished to have their remaining vehicles continue to operate and generate income.

This was problematic in that constitutionally (as Mr Samson Mngadi puts it) member owners are not allowed to operate vehicles with the association if they operate or have (declared) interests in another transport entity, especially if that entity has a direct interest in whatever operations MDN has, it has the potential to create conflicts of interest. In this case, the Rea Vaya is in direct competition with two of the association's routes, and because no formal agreement was reached between the City and MDN as an association those members who joined now place the association (as well as its members who have not joined in a precarious and compromised position should the Rea Vaya expand into its other existing route network.

In order to resolve this, Samson Mngadi says the association fined those members who had bought into the Rea Vaya and still wanted to operate with in MDN because they had multiple vehicles. Those funds went into their version of a trust which helps the association run its operations and its members financially. These members were then again fined (undisclosed amount) for going against the association's constitution. Those who did not have multiple vehicles (only had one) and still chose to join the Rea Vaya, were expelled from the association.

Secondly with respect to Indingilizi, its design and construction, Samson Mngadi says he felt that they were simply told that this structure was coming. They were not consulted or asked on what they would recommend when designing the space. They put this down to the fact that since the space/property “belonged” to DORLJOTA, then DORLJOTA were the rightful custodians the City should consult. Therefore they ‘technically’ don’t have a say on how or what the space should look like. This, even though they also highlighted that their route in and around the area intersected with the space, hence why they rank next to the park.

Photograph 3: Photography showing where MDN ‘rank’ outside Indingilizi (Nduduzo Nyanda: 16/09/2017)

5.3. Bus Operators

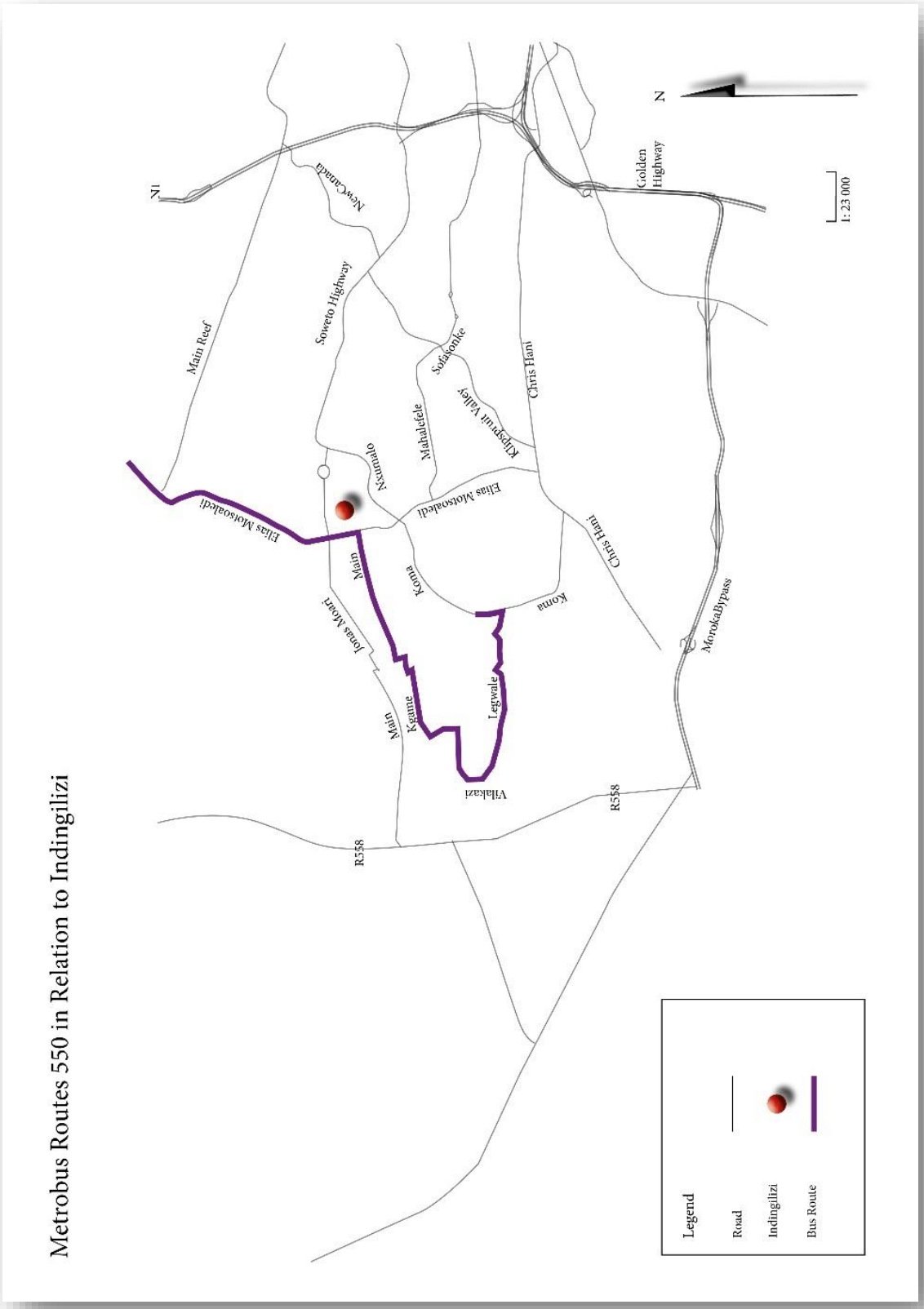
Strangely, the two other main bus operators which operate around the Indingilizi vicinity hardly (if ever) feature among discussions regarding the site or its operations. They have not been included or accommodated in the plans of the site, let alone the area.

5.3.1. The Johannesburg Metrobus Service

Image 8: Metrobus Logo - Source: https://goo.gl/gMYFZg

The Johannesburg Metrobus service is a City of Johannesburg bus service which was fully incorporated as a City entity in 2000. Mandated and legislated to provide a public bus service for the residents of Johannesburg, the bus service also forms part of the City's overall transport development and spatial integration strategies, from its IDP to the Corridors of Freedom. Equipped with large fleet which includes double and single deck buses, Metrobus has over 330 scheduled routes across the city (City of Joburg; 2006). However, in Soweto it only offers six services, with only one of these services operating within a 100m radius of Indingilizi, namely Route 550[21].

[21] The other routes which do operate in Soweto will be discussed in the ***routes*** chapter and their significance to the Rea Vaya and the C1, C2 and C6 routes which emanate from Indingilizi will be analysed below.



Map 5: *Metrobus Route 550 in relation to Indingilizi -* ***Source****: (Nduduzo Nyanda: 2017)*

The 550 Jabulani Mall to Roodepoort route does not bypass Indingilizi but does however use parts of Elias Motsoaledi road and thus shares parts of its route with the C2 service which operates between Indingilizi and Maponya Mall. The significance of this route will also be discussed at great length in chapter 5.

.

5.3.2. Public Utility Transport Corporation

Image 9: PUTCO Logo - Source: *https://goo.gl/u6Dozq*

The Public Utility Transport Corporation or PUTCO was founded in the Transvaal (today Gauteng, Limpopo, Mpumalanga and parts of the North-West Province) in 1945 and not only came as a response to the 1944 national bus strike, but also as a response to the need of formal public bus system for urban non-white (primarily Africans) seeing as Africans were not allowed to own formal bus companies let alone public transport systems. Considered South Africa's largest and oldest privately-owned bus company, PUTCO now transports more than 350 000 passengers (predominantly urban) daily and purports to travel over 90 million kilometres annually (PUTCO; 2016).

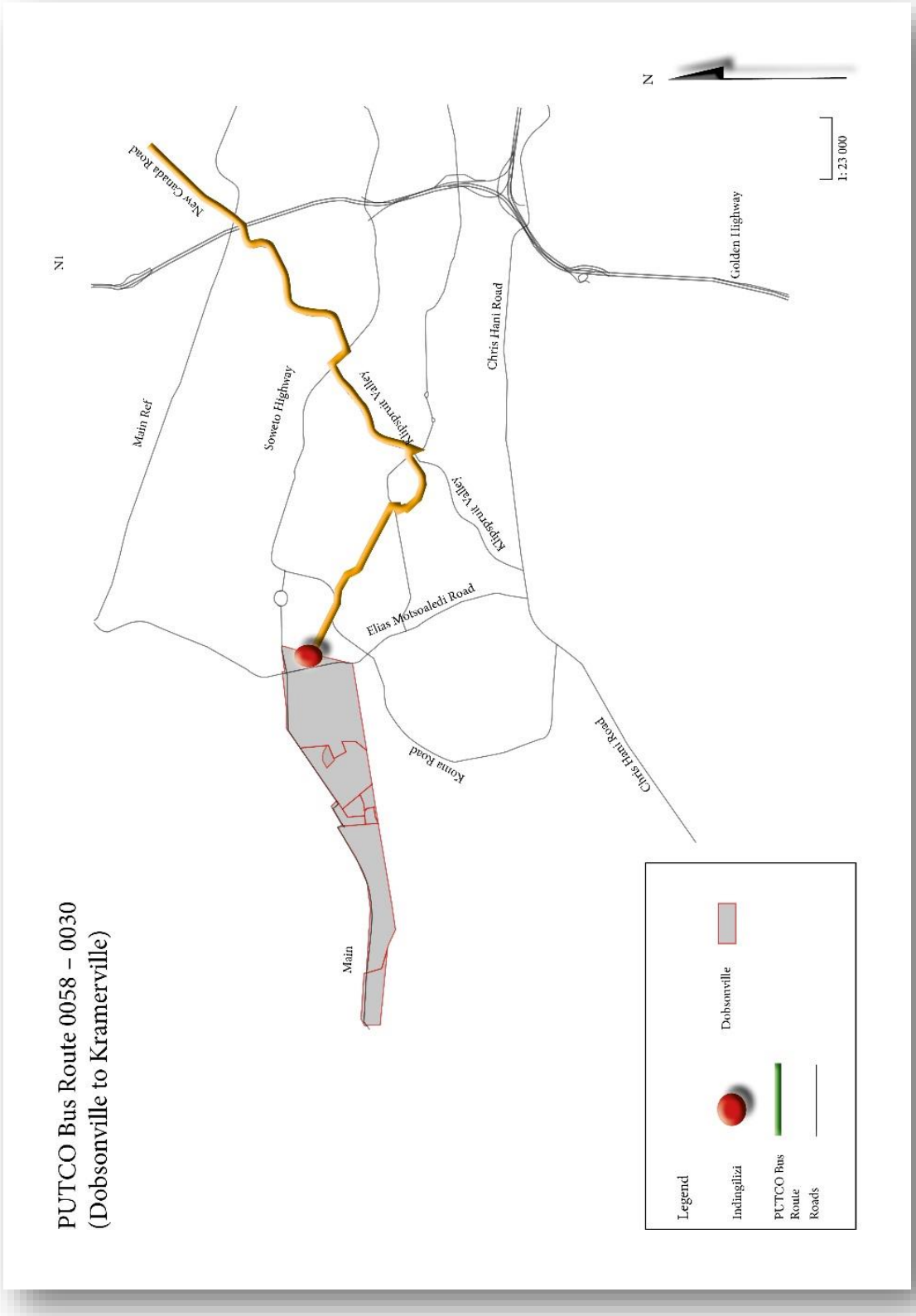
PUTCO also has a long history as it has managed to not only grow through the response of commuter needs in underserved urban areas, but more so through the acquisition of other bus companies operating in and around the Transvaal area. The bus company is also 42.6% black owned and was listed on the Johannesburg Stock Exchange before it was delisted[22] in 2005 (PUTCO; 2016).

[22] Reports state that PUTCO delisted from the Johannesburg Stock Exchange (JSE) in 2004 in order bring onboard and acquire the necessary Broad Based Black Economic Empowerment (BBBEE) partners it needed in order to continue to qualify for government contracts (Business Report 15 June 2004: https://goo.gl/GAuGPr)

In Johannesburg, PUTCO's depots are strategically located close to its busier routes. For instance, it has depots and workshops in Selby, Soweto and Roodepoort in Johannesburg, while its routes and main areas it services in the Johannesburg region include:

- Soweto to the Northern suburbs of Johannesburg including Midrand.
- Alberton to Johannesburg Central Business District (CBD) and Northern suburbs.
- Johannesburg CBD to the Northern suburbs.
- Eldorado Park to Johannesburg and the Northern suburbs (PUTCO; 2016).

Specific to the Soweto region, the PUTCO bus service has a significant network which spans across the whole territory (See appendix for total Soweto PUTCO bus schedule). These services primarily service workers who require direct transport between their homes/suburbs in Soweto and their areas of employment, which means they mostly operate during peak commuting times (in the morning and evenings).



Map 6: *PUTCO Bus Route 0058 – 0030 (Dobsonville to Kramerville)* ***Source:*** *(Nduduzo Nyanda: 2017)*

Specific to Indingilizi and the Dobsonville area, there are a few PUTCO bus routes, with one bus service, which runs from Dobsonville Ext 3 to Kramerville in Sandton. This bus route has

four buses, with the earliest leaving at 05h00 on weekdays, followed by one at 05h20, one at 06h15 and the last one at 06h45. This bus service runs along the exact same bus route as the Rea Vaya C6 and even has a stop on Dumas/Mashinini Road, which is the road Indingilizi is located on (PUTCO Bus Schedule: https://goo.gl/TMEzoj).

When questioned about PUTCO and its service and inclusion in Indingilizi, City officials from DoT said the bus service does not pass by Indingilizi and thus does not affect the site and its commuters). The JRA, on another hand, did not consider PUTCO service significant because it only operates in the mornings and evenings and is private (Ramathudi Interview: 14/09/2016).

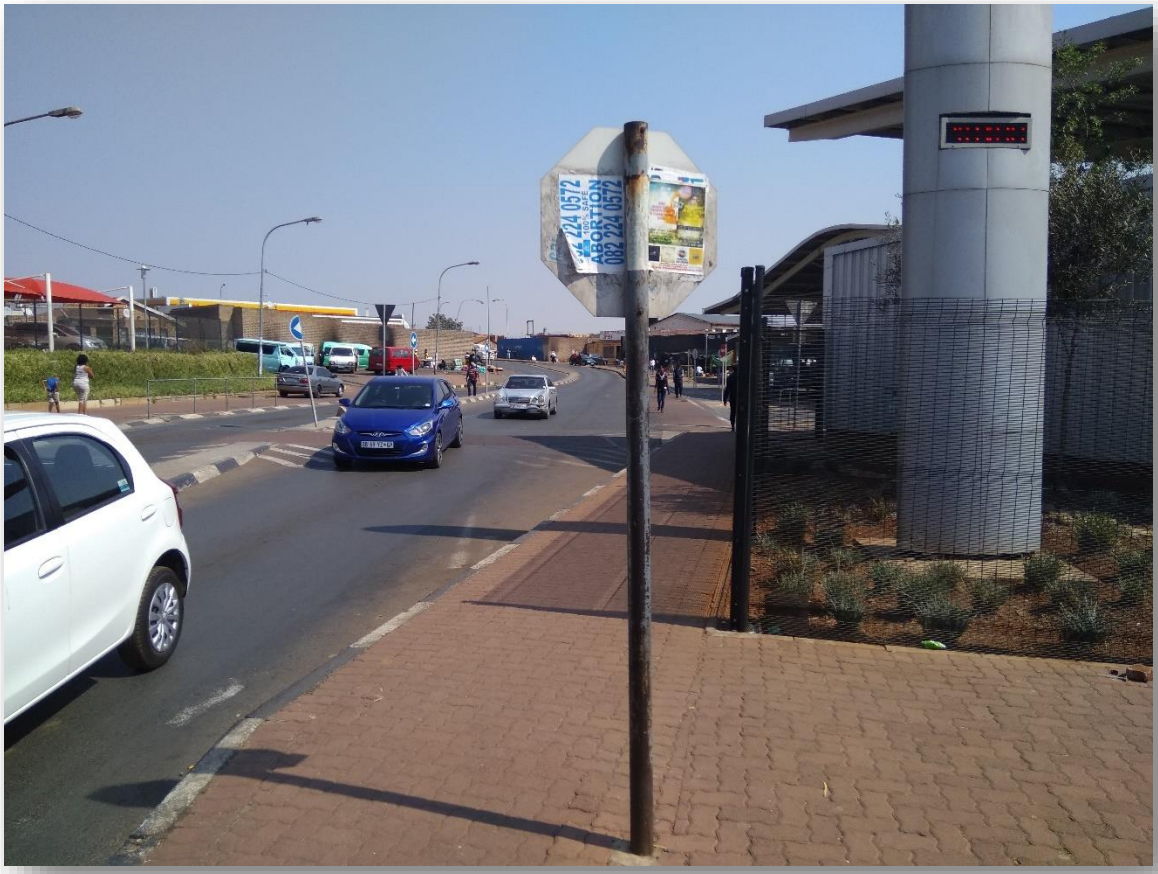
The irony of not including or even considering the PUTCO bus service in the plans of Indingilizi is in how PUTCO has one of its main bus depots in the heart of Dobsonville, less than 2km away from Indingilizi. In fact, PUTCOs' Dobsonville bus depot on Elias Motsoaledi is only 1.2km away from the Pio-Trans Rea Vaya Depot in Meadowlands.

Conclusion

What is interesting about the relationship between the various state entities, the transport operators and communities affected by the development of Indingilizi prior, during and post completion, is that there was none. With respect to the two bus operators (PUTCO and Metrobus) on the surface the two bus services do not have anything to do with the station and the other operators and entities and so too them with the operators. This would explain why they were never consulted prior, during and after the construction of Indingilizi. The bus operators do not have any formal relationship with any of the transport operators which do operate from or around Indingilizi.

With respect to the JRA, it seems like they should have a vested interest in trying to coordinate the operations and built transport infrastructure between the Rea Vaya and the Metrobus system (at least, because Metrobus is a municipal entity). Particularly where Indingilizi is involved with its C2 route, most of the Rea Vaya's stops along this route are road level and thus could in effect share infrastructure resources with the Metrobus system. This coordination effort should also extend to the bus schedules and operating times. As City initiatives it would actually work to the benefit of Rea Vaya and Metrobus commuters if they

could know when exactly the other service was operating so as to better plan their routes and save time and money. This would have a two-fold pay out for the City. Firstly, the success of the cooperation would build positive sentiment towards both services for commuters, which would (in the medium to long term) help drum up support and commuter numbers for both systems. For instance, if I live in Jabulani or Jabavu somewhere along the Metrobus route, knowing when this service is coming and when the Rea Vaya would leave Indingilizi, would incentivise me to use those services.



***Photograph 4**: Photograph showing area between station and Park & Ride facility and the Shell garage on Elias Motsoaledi (Nduduzo Nyanda: 16/9/2017)*

Secondly and more specific to the station, because the Metrobus operates along Elias Motsoaledi while the Rea Vaya along Cele Street, the actual development of the pavements between Indingilizi and Elias Motsoaledi to join up with the developed non-motorised

transport (NMT) infrastructure[23] would further help develop Indingilizi as a central node and destination, particularly because of its close proximity to the Dorothy Nyembe Park and the fact that it already has an established trader market. The integration of Indingilizi with the Elias Motsoaledi corridor could open it up as potential development node. Couple this with it already being a part of the CoFs means the area and current stakeholders all stand a better chance to win should they develop Indingilizi into a proper access point for Soweto, like how the Baragwaneth Transport node in Diepkloof.

Had the architect and the City engaged the various other stakeholders, they would have anticipated some of the problems and oversights they missed, for instance: -

- Had the City engaged all transport operators, they would have known that the PUTCO bus service (a shareholder in the BOC that runs the Rea Vaya that operates from Indingilizi) has a bus route from Indingilizi. This could have meant a re-think in design and operations of Indingilizi to allow PUTCO buses into Indingilizi to on-board and offload commuters. By forming this partnership, they could have also approached the bus operating company to contribute to the capital and operational costs of the station, seeing as it had full access to it.

- A similar cost sharing approach could have been taken for the other two minibus taxi operators (MDN and WATA) which operate from around Indingilizi. Seeing as some of their members joined Rea Vaya, as a peace offering, the City ought to have included them in the operations of Indingilizi as well as formally provide a space for them to operate from. This would have deepened relations between the City and minibus taxi operators, further demonstrating its (the City) commitment to inclusive development of a “World Class African City”.
- Had the architect and City consulted the traders, given the space constraint to the site, they could have found a better solution for the stalls. Taking into consideration where they are currently located, the City could have changed walk in entrances for commuters and pedestrians and made them pass by the trading stalls. This way

[23] Bicycle lanes that were built along Elias Motsoaledi

traders would be incentivised to trade inside the stalls, thus helping to divert the congestion found along Dmas and Cele Streets away.

Couple the above idea with actual partnerships with the local community, the City could have offered development incentives to home owners located opposite and around Indingilizi to open up businesses or rent out storage and cooking spaces to the traders, so that the food remains hot when selling to commuters[24]. This would have the domino effect of spurring pop-up and permanent businesses in the area, which would in effect properly define the space as an economic-development node (what TOD's are meant to do). This would also help create localised economic opportunities for the area, which would lead to a decrease in unemployment and potentially private investment into the space. This would inevitably mean the creation of a new tax/rate revenue base for the City.

The proximity of Indingilizi to the surrounding development precincts (Kwezi, Jabulani and Dobsonville) would also position its transport operators to become feeders between the Kwezi train station and Dobsonville and Jabulani business districts. This could incentivise surrounding property owners (the community another stakeholder not considered in this whole process) to develop their properties inline to benefit from potential commercial opportunities that are associated with transport nodes. This would assist in providing employment to the unemployed in the area, the attraction of private sector investment and the alleviation of poverty while driving a developmental agenda, an easy win for the municipality.

[24] This is assuming the JDA and architect were steadfast in their way of permanently refusing to provide cooking and water facilities to the stalls even though there are toilet facilities (bulk services) available on site.

Chapter 6

Ground Zero: Indingilizi

Introduction

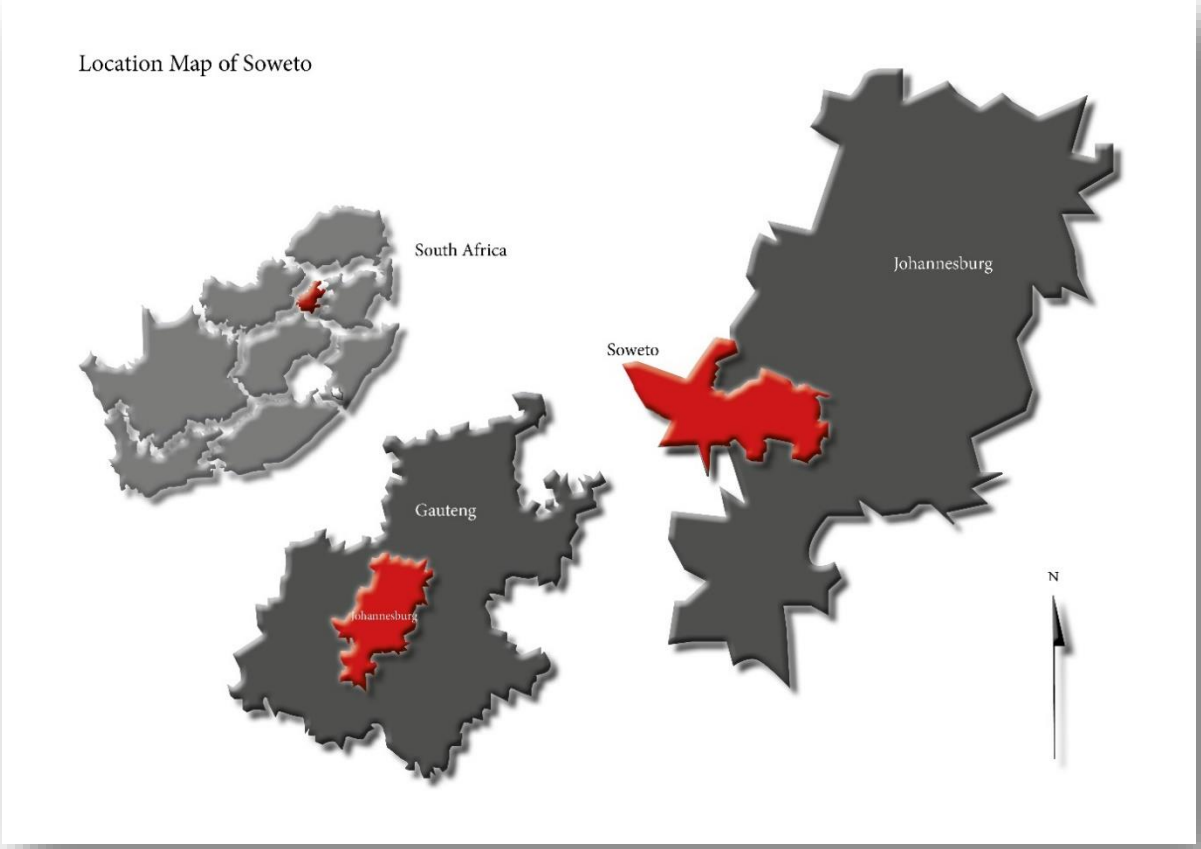
This chapter will discuss the findings relating to the design and operation of Indingilizi as a transport node found along a transport corridor, namely the City of Johannesburg's *Corridors of Freedom*. This chapter aims to analysing how Indingilizi came to be, why it was chosen by the City of Johannesburg to develop and whether or not the developments made to the site are functionally operational and contribute positively to the surrounding community as well as to the Corridors of Freedom.

To better understand Indingilizi, we will begin by looking at its history and its use over time. This will help by firstly laying out a time line on how all the actors and stakeholders came to be involved with the site, whether or not they have a legitimate claim to the space or whether they simply accept their role as simply interacting with the space with no real ownership.

Following from this, we will explore the design and layout of Indingilizi as a transport node, with respect to its location. This will mean looking at the node from both a macro scale as well as from a micro scale. From a macro scale, we will try to see how the development of the physical infrastructure has integrated in with its surroundings. This will be assessed purely on the basis of the stations design as well as the area's spatial and urban development framework.

Lastly, we will look at the node/station from a micro scale. We will look at whether its actual design works functionally and more importantly optimally. Given the fact that some stakeholders have stated that they were not consulted at all with respect to the design and construction of the site, what choices were made by the architect and City to ensure that the space fully addresses the needs of all the stakeholders involved with the space. In essence, have they succeeded in building an optimally functional integrated transport node?

6.1. Site Location



***Map 1: Soweto Location - Source*:** (*Nduduzo Nyanda: 2017)*

Dobsonville is located in the far west of Soweto and was established around the same time as the last group of townships were formally established. These included Emndeni, Senaone and Zola, all located west of Dobsonville[25]. Although there are a few main arterial routes that feed into and out of Dobsonville, its main road is Elias Motsoaledi Road, previously known as Roodepoort Road, as this road starts in the middle of Soweto (intersects with Chris Hani Road, previously referred to as Old Potchefstroom Road) and goes all the way to the Roodepoort CBD, even intersecting with Main Reef Road.

[25] A Story of Soweto: https://goo.gl/eENAJE

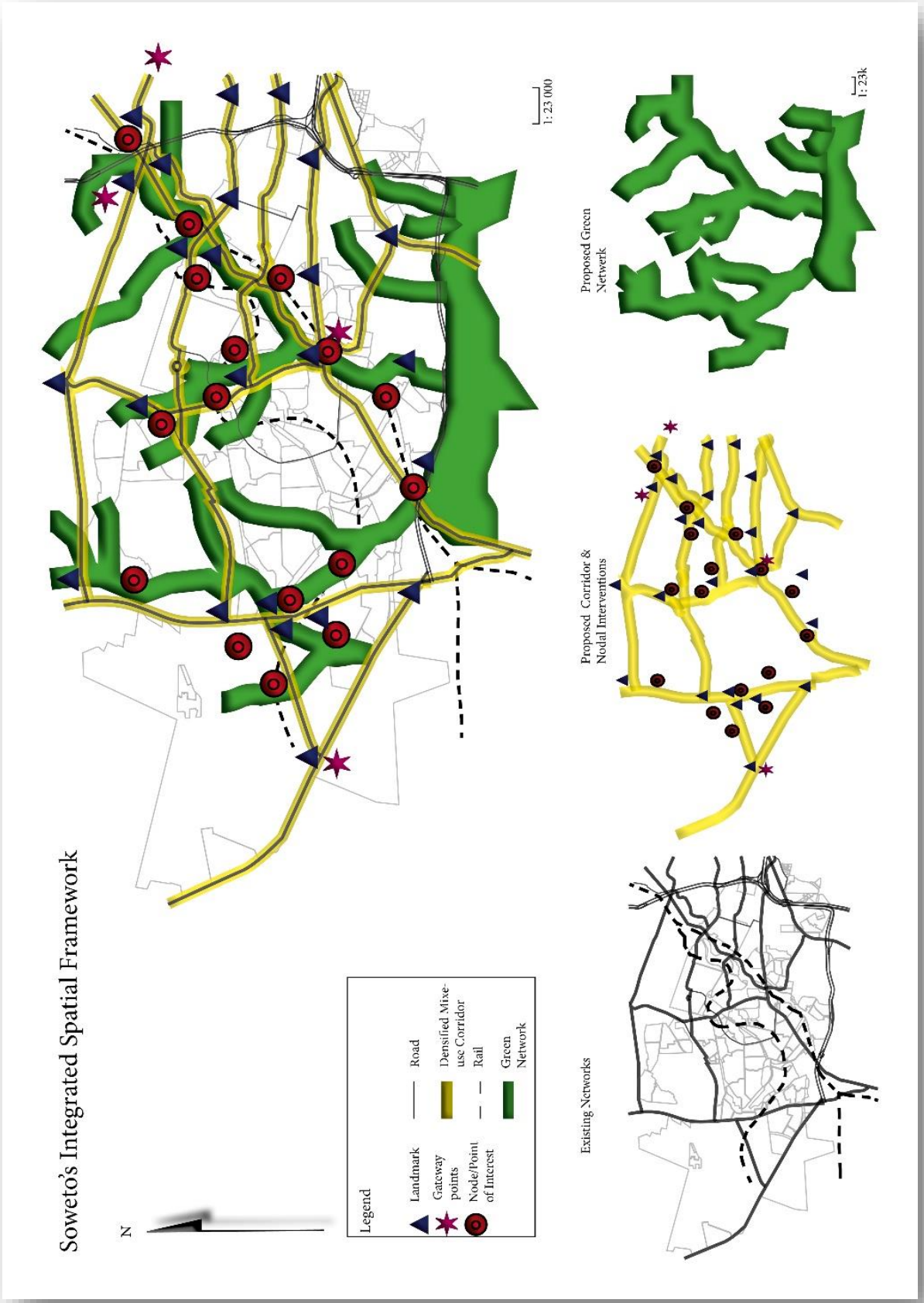
Map 7: Location of Indingilizi in Soweto - ***Source:*** *(Nduduzo Nyanda: 2017)*

In order to understand Indingilizi's function as a space, we need to place it into context, in the area. A good place to do this is to understand its current spatial location. Indingilizi is located adjacent (west) to a large park – Dorothy Nyembe, which was refurbished in 2003 and which also sports the only Environmental Education Centre in Soweto[26]. To Indingilizi's north and south of the park and ride facility are single story houses; while to the west of the actual station is a scrap metal business. Indingilizi is located 150m away from Elias Motsoaledi Road (former Roodepoort Road), a main arterial road in Soweto which provides access from Chris Hani Road in the Middle of Soweto to the Roodepoort CBD (bypassing Main Reef Road).

In 2008, the City of Johannesburg created an *integrated spatial framework* for Soweto, which sought to try and create a development framework for the area. In a nutshell, the framework looked to identify and develop existing mobility networks and economic nodes/hubs in Soweto to drive economic development and help establish Soweto as a viable economic node for the City and Gauteng region (Soweto ISF: 2008).

The integrated spatial framework looked to not only create economic opportunity for the area and the people of Soweto, but also looked to create a functional sustainable ecosystem and environment, one in line with the City's vision of creating multifunctional (live, work and play) areas which disrupt the status quo, apartheid spatial planning (Soweto ISF: 2008).

[26] Joburg City Parks website: https://goo.gl/reh9ZP)



Map 8: *Adapted from the City of Joburg's "Soweto Integrated Spatial Framework 2008, P.42 -48 -* ***Source:*** *(Nduduzo Nyanda: 2017*)

The integrated spatial framework was based on five guiding principles which sought to transform and develop Soweto spatially. Although drafted in 2008, the Integrated Spatial Framework drew heavily on transit-oriented development, as it recognised the need to promote densification along its major routes. The spatial integration framework was thus premised on five guiding principles, of which four directly related to transit infrastructure development. These principles were (Soweto ISF: 2008): -

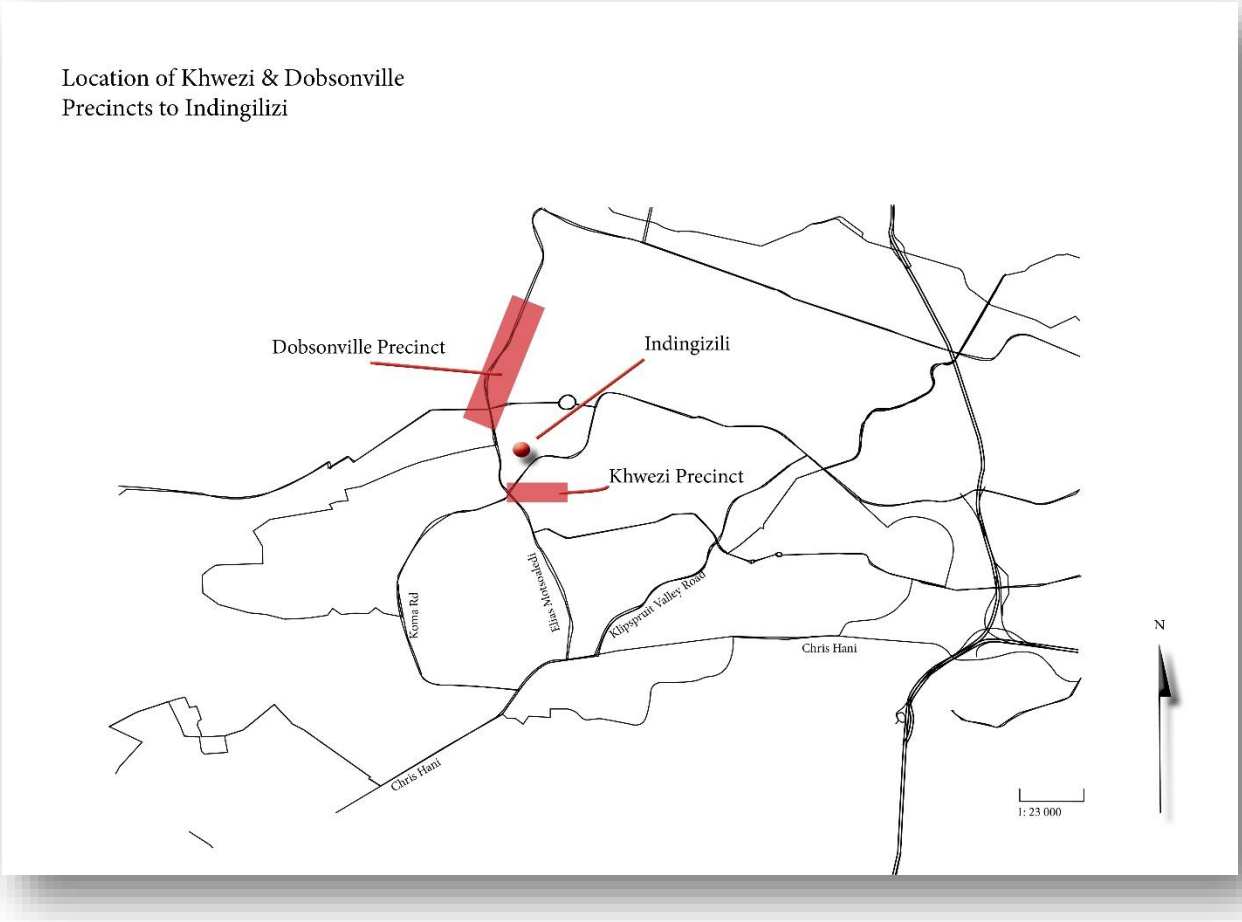
1. The establishment of a developed public transport network, which would help in the creation of easy access for the marginalised. It would also afford access to opportunities previously deemed inaccessible.
2. Along these established public transport networks, the increasing of densities and the intensification of their mixed uses. By combining the two, the compact city model can be realised.
3. The creation of the compact city allows for walkability while also allowing residents to "live, work and play" in the same vicinity.
4. Denser, compact cities allow for the more efficient use of space. This also translates to the smarter design and creation of green spaces.
5. The more efficient use of space helps in the preservation of sensitive and sentimental spaces, like heritage sites.

The targeted areas of development and densification are located along the main arterial roads. Page 47 of the spatial integration framework (Soweto ISF: 2008) also mentions how development in Soweto would also be guided by the further development of the Rea Vaya, especially leading to specially target areas like the *Jabulani Precinct, Kwezi Precinct* and the *Dobsonville Node* (Soweto ISF: 2008) for example[27].

Although not formally planned for, Indingilizi finds itself located in the middle and nearest to the Dobsonville, Jabulani as well as the Khwezi precincts, with each precinct offering a direct

[27] For our intended purposes, these are the three nodes we will look at in Soweto. The Integrated Spatial Framework lists there being 12 identified nodes/hubs, namely: - Bara, Dobsonville, Jabulani, Khwezi, Kliptown, Midway/Chiawelo, Naledi, Nancfield, Orlando (Ekhaya), Orlando East/Noordgesig, University of Johannesburg and Vilakazi Street. For our intended purposes we will only focus on the nodes that have a direct effect on Indingilizi, namely: Dobsonville, Jabulani and Khwezi. This is because the Rea Vaya routes which operate from Indingilizi interact with these nodes, as well as the other operators (minibus taxi, PUTCO and Metrobus).

route to or through Indingilizi. This makes Indingilizi perfectly located to not only service commuters needing to get to these precincts, but also commuters who live or work in these precincts and need to get to other larger centres located outside of Soweto, like the Johannesburg CBD. In this instance, Indingilizi could be said to be a potential alternative 'gateway' into Soweto.



Map 9: *Location of Khwezi & Dobsonville Precincts in relation to Indingilizi -* ***Source:*** *(Nduduzo Nyanda: 2017)*

It seems that the City (and JRA) dropped the ball on an easy win by failing to do their due diligence by failing to integrate Indingilizi in with its own Spatial Urban Framework for the area. This is particularly important because the City and its administration cannot afford to be seen as not following through with plans (and essentially promises) made in IDP's, which the current Urban Spatial Framework (Soweto ISF: 2008) speaks to. Officials from the regional planning unit (region F) describe how they only had knowledge of the UDF which was developed in 2008. When asked about Indingilizi and why it does not feature in not only the

UDF but in subsequent plans, the interviewed officials indicate that Indingilizi was a high-level decision and to their knowledge a stand-alone project which was not intended to integrate with surrounding spatial planning initiatives.

When taking a step back to interrogate why Indingilizi has not been integrated we come to find that the UDFs preceded Indingilizi's formalisation, and thus technically could not have included the site initially. However, that being said, the Indingilizi's formalisation and upgrade in 2012/2013 meant the City had the opportunity to not only formalise the site, but also the opportunity to re-imagine how the site could be better integrated into the existing UDFs. It was not like the City would have had to start from scratch as the plans for Dobsonville, Kwezi and the Soweto corridors/gateways already existed. All that needed to happen was to retro-fit the formalisation of Indingilizi in the area and probably use the site and its catchment area as a transition zone which could serve the two USFs (Khwezi and Dobsonville) and areas better.

By overlooking the integration of Indingilizi in with the existing USFs, the City's development planning units (regionally and central) seem disjointed in their mandates. For one, the fact that regional development planning unit in Jabulani admitted to not knowing or being consulted about the development and formalisation of Indingilizi highlights how local decisions directly affecting communities on the ground are handled by the central unit and the other City entities (JRA & Department of Transport) are quite removed.

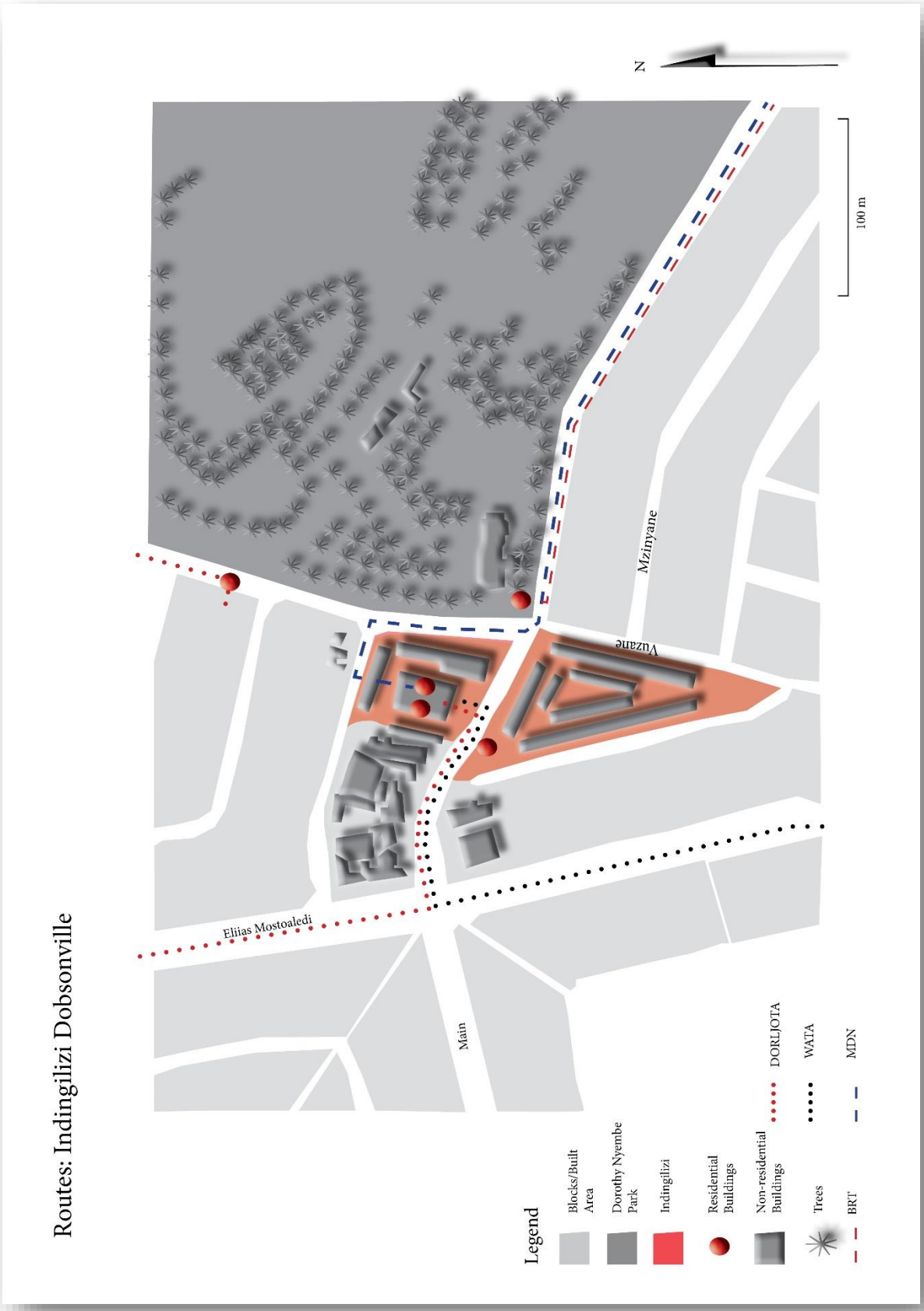
The regional planning unit also admitted to the fact that in as far as they knew, Indingilizi has not been made part of any of its spatial improvement plans. This even though the 2008 urban spatial framework touts the importance of transit-oriented development for the region and City and specifically makes mention of the vehicle to be used in spearheading that development, the Rea Vaya. What is ironic in this situation is in how Indingilizi, the only properly planned, built and integrated transport node designed for the Rea Vaya and minibus taxis in the whole City, and adheres to the City's IDP, transport and economic development plans, also encapsulates Soweto's USF, yet is not made mention of (Soweto USF) or developed with any of these spatial plans in mind. Instead is developed in isolation. So for the City to develop Indingilizi in isolation becomes extremely problematic as it means the City runs the real risk of developing a duplicate costly service and infrastructure in the area in the future,

as it did with the Rea Vaya system when a competent mass transit system already existed in the form of Metrorail and its commuter rail service.

Furthermore, by not developing the station as a potential future economic hub and seeing it as a potential gateway into Soweto, the City missed an easy developmental win for not only the people of Dobsonville and Soweto, but also the State in its mandate of 'delivering' development to its people. This oversight in achieving a developmental goal demonstrates a lack of oversight overlap in the different government departments because had the City's regional department spoken out to the Department of Transport, JRA and JDA about how Indingilizi needed to spatially retrofit in with its current USF, Indingilizi would have been designed and probably built (successfully) with a multi-purpose function in mind. The DoT and JRA would have taken into cognisance the major traffic backlogs experienced daily along Elias Motsoaledi near the Dobsonville Mall and probably made efforts to mitigate it and used Indingilizi as that vehicle

This oversight overlap continues among the different spheres of government, because the Provincial government which also has a spatial development framework which seeks to develop the province as a ***City Region*** (GSDP: 2016) could have approached the City and contributed to the development of Indingilizi. By doing so, this would have meant an easy win for it (Provincial government) because it would be fulfilling one of its own goals of decentralising development across the province through the creation of inter-municipal nodes which create new shared and integrated network of services amongst municipalities. This also has the added bonus of apartheid spatial planning redress.

Indingilizi is well positioned in trying to address the shared spatial development goals the City and Province seem to share. Its position in the far west end of Johannesburg Municipality, poises it as a potential gateway for mass transit between Joburg and the West Rand District Municipality (WRDM). It already has the supporting infrastructure (which will need to be expanded), but more importantly the location. It's located close to Elias Motsoaledi, a road which has high volume carry capacities. Being located in Dobsonville, means it is also located quite close to Main Reef Road, an established east-west main road which already connects the two municipalities. The other major draw card for Indingilizi is its proximity to the Kwezi station, another potential gateway point for commuters (and quite possibly freight) into and out of the Soweto area, as well as the planned Jabulani CBD in Soweto.



Map 10: *Transport Routes leaving Indingilizi* ***Source****: (Nduduzo Nyanda: 2017)*

Given the City did not have the budget, jurisdiction or capacity to carry out a massive infrastructure plan (hypothetical) which would integrate two municipalities, it still had the opportunity to approach Province first about a hypothetical plan. The City would then have to strategize with Province on rolling this hypothetical plan out in stages with a similar construct of what Indingilizi currently resembles. . By doing so, the City would have demonstrated that it can work with Province on delivering on its developmental mandates, and it would have demonstrated that it has the capacity to follow through with its development goals and meet the targets it had set out with its citizenry in its IDP.

Unfortunately, it did not. The City instead chose to see the silo development of the site in which Indingilizi is located as its immediate and short-term win.

6.2. Spatial structure of Indingilizi – the station in its neighbourhood

Indingilizi is located more or less 150 meters east of Elias Motsoaledi, along Dmas street (which then becomes Mashinini Street) and West of the Dorothy Nyembe Park, separated by Matlala Street. Adjacent to the south of the transport node is its park and ride facility which is located south of Dmas Street, east of Cele Street and west of Vuzane Street. This facility was once an extension of the transport node in the sense that minibus taxis used to park there or even at times service commuters from the space. Now it is strictly used as a park and ride facility for commuters who drive and park their vehicles in the facility and use either the bus services or minibus taxi services to access the Joburg CBD.

Map 11: *Site Location Indingilizi* ***Source****: (Nduduzo Nyanda: 2017)*

Since the inception of Dobsonville as a township, Indingilizi organically became a central and convenient place to access transport for locals. Because it was never zoned for housing and technically left dormant even by the then apartheid government, and as mentioned earlier, the local taxi association, DORLJOTA, claimed the space as its own to rank.

Ms Veronica Mosiapoa, the former Media Liaison Officer from DORLJTOJA, remembers how the space was never used and people in the area were usually forced to walk all the way up to either Elias Motsoaledi or even the Kwezi train station, if they wanted to access transport to the Johannesburg CBD. This is the reason why DORLJOTA came about. The Dobsonville area at the time (around the 1960's) was un-serviced by minibus taxi association, so a group of men (her father included) teamed up to provide a minibus taxi service for the Dobsonville community.

> "… now you must remember, Dobsonville was still very new at the time and didn't have all the extensions that it has at the moment… every other township had a central point where commuters knew where to catch a taxi. Indingilizi worked for us then because at the time it was located in right in the middle of Dobsonville" - Veronica Mosiapoa (Interview: 13/03/2016)

Veronica Mosiapoa described how DORLJOTA was the association that not only claimed the site, Indingilizi as a transport node (for minibus taxis), but also took care of the space located adjacent (now park and ride facility) partly because the open space being located next to the much larger Dorothy Nyembe Park (which was unkempt) had also attracted criminal elements to it.

Photograph 5: *Photograph showing inside Indingilizi Minibus Taxis at the station (Nduduzo Nyanda: 16/06/2017)*

The association not only operated from the space during the day, but later on, as Dobsonville grew as well as DORLJOTA's commuter base and driver and vehicle base, the association approached the Shell petrol station (located on the south east corner of Elias Motsoaledi and Cele Street) to park their vehicles there overnight. This measure was to serve both the petrol station as well as the association. The petrol station would benefit in terms of rent it would charge and receive from the drivers which park overnight as well as indirectly in security because some of the drivers slept in the vehicles. The association's owners and drivers benefited in that they had a formal, well-lit area to park their vehicles overnight. This benefited minibus taxi owners who had more than one minibus taxi more as their homes in the area at the time (pre-1994) were relatively small and did not necessarily have the yard space to house the vehicles. Also, it meant their drivers (young men usually imported from the rural areas) who were not related to them could have a relatively safe space to sleep in (the minibus taxi itself) and access to ablution facilities in the petrol station (Oupa Tsobane: Interview 28/09/2016).

Photograph 6: *Photograph of Indingilizi and C1 Bus leaving the station (Nduduzo Nyanda: 16/06/2017)*

However, as the Dobsonville area grew and as more townships developed around Dobsonville - the likes of Braamfischer, Leratong and Snake Park, so too did DORLJOTA. This was largely due to the fact that DORLJOTA was the sole provider of public transport in the area. This also meant the association could no longer only utilise the Shell petrol station for overnight parking. Veronica Mosiapoa (Interview: 13/03/2016) describes how DORLJOTA then decided to use the empty lot adjacent to Indingilizi (where the park and ride facility is currently located) to park vehicles overnight. To secure the space, Veronica Mosiapoa describes how SASOL[28] helped DORLJOTA with the necessary resources needed to clean up Indingilizi as well as to fence up the park and ride area so as to secure it after hours for minibus taxis which used it as overnight parking.

[28] This detail was not quite verified as records (news or otherwise) pertaining to SASOL actually donating funds or equipment to the cleaning up and fencing of the space were not made available at the time. This detail of SASOL being the petrochemical company to assist DORLJOTA also does not make sense as Shell is the petrol station the association had a relationship with. However, all parties including City officials meaning who besides DORLJOTA? also the shell garage? recollect (vividly) it being SASOL.

Veronica Mosiapoa also highlights how it was around that same time traders came into the space. Traders came to sell cooked and raw food as well as goods to commuters, particularly in the mornings as well as in the evenings. She also described how the space which was used as overnight parking, started being used as an informal carwash area for the minibus taxis which were waiting their turn to rank as well as private vehicles during the day. She describes it as being a "… space which began to create economic opportunities for its surrounding community".

Photograph 7: *Photograph of DORLJOTA and Manager's office in Indingilizi (Nduduzo Nyanda: 16/06/2017)*

The association's growth as well as the passive aggressive treatment from the City in a way forced DORLJOTA to seek out more a permanent space where it would run its affairs. Seeing that the majority of DORLJOTA's operating routes were and still are in the West Rand of Johannesburg, it made sense for the association to try set up shop in more central location to this. Hence DORLJOTA set up near in the Roodepoort CBD, on 29 Wilson Street (photograph 8) (Oupa Tsobane: Interview 28/09/2016). This strategy continued to pay dividends for DORLJOTA in that, it allowed the association to continue to grow its dominance on the West Rand and western areas of Johannesburg and Gauteng, as more settlements cropped up in the area. Settlements with people needing efficient transport to and from the newer

developments and suburbs like Honeydew, Ruimsug and Muildersdrift and access from the settlements into the Johannesburg CBD. The new locations' proximity to Dobsonville and Indingilizi particularly, also allowed DORLJOTA to still remain present in the area and protect its turf in the Soweto area, because although some of the minibus taxis were kept in the new headquarters in Roodepoort overnight, they still operated along their older routes during the day. The growth into the western parts of the province also meant more resources were flowing into the association, further fortifying its position as one of the larger associations in the area.

Photograph 8: *DORLJOTA House on 29 Wilson Street, Roodepoort (Google Map Street View Nov 2014: Accessed 01/10/2017: https://goo.gl/4GKHAr)*

The City's decision to use Indingilizi as a major stop for the Rea Vaya and a branch for the Corridors of Freedom further solidified DORLJOTOA's influence in the area. Originally owing to the fact that the City had informally recognised DORLJOTA as the custodians of the space, it only made sense to initiate route negotiations with it Lisa Seftel (Interview: 09/08/2016).). The other associations which operate from the site (MDN and WATA) and along the route were approached, but representatives from both the City and the associations (MDN in our instance) could not reach an agreeable solution/settlement, which technically meant that DORLJOTA was the only association in agreement with the City for Rea Vaya's C1 & C6 routes (Samson Mngadi Interview: 06/10/2017). However, members from the other associations (like MDN) who did join in the Rea Vaya, did so in their individual capacities, and those with

more than one minibus taxi and still wished to continue operating within the associations, faced penalties for not standing by the association's decision not to join the Rea Vaya system (Samson Mngadi Interview: 06/10/2017).

This explains how and why it does not seem like the other stakeholders like the minibus taxi operator (with the exception of DORLJOTA), bus services, traders and the community have not been involved in the development of the space to what it is.

Photograph 9: *Photograph of MDN taxi's' positioned and ranking adjacent Dorothy Nyembe Park along Mashinini Road (Nduduzo Nyanda: 16/06/2017)*

6.3. Internal layout of the station: for buses, not for taxis?

The JDA was primarily tasked with building the physical infrastructure of the inter-transport node. They commissioned an architect to design the node with explicit instruction to make it mixed use, so to include trading stalls and facilities for traders, designated lanes and sections for the Rea Vaya buses, designated lanes and sections for minibus taxis operating in the station, changing rooms and stations for the bus drivers, a rest are for the bus drivers and one

for the taxi drivers, an office space for DORLJOTA, an office for the node manager, public toilet facilities, an area for an ATM (Absa) and a ticket station. The park and ride facility was to be paved, sheltered with trees (Siyabonga Genu Interview: 15/12/2016).

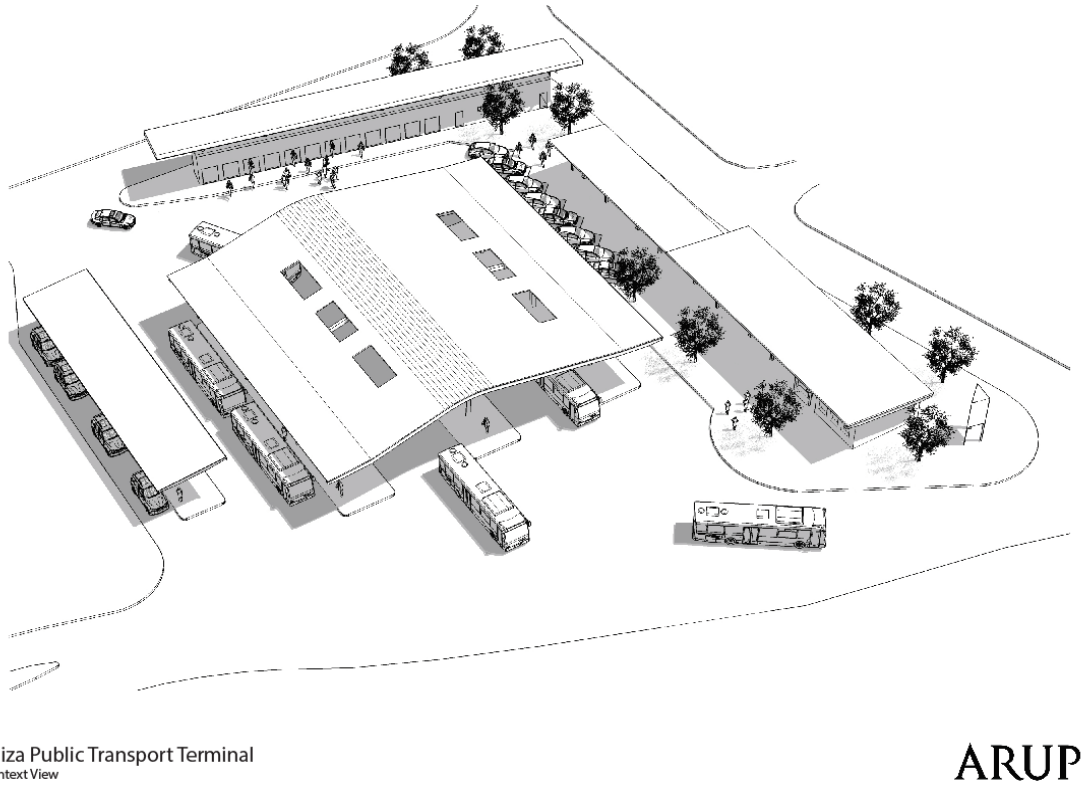


Image 10: *Architects overview impression of Indingilizi* ***Source:*** *Rea Vaya REA VAYA: Playing a catalytic role towards Integrated Transport Infrastructure Presentation P.24 (13/03/2013)*

Image 10 is the architect's impression of what they thought Indingilizi ought to look like once completed. What is interesting to note is how the sketch allows for ample room inside Indingilizi for pedestrian movement, but this does not extent outside the station, which is what the current situation is. The sketch also makes allowances for private vehicle parking (assuming that its staff parking) which for the most part is not true. Staff park in the park and ride facility located adjacent to the station. The fact that the artist and architect made this mistake highlights the fact that either/both did not really observe people's movements in and around the site. They would have made basic provision for movement around the (outside) the station and not assumed people would magically be able to cross the large gap they made for buses to turn into the station

Photograph 10: *Photograph showing Rea Vaya bus accessing the station from behind and not on Dmas/Mashinini road (Nduduzo Nyanda: 06/09/2017)*

Photograph 11: *Photograph showing Rea Vaya bus accessing the station from behind and not on Dmas/Mashinini road (Nduduzo Nyanda: 06/09/2017)*

Another faux pas that can be observed of the sketch is in where the buses and cars are thought to gain access into the site. Buses and minibus taxis do not enter Indingilizi on

Dmas/Mashinini Road, they only exit out through this road. This was to try and alleviate congestion along the busier Dmas/Mashinini Road, especially given the fact that that's where and how commuters gain access to the station, as well as where the traders sell their goods.

Photograph 12: *Photograph showing traders selling goods along Dmas/Mashinini road and its proximity to Elias Motsoaledi road *Shel petrol station (Nduduzo Nyanda: 06/09/2017)*

The trader/micro-entrepreneur design error was in moving the stalls to the back of the station. As Veronica explained, most customers do not come to the back. This is because it's too out of their way to, especially given the fact that they might either miss the bus or their place in line for a minibus taxi. Compounded to the design issue is the service of the space. The stalls have no electricity or running water, even though there are public toilets located on the far right of the structure. When asked about this, the JDA said the traders were not allowed to cook in the stalls but could sell cooked food.

Photograph 13: *Trader stalls being used for storage in Indingilizi, while the traders sell their goods along Dmas/Mashinini rd (Nduduzo Nyanda: 06/09/2017)*

The internal layout of the station was meant to try and accommodate all relevant stakeholders who operate and use the space – Rea Vaya buses but theoretically also taxis. Although the space practically belonged to DORLJOTA, the station's design reflects its anchoring on the Rea Vaya. From the height of the roof and ceilings, the width of the parking lanes as well as the general feels of the commuter waiting islands. Even though the space is meant to be shared by the buses and minibus taxis, the overall layout and design centres on the ergonomics of buses.

This becomes apparent when minibus taxis start loading commuters as loading lane sizes do easily really accommodate as many minibus taxis as would be needed to quickly load ques of passengers during peak rush hours. The platform sizes are the length of the single carriage Rea Vaya buses which operate along the C1 and C6 route, which on average equates to two and a half or three minibus taxis in length. Add to this, the fact that the one single bus can

load over 60 passengers (seated and standing), this puts the minibus taxi operators at a disadvantage as for everyone bus they would only be able to load between 40 – 45 passengers. This then compounds the logistics of trying to find adequate waiting areas for minibus operators, because they would need more minibus taxis to service their constituencies. Given that they have a set number of loading lanes designated to them, with no designated onsite parking, the minibus taxis more often end up using the neighbouring streets to park and wait their turn to come into the station and load passengers. This in turn adds to the congestion in the area during peak times. This while the Rea Vaya bus service simply works on a time schedule and has its overnight depot conveniently located on Elias Motsoaledi.

Photograph 14: *Photograph showing the difference in space allocation between the Rea Vaya and Minibus Taxis (Nduduzo Nyanda: 06/09/2017)*

Understandably, the station is located on a set piece of land and that there technically is not enough space to build outwards to accommodate all relevant transport operators. However,

the station' design and operation in its current form reveals another flaw, a flaw which highlights the how not enough consultation took place before it was built: the issue of the trader stalls and their location.

6.4. Integrating trading stalls in the station – a failure?

Photograph 15: *Trader stalls being used for storage in Indingilizi, while the traders sell their goods along Dmas/Mashinini rd (Nduduzo Nyanda: 06/09/2017)*

As it can be seen from the above photograph 15, all the stalls are located to the north of the station. The rationale for this was to try and mitigate foot traffic away from the busier Cele/Dmas Street, which most pedestrians use to access Indingilizi. Because Dmas/Cele Street are also the street all transport operators use to exit the station, it would also make more sense to lessen pedestrian traffic and try and move it away from the exit, so as to try and mitigate against motor vehicle accidents that may occur. This notion is reinforced by the fact that Cele/Dmas Street are also the main arterial road used by park and riders and the

transport operators (Mashinini) to gain access to not only the station, but to also gain access to Elias Motsoaledi Street. So, it does become a very busy street.

However, by moving the traders to the northern side of the station the architect and planners failed to anticipate the fact that, they were actually moving the traders away from the foot traffic that they had previously followed, and which was helping them earn their livelihoods. With the stalls being located far away from the commuters, and not in a convenient or efficient enough position for commuters to be able to quickly buy goods without potentially missing their transport, means less sales for the traders. Add to this the fact that the stalls' location are inward facing and along the quieter side of the station/node, they are also inconveniently located to even service the foot traffic along Cele/Dmas Street.

Indingilizi cannot technically be considered a node, even though it is supposed to be because it is located along transit oriented development. It does not even partially try to formally integrate operationally any transport modes currently operating from there. Every operator operates in a silo. If anything, the minibus taxis which do operate there, are the only operators which have adapted (as they always do) to provide a service to their commuters, but also one in-line with the bus operators (Rea Vaya included).

The design and internal operations of Indingilizi seem to follow a similar trajectory of thought when scrutinised. For one, as previously discussed and acknowledged by some stakeholders, no real stakeholder consultation took place. It would seem the only real engagement the architect had was with the City and its subsidiaries (JRA, department of transport and JDA), and even then, not all who are affected by the site were consulted (City Parks with Dorothy Nyembe Park).

Conclusion

In short, the City missed a great opportunity to develop Indingilizi with a future driven vision. Instead of looking to only provide shelter to commuters, the City could have developed the space with a vision of expanding it to connect with its surroundings. This did not have to include the rollout of mass infrastructure for the area of Dobsonville, but instead it could have used small design elements to link up Indingilizi with its surrounding (Elias Motsoaledi and Dorothy Nyembe Park). The City could have used existing infrastructure like the bicycle lanes on Elias Motsoaledi or pavement type to integrate the two spaces. The City could have (and still can) engage the surrounding community and incentivise them to densify their properties for mixed uses (trade and residential rentals). This way the area, which is located next to a park adhere to the live/work/play philosophy the City is trying to implement along its Corridors of Freedom.

By self-admission, the City stated how the development of Indingilizi was purely for aesthetic reasons, when they repeatedly referred to it as a transport station. They were not looking to develop it as a transport hub or interchange. The fact that more than one transport mode is catered for is purely by chance (political). The fact that there were traders there before and that trading is a reality of transport spaces also just forced the City to rather include (not integrate) the traders in with the development plans.

The City seemed to be gaming when it developed Indingilizi. Instead of spending the necessary time and resources to make sure the space spoke to the needs of not only the commuters (Park and ride) but more so the local community, shows the lack of depth in the thought and planning process that went into planning the space. The fact that the façade of the administrative building faces inward and away from the park, while the traders stalls also do the same but with the homes of local residents shows how little thought went into how the community was included in the design aspect. The positioning of the two buildings not only creates ally-like streets which make it easier for robbers to attack people, but also because they take up so much space and the paving being inadequate, means people walking in these spaces are forced onto the road (where cars and buses are). This does not incentivise people to walk along these roads and instead, creates “dead-zones”.

The fencing along the parameters of the station also does not make sense. Firstly, it does not cover the whole parameter of the site, only where the builds are. So even if it was placed there to try deter vandalism or break-ins, they could still happen because a larger section of the site is unfenced. Had the buildings been in the centre or adjacent to the building next to Indingilizi, there wouldn't be a need for fencing. There would not be any dead-zones created and there would be enough paving for commuters. The trader stalls would be closer to commuters and foot traffic along Dmas/Cele Street and they (stalls) would not be empty. The space would be optimally functional. Had this been done the City would have adhered to *Better building practices, actually built spaces for people* and in turn *helped in the creation of economic opportunity* for the community.

Chapter 7

Route Analysis

Introduction

This chapter discusses the observations made from the routes of the different transports modes which operate in, around or from Indingilizi. Bearing in mind the fact that various other stakeholders may also operate irregularly around the area (after hours taxi services specials[29]) this chapter will focus on those transport operators which operate on a frequent basis and have been mentioned as stakeholders to Indingilizi, namely: - the Rea Vaya, Metrobus, PUTCO, DORLJOTA, MDN and WATA.

To begin with, an analysis of each mentioned operator and their routes will be presented. This will help in the provision of a foreground of an analysis of whether or not the Rea Vaya's current C1, C2 and C6 routes were the optimal and efficient modal choice to service Indingilizi and in turn the Corridors of Freedom. In looking at the pre-existing bus routes, the chapter will begin with a spatial analysis of their impact and effectiveness in delivering a reliable service for their constituents. Bearing in mind the parameters of this research, it will only look at whether each bus service's current mandate could suffice in carrying out effective transport services for an integrated transport node along a transport corridor which is intended to help drive economic growth and development in their current form.

A similar analysis will run for the minibus taxi operators. However, due to the fact that minibus taxi operators do not receive similar support from the state as their bus counter parts but have been incorporated into Indingilizi, here we will discuss how the operators have been affected by this incorporation. Along with the other bus services, we will look at whether duplication of routes has happened along the Rea Vaya C1, C2 and C6 routes and whether key intersection points could have been identified ahead of time and rather optimised as potential micro-transit nodes. This (as will be discussed) bears a heavy burden on the determining a sustainable carry capacity on the Rea Vaya (as well as the other transport

[29] Special: These are transport pool services organised either by an employer, an association, a minibus taxi driver or even a collective of people working in the same area or company which want a guaranteed transport service which will collect and drop them off either in one consented location or from their homes to their places of employment and back. Think of it as a semi-formal shuttle service.

operators), and thus begs the question of whether feasibility studies had been done prior the introduction of the Rea Vaya to Indingilizi to see how best to implement the system to and from there?

This will bring us to the analysis of the GIBB study commissioned by the Development Bank of South Africa (DBSA) as well and National Treasury on the Rea Vaya. This study intended to look at how best the City (through the JRA) could optimise the service and thus get it to run efficiently and profitably. The study unfortunately looked at the Rea Vaya system in isolation and not in conjunction with the other transport services which do operate in the spaces and alongside the Rea Vaya, thus provides skewed recommendations and results, even from its field studies.

Tying things back to Indingilizi and the Rea Vaya routes, this chapter will analyse the results and recommendations made by the GIBB study on the C1, C2 and C6 routes. Taking into consideration the quantitative measures GIBB took, this chapter will try and analyse these techniques and findings alongside the qualitative findings made by this research from the minibus taxi industry as well as the other bus services. With this in mind, the research will try and discern where the reproductions or intersections in services could have in fact been better planned for and thus integrated to provide a better transport service and in effect better establish Indingilizi as the intended transport node it was designed to be.

7.1. Buying into the System

The City of Johannesburg introduced the concept of the Rea Vaya by way of facilitated workshops with the minibus taxi industry in 2007. These workshops were facilitated under the leadership of the then Mayor Amos Masondo (Edwin Foster Interview: 15/09/2016). The workshops aimed at trying to inform the minibus taxi industry of the City's impending plans to introduce the REA VAYA system, how the system was intended to work and how the industry could participate.

> "I remember back in 2007 when our associations were first called to a boardroom at the Turfontein Race. This is where the City first told us about the REA VAYA."- Edwin Foster Interview (15/09/2016)

Needless to say, some of these workshops were met with resistance, as most minibus taxi operators in attendance claimed to not quite fully understand how they could benefit from

the introduction of a bus system which would be in direct competition with them and their service (Edwin Foster Interview: 15/09/2016). The City anticipated this reaction and as a show of 'transparency', the City sought to employ a third and independent party, namely transport planners and engineers as well as professional negotiation consultants to help facilitate dialogue between the City and the minibus taxi operators (Lisa Seftel Interview: 09/08/2016). During the negotiations, the City took affected and interested parties over to Bogota, Colombia to see first-hand how the bus rapid transit system worked and how they would fit in and be a part of moving public transport forward in South Africa.

However, the negotiations were difficult and lengthy, primarily because of what each party stood to lose and their respective positionality. From the City's perspective/position (department of transport), they needed to introduce a functioning and dependable public transport system that would provide especially affordable and reliable for poor and working-class residents. Particularly those located in in the City's peripheries. It also needed to introduce a system that would be a sustainable solution in trying to curb the ever-growing congestion on the roads leading into business and job centres like the Johannesburg CBD and Sandton CBD. This congestion was and is primarily caused by commuters who were opting to buy private vehicles, the more upwardly mobile they got. However, the City was especially under pressure to introduce a functional "world-class public transport system" in time for the 2010 FIFA World Cup, which was to be hosted in South Africa. Playing host city for both the FIFA World Cup 2010 and FIFA Confederations Cup in 2009 (both opening and closing games and ceremonies) forced the City to try and expedite the negotiations and the launch of transport City to sooner than should have been .

For the minibus taxi industry, the owners and associations were largely concerned with the fact that it seemed like the City was trying to phase them out as an industry. Firstly, they felt that the chosen rapid Rea Vaya routes were routes initially carved out by the minibus taxi industry and that it was unfair that they would have to "share" these routes with the new system. This was particularly seen as unfair not only because the routes only became major transit routes because the minibus taxi industry had been servicing a demographic which has been neglected by the City and state, but particularly because unlike the other bus systems also operating along some of the same routes, the Rea Vaya would operate on set times

throughout the day. This would mean all day competition for minibus taxi industry and result in losses in revenue and being pushed out of a market they would no longer be able to compete in, even though they technically built and created that market (routes).

Secondly, this translated to concerns for their livelihoods, in both the short and the long run. In the short run, the compensation they were to receive would have to not only sustain them until the system started to turn a profit, but also the dependants they were supporting through remittances (rural/urban "black tax"). The lump sum they would receive for turning in their vehicles needed to ensure it would cover their daily and monthly expenses as well as any unplanned future occurrences that may happen that may need financial assistance. For instance, an unexpected death in the family would mean the channelling of unplanned for financial resources to helping bury the deceased, and that is hoping the deceased is not the minibus taxi operator, because that in its own would have its own set of complications[30]

They felt that the City had to guarantee that they would be adequately compensated for their minibus taxis and that they would be assured some form of security. This is because their minibus taxis not only guaranteed their day to day livelihoods, but more so the livelihoods of their kin and extended families in the rural areas. They needed to be assured of a similar form of ownership, also because most of them were not prepared to become employees in a system after being their own bosses and employers.

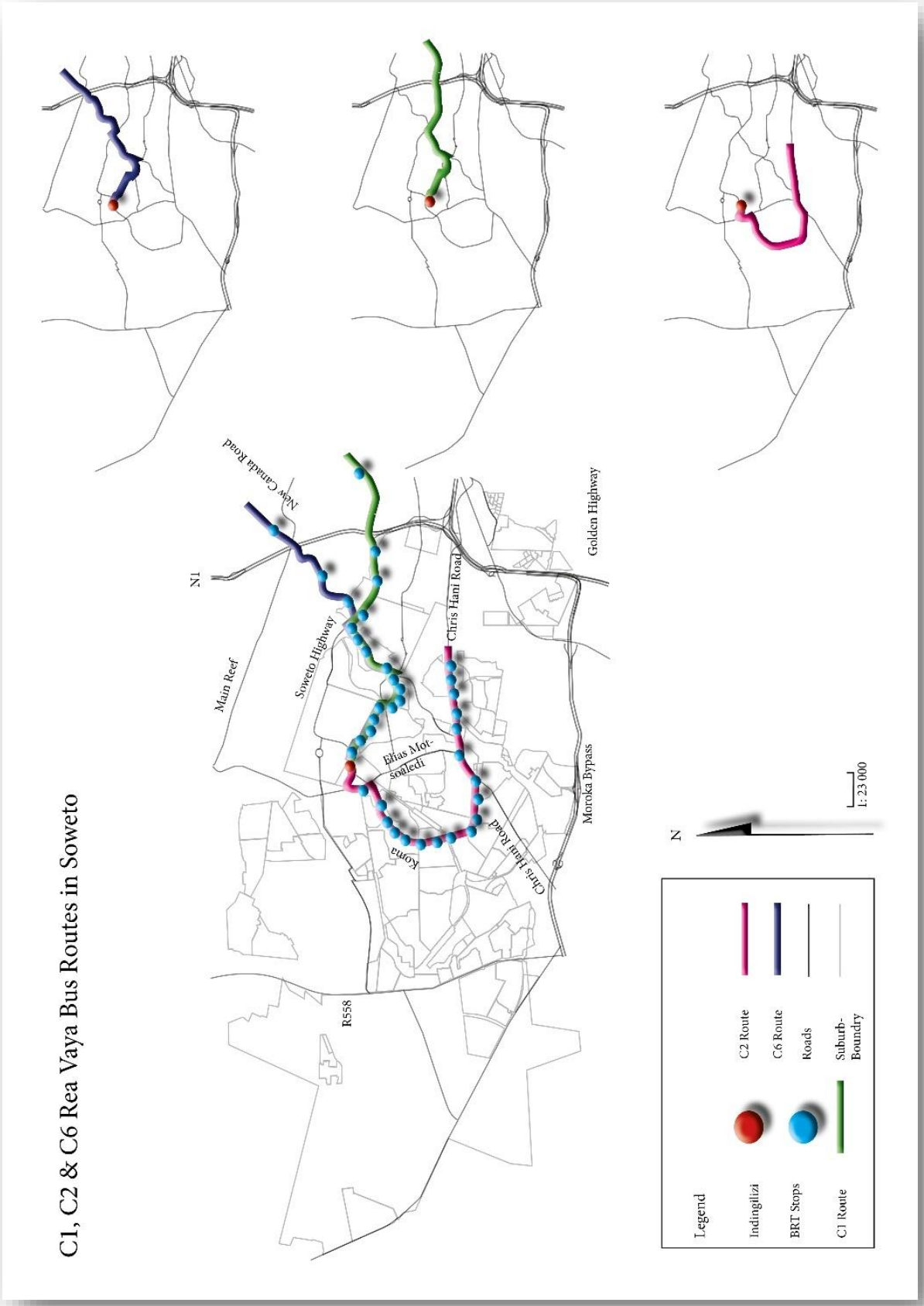
7.2. Bus Routes

This section will try discuss how the different bus systems from the Rea Vaya to the, Metrobus and PUTCO bus system were never integrated even though they shared some routes. Primarily how the other two services like the Metrobus service were not even top of mind in any way before, during or after the construction of the Rea Vaya and Indingilizi. This despite the fact that the Metrobus service features prominently in Soweto's ISF (2008). What will also be shown is how here too, some routes to the CBD and other areas of the City are duplicated, if not by the Rea Vaya, then by PUTCO – a state subsidies, private bus company.

[30] Some of the minibus taxi owners are from traditional backgrounds and either are in polygamous marriages or have two families (one back in the rural areas and one in the urban area where they ply their trade). This

7.2.1. Rea Vaya

The Rea Vaya runs three bus services to and from Indingilizi, the C1 Dobsonville, Ellis Park route, C2 Dobsonville Maponya Mall route, and C6 Dobsonville Empire route. Each of these services follows a specific route and operates seven days a week. During the week, The C1 and C6 services operate between 05h00 to 20h05 with varying intervals of 5 minutes during peak times and 15 minutes off peak. On Saturdays, they are meant to operate from 05h00 to 19h00, while on Sundays they are meant operate from 06h00 to 19h00 (Rea Vaya Bus schedule: https://goo.gl/BbZxs3).



Map 12: *C1, C2 & C6 Rea Vaya Routes* ***Source:*** *(Nduduzo Nyanda: 2017)*

The C1 bus service has 33 stops and runs from Indingilizi, east onto Mashinini road into and through Meadowlands, onto Orlando West, then into Orlando East where joins onto the trunk route system which follows the same route the other trunk services from the other parts of Soweto follow, which is onto the Soweto highway until it reaches the Westgate area in the downtown Johannesburg CBD (Rea Vaya Routes: https://goo.gl/zz2mqc).

Diagram 4: *C1 Bus Route Dobsonville – Ellis Park* ***Source****: https://goo.gl/IgAal7*

It then makes its way onto *Albertina Sisulu road* through the *Pat Mbatha Bus Way*, until it makes its way into the Ellis Park area/district. From there it makes its way back to Indingilizi using the same route except it uses *Commissioner street* (which is west bound) to access the *Pat Mbatha Bus Way* and Soweto Highway (Rea Vaya Routes: https://goo.gl/zz2mqc).

Diagram 5: *C1 Bus Route Ellis Park - Dobsonville* ***Source:*** *https://goo.gl/xVryWQ*

The C6 bus service (Diagram 7 below) has 27 stops and also runs from Indingilizi, east onto Mashinini road into and through Meadowlands, onto Orlando West, then into Orlando East. However, where the C1 uses the Soweto Highway to access the Johannesburg CBD, the C6 uses *New Canada road* and joins the Empire Perth corridor. It services communities along New Canada road, Perth and Empire road, but ends in Milpark where it turns around to go back and follows the same route back until it reaches Indingilizi. This route was primarily created as a complimentary/supporting route for the T3 bus service in providing access for students and professionals to the Empire Perth corridor. Unlike the T3 service, it does not go all the way into the Johannesburg CBD. C6 commuters either going to the University of the Witwatersrand, the Braamfontein Area or the downtown area (the T3's last stop in the Library Gardens) are expected to get off at the Milpark stop or any before and jump onto the T3 bus service instead (Rea Vaya C6 Bus Route: https://goo.gl/ttM8i5).

Diagram 6: Adapted *C6 Bus Route Dobsonville – Milpark* ***Source:*** *Adapted from C1 bus route map https://goo.gl/xVryWQ and T3 https://goo.gl/KoeHlj bus route map, (Redrawn by Nduduzo Nyanda: 2017)*

The C2 bus service is an internal bus service, in the sense that it only operates in the Soweto area. It has 25 stops and runs from Indingilizi to Maponya Mall. The service does not follow a direct route along *Elias Motsoaledi road*. Instead, from Indingilizi it briefly joins Elias Motsoaledi road, but then turns onto Koma road and does a loop around Jabulani (passing close by Jabulani Mall), Moroka and Rockville until it reaches Chris Hani road. From there it joins the trunk routes stopping at the two major stations (Regina Mundi and Lakeview) before making its way to Maponya Mall. Here it loops into Klipspruit and makes its way back to Indingilizi using the same route (See below).

Diagram 7: *C2 Route from Maponya Mall through Koma Rd to Indingilizi Source: https://goo.gl/FaePxD*

The City chose to operate these routes for a number of reasons, with the most important one being that it needed to create a functioning public transport system in and for the Soweto area. The C1 and C6 (not discounting the trunk routes namely, T1, T2 and T3) provide Soweto commuters with a formal alternative to the Metrorail service and to the "informal" minibus taxi service. It is also meant to be an all day, public transit alternative to the PUTCO service which also operates out of Soweto.

Since the Metrobus service does not operate in the Soweto area (except for the few morning and evening services it does provide), the introduction of a formalised public transport system "administered" by the City in the Soweto area was deemed necessary, primarily because the City of Johannesburg has no say, influence or jurisdiction on the running of the Metrorail rail service which is run by PRASA (An SOE that operates passenger rail in South Africa).

The introduction of the Rea Vaya service in Soweto was also geared at using transport to help facilitate development in the area. The City identified key strategic areas in Soweto which it earmarked for development (Soweto UDF). These key development areas are meant spur economic activity and development in the Soweto region, thus creating a functioning economy for Soweto which has had to export its human capital and resources to the Johannesburg (and recently northern Johannesburg area) because of apartheid spatial planning and policies which underdeveloped the area (City of Joburg: 2011).

The Rea Vaya, through the Corridors of Freedom, is thus meant to be used by the City of Johannesburg as one of many instruments to help drive economic development in the Soweto area. The City of Johannesburg aims to use the infrastructure developed not only for the Rea Vaya as means to spur economic development in Soweto, but have it work in-line with and

support the various urban development frameworks (UDFs) planned for the key areas that have been identified. With respect to Indingilizi and routes which operate from it, this includes connecting the central areas surrounding the Maponya mall with Koma road *development corridor*, which includes the Jabulani/Jabavu CBD and improvement district plan as well as the Kwezi station and Dobsonville mall areas (Soweto ISF: 2008). These are discussed in greater detail in the spatial analysis chapter, but the key thing to take out from the development of the transit network between these areas, is the creation of a self-sustaining and operating network in the Soweto area.

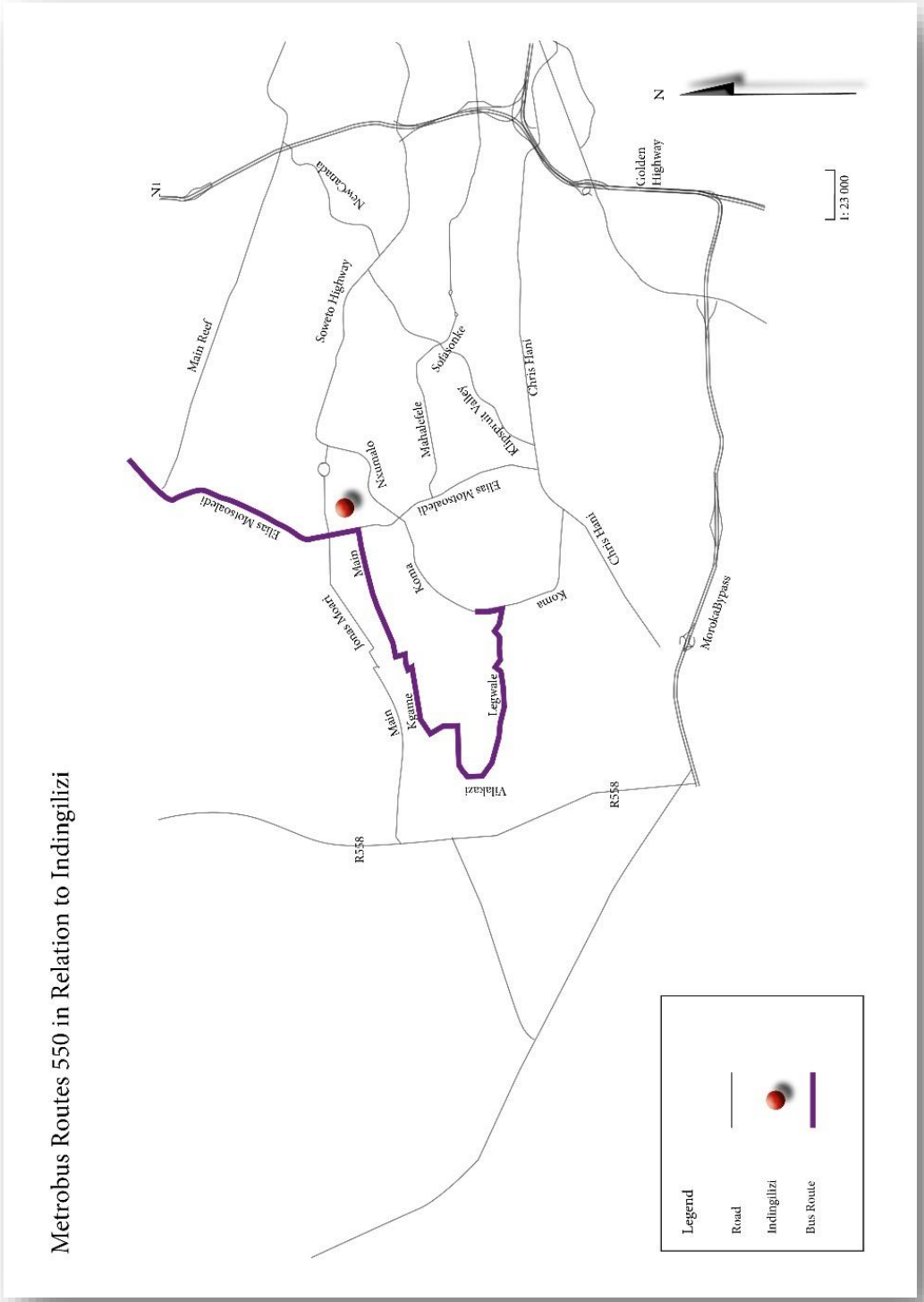
7.2.2. Metrobus Routes

Equipped with large fleet which includes double and single deck buses, Metrobus has over 330 scheduled routes across the city. However, in Soweto it only offers six services, namely (City of Joburg; 2006):

- 550 Jabulani Mall to Roodepoort via Dobsonville
- 551A Soweto to Sunninghill and Back
- 551B Soweto to Sunninghill and Back
- 551E Soweto to Sandton and Back
- 552 Soweto to Fourways Mall and back
- 553 Soweto to Kya Sand (Metrobus: 2016)

Map 13: *Metrobus Routes in Relation to Indingilizi* ***Source****: (Nduduzo Nyanda: 2017)*

The 551A, 551B, 551E, 552 and 553 all start in the Protea area (Protea North, Protea Glen and Protea Glen Ext. 12) and make their way east wards through Soweto before making their way to the Johannesburg CBD and then their respective destinations. These bus services do not make their way through Dobsonville, but do intersect with the Trunk and C1 service route in the Orlando East area. They also seem to share a similar route with the C6 and T3 service along New Canada road, which feeds into the Empire Perth Corridor.



Map 14: *Metrobus Route 550 in Relation to Indingilizi* ***Source:*** *(Nduduzo Nyanda: 2017)*

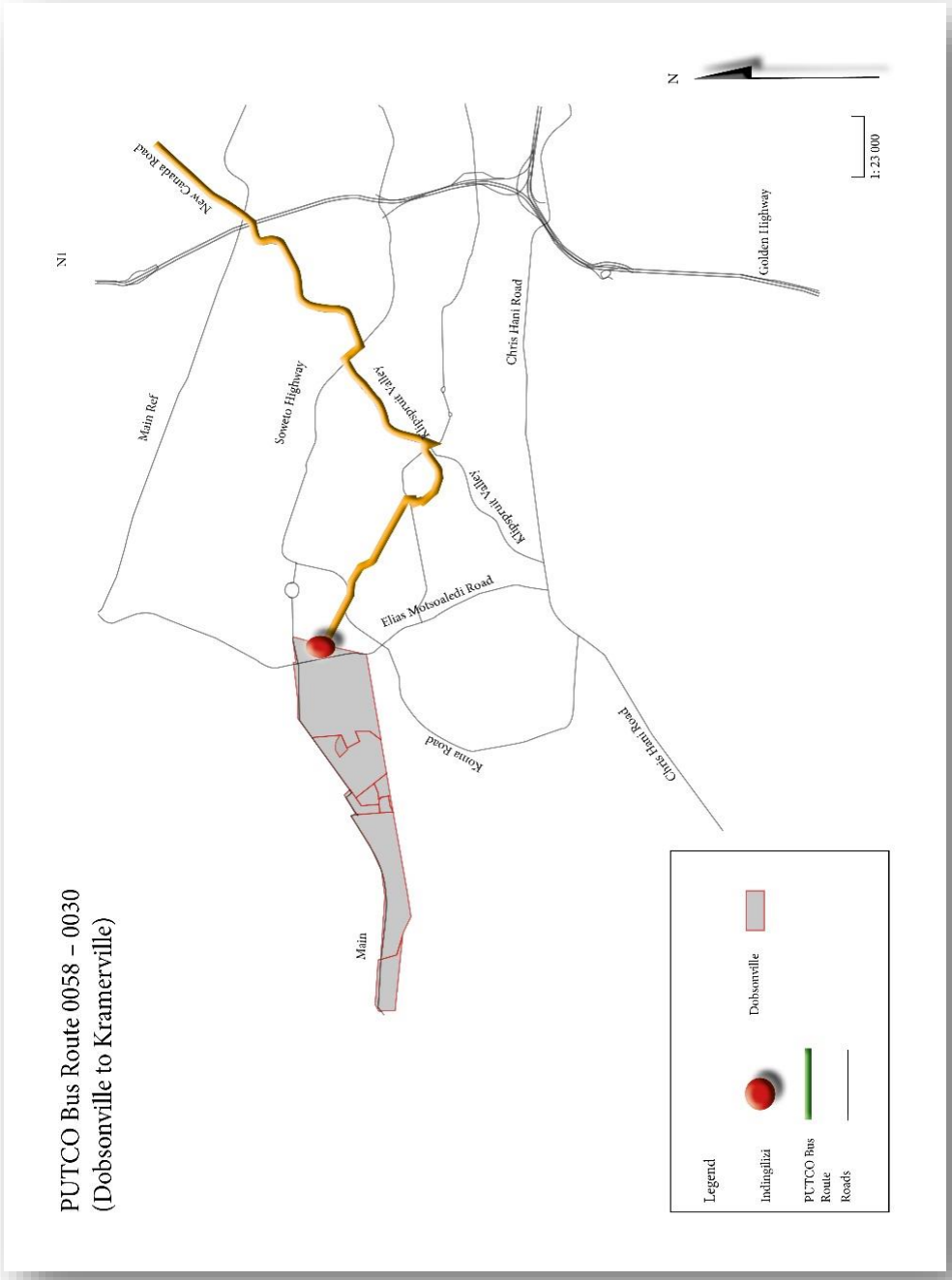
The 550 Jabulani Mall to Roodepoort route does not bypass Indingilizi, but does however use parts of Elias Motsoaledi road and thus shares parts of its route with the C2 service which operates between Indingilizi and Maponya Mall.

7.2.3. PUTCO Bus Routes

In Johannesburg, PUTCO's depots are strategically located close to its busier routes. For instance, it has despots and workshops in Selby, Soweto and Roodepoort in Johannesburg, while its routes and main areas it services in the Johannesburg region include (PUTCO Bus Schedule: https://goo.gl/TMEzoj):

- Soweto to the Northern suburbs of Johannesburg including Midrand.
- Alberton to Johannesburg Central Business District (CBD) and Northern suburbs.
- Johannesburg CBD to the Northern suburbs.
- Eldorado Park to Johannesburg and the Northern suburbs (PUTCO; 2016).

Specific to the Soweto region, the PUTCO bus service has a significant network which spans across the whole territory (See appendix II for total Soweto bus schedule). These services primarily service workers who require direct transport between their homes/suburbs in Soweto and their areas of employment, which means they mostly operate during peak commuting times (in the morning and evenings).



Map 15: *PUTCO Bus route 0058 - 0030* ***Source****: (Nduduzo Nyanda: 2017)*

Specific to Indingilizi and the Dobsonville area, there are a few PUTCO bus routes, with one bus service, the, which runs from Dobsonville Ext 3 to Kramerville in Sandton. This bus route/service has four buses, with the earliest leaving at 05h00 on weekdays, followed by one at 05h20, one at 06h15 and the last one at 06h45. This bus service runs along the exact same

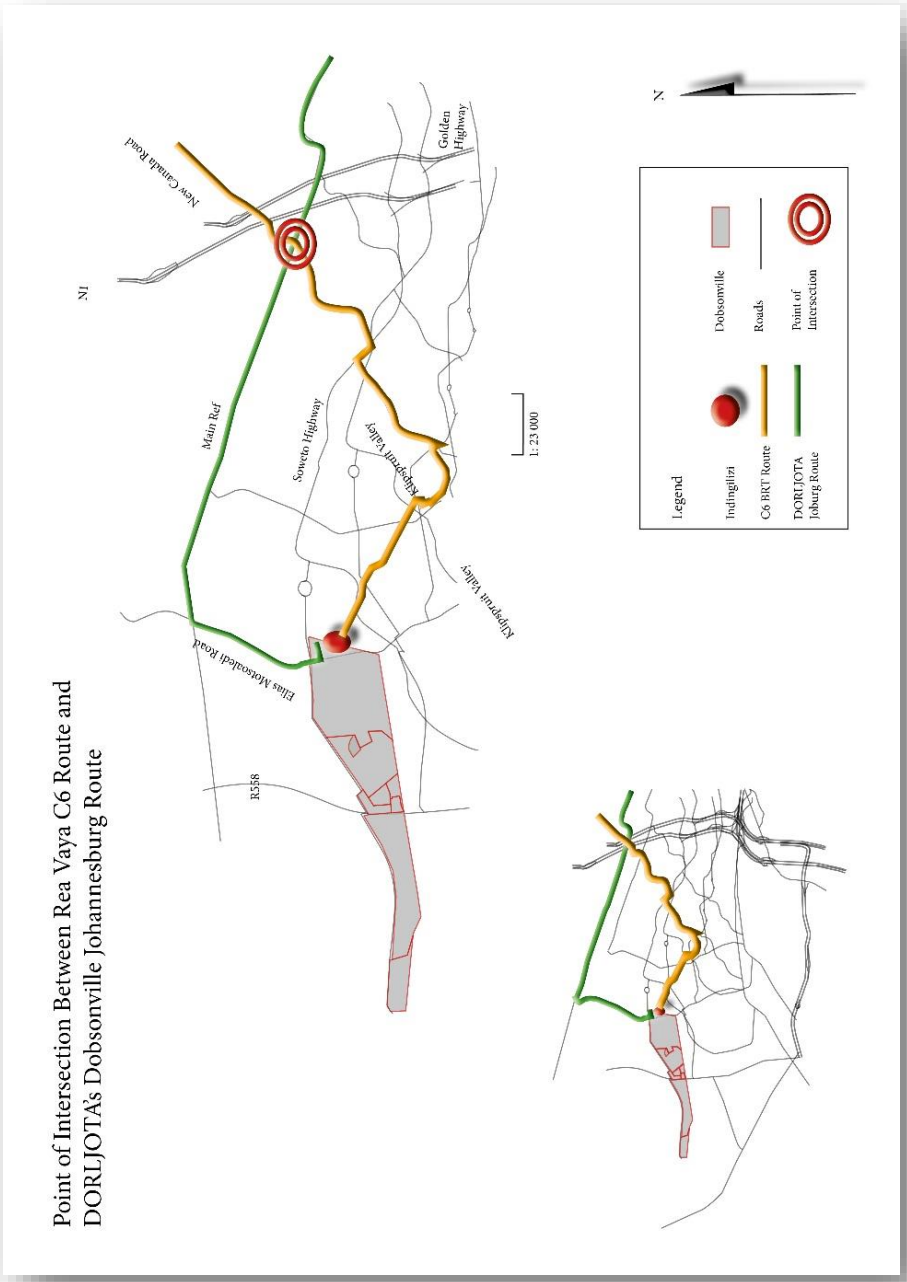
bus route as the Rea Vaya C6 and even has a stop on Dmas/Mashinini Road, which is the road Indingilizi is located on (PUTCO Bus Schedue: https://goo.gl/TMEzoj).

7.3. Taxi Routes

Similar to the bus routes discussed above, here, we will discuss how some routes 'negotiated' by the City for the Rea Vaya are in fact duplicated by some of the minibus taxi operators. This section will not only breakdown the various interactions the City has had with each association, but more so the lack of due diligence done by the City in negotiating the routes with operators.

7.3.1. DORLJOTA Routes

The three routes do affect DORLJOTA's commuter numbers in some form or another, even if the Rea Vaya's routes operating to and from Indingilizi do not operate along DORLJOTA's routes. For instance, the introduction of the Rea Vaya's C1 route has seen a visible decline in commuters for DORLJOTA's Dobsonville, Johannesburg route. Although the City has an agreement with DORLJOTA, it is for it to not operate along a certain route and not for it to not have a Dobsonville to Johannesburg route. The association's route still operates, but has been negatively affected by the C1 route. This route for the association was dealt a further blow with the introduction of the C6 bus route. Although the C6 does not operate along Main Reef road, it does intersect the road as it makes its way down New Canada road, which becomes Perth road.



Map 16: *Points of intersection between Rea Vaya C6 & DORLJOTA* ***Source****: (Nduduzo Nyanda: 2017)*

The C2 also affects DORLJOTA's operations as it has also taken a substantial share of its commuter base which travels to and from Jabulani Mall. One of DORLJOTA's routes which it had negotiated before the introduction of the Rea Vaya, was a route for Dobsonville commuters to Jabulani Mall. The association negotiated this with WATA, as the Jabulani areas are serviced by WATA. The late Mr Oupa Tsobane, who was the Public Relations Officer (PRO)

for DORLTOJA explained how the association had a sort of "joint venture" with WATA. WATA allowed DORLJOTA to operate between Dobsonville and Jabulani Mall (via Dobsonville Ext.3) and WATA could use Indingilizi as a drop off point for commuters. This would then grant WATA access into Dobsonville, but only through a specific route (again via Dobsonville Ext.3).

The City's negotiations with the taxi associations along the C1 and C6 routes all seemed to have only included DORLJOTA and none of the other taxi associations. This is echoed in how the other taxi associations describe the process as an imposition more than a negotiation. All except DORLJOTA, which describes it as progress and much needed development. This is understandable, because of how the different taxi associations approached, or were approached in joining and expected to embracing the Rea Vaya system by the City. Because DORLJOTA seemed to have some form of leverage in a pseudo ownership over Indingilizi and most of the routes in Dobsonville, it would make more sense for it to be approached (by the City) as an association and to get its buy in. As oppose to getting the buy in of only a few members. That would only sow division amongst members which might breed violence as it previously has and been experienced along the T1 route with those associations (News24: https://goo.gl/lvxs4k).

Officials from DORLJOTA say once they had agreed to engage the City, they gave their owner members permission to join the Rea Vaya operating company PioTrans. Veronica Mosiapoa described how members, who joined the Rea Vaya and PioTrans, first had to seek permission from the association to join. This is despite the fact that the association was in negotiation with the City. Members who showed an interest in joining PioTrans had to also enter into the previously discussed new agreement with the association where their earnings (a portion) would be placed into a trust for the association. For instance, one project the trust financed went towards a petrol station[31] which was opened in late 2016 (Sowetan: https://goo.gl/YsyQ2f).

Even though the association did not cap the number of taxis members could have, even after they joined the REA VAYA. Veronica Mosiapoa explained how this was ensured by the City

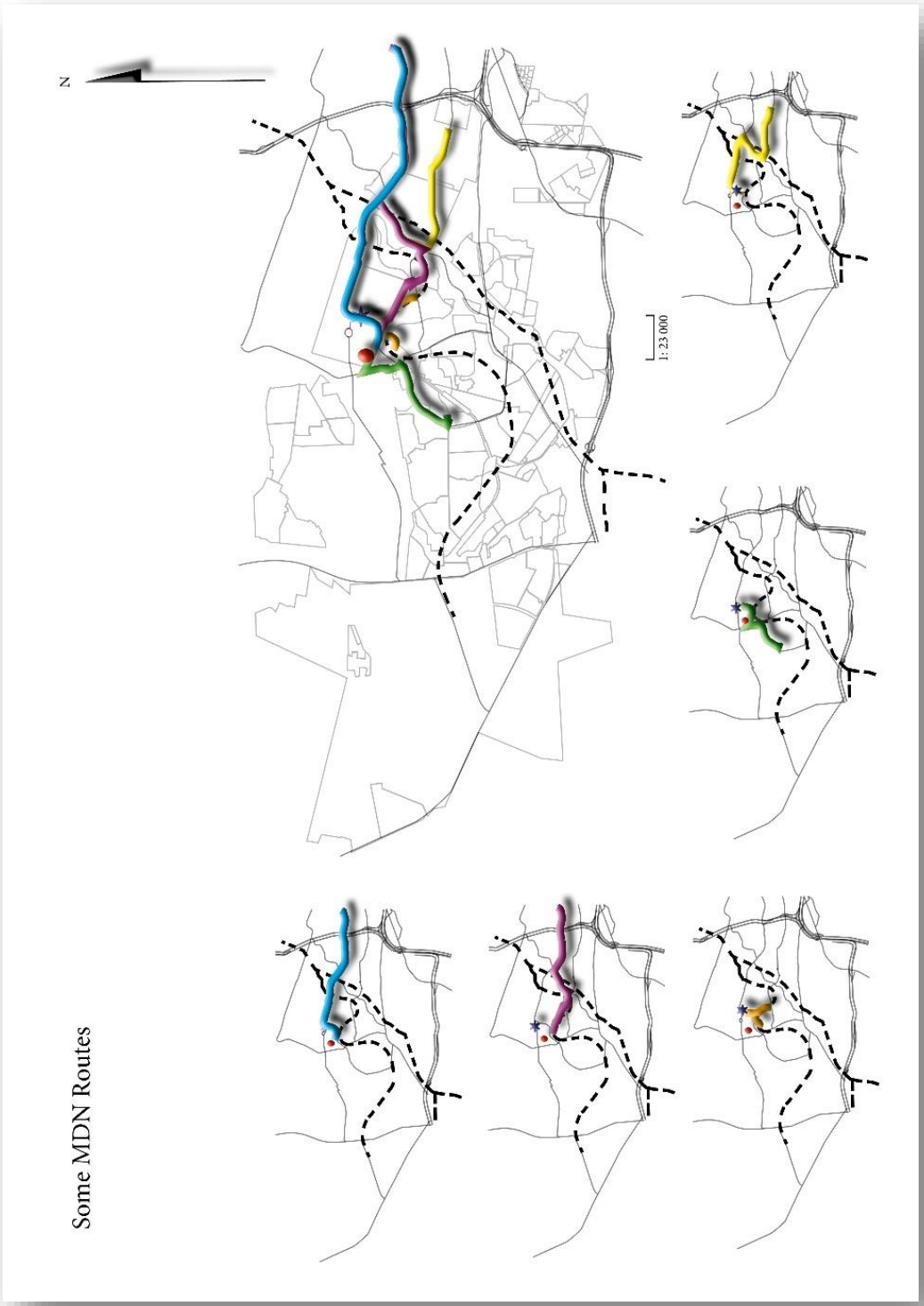
[31] The Petrol station came under fire in 2017, when it was discovered that it was selling petrol at 50c below the regulated price. DORLJOTA tried to defend this by saying it only sold minibus taxi operators, however this was proven to not be true. Private vehicle users claimed to have bought petrol from the petrol station at the reduced price (702: https://goo.gl/a4jEcA).

and government, as they would have stopped issuing out permits and licences. Therefore, unless a new route opened up in and around DORLJOTA's operating jurisdiction and the authorities issued out permits for those routes, chances of those taxi owners expanding their fleet was slim.

Another reason for there being little to no resistance from the side of DORLJOTA against the REA VAYA and the proposed routes was because its routes were never directly in competition with the REA VAYA. When interviewed, Oupa Tsobane highlights how DORLJOTA never had a route to the Johannesburg CBD which followed the REA VAYA's C1 route. All of their Johannesburg routes exit Dobsonville via Elias Motsoaledi road and then enter the Johannesburg CBD using Main Reef Road. The REA VAYA's C1 route instead, follows a similar route to the Johannesburg CBD to that used by MDN. It leaves Indingilizi via Mashinini road, through Orlando East and accesses the CBD through the Soweto Highway. The C6 uses a similar route but access the Johannesburg CBD via New Canada road and in turn the Empire-Perth Corridor.

7.3.2. MDN Routes

The taxi association has an extensive network of routes, not only operating inside Soweto, but also extending right all the way through to Johannesburg. Although primarily providing a commuter transit service for the Meadowlands area, MDN does also service other areas in the inner more middle part of Soweto. One of its routes is for commuters wanting to get to the Jabulani Mall; another is the route from Meadowlands to Maponya Mall; a route from Dobsonville (Indingilizi) to Johannesburg Park Station; a Meadowlands to Diepkloof route via Orlando and M'zimhlophe (an area north, north east of Orlando) and of course the original route between Meadowlands and the Dube train station.



Map 17: *MDN Routes* ***Source****: (Nduduzo Nyanda: 2017)*

Operationally, the association claims to have a rotational system for the routes, which means all the owners must take turns and work all the routes. No one taxi owner can choose to have

his or her vehicles only operate on one route, unless they have enough cars to operate along all the routes at once (Thami Moyo Interview: 10/10/2016). Only when an owner has enough vehicles to operate along all the routes at /once do they then have the discretion of allocating specific vehicles to operate along a route of their /choosing. This practice is usually used to try and rotate vehicles so as to help mitigate against wear and tear of operating over longer distances.

From the association's perspective, the obvious reason for doing this is to ensure all members are able to share in the more lucrative routes and thus able to meet their personal financial obligations and those to the association. More importantly though, it is also to help ensure that all routes are adequately serviced from the associations stand point and that there are enough vehicles operating on all the routes at all times so that they are not poached by other associations. This is ensured by the 768 vehicles registered and operating under the association along the various routes, and the 240 members.[32]

This rotational process is coordinated by various individuals, at various levels/structures and in differing situations. For starters, we must be cognisant of the fact that the rotation of the minibus taxis onto the different routes does not necessarily happen all day. Operators' minibus taxis are usually rotated onto different routes either daily or weekly (Thami Moyo Interview: 10/10/2016). By rotating the minibus taxis this way, firstly it reduces the logistical stress and confusion of making sure everyone is where they are supposed to be, especially when the association has keep tabs on over 700 vehicles. This also helps mitigate potential conflicts caused by their appearing to be inequality and favouritism among minibus taxi operators for preferred routes. Lastly, by knowing which and how many minibus taxis are operating along which route it also helps with their transferal in filling gaps in busier routes should one vehicle be involved in an accident or be found to have broken down (Thami Moyo Interview: 10/10/2016).

The rotational system then becomes the responsibility of various individuals because it involves the coordination of different routes. At ground level, taxi rank placed queue marshals (specifically for and by the association) are the ones who control where in line the minibus

[32] Number obtained from the chairman of the MDN taxi association (Mr Moyo) on the 10th of October 2016. He also mentioned that 65 vehicles operated from the Baragwanath Taxi Rank/Interchange per week, while 10 vehicles operate from the Maponya Mall taxi rank per week and 10vehicles operate from the Jabulani Mall taxi rank per week.

taxi are and which minibus taxis can operate from the specific rank. The queue marshals are thus informed daily by the drivers when they arrive and the queue marshals verify this with the chairman. Other individuals who are involved in making sure designated taxis operate on the designated routes are the marshals which patrol the routes using marked vehicles belonging to the association. However, these marshals' job is primarily to ensure minibus taxis from other associations do not operate along their route.

7.4. Deep Dive Analysis & Conclusion (The GIBB Study)

The GIBB research study commissioned by the City, National Treasury and the Development Bank of South Africa on the viability of the system is meant to help the City better align the resources it is currently spending on the Rea Vaya, to get it working more efficiently and cost effectively. This is meant to help in the long run when the City has rolled out the full Rea Vaya service throughout the City and has trained and fully equipped all the bus operating companies who are meant to take over the running of the Rea Vaya and act as service providers for the City.

With this in mind, GIBB ran quantitative research on all current routes and stops (those operating to and from Soweto, the western areas of Johannesburg as well as in the inner City) and made specific recommendations for each route and bus service. These included either running fewer buses at certain times so as to maximise efficiencies and cut operating costs seeing as some routes were running empty bus services, which was haemorrhaging resources.

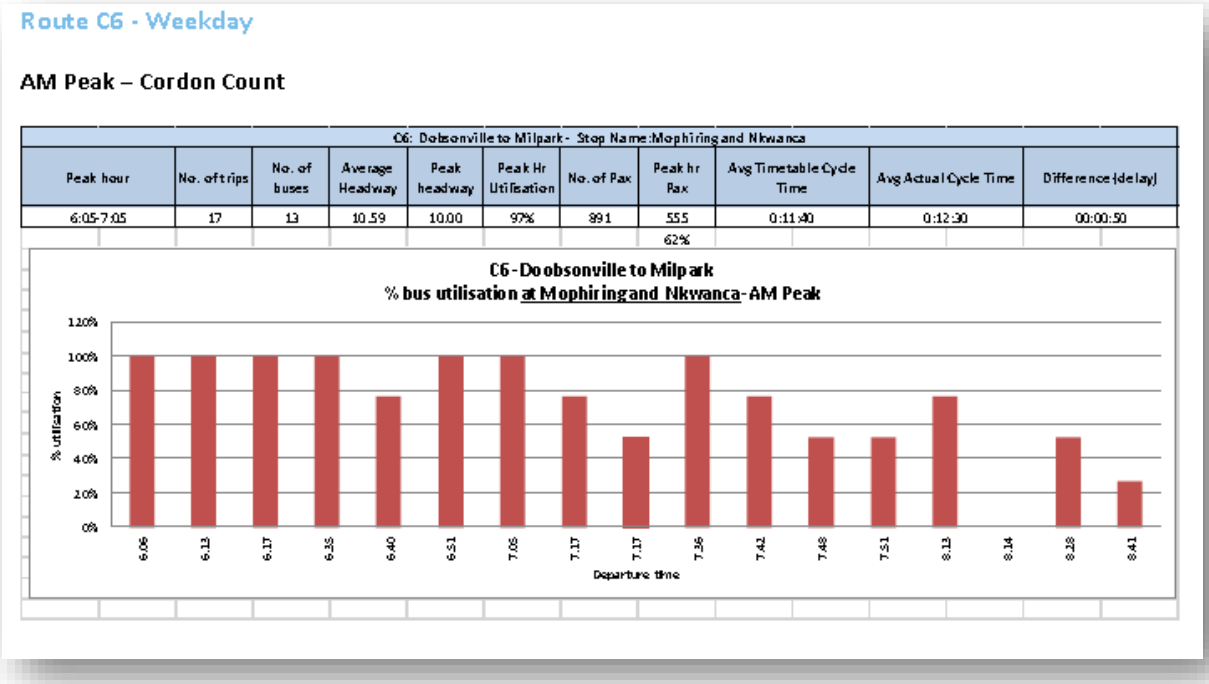


***Diagram8**: Findings on Rea Vaya C6 Weekly AM trips of buses traveling from Dobsonville to Milpark/JHB CBD (GIBB: 20/06/2016)*

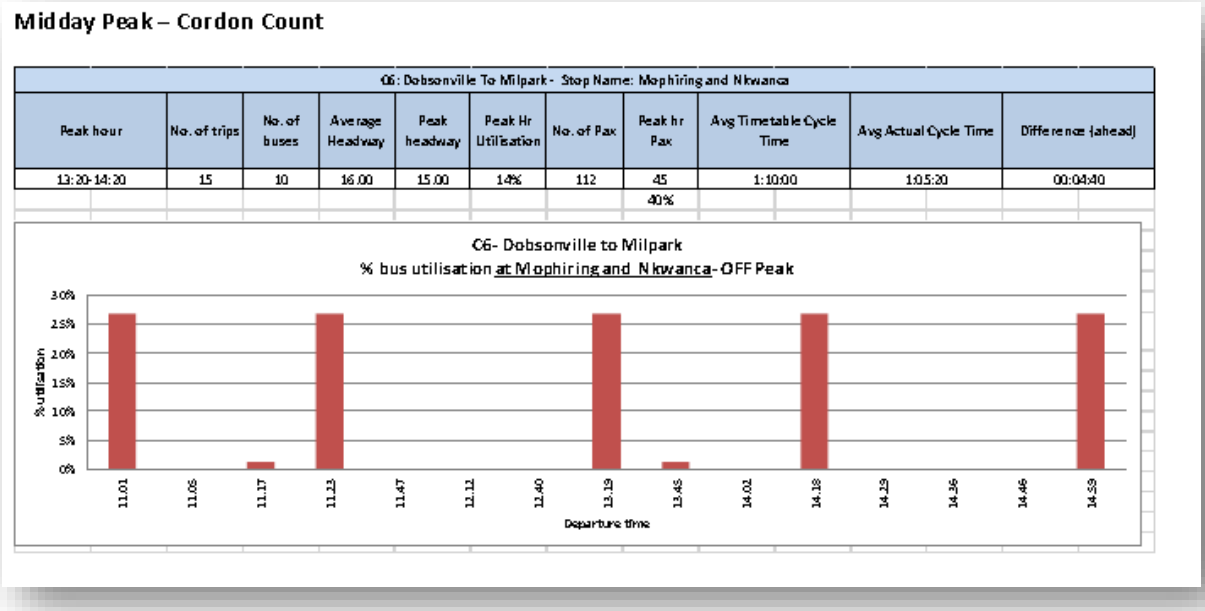
These recommendations came on the back of weeks of in field research conducted by the firm's engineers who went on site and sometimes on the buses (samples were random) so as to get first hand data on what exactly was going on. This was all well and good, but upon closer inspection, one tends to get the impression that the City only commissioned GIBB to get the objective quantitative data it needed to diagnose a problem it already knows the system has with regards to operational efficiency.

In short, the all the GIBB study confirmed (from an objective source) for the City is that the Rea Vaya bus service (and any future transport initiative aimed at servicing the disenfranchised) would struggle because of where capital exists. This means the key to unlocking a functional transport system lies in a more equitable and integrated configuration of the City's spatial layout.

That is, because of apartheid spatial planning and the unequal, centralised collection of capital and economic opportunities found in the Northern suburbs of Johannesburg (Randburg, Sandton and Rosebank) the historically and economically disenfranchised minorities located in the peripheries of these economic centres end up travelling one way in the mornings (long distances) to access these opportunities and the opposite direction in the evenings.

This means these transport interventions designed to assist in easing access to these centres do nothing for spatial transformation of the City. Instead, they merely perpetuate the apartheid status quo. In so doing ironically highlight the inefficiencies of such segregation as buses are only ever filled during peak times and are only ever full going in one direction. This means in order for the system to work, the peak full trips have to subsidies the empty ones, which ends up costing the commuter more.

What GIBB failed to do in this study was to look at the socio-political, spatial externalities and transport system as a whole when conducting the research and compiling the findings and recommendations. For instance, during midday dips and return trips during commuter peak times, the buses are underutilised. This is something the City and JRA already knew, hence why they are trying to use the Corridors of Freedom as a vehicle to help disseminate development and economic opportunities along the various corridors and nodes.



Midday Peak – Cordon Count

C6: Dobsonville To Milpark - Stop Name: Mophiring and Nkwanca										
Peak hour	No. of trips	No. of buses	Average Headway	Peak headway	Peak Hr Utilisation	No. of Pax	Peak hr Pax	Avg Timetable Cycle Time	Avg Actual Cycle Time	Difference (ahead)
13:20-14:20	15	10	16.00	15.00	14%	112	45	1:10:00	1:05:20	00:04:40
							40%			

***Diagram 9**: Findings on Rea Vaya C6 Weekly AM trips of buses traveling from Dobsonville to Milpark/JHB CBD (GIBB: 20/06/2016)*

But because this study does not assess externalities and possible solutions, it overlooks reasons as to how the minibus taxi industry is able to operate during these non-profitable times. This could assist in coming up with solutions around how best the Rea Vaya system can maybe replicate this system or even better integrate some of its feeder services (which do

not work and defeat the point of rapid transit by being normal bus services) with the minibus taxi industry. In an interview with Edwin Foster (Interview 15/09/2016), he points out how the taxi recapitalisation project in 2008 hurt the minibus taxi industry because it forced some operators to go get 22-seater minibuses.

These minibus taxis worked well during peak times and usually meant drivers earned more money per trip during these times. However, because most South African businesses do not run on shift services, but instead run on set hours, this means the majority of labour force go into work in the mornings and comes home at night, hence creating these peak times. For the long base minibus taxis (as with the Rea Vaya) this meant/means there are not enough customers during the day to fill the larger vehicles. This means during these hours these larger vehicles end up either being idle waiting for peak times (to mitigate running costs) or risk spending more per trip than an average 16-seater minibus and thus lose more money in the process.

> " I was invited by the mayor of Belo Horizonte in Brazil to their 'Embark Conference' last year because they came to realise that the REA VAYA system that they had implemented wasn't working and they wanted me to help them make a case for minibus taxis… the ease and cost efficiency of filling smaller 16-seaters as opposed to a 60-seater bus… plus their streets were narrow and the buses cannot manoeuvre them as efficiently as minibus taxis can… the only reason why the REA VAYA was implemented there was because of the national politics and wanting the city to seem western…" – Edwin Foster Interview 15/09/2016

The fact that the study did not consider this or of supplementing the day service with a different service like the integration of the minibus taxi industry as a cost cutting measure is concerning, because it also means both entities (as is evident in the GIBB study) did not even consider other forms of transport as even direct factors of why some trunk and main routes do not fill up or operate cost effectively. The study although good, in providing a quantitative analysis of an already existing diagnosis of why the Rea Vaya does not operate effectively, it does fall very short in properly explaining why because it only examines the problem and Rea Vaya in isolation.

Take the C6 analysis for instance. The mere fact that that the report does not make mention of the fact that there are other modes of transport that do exist and operate around the note/station means there is a failure of properly diagnosing even the contributing symptoms which make up the inefficiency problem. This is even evident in how the City itself understands the issue at Indingilizi.

When asked about which taxi association still uses the C1 and C6 routes to town from the area, the City never did/does acknowledge that there still are minibus operators. At most they regard these operators as opportunists that transport any overflow of the Rea Vaya passengers which the bus service cannot transport, especially during peak operating hours. This is disingenuous because it's not a full disclosure and acknowledgement of the fact that the initial negotiations in trying to get the operators on-board did not work.

At Indingilizi only DORLJOTA as an association really came on-board, and even then, not all of its operators joined. To make matters worse, some of the operators which did join still operate (whether illegally or not) some of the vehicles in their fleets to along the Johannesburg route, as an association, they only moved their Johannesburg operation out and off the Indingilizi premises and up two blocks and they admit that this is still one of their busiest routes (Oupa Tsobane 28/09/2016).

The same goes for MDN. What is worse here is that the association as a whole did not come on-board, only a few members did. The Rea Vaya operated along MDN's Johannesburg route with the only advantage being that the Rea Vaya is located inside Indingilizi. MDNs prices were cheaper (at R10.50 per trip at the time) and their service unlike the Rea Vaya has access to major inner-city minibus taxi nodes like the Bree Taxi rank and Noord Street (MTN) taxi rank. Rea Vaya commuters still needed to walk a minimum of three city blocks to get to these minibus taxi ranks if they still needed to get to areas north of the city like Sandton, Rosebank, Randburg or Midrand.

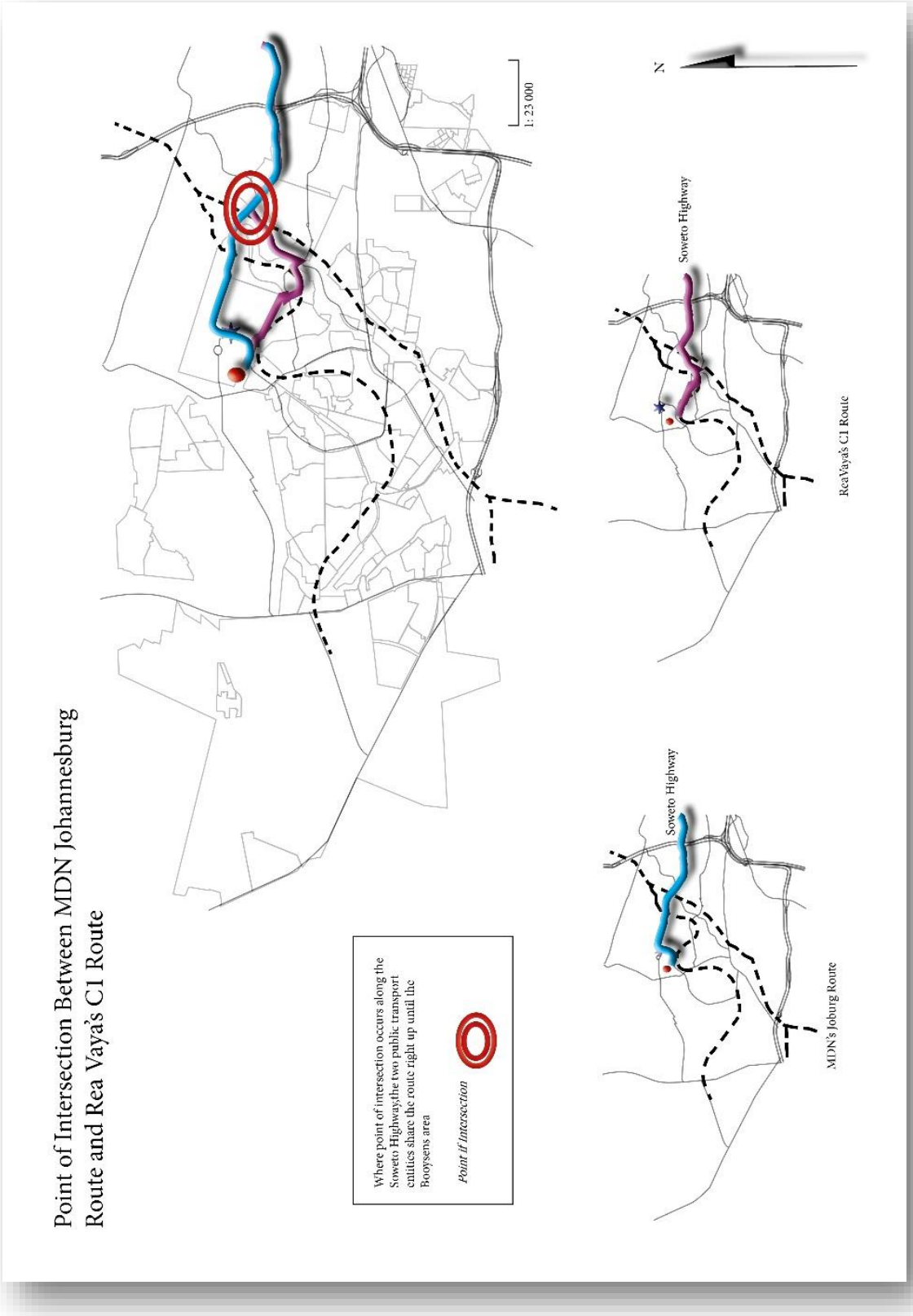
7.4.1. Taxi Association Deep Dive

Below I assess each taxi association and the operational relationship it has with Indingilizi and the routes affected the Rea Vaya. I will then proceed by discussing the findings from the interviews gathered from officials from the taxi associations which operate from Indingilizi.

The interviews are structured to try and discern the operational relationship each taxi association has with Indingilizi and subsequently the City of Joburg. This plays in when analysing the framework, the City of Joburg and its subsidiaries used when constructing and formalising the space and respective Rea Vaya routes. It will also give base to us trying to understand how the elements which make up Indingilizi fit into the *Corridors of Freedom* or its philosophy and the City's growth strategy.

MDN

With respect to the route and the introduction of the Rea Vaya along their route, MDN felt they were not consulted at all. This after they resisted its introduction. The training officer Samson Mngadi (interview: 06/10/2016) felt that the City used underhanded methods in getting buy-in from its members. He describes the sequence of events that precipitated during and after the negotiations as the City approaching taxi owners individually behind the associations' back (this after the association resisted the introduction of the REA VAYARea Vaya). This approached had multiple repercussions for taxi owners. Firstly, because the City did not understand the intricacies of how the association delegates routes, those owners who did buy into the system did not necessarily give up operating along the same routes the Rea Vaya operates from. This had the internal backlash in the association for owners who did not buy into the system.



Map 18: *Points of Intersection Between Rea Vaya C6 and MDN Joburg route -* ***Source:*** *(Nduduzo Nyanda: 2017)*

DORLJOTA

DORLJOTA on the other hand still operates all its multiple Dobsonville to Johannesburg routes. The only concession the association really made was to not operate their taxis inside Indingilizi or use the C1 and C6 routes when transporting commuters to the Johannesburg CBD. Instead, Oupa Tsobane says, their Johannesburg route that operates out of that part of Dobsonville still operates, except it ranks[33] two blocks west of Indingilizi, but is still within walking distance. That and none of its other routes use the C1 and C6 routes either. The only taxi routes DORLJOTA operates in Indingilizi, and thus have agreed access to with the City are those servicing commuters going to Jabulani Mall or the Roodepoort area.

DORLJOTA admits to being approached by the City of Johannesburg to join the system, however after raising its concerns with respect to the systems' sustainability and the owner or shareholding structure of the whole scheme, claims to have chosen to withdraw from the negotiations. This is when it claims the City and its representatives and consultants then started approaching the association's members individually getting them to buy into the system. The MDN taxi association does however also admit that other members who did join the Rea Vaya system did do by approaching the City on their own and without consent from the association REA VAYA coupled with the few members that went behind the associations back and joined the Rea Vaya then translated in an almost 60% decline in the total number of taxi's the association had let and could use on those routes[34].

The association claims to have lost a substantial portion of its commuter base to the Rea Vaya, but also highlight how this tends to fluctuate because of the Rea Vaya's irregularity, and typical structure. Samson Mngadi pointed out how the Rea Vaya had experienced numerous strikes since its inception and how this bodes well for the association and other minibus taxi operators. He highlights how the inconsistency in the Rea Vaya service[35] in general has

[33] **Rank**: Colloquial jargon meaning to operate from. So, in this case it means where you will find a lot of taxis either going to one location, or multiple locations.

[34] Samson Mngadi explains how before the upgrade of Indingilizi, they use to have 100 Dobsonville to town (Johannesburg CBD) taxis operate from there and along the Rea Vaya route. Now unfortunately they only have between 30 and 40 taxis operating along that exact same route, which has meant moving some vehicles on to other routes. However, because they also penalised some of those members who joined the Rea Vaya by capping the total number of taxis they can own, this has also managed to mitigate operational loses which would have been incurred by members should more than necessary vehicles were operating from their various routes.

[35] Rea Vaya strike "Rea Vaya services halted due to driver strike (EWN: https://goo.gl/jMI41a)

created positive sentiments towards the minibus taxi industry, and its service being more reliable (Samson Mngadi interview: 06/10/2016).

Structurally, because the bus service follows a set route and only stops at designated stops along a route or at a designated station, Samson Mngadi pointed to how this worked in the association's (and minibus industry) favour. Specific to the C1 route, because most of the designated stops outside of the stations are not well lit or as developed as the stations, and are some distance away from commuter's homes, most commuters then opt to travel by minibus taxi in the early mornings or late at night. The flexibility the minibus taxi affords commuters by allowing slight deviations from routes and stopping at preferred locations along a route, is an added convenience for commuters who work long hours in further locations. This observation even correlated with findings from the GIBB operational analysis report of the C1 route which showed an average 50% peak bus utilisation for commuters residing in the Soweto part of the buses journey (GIBB, 2016).

A similar observation can be made of the C2 bus route. The deviation in the C2's route to follow Koma road, instead of there being two bus services operating along Elias Motsoaledi road and Koma road does reflect an impasse that may have occurred between the City and the taxi associations that are affected more directly by Elias Motsoaledi road. For there not be a bus service between Maponya Mall and Indingilizi that travels along Elias Motsoaledi road does not make sense, primarily because Elias Motsoaledi road is the largest and most direct route/road between those two points. This making it the most efficient (time and travel wise).

Add to that, the road is large enough to support Rea Vaya infrastructure and is well located along established areas. With respect to the Corridors of Freedom, Elias Motsoaldi road (like with Koma road) houses some of the most mixed and dense land uses in Soweto, so it would be a prime road to develop and encourage the levels and types of densities needed for transit corridor development. This on a small enough scale to pilot.

Although there are bus services which do service areas along Elias Motsoaledi, they are classified as feeder routes and do not operate as frequently or along convenient North South access routes. For instance, there is the F3 service between Lakeview and Jabavu. This departs from the Lakeview station and travels through Rockville, White City and Jabavu to service

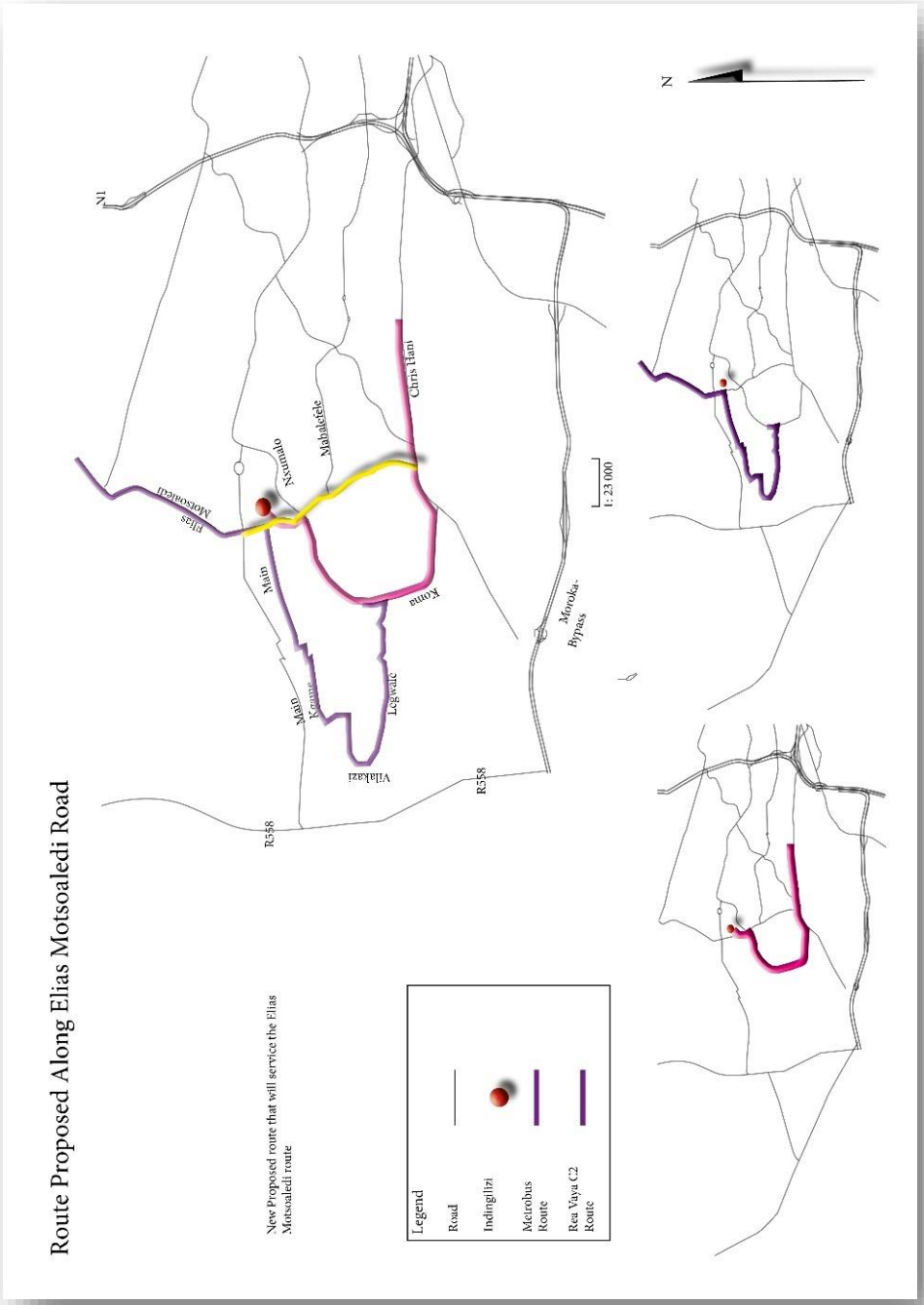
areas west of Elias Motsoaledi. The F4 bus service begins its trip from the Boomtown station in Orlando East, travels west through Orlando West, Through Mofolo Central and ends by the Eyethu centre, less than 500m away from Elias Motoaledi. This services commuters in the Mofolo Central, parts of Dube and Orlando East areas. What is important to note is that these routs only service a portion of residents in these suburbs not their majority. This also leaves suburbs surrounding these areas un-serviced and thus forces commuters to either walk longer distances, along dusty and ill-maintained (if developed at all) pavements. Which is not incentivised by the fact that minibus taxi operators charge commuters disproportionately more be picked up and dropped off closer to the Rea Vaya stations, than they would to just transport them to the Johannesburg CBD or Baragwanath Taxi Rank in Diepkloof.

This is also not to say that the C2's current route along Koma road was not needed. It was and does serve a purpose. Although the route connects the Indingilizi (Dobsonville and Meadowlands) area with the Maponya mall area, it does so by also connecting these two areas to the Jabulani/Jabavu areas, areas which are receiving massive infrastructure spend from various state entities as the areas have been touted to be the Soweto CDB (SDF: 2008). The inconvenience for commuters however is in the fact that a person wanting to use the Rea Vaya bus service to get to the Maponya Mall area from Indingilizi, has go past the Jabulani/Jabavu areas first, then the Moroka areas before getting to their destination. This is added time and inconvenience.

Therefore, two services are needed to service the two areas as the two routes are as equally important for distinct reasons. The Elias Motsoaledi route for time and efficiency purposes and as well the quick win for the *Corridors of Freedom* project. While the Koma road in creating transport connections for previously (formally) unconnected areas. The Koma road route also serves to "prop-up" the spatial development and vision the City of Johannesburg has for the Jabulani/Jabavu Soweto CBD project. By establishing a formal route to the area early, commuters will not only familiarise themselves with it, but also establish patterns and positive sentiments with the area and the route. This will serve in growing sentiments for the route and service in the long term when spatially the area does develop.

7.4.2. Bus Services Deep Dive

There does not seem to be much engagement between the Metrobus service and the Rea Vaya or between PUTCO and the Rea Vaya system. Apart from non-concise discussions by the City to include the Metrobus service into the Corridors of Freedom, there do not seem to be any concrete plans laid out on what and how this will look like. In and around Indingilizi, there too, it does not seem like there are any plans to try and either introduce or integrate a Metrobus service with the Rea Vaya. Given that there are few Metrobus services that do service the Soweto area and most (except the 550) which heads off in a westerly direction, the City could have at least tried to either create a route along Elias Motsoaledi that would service commuters living along that road or a way of having commuters using either system use both. Add to that, because it is not the Rea Vaya, chances are that this service could receive less resistance from the taxi operators, should the Metrobus service be gradually introduced.



Map 19: *Route Proposed along Elias Motsoaledi - Source: (Nduduzo Nyanda: 2017)*

A similar observation can be made of the PUTCO bus service. PUTCO seems to run fewer daily trips out of the Dobsonville area, with some buses using the C1 and C6 routes when in Soweto. This means that the two bus services are in direct competition with one another. The PUTCO service also holds an advantage of affording its commuters more direct and efficient services

to their areas of their employment, as the services engages with less trip chains and trip stops (Sun D., Chen, S., Zhang, C. & Shen, S (2016). This means lesser time on the road unless there was an accident (Sun D., Chen, S., Zhang, C. & Shen, S (2016). This coupled with competition from the taxis, correlates with findings from the GIBB operational analysis report of the C1 route which showed that this route of the Rea Vaya only saw around 25% commuter utilisation from Indingilizi. This number only doubled six stops down the route and maximised to around 80% only when the bus joined the trunk route (GIBB, 2016).

This is made even worse in the afternoons and evenings. During its peak times in the afternoon, this route only manages 30% bus occupancy (GIBB, 2016). Which again correlates with the peak operational times of the other bus services. Here again, what places PUTCO at an advantage is the fact that it picks up its commuters in the same area it dropped them off in the morning, mainly their place of employment. Couple that with the fact that because PUTCOs routes are direct, this means there are less stops in between destinations which "should" mean a shorter commuting time[36]. Another added benefit of an "express" type service like PUTCO means less time and money is spent on connecting as they would on the Rea Vaya or even taxis. Also, considering that most of the commuters are working and middle class, means they get to spend less of their disposable income on transport.

It would also be a disincentive for PUTCO to either expand its services in the Soweto area to more than what is, unless the Soweto territory expands, or the demand for its services increases outside the current peak commuter periods. Even if the City of Johannesburg's or Gauteng economy does increase and manages to operate for longer hours, thus expanding commuter times, this still might not incentivise PUTCO to expand its operates immediately. This is because the bus company is in partnership with the minibus taxi operators which own Litsamaiso, the second BOC that runs the Rea Vaya (Litsamaiso: 2017). Thus, given the fact that Litsamaiso has a similar deal with the added benefits like PioTran does with the City of

[36] This is not always the case. Since the PUTCO bus service mainly services working class professionals, this means usual operating and peak hours correlate with traditional South African business hours. In turn, this means the PUTCO bus service experiences its peak capacity between 06h00 and 08;00 in the mornings and 16h00and 18h00 in the afternoons/evenings during the week. This unfortunately correlates with usual peak traffic hours and thus means where the PUTCO service should be providing a quicker and more convenient service, it does not. However, because it offers direct route services, on average, it still provides a cheaper service than that provided by other modes of transport (PUTCO; 2015).

Joburg, it would not make sense operationally to compete directly outside these hours with the Rea Vaya (unless it underhandedly wants the system to fail).

Chapter 8

So-Where-To from Here?

Given the various lenses we have looked Indingilizi through, the site does not seem to meet all the criteria it needs to in order to be formally characterised as an integrated transport node/hub. From its ideation, conceptualisation, its construction and now (later) its function, there does not seem to be any attempts at either making it a transport node/hub or convert it to one. Even City with planning policy hinting at how it ought to be one, particularly give its location along a TOD route (Corridors of Freedom).

Now this is not to say that this paper was stating the obvious and looking to prove something that was never intended. Although intentionally not created to be an integrated transport node/hub, at first glance, there are elements to the form of the station that do hint at it being an integrated transport node/hub. Functionally as well, there are tell-tale signs that it is meant to be multifunctional as well as multi-modal. Added to this confusion is the fact that politicians at its inauguration touted it as such 'a transport interchange', which only adds to reinforce this notion.

> "Ndingilizi" means a 'circle' and this, in many ways, is symbolic of the fact that we have come to a full circle, in the implementation of the City's public transportation agenda… Today, seven years later, we are launching the first integrated public transport interchange – and not in downtown Johannesburg, but in Soweto… This should serve as an example of the direction the City is taking in the provision of public transport infrastructure. We want to ensure that that there is one standard for all modes and operators, that reflects our values and our commitments to customer care, public transport integration, low carbon economy, safer cities, job creation and economic empowerment." – Former Executive Mayor Mpho Parks Tau: 18/11/2013

What I try to show in this paper is how the City of Joburg let go of an easy developmental win in showing it could develop a sustainable, functional multipurpose space for the poor and working class. Secondly, I try and show how a lack of proper coordination by the City while allowing gerrymandering by politicians more interested in showing off infrastructure builds

as opposed to fulfilled community development projects meant the development Indingilizi only amounted to it simply being a shell of its true potential as an integrated transport node. How the silo mentality of the various City entities led to the missed opportunity further growing the Corridors of Freedom and developing its developmental mandate.

With respect to policy and infrastructure development, Chapter 4 demonstrated how the City of Johannesburg has over the years, created various policies and action plans/programmes which culminated to the Corridors of Freedom. I showed how as an actioned policy and framework it managed to spawn the development of undeveloped and underdeveloped spaced like Indingilizi. However, as stated with respect to coordination, the various stakeholders (minibus taxi and bus entities like PUTCO and Metrobus) did poorly at coordination (if at all). Although the City should bear the brunt of this criticism, it has to be credited with creating the "missed" opportunity.

The various other stakeholders took a backseat to their own customer and business growth potential by not challenging the decisions the various City entities made pertaining the development of Indingilizi. With PUTCO, by virtue of the fact that they do service the area and pass by Indingilizi and are state subsidies (National and Provincial) they ought to have raised their hand at the fact that they were excluded from the planning process and integration in the space.

With respect to the minibus taxi operators, they bear two responsibilities. Firstly, on behalf of the traders and their shared customer base. They should have ensured the design of the station not only created "dead-zones" or areas where pedestrians feel isolated accessing Indingilizi. They also should have weighed more heavily on the positioning and functioning of the trader stalls. As mentioned in Chapter 5, these stalls have no electricity or running water, yet some of the traders in the area sell hot food (which is in higher demand in winter).

These same stalls are nowhere near foot traffic (Cele/Dmas Street). The traders need this client base to sell to during off peak hours when bus and minibus taxi commuters are not occupying the space (in the mornings and evenings). This has thus forced the traders to simply use the stalls as storing facilities. Added to this, the issue with JPC not monitoring and collecting rent from the traders is problematic for minibus taxi and bus operators in Indingilizi in the long run, because by there not being adequate monitoring, the City of Joburg and

station are losing out on revenue, revenue that could help with the stations upkeep. Secondary to this is the fact that the station manager is equipped or mandated to monitor the traders, therefore what they are allowed to sell (keep in the current state of the stalls). This has the potential of then having the stalls house illicit and or illegal content.

Indingilizi's location allowed for its formalisation/development as TOD and economic hub precisely because it has easy access routes of movement for people living in Soweto and working elsewhere to manoeuvre easily. This even includes in and around Soweto. This was even highlighted in Soweto's ISF with Indingilizi identified as one of the various entries and exit nodes planned for, as well as in the various corridors prioritised to try and increase the level of access for Soweto residents to the northern economic hubs/opportunities located in areas like the CBD, Rosebank, Randburg and Sandton.

Economically, the space has the potential to become a real economic hub because it's well located close to amenities, along major arterial roads (so there is easy enough access) and has the necessary populations needed to support local businesses. It would have only made sense to couple the infrastructure policies with policies which sought to further develop the human capital necessary to maintain and further develop the capital infrastructure investment made by the City. Again, this is a missed opportunity.

The City of Joburg's development policies also have to be cognisant of the fact that many of the people in need of these skills and infrastructure are not professionals and need to be upskilled first (like Jozi@Work). However, these same policies must still consider the fast pace trajectory the world is moving at, where information and IP hold higher value than the ability or capacity to manufacture (like the Smart City Programme).

In short, the City of Joburg has over the years been able to create policies and infrastructure development programmes (like those discussed in chapter 4) which seem to acknowledge the heterogeneity and complexity which occupies its various regions, particularly those in areas like Soweto. However, these same well thought out polices and infrastructure projects all seem to either fail at full implementation (because of city red tape and the change of guard) or because they fail to truly engage with who these programmes and policies are directed to. This leaves the affected communities detached from the programmes and not fully utilising the opportunities (infrastructure and policies) created because they either do not understand

how they fit. So, in this instance (and in part to answer the research question), the City of Joburg has not quite succeeded in the formalisation of Indingilizi to positively impact Dobsonville, Soweto and the Corridors of Freedom. By approaching the upgrades in a siloed way many of the local entities (from its local regional planning offices to the transport operators and community) were never fully included. This is apparent in the exclusionary design of space in and of itself and its surroundings. Trader stalls are empty and the transport entities who do operate from the space exist independently.

Externally, Indingilizi isolates itself from the surrounding homes and Dorothy Nyembe park. The position of its building along its periphery coupled with the unnecessary fencing create hard edges which not only isolated the site (Indingilizi) but also pedestrians walking alongside it as well as the homes found adjacent to it. The site also fails to take advantage of the ISF currently still being used to leverage existing networks in order to bring real development to the area.

The City of Joburg is also not entirely at fault with respect to the development and operational logistics of Indingilizi. The transport operators and community needed to be more vocal and play a more active role in the development of the space. Clearly setting out a mandate to the City on their needs. This way (like in previous RDP projects elsewhere) a sense of ownership by the community of the space, will be achieved. That way development of the space will follow a more organic and localised trajectory with possible private investment.

References

Bhat, C. (1997) *Work Travel Mode Choice and Number of Non-work Commute Stops.* Transportation Research Part B 31 (1): 41–54. doi:10.1016/S0191-2615(96)00016-1.

Bonner, P. & Segal, L. (1998). *Soweto: A History*. South Africa: Maskew Miller Longman. ISBN 0-636-03033-4

BRAUDEL, F. 1984. *The perspective of the world*. New York: Harper and Row.

Cao,X. (2015) *Heterogeneous Effects of Neighbourhood Type on Commute Mode Choice: An Exploration of Residential Dissonance in the Twin Cities*

City of Joburg (2013) *Corridors of Freedom Document*. [Online] Available from: http://goo.gl/5UqsdS (Accessed April 2016)

City of Joburg (2008) *Soweto Integrated Spatial Framework* P40 – 48 (Presentation)

City of Joburg (2011) *Joburg GDS 2040 Strategy* [Online] Available From: https://goo.gl/4EtRTt (Accessed: October 2016)

City of Joburg (2015) *Joburg 2015-2016 Integrated Development Plan (Review) "Turning Challenges into Opportunities"* [Online] Available From: https://goo.gl/eOUjG2 (Accessed: January 2017)

City of Joburg (2015) Corridors of Freedom [Online] Available From: 2016 (Accessed: October 2016)

City of Joburg (2015) Corridors of Freedom [Online] Available From: https://goo.gl/2jis2j (Accessed: October 2016)

City of Joburg (2015) Jozi@Work: About Jozi@Work [Online] Available From: https://goo.gl/nBZfFl (Accessed: January 2017)

City of Joburg (2017) Jozi@Work Replacement won't 'kill jobs', says Mayor Mashaba [Online] Available From: https://goo.gl/BTguLD (Accessed: July 2017)

City of Joburg. (2006) *Metrobus.* [online] Available From: https://goo.gl/xq77Wd [Accessed 11/02/17]

City of Joburg (2010) Metrobus Logo [Online] Available From: https://goo.gl/gMYFZg (Accessed: January 2017)

The Citizen (2016) 'Taxi Bosses' Mowed Down in Mall of Africa Drive-by. 2016. [Online] Available From: https://goo.gl/jxnv76 (Accessed February 2017)

Cheng, L., Chen, X. & Yang, S. (2016) *An exploration of the relationships between socio economics, land use and daily trip chain pattern among low income earners*

Chu, Y. (2003) "*Empirical Analysis of Commute Stop-making Behavior."* Transportation Research Record: Journal of the Transportation Research Board 1831: 106–113. doi:10.3141/1831-12.

Cowie, C.T, Ding, D., Rolfe, M.I., Mayne, D.J., Jalaludin, B., Bauman, A., & Morgan, G.G. (2016*) Neighbourhood walkability, road density and socio-economic status in Sydney, Australia*. Environmental Health. Cowie et al.

Department of Transport. (1996) *White Paper on National Transport Policy*. South Africa. [online] Available from: https://goo.gl/eGmNSV [Accessed 01/12/16]

Department of Transport. (1998) *The Moving South Africa Transport Strategy*. South Africa. [online] Available from: https://goo.gl/8NZ50W . [Accessed 01/12/16]

Department of Transport. (2003*) Key results of the National Household Travel Survey. The First South African National Household Travel Survey*. South Africa: NHTS. [online] Available from: https://goo.gl/IaaNfn [Accessed 01/12/16]

Dewar, D, Kiepiel, J. (2012) *Spatial Development Frameworks on a Broader Scale: An Integrative Approach*

Dewar, D., Watson, V. & Todes, A. 1986. *Regional development and settlement policy: Premises and prospects.* London: Allen & Unwin

Dewar, D. & Kiepiel, J. 2004. Managing change in urban transitional areas: Some informants on the nature of regional plans. *Town and Regional Planning,* 47, pp. 45-53.

DORLJOTA House on 29 Wilson Street, Roodepoort (Google Map Street View Nov 2014: Accessed 01/10/2017: https://goo.gl/4GKHAr

DORLJOTA. (2011) *About us page*. [Online] Available from: https://goo.gl/PLM5Jt . [Accessed: 10th December 2016]

DORLJOTA. (2011) *DORLJOTA Fares 2011.* [Online] Available From: https://goo.gl/J9JuOe [Accessed: 11/01/17]

DORLTOJA (2016) *DORLTOJA Logo* [online] Available From: https://goo.gl/3vL9OI [Accessed 09/09/16]

Edwin Foster Interview. 'History of Taxi Industry and the BRT in Johannesburg'. Interview by Nduduzo Nyanda: *The Design, Spatial & Transport Planning Process Around an Integrated Transport Node/Station: Indingilizi.* (15/09/2016)

Lisa Seftel Interview. 'The City of Johannesburg, Minibus Taxis, Indingilizi and the BRT'. Interview by Nduduzo Nyanda: *The Design, Spatial & Transport Planning Process Around an Integrated Transport Node/Station: Indingilizi.* (09/08/2016)

Lwazi Sikiti Interview. 'The Johannesburg Development Agency's Role with Indingilizi'. Interview by Nduduzo Nyanda: *The Design, Spatial & Transport Planning Process Around an Integrated Transport Node/Station: Indingilizi.* (15/12/2016)

Executive Mayor Mpho Parks Tau Interview: 'Speaker's Notes for Clr Mpho Parks Tau, Executive Mayor of Johannesburg at the Launch of the Indingilizi Public Transport Interchange'. (18/11/2013). [Online] Available from: https://goo.gl/YiTXDi

Oupa Tsobane Interview. 'DORLTOJA's Role with the BRT and Indingilizi'. Interview by Nduduzo Nyanda: *The Design, Spatial & Transport Planning Process Around an Integrated Transport Node/Station: Indingilizi.* (28/09/2016)

Ramathudi Monageng Interview. 'The Johannesburg Road Agency's Role with Indingilizi and the BRT'. Interview by Nduduzo Nyanda: *The Design, Spatial & Transport Planning Process Around an Integrated Transport Node/Station: Indingilizi.* (14/09/2016)

Samson Mngadi Interview. 'MDN's presence in Indingilizi and its Operations'. Interview by Nduduzo Nyanda: *The Design, Spatial & Transport Planning Process Around an Integrated Transport Node/Station: Indingilizi.* (06/10/2016)

Steve Chauke Interview. 'The Johannesburg Road Agency and the management of Indingilizi'. Interview by Nduduzo Nyanda: *The Design, Spatial & Transport Planning Process Around an Integrated Transport Node/Station: Indingilizi.* (12/09/2016)

Thami Moyo Interview. 'MDNs Operations and its Relationship with the City of Johannesburg'. Interview by Nduduzo Nyanda: *The Design, Spatial & Transport Planning Process Around an Integrated Transport Node/Station: Indingilizi.* (10/10/2016)

Veronica Mosiapoa Interview. 'The Everyday Realities of Indingilizi'. Interview by Nduduzo Nyanda: *The Design, Spatial & Transport Planning Process Around an Integrated Transport Node/Station: Indingilizi.* (13/03/2016)

Fielding, G. J., T. T. Babitsky, and M. E. Brenner. (1985) "Performance evaluation for bus transit."
Transportation Research Part A 19 (1): 73–82.

Free Dictionary (2017) Definition of the Witwatersrand [Online] Available From: https://goo.gl/0luJpX) (Accessed: January 2017)

FT. (2008) *Bush Attacks OPEC for keeping Oil Prices High.* The Financial Times [Online] Available from: https://goo.gl/OCDwt6. [Accessed on the 05/03/17]

Fullerton, A. (2009) *"A Conceptual Framework for Ordered Logistic Regression Models." Sociological Methods & Research* 38 (2): 306–347. doi:10.1177/0049124109346162.

Gauteng Online: (2016) Gauteng Spatial Development Fr-amework 2040 [Online] Available From: https://goo.gl/7ArWQH (Accessed: September 2016)

GIBB Engineering & Architecture (2016) *Provide Technical Guidance and Advisory Support for Cities in Planning Public Transport Operations: Operational Analysis of the Rea Vaya REA VAYA System for the City of Johannesburg*. Commissioned by the National Treasury & Development Bank of South Africa.

Hensher, D., and W. Greene. (2003) *"The Mixed Logit Model: The State of Practice." Transportation*
30 (2): 133–176. doi:10.1023/A:1022558715350.

Huang & Levinson (2015) *Circuity in Urban Transit Networks*. Institute for Transport Studies (ITS), University of Leeds, Leeds LS2 9JT, United Kingdom. Journal of Transport Geography 48 (2015) 145–153. IPDM. (2015)

Johannesburg Transport SIG Uber Presentation (2017) *'The Future of Mobility'* [Online] Available From: https://goo.gl/asq25d (Accessed: October 2017)

John, V.(2011) Joburg Residents Protest Over 'Billing Crisis' *Mail & Guardian* [Online] 18 February 2011: https://goo.gl/p7fnmp (Accessed: October 2016)

Kala, Warwick (2014) *Congestion Avoidance in City Traffic*. School of Systems Engineering, University of Reading, Reading, U.K. Journal Of Advanced Transportation. Vol. 49. P 581–595

Khosa,M. (1991) *Routes, Ranks and Rebels: Feuding in the Taxi Revolution.* Journal of Southern African Studies. Vol. 18 No (1), Special Issue: History of Resistance in South Africa (Marc., 1992). P232-251 [Online] J Store Database. [Online] Available from: https://goo.gl/9IKPsn

Khubheka, T. (2016) "Rea Vaya services halted due to driver strike EWN [Online] December 2016: https://goo.gl/jMI41a) (Accessed: January 2017)

Listamaiso (2016) Listamaiso: Who We Are [Online] Available From: 2017 (Accessed: January 2017)

Madisa, K. (2017) *Roodepoort Petrol Station in Hot Water for Selling Fuel 50 cents Cheaper Than Normal Price.* [Online] The Sowetan 02 Mar 2017. Available From: https://goo.gl/YsyQ2f [Accessed 13/03/17]

McCaul, C., Ntuli, S. (2011) *Negotiating the deal to enable the first Rea Vaya Bus Operating Company: Agreements, Experience & Lessons.* Proceedings: 30th Southern African Transport Conference, Pretoria, South Africa.

McHarg, I.L. (1969) *Design with nature*. Washington DC: Natural History Press. *"Human Economical planning in Pennsylvania"*. In Landscape Planning. Vol 8, No. 2.

Moving Gauteng Forward (2013 – 2017) Info On Metrobus Routes [online] Available From: https://goo.gl/cXFYJh [Accessed 11/02/17]

News24 (2010) REA VAYA Shooting Victim Dies [Online] Available From: https://goo.gl/lvxs4k (Accessed: January 2017)

Paget-Seekins, L. (2015) *Bus rapid transit as a neoliberal contradiction*. Journal of Transport Geography Vol 48. 115–120 117.

PUTCO. (2015) *Our History* [online] Available From: https://goo.gl/1JwXlR [Accessed 11/02/17]

PUTCO. (2015) *Operating Areas* [online] Available From: https://goo.gl/ZMNckn [Accessed 11/02/17]

PUTCO (2015) PUTCO logo [online] Available From: *https://goo.gl/u6Dozq* [Accessed 11/02/17]

Quah, M. & Yeo, D. (2010) *Urban Transportation Planning for a Vibrant and Distinctive Singapore.* Urban Transportation Planning for a Vibrant and Distinctive Singapore

Rea Vaya (2011) PioTrans In New Bus Company [Online] Available From: https://goo.gl/kqy5jQ (Accessed: January 2017)

Rea Vaya REA VAYA: Playing a catalytic role towards Integrated Transport Infrastructure Presentation P.22 (13/03/2013)

Rea Vaya (2016) The Routes [online] Available From: https://goo.gl/zz2mqc [Accessed 09/09/16]

Rea Vaya (2016) C6 Bus Route [online] Available From: https://goo.gl/ttM8i5 [Accessed 09/09/16]

Rea Vaya (2016) T3 Bus Route [online] Available From: https://goo.gl/KoeHlj [Accessed 09/09/16]

Rea Vaya (2016) Bus schedule [online] Available From: https://goo.gl/BbZxs3 [Accessed 11/09/16]

Rea Vaya REA VAYA: Playing a catalytic role towards Integrated Transport Infrastructure Presentation P.24 (13/03/2013)

Rodrigue, J. (2013). *The Geography of Transport Systems (THIRD EDITION).* New York: Routledge. Available from: https://goo.gl/GX6Uwy (Accessed April 2016)

Rodrigue, Jean-Paul; Claude Comtois; Brian Slack (2009). "The "Last Mile" in Freight Distribution". *The Geography of Transport Systems* (2nd ed.). Routledge. p. 212. ISBN 978-0-415-48323-0.

Sauti,G. (2006) *Minibus Taxi Drivers Are They All 'Children Born From The Same Mother.* Wits University Press.

SOUTH AFRICA. 2000. *Local Government: Municipal Systems Act, 2000, Act No. 32 of 2000*. Pretoria: Government Printer.

Statistics South Africa (2011) Census 2011: Soweto. [online] Available from: https://goo.gl/XOKCQB [Accessed: 28/02/17]

Sun D., Chen, S., Zhang, C. & Shen, S. (2016) *A bus route evaluation model based on GIS and super-efficient data envelopment analysis*. Routledge: Transport Planning & Technology Vol 39, No. 4. P 407 – 423.

Talk Radio 702 (2017) Taxi Association's Petrol Station Is Illegal – Department of Energy [online] Available From: https://goo.gl/a4jEcA [Accessed 11/03/17]

Tietenberg, T. (2003) *Environmental and Natural Resource Economics*. Boston: Addison Wesley. [online] Available: https://goo.gl/AhTVF3 [accessed: 14/03/16]

TOD 101. Why Transit Oriented Development and Why Now? Reconnecting America and the Center for Transit-Oriented Development. Oakland, CA. [Online] Available from: https://goo.gl/P462Te (Accessed April 2016)

United Nations Economic Commission for Europe (2008**)** *Spatial Planning: Key Instruments for Development and Effective Governance (with Special Reference to Countries in Transition).* [Online] Available from: https://goo.gl/TR2w2H [Accessed: April 2016]

Venter, C. (2011) *The lurch towards formalisation: Lessons from the implementation of REA VAYA in Johannesburg, South Africa. Paper presented at 12th Conference on competition and ownership in land passenger transport.* Durban, South Africa. September 2011.

Walters, J. (2006) *Overview of public transport policy developments in South Africa.* Research in Transportation Economics 22

Walters, J. (2008) *Overview of public transport policy developments in South Africa***.** Department of Transport and Supply Chain Management, University of Johannesburg. Research in Transportation Economics 22 (2008) 98–108

Walker, J. (2012) *Human transit: how clearer thinking about public transit can enrich our communities and our lives*. Island Press, Washington, D.C. http://trid.trb.org/view.aspx?id=1147583.

Appendix I

DORJOTA FARES 2011

1.	DURBAN DEEP TO JAHANNESBURG	R8.50
2.	FLORIDA TO JOHANNESBURG	R8.00
3.	HYPERAMA TO ONDTDEKKERS/ROODEPOORT	R8.50
4.	LITTLE FALLS TO ROODEPOORT	R8.50
5.	LITTLR FALLS TO ROODEKRANS	R8.00
6.	NTABAMHLOPHE TO JOHANNESBURG	R9.50
7.	R/POORT TO ONTDEKKERS/FLORIDA GLEN	R8.00
8.	R/POORT TO STRUBENVALLEY/WELTEVREDEN PARK	R8.00
9.	RANDPARKRIDGE TO ROODEPOORT	R8.50
10.	RANK 5 LOCAL	R7.00
11.	R/POORT TO CONSTATIA KLOOF/ JIM FOUCHE	R8.00
12.	ROODEPOORT TO HELDEKRUIN	R8.00
13.	ROODEPOORT TO HONEYDEW	R8.00
14.	ROODEPOORT TO HYPERAMA	R8.00
15.	ROODEPOORT TO WATCHTOWER	R8.00
16.	VURUS TO ROODEPOORT	R9.00
17.	PORTVIEW TO ROODEPOORT	R9.00
18.	RANK 5 TO LITTLE FALLS CHECKERS	R8.00
19.	WITPOORTJIE TO JOHANNESBURG	R9.50
20.	RANK 5 TO CLEARWATER	R8.00
21.	ROODEPOORT STATION TO JOHANNESBURG	R8.50
22.	BRAAMFISHER TO JOHANNESBURG	R8.00
23.	BP EXT 3 TO CROUSES	R8.50
24.	D/VILLE EXT 2 TO JOHANNESBURG	R9.00
25.	DOORNKOP EXT 4 TO JOHANNESBURG	R10.00
26.	DOORNKOP TO JOHANNESBURG	R9.50
27.	EBUMNANDINI TO JOHANNESBURG	R9.50
28.	GREENVILLAGE TO JOHANNESBURG	R10.50
29.	HIGHGATE TO DOBSONVILLE	R8.00
30.	HIGHGATE TO GREENVILLAGE	R9.00
31.	HIGHGATE TO ROODEPOORT	R8.50
32.	HIGHGATE TO EXTENSION 4	R9.00
33.	HIGHGATE TO SLOVO	R9.50
34.	HIGHGATE TO SNAKEPARK	R8.50
35.	HIGHGATE TO TSHEPISONG	R9.00
36.	LEAGLEN TO SWANEVILLE	R9.50
37.	MATHOLE TO JOHANNESBURG	R8.50
38.	MPHEPHETHO AND INDINGILIZI TO JOHANNESBURG	R8.50
39.	ROBERTSVILLE TO JOHANNESBURG	R8.00
40.	SLOVOVILLE TO JOHANNESBURG	R10.50
41.	STORMILL TO DOBSONVILLE	R8.00
42.	STORMILL TO DOORNKOP	R8.50
43.	STORMILL TO JOHANNESBURG	R8.00
44.	STORMILL TO ROODEPOORT	R8.00
45.	TECHNIKON TO JOHANNESBURG	R9.00
46.	TSHEPISONG TO JOHANNESBURG	R10.00
47.	D/VILLE EXT 3 TO JOHANNESBURG	R9.50
48.	MAIN REEF TO AFCOL	R8.00
49.	BRAAMFISCHER PHASE 3/4 TO JOHANNESBURG	R9.00
50.	PRINCESS TO JOHANNESBURG	R9.00
51.	FLORIDA TO JOHANNESBURG	R8.00

52.	WESTGATE TO JOHANNESBURG	R8.50
53.	DURBAN DEEP/ NTABAMHLOPHE TO JHB	R8.50
54.	JHB TO CLEARWATER	R8.00
55.	JHB TO LITTLEFALLS	R9.00
56.	JHB TO PORTVIEW	R9.00
57.	JHB TO RADIOKOP	R8.00
58.	BARA TO CLEARWATER	R8.00
59.	BARA TO LITTLEFALLS	R9.00
60.	BARA TO PORTVIEW	R9.00
61.	BARA TO RADIOKOP	R8.00
62.	SOUTHGATE TO CLEARWATER	R8.00
63.	SOUTHGATE TO LITTLEFALLS	R9.00
64.	SOUTHGATE TO PORTVIEW	R9.00
65.	SOUTHGATE TO RADIOKOP	R8.00
66.	PROTEA 11 AND 12 TO ROODEPOORT	R9.00
67.	PROTEA 11 AND 12 TO WESTGATE	R9.00
68.	PROTEA 11 AND 12 TO WILROGATE	R9.00
69.	ROODEPOORT TO DURBAN DEEP	R6.00
70.	ROODEPOORT TO GREENVILLAGE / SUNRISE	R8.50
71.	ROODEPOORT TO LERATONG	R7.50
72.	ROODEPOORT TO SLOVOVILLE SOUTH ROODEPOORT	R8.50
73.	ROODEPOOR TO SWANIEVILLE	R8.00
74.	SLOVOVILLE TO FLORIDA	R9.00
75.	SLOVOVILLE TO ROODEPOORT	R8.50
76.	SLOVOVILLE TO WESTGATE	R9.00
77.	SUNRISE TO WESTGATE	R9.00
78.	SWANIEVILLE TO WESTGATE	R8.50
79.	TSHEPISONG TO FLORIDA /WILROGATE	R8.50
80.	TSHEPISONG TO ROODEPOORT	R8.00
81.	TSHEPISONG TO WESTGATE	R8.50
82.	EXTENSION 12 TO WESTGATE	R8.50
83.	VLAKFONTEIN TO WITPOORTJIE	R7.00
84.	EXTENSION 12 TO ROODEPOORT	R8.00
85.	TSHEPISONG TO WITPOORTJIE	R7.00
86.	PHASE 3 AND 4 ROODEPOORT	R7.00
87.	BOSMONT TO LERATONG	R9.00
88.	DOBSONVILLE TO LERATONG	R8.00
89.	DOORNKOP EXT 4 TO ROODEPOORT	R8.00
90.	EBUMNANDINI TO ROODEPOORT	R8.00
91.	EBUMNANDINI TO WESTGATE	R8.50
92.	EBUMNANDINI TO WILROGATE	R8.50
93.	HIGHGATE TO LERATONG	R8.00
94.	HIGHGATE TO SLOVOVILLE	R9.00
95.	HIGHGATE TO SWANIEVILLE	R9.00
96.	HIGHGATE TO TSHEPISONG	R8.50
97.	LEAGLEN TO EXT 4	R8.50
98.	LEAGLEN TO GREENVILLAGE	R8.50
99.	LEAGLEN TO LERATONG	R8.00
100.	LEAGLEN TO SLOVOVILLE	R8.50
101.	LEAGLEN TO TSHEPISONG	R8.50
102.	LERATONG TO GREENVILLAGE	R7.00
103.	LERATONG TO HYPERAMA	R9.00
104.	LERATONG TO PRINCESS PICK`N PAY	R8.50
105.	LERATONG TO SLOVOVILLE	R7.50
106.	LERATONG TO TSHEPISONG / MNANDINI	R6.00
107.	LERATONG TO EXT 3 VIA TYRES	R8.00

108.	LERATONG TO WESTGATE	**R8.00**
109.	MATHOLEVILLE TO ROODEPOORT	**R5.50**
110.	BRAAMFISHER TO LERATONG	**R8.00**
111.	LERATONG TO DOORNKOP EXT4	**R6.50**
112.	LERATONG TO DOORNKOP (THULANIVILE)	**R7.50**
113.	BRAAMFISHER TO DOBSONVILLE	**R6.00**
114.	BRAAMFISHER TO EXTENSION 3	**R6.50**
115.	BRAAMFISHER TO KHWEZI VIA DOBSONVILLE	**R6.00**
116.	BRAAMFISHER TO TYRES	**R6.50**
117.	D/KOP EXT4 TO POLICE STATION AND MEZODO	**R6.00**
118.	D/VILLE SHOPPING CENTRE TO SUNRISE	**R7.00**
119.	DOBSONVILLE TO LOCAL	**R6.00**
120.	DOORNKOP TO DOBSONVILLE	**R6.00**
121.	DOORNKOP TO SLOVOVILLE	**R6.50**
122.	DOORNKOP TO TSHEPISONG	**R6.50**
123.	DURBAN DEEP TO DOBSONVILLE	**R6.00**
124.	DOORNKOP EXT 4 TO TSHEPISONG	**R6.00**
125.	DURBAN DEEP TO DOBSONVILLE EXT 3	**R6.50**
126.	D/VILLE EXT 4 TO SLOVOVILLE	**R6.00**
127.	D/VILLE EXT 4 TO TSHEPISONG	**R6.00**
128.	SLOVOVILLE TO T- JUNCTION	**R6.50**
129.	SLOVOVILLE SOUTH ROODEPOORT TO MEZODO	**R7.00**
130.	TSHEPISONG TO DOBSONVILLE	**R7.00**
131.	TSHEPISONG TO IKHWEZI	**R7.00**
132.	TSHEPISONG TO T – JUNCTION	**R6.50**
133.	TYRES TO SLOVOVILLE	**R6.00**
134.	BRAAMFISHER 3 AND 4 TO IKHWEZI	**R6.50**
135.	BRAAMFISHER 3 AND 4 TO DOORNKOP	**R6.50**
136.	BRAAMFISHER 3 AND 4 TO TSHEPISONG	**R7.00**
137.	BRAAMFISHER 3 AND 4 TO SLOVO	**R7.00**
138.	ROODEPOORT TO HAMBERG	**R5.00**
139.	ROODEPOORT TO DISCOVERY	**R5.00**
140.	ROODEPOORT TO FLORIDA	**R6.00**
141.	ROODEPOORT TO FLORA CENTRE	**R6.00**
142.	ROODEPOORT TO MARAISBURG	**R7.00**
143.	ROODEPOORT TO WITPOORTJIE	**R6.00**
144.	BOSMONT TO DOBSONVILLE	**R8.50**
145.	BOSMONT TO ROODEPOORT	**R8.00**
146.	BRAAMFISHER TO FLORIDA	**R7.50**
147.	BRAAMFISHER TO HORISON STATION /WESTGATE	**R7.50**
148.	BRAAMFISHR TO ROODEPOORT	**R7.00**
149.	BRAAMFISHER TO WILROGATE	**R8.00**
150.	D/VILLE EXT 2 TO ROODEPOORT	**R8.00**
151.	D/VILLE EXT 3 TO ROODEPOORT	**R8.00**
152.	D/VILLE EXT 3 TO WESTGATE CENTRE	**R8.50**
153.	D/VILLE TO ABSA CENTRE	**R8.50**
154.	D/VILLE TO FLORA CENTRE / PICK `N PAY / TECHNICON AND FLORIDA JUNCTION	**R8.00**
155.	DOBSONVILLE TO FLORIDA	**R7.50**
156.	DOBSONVILLE TO HORISON	**R8.00**
157.	DOBSONVILLE TO ROBERTSVILLE	**R8.00**
158.	DOBSONVILLE TO ROODEPOORT	**R7.50**
159.	DOBSONVILLE TO WESTGATE	**R8.00**
160.	DAVIDSONVILLE TO JOHANNESBURG	**R10.00**
161.	DAVIDSONVILLE TO ROODEPOORT	**R5.50**
162.	DAVIDSONVILLE TO WESTGATE	**R7.00**
163.	DAVIDSONVILLE TO WILROGATE	**R8.00**
164.	DOBSONVILLE TO WILROGATE	**R8.50**

165.	DOORNKOP TO FLORA CENTRE	**R8.50**
166.	DOORNKOP TO HORISON /WESTGATE	**R8.50**
167.	DOORNKOP TO ROODEPOORT	**R8.00**
168.	DOBSONVILLE EXT 2 TO WILROGATE	**R8.50**
169.	DOBSONVILLE EXT 3 AND ISLAND TO WILROGATE	**R8.50**
170.	FLORIDA TO SNAKE PARK	**R8.50**
171.	LEAGLEN TO SNAKE PARK	**R8.50**
172.	LEAGLEN TO ROODEPOORT	**R8.00**
173.	MARAISBURG TO DOBSONVILLE	**R8.00**
174.	ROODEPOORT TO WESTGATE	**R6.00**
175.	NTABAMHLOPHE TO WESTGATE	**R7.00**
176.	ROODEPOORT TO WILROGATE	**R6.50**

Appendix II

SOWETO SBU TIME TABLE TABLE

Putcoton

Effective Date: **Date: 2016/08/10**

Duties: ALL

Workspaces: Default 20160516

TIME TABLE AM 0000 HRS - 1200 HRS

Shift	Time	Route	Day	From To	KM
9349	08:20	0067 - 0006	_MTWTF__	4waysMall - LoneHillPicknPay	14.00
9072	07:25	0168 - 0057	_MTWTF__	4waysMall Blvd - Kya Sand	9.00
9068	07:35	0168 - 0057	_MTWTF__	4waysMall Blvd - Kya Sand	9.00
9140	07:40	0168 - 0057	_MTWTF__	4waysMall Blvd - Kya Sand	9.00
9070	07:45	0168 - 0057	_MTWTF__	4waysMall Blvd - Kya Sand	9.00
4950	06:00	0044 - 0019	_MTWTF__	Alberton North - Braamfontein via Alberton BS	23.90
9329	06:50	0044 - 0051	_MTWTF__	Albertsdal - Braamfontein via Alberton B/S	31.70
4949	06:30	0044 - 0003	_MTWTF__	Albertsdal - Braamfontein via Alberton Bus St	31.70
9005	02:30	0022 - 0003	_MTWTF__	Azaadville Staffbus - Dobs Depot	49.80
9255	07:30	0471 - 0001	_MTWTF__	Bara - 4 Ways Gardens Centre via N1	34.70
9030	07:20	0471 - 0156	_MTWTF__	Bara - 4 Ways Mall via Ferndale/Randburg	43.60
9385	07:45	0471 - 0160	_MTWT___	Bara - 4 Ways Mall via Rustenburg Rd	40.20
9020	06:00	0083 - 0001	_MTWT___	Bara - ESSO via Noordgesig/Express	25.30
9022	07:15	0083 - 0003	_MTWTF__	Bara - ESSO via Westcol	25.30
9125	05:50	0083 - 0005	_MTWTF__	Bara - Fairland SAPS via Westcol	27.20
9213	07:00	0017 - 0001	_MTWT___	Bara - Faraday Station via Mondeor	18.40
9255	06:30	0017 - 0001	_MTWTF__	Bara - Faraday Station via Mondeor	18.40
9403	06:45	0017 - 0001	_MTWTF__	Bara - Faraday Station via Mondeor	18.40
9187	06:15	0190 - 0001	_MTWTF__	Bara - Kya Sand via Northgate	38.00
9090	06:50	0190 - 0041	_MTWTF__	Bara - Kya Sand via Northgate	36.00
9013	07:15	0090 - 0041	_MTWTF__	Bara - Kya Sand via Northgate	36.00
9063	07:50	0190 - 0001	_MTWTF__	Bara - Kya Sand via Northgate	38.00
9109	06:00	0090 - 0001	_MTWTF__	Bara - Kya Sand via Trevellyn Park	38.00
9125	07:20	0190 - 0005	_MTWTF__	Bara - Northgate via Honeydew	28.20
9235	06:30	0371 - 0009	_MTWTF__	Bara - Randburg Mall via N1	31.50
9229	06:15	0103 - 0015	_MTWT___	Bara - Ruimsig via Noordgesig	30.60
9365	07:45	0103 - 0015	_MTWTF__	Bara - Ruimsig via Noordgesig	30.60
9444	07:15	0271 - 0017	_MTWTF__	Bara - Sandton City via Randburg Express	39.10
9382	07:45	0271 - 0017	_MTWTF__	Bara - Sandton City via Randburg Express	39.10
9101	07:30	0271 - 0013	_MTWTF__	Bara - Sandton H/Inn Express	38.50
9191	06:10	0077 - 0005	_MTWTF__	Bara - Strijdom Park via Wescol	33.00
9240	06:20	0074 - 0001	_MTWTF__	Bara - Sunninghill Simba via N 1	37.20
9162	06:40	0371 - 0153	_MTWTF__	Bara - Sunninghill via Oxford	42.60
9392	05:35	0164 - 0056	_MTWTF__	Bara-CenturionviaN1Midrand	67.20
9153	06:00	0164 - 0003	_MTWTF__	Bara-KosmoshopviaRiverleaMidrand	64.70
9221	06:20	0164 - 0003	_MTWTF__	Bara-KosmoshopviaRiverleaMidrand	64.70
9401	06:45	0164 - 0005	_MTWTF__	Bara-WaterFalVodaworldviaRiverlea	50.00
9397	05:30	0073 - 0034	_MTWTF__	Braamfischer 2 - Ben Graystone via RPoort/Cre	47.50
9056	05:15	0082 - 0002	_MTWT___	Braamfischer 2 - Dobs SAPS Feeder	5.70
9025	04:20	0076 - 0001	_MTWTF__	Braamfischer 2 - Dobs SAPS Feeder	5.70
9080	05:00	0082 - 0002	_MTWTF__	Braamfischer 2 - Dobs SAPS Feeder	5.70
9305	05:25	0076 - 0001	_MTWTF__	Braamfischer 2 - Dobs SAPS Feeder	5.70
9186	05:40	0076 - 0001	_MTWTF__	Braamfischer 2 - Dobs SAPS Feeder	5.70
9373	06:00	0076 - 0001	_MTWTF__	Braamfischer 2 - Dobs SAPS Feeder	5.70
9002	06:45	0082 - 0002	_MTWTF__	Braamfischer 2 - Dobs SAPS Feeder	5.70

SOWETO SBU TIME TABLE TABLE

Putcoton

Effective Date: Date: 2016/08/10

Duties: ALL

Workspaces: Default 20160516

TIME TABLE AM 0000 HRS - 1200 HRS

Shift	Time	Route	Day	From To	KM
9047	04:15	0076 - 0006	_MTWTF__	Braamfischer 4 - Dobs SAPS	10.10
9251	04:30	0076 - 0006	_MTWTF__	Braamfischer 4 - Dobs SAPS	10.10
9371	04:35	0076 - 0006	_MTWTF__	Braamfischer 4 - Dobs SAPS	10.10
9047	05:00	0076 - 0006	_MTWTF__	Braamfischer 4 - Dobs SAPS	10.10
9097	05:30	0076 - 0006	_MTWTF__	Braamfischer 4 - Dobs SAPS	10.10
9249	06:00	0076 - 0006	_MTWTF__	Braamfischer 4 - Dobs SAPS	10.10
9002	06:10	0076 - 0006	_MTWTF__	Braamfischer 4 - Dobs SAPS	10.10
9097	06:30	0076 - 0006	_MTWTF__	Braamfischer 4 - Dobs SAPS	10.10
9303	05:15	0073 - 0039	_MTWTF__	Braamfischer 4 to Sandton Grayston/Katherine	48.50
4946	06:45	0044 - 0033	_MTWTF__	Brackendowns - Braamfontein via Alberton B/S	29.10
9178	05:35	0371 - 0075	_MTWTF__	C W Jabavu - Sandton City via Diepkloof 1	49.70
9269	06:30	0048 - 0025	_MTWTF__	Carlton Centre - Sunninghill via Loius Botha	29.40
9266	06:45	0271 - 0031	_MTWTF__	Chiawelo - Sandton City via Randburg/N1	56.90
9141	05:40	0068 - 0083	_MTWTF__	Chiawelo - Sunninghill via Bernam	65.70
9027	05:00	0168 - 0005	_MTWTF__	Chiawelo 3 - 4 Ways Mall via Ferndale/Randbur	57.40
9103	05:15	0168 - 0005	_MTWTF__	Chiawelo 3 - 4 Ways Mall via Ferndale/Randbur	57.40
9315	05:35	0168 - 0005	_MTWTF__	Chiawelo 3 - 4 Ways Mall via Ferndale/Randbur	57.40
9099	05:40	0168 - 0005	_MTWTF__	Chiawelo 3 - 4 Ways Mall via Ferndale/Randbur	57.40
9115	05:50	0168 - 0005	_MTWTF__	Chiawelo 3 - 4 Ways Mall via Ferndale/Randbur	57.40
9175	06:00	0168 - 0005	_MTWTF__	Chiawelo 3 - 4 Ways Mall via Ferndale/Randbur	57.40
9451	06:30	0168 - 0005	_MTWTF__	Chiawelo 3 - 4 Ways Mall via Ferndale/Randbur	57.40
9234	06:15	0371 - 0019	_MTWTF__	Chiawelo 3 - Eastgate 7 via Express/Sandton	54.00
9211	06:00	0371 - 0021	_MTWTF__	Chiawelo 3 - Randburg via Bara	45.60
9180	06:05	0068 - 0063	_MTWTF__	Chiawelo 3 - Rivonia via Oxford	62.80
9136	05:25	0068 - 0025	_MTWTF__	Chiawelo 3 - Sunninghill via Bara Hospital	65.50
9452	07:00	0068 - 0025	_MTWTF__	Chiawelo 3 - Sunninghill via Bara Hospital	65.50
9370	04:45	0068 - 0019	_MTWTF__	Chiawelo 3 - Sunninghill via Oxford	65.50
9061	05:00	0068 - 0019	_MTWTF__	Chiawelo 3 - Sunninghill via Oxford	65.50
9016	04:10	0068 - 0065	_MTWTF__	Chiawelo 3 - Sunninghill via Sandton/EG7	51.30
9146	05:45	0068 - 0065	_MTWTF__	Chiawelo 3 - Sunninghill via Sandton/EG7	51.30
9290	05:05	0164 - 0007	_MTWTF__	Chiawelo3 - Kramerville via Diepkloof/M1	45.20
9320	05:35	0164 - 0007	_MTWTF__	Chiawelo3 - Kramerville via Diepkloof/M1	45.20
9112	05:45	0164 - 0007	_MTWTF__	Chiawelo3 - Kramerville via Diepkloof/M1	45.20
9396	05:00	0164 - 0009	_MTWTF__	Chiawelo3 - Kramerville via Woodmead	58.70
9046	05:30	0164 - 0009	_MTWTF__	Chiawelo3 - Kramerville via Woodmead	58.70
9293	07:10	0164 - 0011	_MTWTF__	Chiawelo3 - Norwood via Pimville	50.40
9424	05:10	0164 - 0013	_MTWTF__	Chiawelo3 -LimbroPark	50.40
9142	05:35	0135 - 0010	_MTWTF__	Cosmo City - Bree Street via Kya Sand	36.50
9420	05:35	0135 - 0011	_MTWTF__	CosmoCity - Bree St via Cresta	39.30
9081	05:20	0371 - 0155	_MTWTF__	Cross Roads - Sunninghill via Oxford	45.20
9406	05:30	0074 - 0015	_MTWTF__	CWJabavu-SunninghillviaOxfordRoad	51.00
9261	05:50	0190 - 0035	_MTWTF__	Dob Slt Rank - Kya Sand via North Riding	41.10
9309	06:00	0190 - 0035	_MTWTF__	Dob Slt Rank - Kya Sand via North Riding	41.10
9207	06:15	0190 - 0035	_MTWTF__	Dob Slt Rank - Kya Sand via North Riding	41.10
9220	06:20	0190 - 0035	_MTWTF__	Dob Slt Rank - Kya Sand via North Riding	41.10

SOWETO SBU TIME TABLE TABLE

Putcoton

Effective Date: Date: 2016/08/10

TIME TABLE AM 0000 HRS - 1200 HRS

Duties: ALL

Workspaces: Default 20160516

Shift	Time	Route	Day	From To	KM
9100	05:40	0033 - 0003	_MTWT___	Dobs - Alrode South via The Glen	55.60
9068	05:20	0061 - 0001	_MTWTF__	Dobs 3 - 4Ways Mall	49.40
9243	06:15	0070 - 0003	_MTWTF__	Dobs 3 - 4 Ways Mall via Rustenburg Rd	56.60
9423	06:20	0069 - 0052	_MTWTF__	Dobs 3 - 4 Ways Mall via Ferndale/Randburg	54.90
9246	06:45	0069 - 0052	_MTWTF__	Dobs 3 - 4 Ways Mall via Ferndale/Randburg	54.90
9296	07:15	0069 - 0052	_MTWTF__	Dobs 3 - 4 Ways Mall via Ferndale/Randburg	54.90
9310	04:50	0070 - 0001	_MTWTF__	Dobs 3 - 4 Ways Mall via Maraisburg/N1	54.90
9231	05:35	0070 - 0001	_MTWTF__	Dobs 3 - 4 Ways Mall via Maraisburg/N1	54.90
9166	06:00	0072 - 0001	_MTWTF__	Dobs 3 - 4 Ways Mall via Maraisburg/N1	41.30
9299	07:00	0072 - 0001	_MTWTF__	Dobs 3 - 4 Ways Mall via Maraisburg/N1	41.30
9365	05:00	0070 - 0111	_MTWTF__	Dobs 3 - 4 Ways Mall via Roodepoort/Cresta	49.40
9332	05:20	0069 - 0055	_MTWTF__	Dobs 3 - 4 Ways Mall via William Nicol	53.60
9213	06:10	0016 - 0001	_MTWT___	Dobs 3 - Bara Feeder	21.20
9096	05:20	0073 - 0019	_MTWTF__	Dobs 3 - Benmore via H/Berg/Cresta/800	45.70
9132	05:40	0073 - 0019	_MTWTF__	Dobs 3 - Benmore via H/Berg/Cresta/800	45.70
9337	06:10	0073 - 0019	_MTWTF__	Dobs 3 - Benmore via H/Berg/Cresta/800	45.70
9223	06:20	0073 - 0019	_MTWTF__	Dobs 3 - Benmore via H/Berg/Cresta/800	45.70
9369	06:30	0073 - 0019	_MTWTF__	Dobs 3 - Benmore via H/Berg/Cresta/800	45.70
9173	05:50	0073 - 0003	_MTWTF__	Dobs 3 - Benmore via R/Poort/Cresta/800	47.70
9355	06:15	0073 - 0003	_MTWTF__	Dobs 3 - Benmore via R/Poort/Cresta/800	47.70
9053	05:20	0052 - 0048	_MTWTF__	Dobs 3 - Dev Bank via Vodaworld	68.90
9368	06:00	0085 - 0022	_MTWTF__	Dobs 3 - Fairland via Wescol	36.90
9342	05:30	0062 - 0027	_MTWTF__	Dobs 3 - JHB Gen Hosp via /Meadowlands	33.80
9422	05:45	0168 - 0058	_MTWTF__	Dobs 3 - Kensington B	48.60
9108	04:55	0052 - 0072	_MTWTF__	Dobs 3 - Kosmodal Shoprite via Phomolong Stn	76.90
9033	05:10	0052 - 0054	_MTWTF__	Dobs 3 - Kosmosdal via Noorgesig/N1	72.40
9393	05:20	0052 - 0103	_MTWTF__	Dobs 3 - Kosmosdal via Sanders/M4	75.90
9054	05:10	0064 - 0035	_MTWTF__	Dobs 3 - Kramerville via Diepkloof	57.00
9394	06:00	0064 - 0007	_MTWTF__	Dobs 3 - Kramerville via Diepkloof	52.30
9384	05:45	0058 - 0024	_MTWTF__	Dobs 3 - Kramerville via Main Reef/Milner Pk	60.40
9198	06:15	0058 - 0024	_MTWTF__	Dobs 3 - Kramerville via Main Reef/Milner Pk	60.40
9449	06:15	0058 - 0024	_MTWTF__	Dobs 3 - Kramerville via Main Reef/Milner Pk	60.40
9037	05:00	0058 - 0013	_MTWTF__	Dobs 3 - Kramerville via WoodmeadviaCellC	59.00
9314	05:20	0058 - 0013	_MTWTF__	Dobs 3 - Kramerville via WoodmeadviaCellC	59.00
9106	05:45	0058 - 0013	_MTWTF__	Dobs 3 - Kramerville via WoodmeadviaCellC	59.00
9111	05:05	0090 - 0043	_MTWTF__	Dobs 3 - Kya Sand via Fererras	51.70
9117	05:20	0190 - 0053	_MTWT___	Dobs 3 - Kyasands via Northlands	48.50
9057	05:30	0190 - 0053	_MTWTF__	Dobs 3 - Kyasands via Northlands	48.50
9325	05:00	0062 - 0030	_MTWTF__	Dobs 3 - Linbro Park via Noordgesig	45.20
9387	07:10	0091 - 0026	_MTWTF__	Dobs 3 - Northgate	38.00
9247	07:20	0063 - 0001	_MTWTF__	Dobs 3 - Norwood P & P via Noordgesig	47.30
9248	06:10	0003 - 0001	_MTWTF__	Dobs 3 - Princess H/Sch	22.50
9217	05:45	0101 - 0001	_MTWTF__	Dobs 3 - Rand Park Ridge via Wescol	32.10
9376	06:30	0101 - 0001	_MTWTF__	Dobs 3 - Rand Park Ridge via Wescol	32.10
9331	05:30	0073 - 0015	_MTWTF__	Dobs 3 - Rivonia via Linden/800	54.50

SOWETO SBU TIME TABLE TABLE

Putcoton

Effective Date: Date: 2016/08/10

Duties: ALL

Workspaces: Default 20160516

TIME TABLE AM 0000 HRS - 1200 HRS

Shift	Time	Route	Day	From To	KM
9133	05:35	0073 - 0015	_MTWTF__	Dobs 3 - Rivonia via Linden/800	54.50
9093	05:40	0073 - 0015	_MTWTF__	Dobs 3 - Rivonia via Linden/800	54.50
9185	05:55	0073 - 0015	_MTWTF__	Dobs 3 - Rivonia via Linden/800	54.50
9158	05:00	0069 - 0009	_MTWTF__	Dobs 3 - Rivonia via Oxford	54.50
9098	05:15	0069 - 0009	_MTWTF__	Dobs 3 - Rivonia via Oxford	54.50
9256	05:40	0103 - 0016	_MTWTF__	Dobs 3 - Ruimsig via Dobs Rd/Roodepoort	31.60
9379	06:00	0103 - 0016	_MTWTF__	Dobs 3 - Ruimsig via Dobs Rd/Roodepoort	31.60
9405	06:30	0103 - 0016	_MTWTF__	Dobs 3 - Ruimsig via Dobs Rd/Roodepoort	31.60
9272	06:40	0103 - 0016	_MTWTF__	Dobs 3 - Ruimsig via Dobs Rd/Roodepoort	31.60
9294	07:20	0103 - 0016	_MTWTF__	Dobs 3 - Ruimsig via Dobs Rd/Roodepoort	31.60
9395	07:30	0103 - 0016	_MTWTF__	Dobs 3 - Ruimsig via Dobs Rd/Roodepoort	31.60
9113	05:35	0072 - 0011	_MTWTF__	Dobs 3 - Sandton City via Orlando East/M1	61.70
9274	06:20	0072 - 0009	_MTWTF__	Dobs 3 - Sandton City via Orlando Stadium	61.70
9193	05:50	0171 - 0047	_MTWTF__	Dobs 3 - Sandton City via Randburg/N1	63.10
9067	06:00	0171 - 0047	_MTWTF__	Dobs 3 - Sandton City via Randburg/N1	63.10
9358	06:50	0171 - 0047	_MTWTF__	Dobs 3 - Sandton City via Randburg/N1	63.10
9224	06:20	0077 - 0007	_MTWT___	Dobs 3 - Strijdom Park via Hamberg/800	36.60
9333	05:30	0077 - 0015	_MTWTF__	Dobs 3 - Strydom Park via Wescol	42.60
9352	06:05	0077 - 0015	_MTWTF__	Dobs 3 - Strydom Park via Wescol	42.60
9058	05:20	0074 - 0014	_MTWTF__	Dobs 3 - Sunninghill via Benmore/Linden	57.20
9436	05:05	0074 - 0011	_MTWTF__	Dobs 3 - Sunninghill via Oxford	57.20
9048	05:30	0074 - 0011	_MTWTF__	Dobs 3 - Sunninghill via Oxford	57.20
9156	06:00	0074 - 0011	_MTWTF__	Dobs 3 - Sunninghill via Oxford	57.20
9284	07:15	0074 - 0011	_MTWTF__	Dobs 3 - Sunninghill via Oxford	57.20
9047	06:10	0009 - 0001	_MTWTF__	Dobs 3 - Unified Sch	17.00
9400	04:30	0052 - 0102	_MTWTF__	Dobs 3 - Vodacom via Jacaranda	65.00
9063	05:15	0042 - 0001	_MTWTF__	Dobs 3 - Wadeville via Bara	59.40
9001	01:00	0022 - 0021	_MTWTF__	Dobs Depot Staff Bus to Dobs depot	70.00
9004	01:50	0022 - 0021	_MTWTF__	Dobs Depot Staff Bus to Dobs depot	70.00
9000	02:00	0022 - 0021	_MTWTF__	Dobs Depot Staff Bus to Dobs depot	70.00
9001	02:15	0022 - 0021	_MTWTF__	Dobs Depot Staff Bus to Dobs depot	70.00
9004	02:45	0022 - 0021	_MTWTF__	Dobs Depot Staff Bus to Dobs depot	70.00
9000	03:00	0022 - 0021	_MTWTF__	Dobs Depot Staff Bus to Dobs depot	70.00
9001	03:45	0022 - 0021	_MTWTF__	Dobs Depot Staff Bus to Dobs depot	70.00
9004	03:45	0022 - 0021	_MTWTF__	Dobs Depot Staff Bus to Dobs depot	70.00
9233	05:00	0069 - 0060	_MTWTF__	Dobs Gardens - 4 Ways Mall via Roodeport	51.50
9336	06:50	0085 - 0002	_MTWTF__	Dobs Gardens - Fairlands via Wescol	36.00
9249	06:30	0093 - 0005	_MTWTF__	Dobs Hostel - Kya Sand via Ferreiras NR	29.30
9095	05:10	0171 - 0041	_MTWTF__	Dobs SAP - Sandton H/Inn via Diepkloof/Oxford	52.50
9150	05:30	0069 - 0054	_MTWTF__	Dobs SAPS - 4 Ways Mall via Douglas Rd	47.30
9070	05:35	0069 - 0054	_MTWTF__	Dobs SAPS - 4 Ways Mall via Douglas Rd	47.30
9305	06:00	0069 - 0019	_MTWTF__	Dobs SAPS - 4 Ways Mall via Ferndale/Randburg	45.20
9056	05:45	0069 - 0017	_MTWT___	Dobs SAPS - 4 Ways Mall via Forbes/MLands	42.50
9082	05:35	0069 - 0017	_MTWTF__	Dobs SAPS - 4 Ways Mall via Forbes/MLands	42.50
9186	06:10	0069 - 0017	_MTWTF__	Dobs SAPS - 4 Ways Mall via Forbes/MLands	42.50

SOWETO SBU TIME TABLE TABLE

Putcoton

Effective Date: Date: 2016/08/10

Duties: ALL

Workspaces: Default 20160516

TIME TABLE AM 0000 HRS - 1200 HRS

Shift	Time	Route	Day	From To	KM
9122	05:40	0029 - 0001	_MTWT___	Dobs SAPS - City Deep Market via Chrisville	42.10
9318	05:10	0069 - 0039	_MTWTF__	Dobs SAPS - Douglasdale via S/Park	49.00
9091	05:25	0069 - 0039	_MTWTF__	Dobs SAPS - Douglasdale via S/Park	49.00
9143	05:40	0069 - 0039	_MTWTF__	Dobs SAPS - Douglasdale via S/Park	49.00
9080	05:25	0058 - 0021	_MTWTF__	Dobs SAPS - Kramerville via Diepkloof/M1	48.00
9168	05:45	0058 - 0021	_MTWTF__	Dobs SAPS - Kramerville via Diepkloof/M1	48.00
9137	05:50	0058 - 0021	_MTWTF__	Dobs SAPS - Kramerville via Diepkloof/M1	48.00
9036	06:05	0058 - 0021	_MTWTF__	Dobs SAPS - Kramerville via Diepkloof/M1	48.00
9157	05:20	0190 - 0017	_MTWTF__	Dobs SAPS - Kya Sand via Honeydew	40.00
9447	05:45	0093 - 0003	_MTWTF__	Dobs SAPS - Rumsig via Meadowlands	34.10
9071	06:45	0093 - 0003	_MTWTF__	Dobs SAPS - Rumsig via Meadowlands	34.10
9440	04:50	0071 - 0055	_MTWTF__	Dobs SAPS - Sandton City via Randburg/N1	54.40
9169	06:00	0071 - 0055	_MTWTF__	Dobs SAPS - Sandton City via Randburg/N1	54.40
9383	05:30	0081 - 0001	_MTWTF__	Dobs SAPS - Strijdom Park via N1/Diepkloof	35.20
9126	06:20	0081 - 0001	_MTWTF__	Dobs SAPS - Strijdom Park via N1/Diepkloof	35.20
9441	05:45	0270 - 0099	_MTWTF__	Dobs SAPS - Sunninghill via Bemam	50.20
9322	05:30	0070 - 0108	_MTWTF__	Dobs SAPS - Sunninghill via Diepkloof/N1	62.70
9239	06:05	0070 - 0108	_MTWTF__	Dobs SAPS - Sunninghill via Diepkloof/N1	62.70
9371	05:25	0270 - 0097	_MTWTF__	Dobs SAPS - Sunninghill via Noorgesig	50.00
9025	05:15	0070 - 0106	_MTWTF__	Dobs SAPS - Sunninghill via Oxford	37.60
9267	05:30	0070 - 0106	_MTWTF__	Dobs SAPS - Sunninghill via Oxford	37.60
9343	05:45	0070 - 0106	_MTWTF__	Dobs SAPS - Sunninghill via Oxford	37.60
9170	06:15	0070 - 0106	_MTWTF__	Dobs SAPS - Sunninghill via Oxford	37.60
9354	05:10	0052 - 0095	_MTWTF__	Dobs SAPS -Shoprite Kosmosdal via Phomolong	70.20
9389	06:50	0097 - 0001	_MTWTF__	Dobs Slt Rank - Forida Hills via Dobs Term	21.40
9340	06:30	0100 - 0001	_MTWTF__	Dobs Slt Rank - Helderkruin via Dobs Term	22.90
9181	05:50	0092 - 0003	_MTWTF__	Dobs Slt Rank - Honeydew via Dobs Term	28.60
9251	06:00	0102 - 0001	_MTWTF__	Dobs Slt Rank - Randparkridge via Dobs Term	35.20
9399	06:50	0100 - 0003	_MTWTF__	Dobs Term - Helderkruin via Dobs SAP	22.70
9409	05:00	0069 - 0062	_MTWTF__	Dobs3 - 4ways via Noordgesig/Coronation	46.50
9097	07:15	0170 - 0108	_MTWTF__	DobsSAPS-Ferndale via M.Land7&8/Emmarantia	38.70
9014	04:30	0070 - 0015	_MTWTF__	Emdeni - 4 Ways Mall via Ferndale/Randburg	54.90
9308	05:20	0070 - 0015	_MTWTF__	Emdeni - 4 Ways Mall via Ferndale/Randburg	54.90
9222	06:00	0070 - 0015	_MTWTF__	Emdeni - 4 Ways Mall via Ferndale/Randburg	54.90
9208	06:15	0070 - 0015	_MTWTF__	Emdeni - 4 Ways Mall via Ferndale/Randburg	54.90
9055	05:30	0071 - 0063	_MTWTF__	Emdeni - 4 Ways Mall via Maraisburg/N1	54.90
9130	05:50	0071 - 0063	_MTWTF__	Emdeni - 4 Ways Mall via Maraisburg/N1	54.90
9090	05:40	0089 - 0003	_MTWTF__	Emdeni - Bara Feeder	23.00
9247	06:00	0052 - 0025	_MTWTF__	Emdeni - Bara Feeder	20.10
9021	05:15	0029 - 0003	_MTWTF__	Emdeni - City Deep Market via Chrisville	50.30
9119	05:45	0069 - 0027	_MTWTF__	Emdeni - Douglasdale via Strijdom Park	46.80
9078	05:15	0069 - 0029	_MTWTF__	Emdeni - Douglasdale via Wescol	58.10
9040	05:35	0069 - 0029	_MTWTF__	Emdeni - Douglasdale via Wescol	58.10
9209	06:15	0069 - 0031	_MTWT___	Emdeni - Douglasdale via Wescol SPark NRiding	58.30
9257	06:30	0086 - 0007	_MTWTF__	Emdeni - ESSO via Maponya Store	30.80

SOWETO SBU TIME TABLE TABLE

Putcoton

Effective Date: Date: 2016/08/10

TIME TABLE AM 0000 HRS - 1200 HRS

Duties: ALL

Workspaces: Default 20160516

Shift	Time	Route	Day	From To	KM
9443	05:10	0064 - 0019	_MTWTF__	Emdeni - Kramerville via via Diepkloof/M1	51.90
9134	05:30	0064 - 0019	_MTWTF__	Emdeni - Kramerville via via Diepkloof/M1	51.90
9415	04:30	0063 - 0035	_MTWTF__	Emdeni - Kramerville via Woodmead	58.30
9225	05:30	0263 - 0003	_MTWTF__	Emdeni - Kramerville via Woodmead	58.30
9195	06:10	0363 - 0043	_MTWTF__	Emdeni - Kramerville via Woodmead	58.30
9260	06:40	0363 - 0043	_MTWTF__	Emdeni - Kramerville via Woodmead	58.30
9279	07:00	0263 - 0003	_MTWTF__	Emdeni - Kramerville via Woodmead	58.30
9029	05:00	0091 - 0021	_MTWTF__	Emdeni - Kya Sand via Wescol/Esso	56.80
9064	05:15	0091 - 0021	_MTWTF__	Emdeni - Kya Sand via Wescol/Esso	56.80
9398	05:45	0091 - 0021	_MTWTF__	Emdeni - Kya Sand via Wescol/Esso	56.80
9391	05:00	0052 - 0092	_MTWTF__	Emdeni - Kyalami Bus Park	70.20
9298	07:20	0091 - 0007	_MTWTF__	Emdeni - Northgate via Dobsonville SAPS	43.80
9012	04:20	0170 - 0083	_MTWTF__	Emdeni - Rivonia via Meadowlands	50.50
9410	04:40	0070 - 0025	_MTWTF__	Emdeni - Rivonia via Oxford	42.40
9307	06:50	0070 - 0025	_MTWTF__	Emdeni - Rivonia via Oxford	42.40
9002	07:30	0028 - 0003	_MTWTF__	Emdeni - Steeldale via Chrisville/Southgate	38.90
9116	05:45	0070 - 0101	_MTWTF__	Emdeni - Sunninghill via Birman	65.00
9282	07:00	0070 - 0101	_MTWTF__	Emdeni - Sunninghill via Birman	65.00
9438	04:40	0070 - 0027	_MTWTF__	Emdeni - Sunninghill via Oxford	53.20
9202	05:05	0070 - 0027	_MTWTF__	Emdeni - Sunninghill via Oxford	53.20
9024	05:15	0070 - 0027	_MTWTF__	Emdeni - Sunninghill via Oxford	53.20
9433	05:55	0070 - 0027	_MTWTF__	Emdeni - Sunninghill via Oxford	53.20
9174	06:00	0070 - 0027	_MTWTF__	Emdeni - Sunninghill via Oxford	53.20
9199	06:15	0070 - 0027	_MTWTF__	Emdeni - Sunninghill via Oxford	53.20
9227	06:20	0070 - 0027	_MTWTF__	Emdeni - Sunninghill via Oxford	53.20
9236	06:30	0070 - 0027	_MTWTF__	Emdeni - Sunninghill via Oxford	53.20
9450	06:30	0070 - 0027	_MTWTF__	Emdeni - Sunninghill via Oxford	53.20
9329	05:05	0042 - 0003	_MTWTF__	Emdeni - Wadeville via Bara/N12	56.60
9161	06:00	0063 - 0007	_MTWTF__	Emdeni - Woodmead East via Kramerville	58.30
9286	07:00	0086 - 0009	_MTWTF__	Emdeni -Randpark via Maraiburg/N1	36.80
9026	04:45	0052 - 0058	_MTWTF__	Emdeni-KosmdalMidmdviaM1/Sabc/Coro	82.00
9346	05:05	0052 - 0058	_MTWTF__	Emdeni-KosmdalMidmdviaM1/Sabc/Coro	82.00
9088	05:20	0052 - 0058	_MTWTF__	Emdeni-KosmdalMidmdviaM1/Sabc/Coro	82.00
9456	04:50	0052 - 0068	_MTWTF__	Emdeni-KosmdalviaCoro/Sabc/M1	78.00
9002	03:00	0022 - 0029	_MTWTF__	Evaton Depot - Dobsonville depot	92.00
9092	05:30	0053 - 0001	_MTWTF__	Green Village - Kyalami Park via Bara/N1	76.90
9335	05:10	0052 - 0088	_MTWTF__	Green Village - Kyalami Pk via Noorgesig/N1	70.50
9258	08:00	0094 - 0001	_MTWTF__	Honeydew - Fenel Glass Feeder	3.30
9159	06:00	0032 - 0003	_MTWTF__	Ikwezi - Angus via Meadowlands	47.60
9128	05:30	0007 - 0003	_MTWTF__	Ikwezi - Summerwood P Sch via Northview Sch	65.10
9072	05:20	0270 - 0035	_MTWTF__	Ikwezi Stn - 4 Ways Mall via Vilakazi	47.30
9388	06:15	0093 - 0009	_MTWTF__	Ikwezi Stn - Honeydew via Laser Park	31.70
9258	06:40	0093 - 0009	_MTWTF__	Ikwezi Stn - Honeydew via Laser Park	31.70
9313	06:30	0101 - 0007	_MTWTF__	Ikwezi Stn - Hyperama via Florida Hills	30.60
9073	05:40	0064 - 0023	_MTWT___	Ikwezi Stn - Kramerville via Diepkloof	50.40

SOWETO SBU TIME TABLE TABLE

Putcoton

Effective Date: Date: 2016/08/10

Duties: ALL

Workspaces: Default 20160516

TIME TABLE AM 0000 HRS - 1200 HRS

Shift	Time	Route	Day	From To	KM
9124	05:30	0004 - 0001	_MTWTF__	Ikwezi Stn - Mcauley House via Foundation P/S	30.70
9155	06:00	0052 - 0045	_MTWTF__	Ikwezi-CorpparkviaBara/Riverlea	71.50
9373	06:45	0101 - 0019	_MTWTF__	Ikwezi-RandParkRidgeviaFloridaHills	32.10
9421	07:40	0101 - 0013	_MTWTF__	Ikwezi-RandparkRidgeviaM/Lands	35.10
9291	10:00	0022 - 0022	_MTWTF__	Kelvin Parking - Dobs depot	38.40
9123	08:15	0022 - 0012	_MTWTF__	Kelvin Parking - Dobs Depot (Staff Bus)	38.40
9359	06:00	0471 - 0158	_MTWTF__	Kliptown Stn - 4 Ways Mall via Maraisburg/N1	43.20
9241	06:20	0171 - 0081	_MTWTF__	Kliptown Stn - Sandton Express via M1	40.50
9094	05:10	0074 - 0007	_MTWTF__	Kliptown Stn - Sunninghill via Oxford	52.50
9334	05:45	0074 - 0007	_MTWTF__	Kliptown Stn - Sunninghill via Oxford	52.50
4953	06:20	0044 - 0039	_MTWTF__	Mayberry Park - Braamfontein via Alberton B/S	25.80
4947	06:10	0045 - 0001	_MTWTF__	Mayberry Park - Randburg via Albertsdal	42.00
9032	04:55	0164 - 0017	_MTWTF__	Merafe - Centurion via N1	81.20
9087	05:30	0164 - 0019	_MTWTF__	Merafe - Kramerville via Woodmead	56.90
9218	06:20	0164 - 0019	_MTWTF__	Merafe - Kramerville via Woodmead	56.90
9330	05:20	0164 - 0021	_MTWT___	Merafe - KyalamiPark via Bara/N1	72.60
9324	05:10	0168 - 0039	_MTWTF__	Merafe Stn - 4 Ways Mall via Fendale/Randburg	57.40
9023	05:15	0168 - 0039	_MTWTF__	Merafe Stn - 4 Ways Mall via Fendale/Randburg	57.40
9140	05:30	0168 - 0039	_MTWTF__	Merafe Stn - 4 Ways Mall via Fendale/Randburg	57.40
9062	05:40	0168 - 0039	_MTWTF__	Merafe Stn - 4 Ways Mall via Fendale/Randburg	57.40
9244	06:00	0168 - 0039	_MTWTF__	Merafe Stn - 4 Ways Mall via Fendale/Randburg	57.40
9074	05:50	0068 - 0041	_MTWTF__	Merafe Stn - Douglasdale via Wescol S/Park	52.90
9210	06:15	0087 - 0007	_MTWTF__	Merafe Stn - Randpark Ridge via Esso	46.00
9232	06:20	0103 - 0024	_MTWTF__	Merafe Stn - Rumsig via Bara/HTC	42.70
9060	05:20	0164 - 0015	_MTWTF__	Merafe-DevBankviaBara&Riverlea	73.70
9264	05:10	0090 - 0105	_MTWTF__	MerafeStn - KyaSand via Northlands/Bara	53.40
9085	05:10	0090 - 0106	_MTWTF__	MerafeStn - Laserpark via Bara/Esso	48.20
9197	06:00	0170 - 0107	_MTWTF__	Molapo - 4Ways	47.30
9402	05:30	0052 - 0128	_MTWTF__	Molapo - Jacaranda	59.00
9139	05:40	0064 - 0025	_MTWT___	Molapo - Kramerville via Diepkloof/M1	52.20
9237	05:45	0271 - 0091	_MTWTF__	Molapo - Sandton City Express/M1	54.10
9203	05:55	0271 - 0091	_MTWTF__	Molapo - Sandton City Express/M1	54.10
9188	05:30	0070 - 0122	_MTWTF__	Molapo - Sunninghill via Noordgesig/Oxford	46.50
9316	05:00	0170 - 0091	_MTWTF__	Naledi - 4 Ways Mall via Maraisburg/N1	52.90
9018	05:10	0170 - 0091	_MTWTF__	Naledi - 4 Ways Mall via Maraisburg/N1	52.90
9300	05:30	0170 - 0091	_MTWTF__	Naledi - 4 Ways Mall via Maraisburg/N1	52.90
9214	06:15	0170 - 0104	_MTWTF__	Naledi - 4 Ways Mall via Maraisburg/N1	48.50
9292	07:00	0170 - 0104	_MTWTF__	Naledi - 4 Ways Mall via Maraisburg/N1	48.50
9285	07:00	0170 - 0047	_MTWTF__	Naledi - 4 Ways Mall via Sloane St/Ferndale	46.40
9404	05:00	0170 - 0049	_MTWTF__	Naledi - 4wayMall viaFerndale/Randburg	52.90
9147	05:55	0170 - 0049	_MTWTF__	Naledi - 4wayMall viaFerndale/Randburg	52.90
9252	06:30	0170 - 0049	_MTWTF__	Naledi - 4wayMall viaFerndale/Randburg	52.90
9353	06:40	0170 - 0049	_MTWTF__	Naledi - 4wayMall viaFerndale/Randburg	52.90
9049	05:30	0034 - 0001	_MTWT___	Naledi - Alrode South via Bara	52.60
9446	05:45	0034 - 0002	_MTWTF__	Naledi - Angus via Glenvista	59.40

SOWETO SBU TIME TABLE TABLE

Putcoton

Effective Date: Date: 2016/08/10

Duties: ALL

Workspaces: Default 20160516

TIME TABLE AM 0000 HRS - 1200 HRS

Shift	Time	Route	Day	From To	KM
9351	05:30	0029 - 0009	_MTWTF__	Naledi - City Deep Market via Chrisville	39.90
9377	06:00	0029 - 0009	_MTWTF__	Naledi - City Deep Market via Chrisville	39.90
9219	06:20	0029 - 0009	_MTWTF__	Naledi - City Deep Market via Chrisville	39.90
9083	05:30	0052 - 0050	_MTWTF__	Naledi - Dev Bank via Spar	72.00
9144	06:10	0079 - 0016	_MTWTF__	Naledi - Douglasdale via Maraisburg/N1	55.60
9069	05:15	0079 - 0015	_MTWTF__	Naledi - Douglasdale via N1	54.00
9375	05:50	0079 - 0013	_MTWTF__	Naledi - Douglasdale via Strydom Park	54.00
9399	04:55	0086 - 0023	_MTWTF__	Naledi - ESSO via Vocational	34.40
9341	06:05	0086 - 0023	_MTWTF__	Naledi - ESSO via Vocational	34.40
9005	06:30	0086 - 0023	_MTWTF__	Naledi - ESSO via Vocational	34.40
9287	07:00	0086 - 0023	_MTWTF__	Naledi - ESSO via Vocational	34.40
9295	07:30	0086 - 0023	_MTWTF__	Naledi - ESSO via Vocational	34.40
9105	05:30	0092 - 0021	_MTWTF__	Naledi - Honeydew via Maraisburg/N1	36.60
9065	05:00	0052 - 0070	_MTWTF__	Naledi - Kosmosdal via Coronation	68.00
9259	05:20	0052 - 0070	_MTWTF__	Naledi - Kosmosdal via Coronation	68.00
9079	05:10	0064 - 0031	_MTWTF__	Naledi - Kramerville via Diepkloof	55.00
9418	04:45	0263 - 0045	_MTWTF__	Naledi - Kramerville via Woodmead	52.90
9380	05:10	0063 - 0013	_MTWTF__	Naledi - Kramerville via Woodmead	52.90
9138	05:45	0263 - 0045	_MTWTF__	Naledi - Kramerville via Woodmead	52.90
9411	06:10	0263 - 0045	_MTWTF__	Naledi - Kramerville via Woodmead	52.90
9381	06:15	0263 - 0045	_MTWTF__	Naledi - Kramerville via Woodmead	52.90
9262	06:40	0063 - 0013	_MTWTF__	Naledi - Kramerville via Woodmead	52.90
9281	07:00	0263 - 0045	_MTWTF__	Naledi - Kramerville via Woodmead	52.90
9184	05:55	0190 - 0052	_MTWTF__	Naledi - Kya Sand via Bara/N!	50.20
9129	05:40	0091 - 0013	_MTWTF__	Naledi - Kya Sand via Maraisburg/N1	48.60
9345	07:15	0091 - 0013	_MTWTF__	Naledi - Kya Sand via Maraisburg/N1	48.60
9327	05:00	0190 - 0025	_MTWTF__	Naledi - Kya Sand via Maraisburg/Newmarket	51.60
9102	05:25	0190 - 0025	_MTWTF__	Naledi - Kya Sand via Maraisburg/Newmarket	51.60
9431	05:35	0053 - 0003	_MTWTF__	Naledi - Kyalami Business Park via Bara/N1	66.10
9151	06:00	0053 - 0003	_MTWTF__	Naledi - Kyalami Business Park via Bara/N1	66.10
9084	05:30	0053 - 0009	_MTWT___	Naledi - Kyalami via N1	70.30
9039	05:25	0062 - 0017	_MTWTF__	Naledi - Linbro Park via Orlando Station	45.80
9291	07:30	0263 - 0021	_MTWTF__	Naledi - Norwood via Maponya	41.20
9017	05:10	0270 - 0089	_MTWTF__	Naledi - Rivonia via Oxford	51.00
9127	05:50	0270 - 0089	_MTWTF__	Naledi - Rivonia via Oxford	51.00
9283	07:00	0270 - 0089	_MTWTF__	Naledi - Rivonia via Oxford	51.00
9276	06:30	0103 - 0022	_MTWTF__	Naledi - Rumsig via Noordgesig	42.10
9204	06:05	0171 - 0103	_MTWTF__	Naledi - Sandton City Express\M1	51.00
9145	05:55	0072 - 0027	_MTWTF__	Naledi - Sandton H/Inn via Express\N1	50.40
9280	07:00	0072 - 0027	_MTWTF__	Naledi - Sandton H/Inn via Express\N1	50.40
9121	05:30	0079 - 0007	_MTWTF__	Naledi - Strijdom Park via Maraisburg/N1	47.20
9263	05:35	0079 - 0007	_MTWTF__	Naledi - Strijdom Park via Maraisburg/N1	47.20
9242	06:30	0079 - 0009	_MTWTF__	Naledi - Strijdom Park via Wescol	44.00
9123	05:30	0007 - 0007	_MTWTF__	Naledi - Summerwood P School	47.00
9216	06:15	0070 - 0059	_MTWTF__	Naledi - Sunninghill via Bimam	55.30

SOWETO SBU TIME TABLE TABLE

Putcoton

Effective Date: Date: 2016/08/10

Duties: ALL

Workspaces: Default 20160516

TIME TABLE AM 0000 HRS - 1200 HRS

Shift	Time	Route	Day	From To	KM
9009	04:20	0070 - 0061	_MTWTF__	Naledi - Sunninghill via Oxford	54.10
9278	04:50	0070 - 0061	_MTWTF__	Naledi - Sunninghill via Oxford	54.10
9326	05:10	0070 - 0061	_MTWTF__	Naledi - Sunninghill via Oxford	54.10
9066	05:20	0070 - 0061	_MTWTF__	Naledi - Sunninghill via Oxford	54.10
9077	05:35	0070 - 0061	_MTWTF__	Naledi - Sunninghill via Oxford	54.10
9118	05:45	0070 - 0061	_MTWTF__	Naledi - Sunninghill via Oxford	54.10
9302	05:55	0070 - 0061	_MTWTF__	Naledi - Sunninghill via Oxford	54.10
9190	06:10	0070 - 0061	_MTWTF__	Naledi - Sunninghill via Oxford	54.10
9245	06:30	0070 - 0061	_MTWTF__	Naledi - Sunninghill via Oxford	54.10
9268	06:45	0070 - 0061	_MTWTF__	Naledi - Sunninghill via Oxford	54.10
9194	06:50	0070 - 0061	_MTWTF__	Naledi - Sunninghill via Oxford	54.10
9321	04:35	0070 - 0112	_MTWTF__	Naledi 2 - Rivonia via Oxford Rd	63.20
9149	05:20	0007 - 0009	_MTWTF__	Naledi 2 - Summerwood P Sch via Northview Sch	49.00
9413	07:30	0037 - 0005	_MTWTF__	Naledi -Alberton PicknPay via BaraN12	39.50
9172	05:30	0163 - 0039	_MTWTF__	Naledi -Eastgate7 via Diepkloof	62.00
9386	05:15	0071 - 0115	_MTWTF__	Naledi Ext -4 Ways Mall via Parkwood	51.20
9160	05:45	0071 - 0115	_MTWTF__	Naledi Ext -4 Ways Mall via Parkwood	51.20
9148	05:55	0034 - 0004	_MTWT___	Naledi -Wadeville via Bara	53.30
9035	05:20	0052 - 0122	_MTWT___	Naledi-Kosmodal\Bara\Riverlea	80.00
9455	05:00	0052 - 0122	_MTWTF__	Naledi-Kosmodal\Bara\Riverlea	80.00
9049	07:00	0043 - 0003	_MTWT___	Palm Ridge - Braamfontein via Doornfontein	35.20
4952	05:40	0043 - 0003	_MTWTF__	Palm Ridge - Braamfontein via Doornfontein	35.20
4945	06:00	0043 - 0003	_MTWTF__	Palm Ridge - Braamfontein via Doornfontein	35.20
4951	06:30	0043 - 0003	_MTWTF__	Palm Ridge - Braamfontein via Doornfontein	35.20
9306	07:05	0270 - 0071	_MTWTF__	Pimville - Rivonia via Bimam	40.30
9010	05:40	0164 - 0023	_MTWTF__	Pimville - Woodmead via Bara	41.60
9454	05:00	0164 - 0039	_MTWTF__	ProGlen-JacarndviaBara/N1	73.40
9107	05:10	0164 - 0037	_MTWTF__	ProGlen-KosmoMidrandPg8N1	94.20
9419	04:45	0164 - 0027	_MTWTF__	ProGlen-KosmoShopMidmdviaN1	90.20
9038	04:30	0070 - 0073	_MTWTF__	Protea Glen - 4 Ways Mall via Ferndale/Randbu	54.60
9425	05:00	0070 - 0073	_MTWTF__	Protea Glen - 4 Ways Mall via Ferndale/Randbu	54.60
9301	05:20	0070 - 0073	_MTWTF__	Protea Glen - 4 Ways Mall via Ferndale/Randbu	54.60
9003	05:50	0087 - 0003	_MTWTF__	Protea Glen - ESSO via Maraisburg/N1	48.20
9363	07:00	0087 - 0003	_MTWTF__	Protea Glen - ESSO via Maraisburg/N1	48.20
9304	06:50	0087 - 0011	_MTWTF__	Protea Glen - Fairlands	45.60
9007	06:10	0073 - 0027	_MTWTF__	Protea Glen - Kramerville via Tsep/Randburg	70.00
9201	06:15	0073 - 0027	_MTWTF__	Protea Glen - Kramerville via Tsep/Randburg	70.00
9031	05:00	0163 - 0035	_MTWTF__	Protea Glen - Kramerville via Woodmead	61.00
9131	05:20	0190 - 0045	_MTWTF__	Protea Glen - Kya Sand via Noordgesig\Market	58.00
9154	05:45	0190 - 0045	_MTWTF__	Protea Glen - Kya Sand via Noordgesig\Market	58.00
9374	05:40	0271 - 0123	_MTWTF__	Protea Glen - Sandton City via Randburg/N1	66.30
9228	06:25	0271 - 0123	_MTWTF__	Protea Glen - Sandton City via Randburg/N1	66.30
9357	04:45	0371 - 0119	_MTWTF__	Protea Glen - Sunninghill Express/M1	59.40
9110	05:10	0371 - 0119	_MTWTF__	Protea Glen - Sunninghill Express/M1	59.40
9006	05:40	0371 - 0156	_MTWTF__	Protea Glen - Sunninghill via Klipvalley Rd	59.40

SOWETO SBU TIME TABLE TABLE

Putcoton

Effective Date: Date: 2016/08/10

Duties: ALL

Workspaces: Default 20160516

TIME TABLE AM 0000 HRS - 1200 HRS

Shift	Time	Route	Day	From To	KM
9196	06:00	0371 - 0156	_MTWTF__	Protea Glen - Sunninghill via Klipvalley Rd	59.40
9275	05:50	0068 - 0068	_MTWTF__	Protea Glen - Sunninghill via Klipvalley/Oxfo	59.40
9044	05:15	0052 - 0064	_MTWTF__	Protea Glen 11 & 12 - Kosmodal Shop via Tsepi	81.00
9453	04:40	0052 - 0059	_MTWTF__	Protea Glen 11&12 - Kosmosdal Shop via Tsep	81.00
9430	04:30	0370 - 0001	_MTWTF__	Protea Glen 11/12 - 4 Ways via Tshepisong	68.50
9407	05:10	0370 - 0001	_MTWTF__	Protea Glen 11/12 - 4 Ways via Tshepisong	68.50
9312	05:20	0370 - 0001	_MTWTF__	Protea Glen 11/12 - 4 Ways via Tshepisong	68.50
9045	05:30	0370 - 0001	_MTWTF__	Protea Glen 11/12 - 4 Ways via Tshepisong	68.50
9367	05:45	0370 - 0001	_MTWTF__	Protea Glen 11/12 - 4 Ways via Tshepisong	68.50
9163	05:50	0370 - 0001	_MTWTF__	Protea Glen 11/12 - 4 Ways via Tshepisong	68.50
9135	05:30	0073 - 0017	_MTWTF__	Protea Glen 11/12 - Benmore Graystone via Tshepg	59.20
9344	06:10	0073 - 0017	_MTWTF__	Protea Glen 11/12 - Benmore Graystone via Tshepg	59.20
9442	05:15	0190 - 0055	_MTWTF__	Protea Glen 11/12 - Esso	38.30
9364	05:30	0190 - 0055	_MTWTF__	Protea Glen 11/12 - Esso	38.30
9362	05:20	0065 - 0014	_MTWTF__	Protea Glen 11/12 - Kramerville via Main Reef	61.00
9042	05:30	0065 - 0014	_MTWTF__	Protea Glen 11/12 - Kramerville via Main Reef	61.00
9311	05:45	0190 - 0027	_MTWT___	Protea Glen 11/12 - Kya Sand via Tshep/Cresta	54.00
9164	05:20	0190 - 0027	_MTWTF__	Protea Glen 11/12 - Kya Sand via Tshep/Cresta	54.00
9167	06:00	0190 - 0027	_MTWTF__	Protea Glen 11/12 - Kya Sand via Tshep/Cresta	54.00
9428	06:10	0190 - 0027	_MTWTF__	Protea Glen 11/12 - Kya Sand via Tshep/Cresta	54.00
9350	04:55	0052 - 0085	_MTWTF__	Protea Glen 11/12 - Kyalami Pk via Tshepisong	71.60
9019	05:00	0065 - 0016	_MTWTF__	Protea Glen 11/12 - Megawatt Park via Main Reef	71.50
9445	06:05	0052 - 0075	_MTWTF__	Protea Glen 11/12 - Rumsig via Tshepisong	39.20
9273	06:10	0052 - 0075	_MTWTF__	Protea Glen 11/12 - Rumsig via Tshepisong	39.20
9028	05:15	0081 - 0005	_MTWTF__	Protea Glen 11/12 - Strijdom Pk via Tshepi/Cr	51.80
9086	05:30	0081 - 0005	_MTWTF__	Protea Glen 11/12 - Strijdom Pk via Tshepi/Cr	51.80
9176	05:30	0081 - 0005	_MTWTF__	Protea Glen 11/12 - Strijdom Pk via Tshepi/Cr	51.80
9171	04:45	0065 - 0009	_MTWTF__	Protea Glen 11/12 - Sunninghill viaTshep	73.10
9457	04:55	0065 - 0009	_MTWTF__	Protea Glen 11/12 - Sunninghill viaTshep	73.10
9277	05:10	0065 - 0009	_MTWTF__	Protea Glen 11/12 - Sunninghill viaTshep	73.10
9372	05:45	0065 - 0009	_MTWTF__	Protea Glen 11/12 - Sunninghill viaTshep	73.10
9317	05:50	0065 - 0009	_MTWTF__	Protea Glen 11/12 - Sunninghill viaTshep	73.10
9177	06:00	0065 - 0009	_MTWTF__	Protea Glen 11/12 - Sunninghill viaTshep	73.10
9434	05:30	0068 - 0082	_MTWTF__	Protea Glen -4ways Mall via Ferndale/Randburg	54.60
9030	05:05	0077 - 0013	_MTWTF__	Protea Glen Term - Strijdom Pk via Klipvalley	53.20
9152	06:00	0077 - 0013	_MTWTF__	Protea Glen Term - Strijdom Pk via Klipvalley	53.20
9034	05:10	0073 - 0011	_MTWTF__	Protea Glen X11 to Eastgate7 Dartfield/Katherine	61.00
9076	05:20	0073 - 0011	_MTWTF__	Protea Glen X11 to Eastgate7 Dartfield/Katherine	61.00
9011	04:30	0164 - 0035	_MTWTF__	ProteaGlen - GalloManor via Kramerville	73.10
9437	06:00	0092 - 0029	_MTWTF__	ProteaGlen - Honeydew via Esso	48.20
9022	05:00	0164 - 0025	_MTWTF__	ProteaGlen - JHBGenHosp via Bara	45.70
9015	04:45	0164 - 0029	_MTWTF__	ProteaGlen - Kramerville via Woomead	61.00
9323	05:50	0164 - 0029	_MTWTF__	ProteaGlen - Kramerville via Woomead	61.00
9448	06:15	0164 - 0029	_MTWTF__	ProteaGlen - Kramerville via Woomead	61.00
9439	04:55	0164 - 0031	_MTWTF__	ProteaGlen - KyalamiPark	71.60

SOWETO SBU TIME TABLE TABLE

Putcoton

Effective Date: Date: 2016/08/10

Duties: ALL

Workspaces: Default 20160516

TIME TABLE AM 0000 HRS - 1200 HRS

Shift	Time	Route	Day	From To	KM
9435	06:15	0103 - 0030	_MTWTF__	ProteaGlen - Ruimsig via Klipvalley	44.20
9043	05:20	0371 - 0157	_MTWTF__	ProteaGlen - Sunninghill via PG8	63.40
9390	05:40	0164 - 0033	_MTWTF__	ProteaGlen - WoodmeadPicknPay	64.20
9416	05:00	0052 - 0106	_MTWTF__	ProteaGlen 11&12 - Kosmosdal	95.60
9013	04:30	0068 - 0086	_MTWTF__	ProteaGlen- Sandton via PG8	62.30
9360	05:30	0068 - 0086	_MTWTF__	ProteaGlen- Sandton via PG8	62.30
9412	05:20	0068 - 0078	_MTWTF__	ProteaGlen-Douglasdale viaStrydomPark	52.70
9408	05:00	0162 - 0001	_MTWTF__	ProteaGlenX11/12-RandburgviaMainReef/JanSmuts	61.40
9051	05:30	0073 - 0013	_MTWTF__	Silvertown - Benmore via Cresswell Pk/800	49.00
9200	05:30	0073 - 0013	_MTWTF__	Silvertown - Benmore via Cresswell Pk/800	49.00
9253	06:15	0073 - 0013	_MTWTF__	Silvertown - Benmore via Cresswell Pk/800	49.00
9126	05:50	0076 - 0005	_MTWTF__	Silvertown - Dobs SAPS Feeder	9.40
9226	05:45	0023 - 0017	_MTWTF__	Silvertown - Doornfontein via D Route Industria	32.60
9101	05:15	0023 - 0015	_MTWTF__	Silvertown - Doornfontein via Rte A Village R	33.10
9104	05:45	0190 - 0033	_MTWTF__	Silvertown - Kya Sand Via Dobs SAP	56.70
9165	06:00	0190 - 0033	_MTWTF__	Silvertown - Kya Sand Via Dobs SAP	56.70
9348	05:05	0077 - 0001	_MTWTF__	Silvertown - Strijdom Pk via Wescol	55.40
9250	06:30	0069 - 0037	_MTWTF__	Silvertown 2 - 4 Ways Mall via Ferndale	58.60
9385	07:05	0158 - 0029	_MTWT___	Silvertown 2 - Bara Feeder	25.70
9010	04:40	0158 - 0029	_MTWTF__	Silvertown 2 - Bara Feeder	25.70
9020	05:00	0099 - 0007	_MTWT___	Silvertown 2 - Bara via Feeder	24.80
9206	06:15	0271 - 0131	_MTWTF__	Silvertown 2 - Sandton City via Oxford	61.40
9162	05:50	0066 - 0011	_MTWTF__	Silvertown 4 - Bara via Feeder	21.00
9067	05:00	0158 - 0027	_MTWTF__	Silvertown 4 - Dobs SAPS Feeder	9.40
9036	05:10	0158 - 0027	_MTWTF__	Silvertown 4 - Dobs SAPS Feeder	9.40
9200	05:20	0066 - 0017	_MTWTF__	Silvertown 4 - Silvertown Feeder	1.60
9004	06:10	0009 - 0005	_MTWTF__	Silvertown 4 - Unified School	22.00
9113	05:10	0158 - 0033	_MTWTF__	Slovoville - Dobs 3 Feeder	6.50
9052	04:50	0064 - 0040	_MTWTF__	Slovoville-Kramerville via Diepkloof/M1	63.50
9148	08:20	0022 - 0008	_MTWT___	Steeldale Depot (Staff Bus) - Dobs Depot	37.80
9330	07:45	0052 - 0087	_MTWT___	The Boulders - Kosmosdal Shoprite - Feeder	11.60
9374	09:00	0022 - 0018	_MTWTF__	Uni-span Parking (Staff) - Dobs Depot	38.00
9299	09:30	0022 - 0018	_MTWTF__	Uni-span Parking (Staff) - Dobs Depot	38.00
4948	06:00	0047 - 0003	_MTWTF__	Van Bergen St - Rivonia via Braamfontein	53.50
9427	05:00	0052 - 0090	_MTWTF__	Vilakazi - Kosmosdal via Coronation	72.60
9366	05:15	0052 - 0090	_MTWTF__	Vilakazi - Kosmosdal via Coronation	72.60
9417	04:30	0070 - 0089	_MTWTF__	Vilakazi - 4 Ways Mall via Ferndale/Ranburg	43.60
9075	05:25	0070 - 0089	_MTWTF__	Vilakazi - 4 Ways Mall via Ferndale/Ranburg	43.60
9349	06:50	0072 - 0036	_MTWTF__	Vilakazi - 4 Ways Mall via via Maraisburg/N1	43.60
9230	06:30	0371 - 0135	_MTWTF__	Vilakazi - Ferndale via Maraisburg/N1	30.70
9041	05:15	0163 - 0033	_MTWTF__	Vilakazi - Kramerville via Woodmead	49.80
9114	05:20	0163 - 0033	_MTWTF__	Vilakazi - Kramerville via Woodmead	49.80
9192	06:10	0092 - 0019	_MTWTF__	Vilakazi - Laserpark Honeydew via Wescol/ESSO	39.00
9432	06:30	0103 - 0025	_MTWTF__	Vilakazi - Ruimsig	38.90
9182	06:05	0072 - 0033	_MTWTF__	Vilakazi - Sandton Cityvia Orlando East	56.00

SOWETO SBU TIME TABLE TABLE

Putcoton

Effective Date: Date: 2016/08/10

Duties: ALL

Workspaces: Default 20160516

TIME TABLE AM 0000 HRS - 1200 HRS

Shift	Time	Route	Day	From To	KM
9215	06:15	0079 - 0011	_MTWTF__	Vilakazi - Strijdom Park Via N1	42.90
9271	05:20	0371 - 0152	_MTWTF__	Vilakazi - Sunninghill via Oxford	52.40
9254	06:30	0371 - 0152	_MTWTF__	Vilakazi - Sunninghill via Oxford	52.40
9270	06:45	0371 - 0152	_MTWTF__	Vilakazi - Sunninghill via Oxford	52.40
9183	06:05	0007 - 0011	_MTWTF__	Vincent/Ordendaal Rd - Summerwood P Sch	48.80