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The social impacts of the Rea Vaya bus system on the residents of localities affected by the development: The Case of Rea Vaya in Moroka, Soweto

By

Student Name

Skhulile Ubisi

Submitted to the University of the Witwatersrand, Johannesburg, in the school of Architecture and Planning in 2016

DECLARATION

I, Skhulile Ubisi, declare that this research is my own unaided work submitted to the School of Architecture and Planning at the University of the Witwatersrand, Johannesburg.

……..

(Signature of candidate)

…….day of…….year……

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To the Rural Development and Land Reform which has been my financial sponsor from second year to date, I would not have been here if it wasn't for you. The Ubisi Family will forever be grateful for affording me this opportunity.

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ABSTRACT

The Municipal Systems Act 32 of 2000 makes provision for community participation – as a tool to uplift/promote democracy at local level – prior to the implementation of large scale municipal development initiatives directly affecting communities. Although this has been the case with the CoJ's Rea Vaya Bus Rapid Transit (BRT) system, much media and scholarly attention has been placed on the Mini-Bus Taxi (MBT) industry and the extent to which its main stakeholders (taxi owners and drivers) are being socio-economically incorporated in the system. Yet, little attention has been given to the concerned commuters and/or communities, particularly their concerns and suggestions about the system. Aimed at filling this gap – and thus giving the community a voice in the operation of the BRT - this investigated the implications of Rea Vaya for the residents of Moroka, Soweto. The study targeted both users and non-users of Rea Vaya; and categorised the community impacts into five themes - safety, mobility, visual quality and liveability, and accessibility.

Findings: Interactions with some residents of Moroka shed light on the actuality that in so far as Rea Vaya has socio-economically both its users and the Moroka community at large, the system is seen to be failing them. While the BRT stations, with their art (paintings, sculpture) and newly connected City WiFi system, have contributed to Moroka's aesthetic value and digital connectivity of the area to other places. As well, it was noted that the system has ushered in developments such as the park and ride facility, among others, which has created employment opportunities for some community members. Yet, seven years later, the Rea Vaya BRT system has not managed to provide a reliable and accessible alternative mode of public transport. The level of service – particularly the electronic system – appears to be failing many of the respondents, and the low area coverage was seen as a major setback. This has meant that taxis remain more accessible for the Moroka community. Moreover, the findings reveal that little community participation was conducted prior to the implementation of the transportation project – the interviewed participants revealed that they were not involved in the

determination of the routes that Rea Vaya would take - which has led to questions around who exactly the development is for: the government's or the community's. The findings indicate that even though the respondents appreciate the transformation of public transport in their neighbourhood, they have suggestions as to how its full potential can be realised and optimised. These results affirm that there is still more room for improvement in Rea Vaya in order for the system's potential and operation to be optimised.

Glossary: Key concepts

Bus Rapid Transit System (BRT):

"Is a high quality bus-based transit system that delivers fast, comfortable and cost effective services"

Rea Vaya:

Johannesburg Bus Rapid Transit system

Social impact assessment:

A process of assessing or estimating the social consequences that follows from specific policy actions or project development

Impacts:

Issues that affect people directly and indirectly

Community:

A group of people that share a set of similar characteristics and interests and live in a common area

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CHAPTER 1: INTRODUCING THE STUDY

1.1 Background: Introduction and Problem Statement

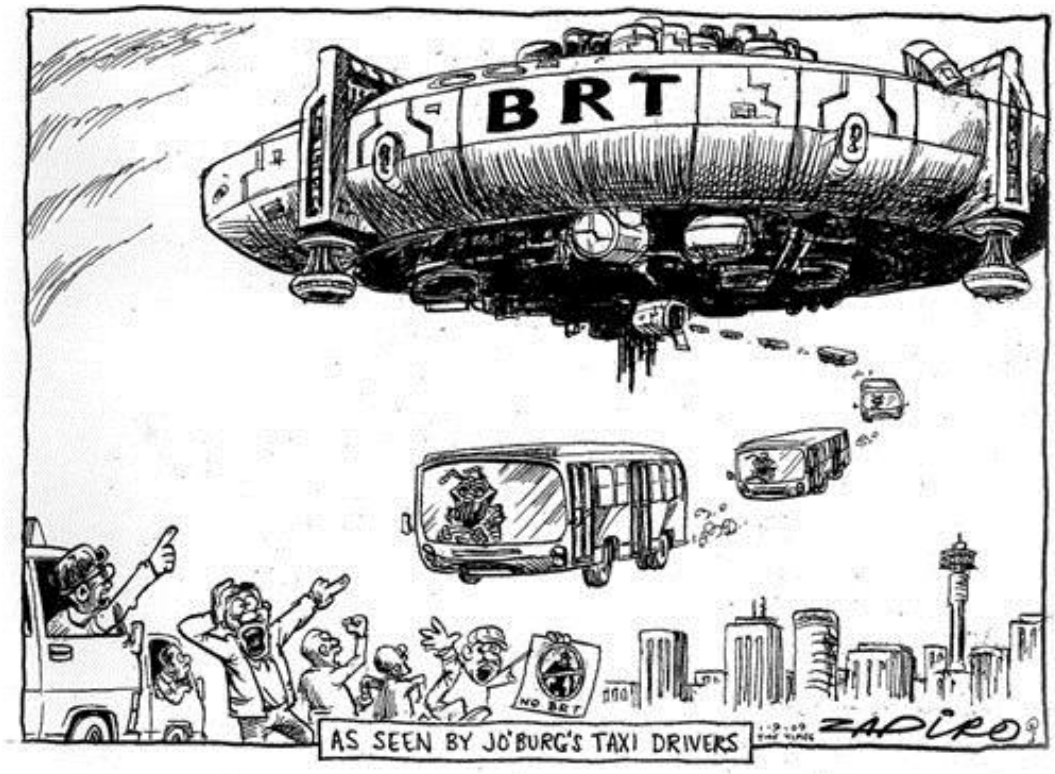

Figure 1: Cartoonic illustration of the Taxi industry's fierce opposition to the City of Johannesburg's BRT system

The cartoon by Zapiro (2010) above is a representation of the Mini-Bus Taxi (MBT) industry's unhappiness with Rea Vaya Bus Rapid Transit (BRT), a bus-based mass transit system introduced by the City of Johannesburg (CoJ) Metropolitan Municipality in 2009. In the image, the BRT project is viewed with suspicion and fiercely opposed by MBT stakeholders such as taxi drivers. Indeed, since its inception, the controversial R2 billion "modern system" (Zapiro, 2010) – completed in 2010 just in time for the FIFA World Cup – was initially under stress and was almost sabotaged following 'stay away' protests by taxi drivers and boycott threats by the South African National Taxi Council (SANTACO) (ibid; also see SAPA, 2009). The implementation of Rea Vaya initially received resistance from the general public, most notably the taxi operators, who perceived of it as a threat to their customer base and livelihoods, especially

since introduction of the BRT system meant the scrapping of more than 20,000 taxis (Rahim, 2014; SAPA, 2009). The image above sheds light on the controversies that large-scale transportation projects generate as well as the socio-economic impacts that these present for communities and/or existing transportation systems in big South African cities as well as other metropolises of the Global South.

Importantly, Rea Vaya has not been opposed by the taxi council on the basis of economic exclusion of the MBT industry. A careful consideration of the image above, particularly the positionality of the BRT project in relation to that of the taxi drivers, hints at the possibility that the implementation of the initiative was top-down in nature and involved little-to-no consultation of the taxi drivers, which may have been one of the major causes of the protests. This is indeed reinforced by SANTACO's initial calls for the bus system to be halted due to worries that "the government had asked the taxi industry to register its routes and then proceeded to place the new bus system on those same routes without consulting it" (SAPA, 2009). In response to the taxi industry's grievances, the City has gone to great depths to include the MBT community. These have included the provision of jobs to some displaced drivers and the incorporation of taxi associations in the Rea Vaya consortium. Not only does this point at the MBT industry as the "'nucleus' of the BRT system" (Radebe as cited in SAPA, 2009); it also begins to hint at the criticality of community consultation in (different phases of) development initiatives. A growing number of mega-cities in the developing world – Dar-es-Salaam, Lagos, Delhi, to mention but a prominent few - are introducing the BRT system as a viable means of public transport expected to meet world-class standards as well as deal with transportation challenges such as congestion and the apartheid legacy of spatial fragmentation. Yet, the system has more-often-than-not been marred by controversy in different contexts – it has usually been opposed and/or slammed by the general public and, in some cases, has had to be scrapped for its inconvenience. In Delhi, for instance, the city's first BRT corridor – which faced strong opposition from the start – has been dismantled following complaints around consultation and inconvenience to the general public (Janwalkar, 2016; Lalchandani, 2015). Lagos's first BRT system, which began operation in November 2015, is experiencing a very shaky start as its drivers and ticketers recently protested on the grounds that they are working under

unfavourable conditions and are not being properly remunerated (Adelaja, 2016). In the event of such disruptions to the bus systems, commuters and urban citizens in general are left stranded and without transport to and from places of opportunity, thus inconvenience. This has led to critical questions around the functionality and vitality of the BRT system in urban scholarship (see for example Sibiya, 2009; Mabena, 2010). Scholars are increasingly asking whether the BRT really is the best transport infrastructure investment available, and whether it can meet the demands whilst providing other benefits for urban residents (Sibiya, 2009).

The first phases of Rea Vaya, the first BRT system in South Africa, were concentrated in the previously marginalised sections of Johannesburg, as part of the CoJ's 'Corridors of Freedom' policy which seeks to stitch and integrate the city's socio-economically different sections. By so doing, the system sought to provide urban citizens in formerly marginalised areas such as Soweto with the most convenient and affordable alternative mode of transport (Rea Vaya, 2010). Nevertheless, the system seems to be viewed as an inconvenience by some – if not most – of its users, with many citizens/users having expressed their dissatisfaction with Rea Vaya on social space (Facebook and Twitter) as well as on the Rea Vaya webpage (see Figure 2 below).



[redacted] rea vaya is nolonger good,at first it was better but now is useless.at all stations they dont have single or return trip and they also offline.but they cant allow you to pass,and that is not our problem.they really dont have customer care.

Like · Reply · 1 Like · September 14 at 7:29pm · Edited



[redacted] we have been waiting for cards for the last 2 months what a useless administration hope herman fires all of u

Like · Reply · 1 Like · August 23 at 7:33am

[redacted] With the amounts of complaints...you would think there is something being done about it.

No smart cards? No day passes???have you seen the struggle for people to get to work because they entrusted you to be a solution for them. Service above self please....This is appalling service....

Like · Reply · 1 Like · July 26 at 11:20am · Edited

[redacted] I just want to ask if reya vaya can also oparate in mzimhlophe to meadowlands coz we walk all the way to ndlovene to catch bus there please do something to help us.

Like · Reply · June 10 at 9:04pm



Rea Vaya Bus Transit @ReaVayaBus · Sep 13

Which station did you experience this?

[redacted]

@ReaVayaBus what's wrong with the wifi?

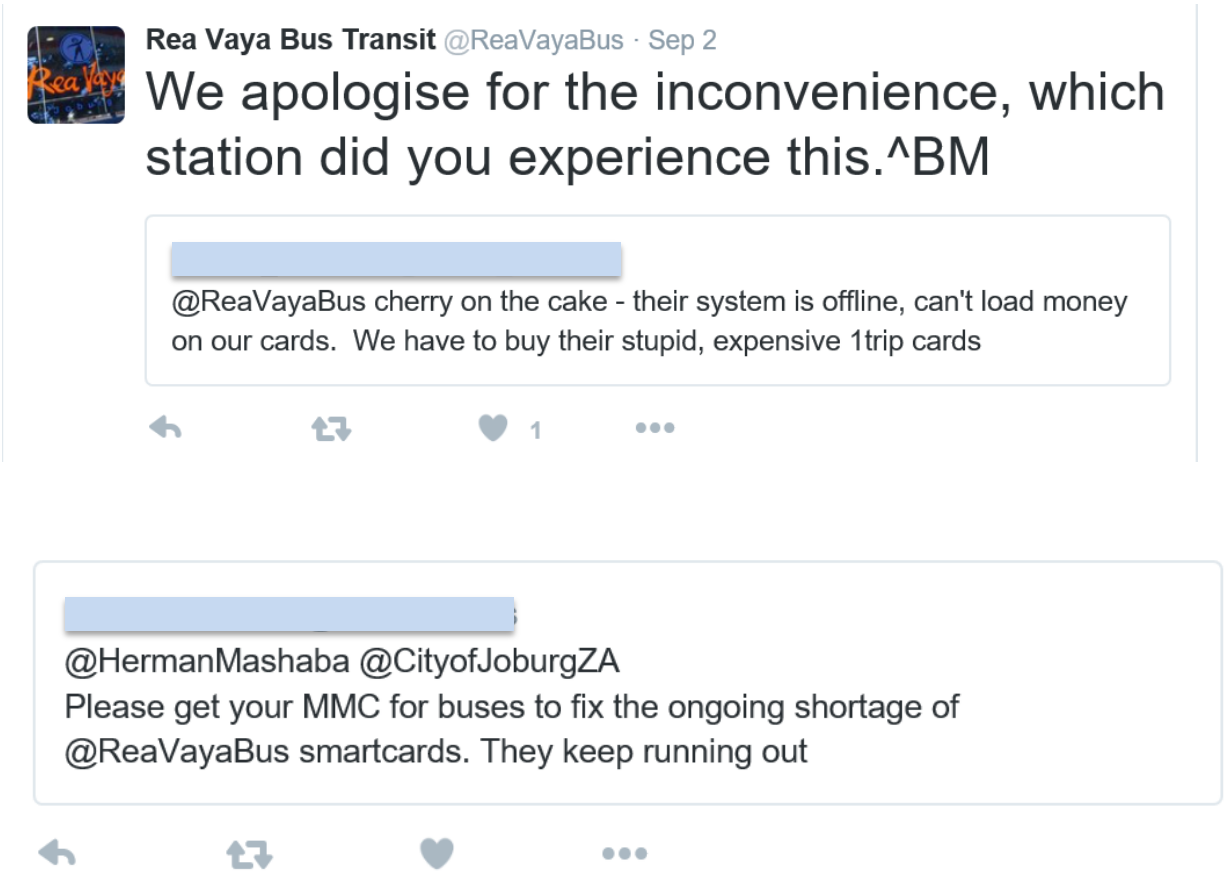

Figure 2: social media screen shots of Rea Vaya user dissatisfaction with bus service

The screen shots above (Figure 2) raise questions as to whether or not affected communities were consulted in the BRT's different phases. Customer dissatisfaction is mostly related to the service quality and customer care. It also seems as if the routes chosen do not favour / cover residents traveling patterns. For instance commuters complain that the chosen corridors are not within their area coverage and therefore have to walk long distances to catch the bus. Commuters are not familiar with the system and it seems that "incompetent" employees and malfunctioning equipment are worsening the situation.

In agreement, Sibiya (2009) and Mabena (2010) argue that there is uncertainty as to whether the BRT is the best public transportation solution for the Johannesburg context. Given that questions pertaining to the BRT's consultation of central stakeholders (taxi owners and drivers) have been raised, one wonders whether ordinary citizens in affected communities – in their

capacity as taxpayers and commuters - were adequately consulted and, if they were, the extent to which they were consulted. It thus becomes imperative to uncover Rea Vaya's negative and positive impacts on communities from the perspective of directly affected communities– a community perception of what is not being done right and how it can be improved. In the South African context – and perhaps elsewhere – as urban citizens are entitled to voicing their opinions on the operation of such transportation projects, it becomes crucial to explore the extent to which they are participating and/or are being consulted with regard to such matters. Furthermore, as the BRT model is increasingly being replicated by other big city governments in South Africa (cf. Tshwane, Cape Town, Ekurhuleni), it becomes important to unpack the lessons that Rea Vaya presents for other cities as well as how other cities can optimise the participation of communities directly affected by BRT developments (both users and non-users) in order to mitigate controversies and increase their BRT customer base.

1.2 Research questions

What are the social impacts of the Rea Vaya bus system on the residents of localities affected by the development?

The study was primarily concerned with exploring the benefits of Rea Vaya, a large-scale transportation project hatched by CoJ, on the urban citizenry residing in the areas/neighbourhoods directly affected by the development. In exploring these benefits, the study looked into both the negative and positive impacts of the project on the inhabitants of a neighbourhood that has experienced such a development (Moroka, Soweto) - users and non-users of the bus system. To guide the primary research question and thus give the study some depth, the researcher made use of the following sub-questions:

- *What general feelings/perceptions have been shared by the Moroka residents about the Rea Vaya System since its operation?*

Lindsay and Norma (1997) define perceptions as "the process by which organisms interpret and organize sensation to produce meaningful experience of the world". This means that a person is confronted with a situation, the person has to interpret the situation according to something he/she sees as being

meaningful based on experience. This also means that perception may not always be reality but merely how the situation is interpreted by an individual.

This question was asked specifically to find out from residents how the implementation of the Rea Vaya has impacted their lives. The emphasis was on revealing perceptions and opinions of participants. The questions asked were also meant to reveal the community's reactions, attitudes and feelings towards issues relating to Rea Vaya.

- *To what extent is Rea Vaya meeting the socio-economic needs of the Moroka residents?*

This research question was asked to understand the gap between reality (what is) and the normative (what should be) as seen and felt by the participants. This can range to a need for physical things such as bus stations or shelter to abstract things such as the need for efficient public transport. This question is also important in order to understand whether the government was well informed about the needs and the challenges that need attention in the community.

- *To what extent has Rea Vaya contributed to the aesthetics and personalisation of space in Moroka?*

It has been said that a transport project can affect aesthetics of a neighbourhood rendering it less desirable vice versa or reducing/increasing property values (Forkenbrock and Weisbrod, 2001). This research question was asked to understand whether residents think the transportation project or the bus stations have contributed to the desirability of the area and, if so, to what degree they think this is the case. This was also asked in order to understand whether residents have a level of connection with the Rea Vaya and whether they feel it has improved or diminished the character of the area.

- *How can participatory planning facilitate better consultation of urban citizenry in transportation projects such as Rea Vaya?*

Public participation, as argued by scholars such as khanya (2002), Naidu (n.d) and Dibakwana (2012) is one of the major factors that lead to a successful BRT performance. As

Becker and Vanclay (2003: 5) would note, it is imperative that transport decisions be influenced by affected communities on the grounds that “they know best what affects those conditions have on their lives, and including them in the planning process is more likely to produce plans that actually speaks to their needs" (Becker and Vanclay, 2003). Habermas’s (1984) conception of community participation describes public participation it as an environment where different stakeholder can deliberate and reach decisions without the act of external forces. However, various scholars enlightened us with various typologies and categories of public participation that revealed that the process of public participation can take many turns also revealing the works of power at play in decision-making. Johannesburg is also prone to these challenges as was seen from its Rea Vaya participation chronology on chapter 2 (refer to table 1). This points out to challenges faced by planners in having to finding ways to make participatory processes inclusive and all-encompassing and yield results that are satisfactory to all participants.

1.3 Aims and objectives

This study was aimed at providing an account of the social and economic impacts of Rea Vaya on communities, at least from the perspective of various community members in Moroka. The term community, in the context of this research, was understood as to a group of people that share a set of similar characteristics and interests and live in a common area (NHREC, 2012).Socio-economic impacts, in the context of this particular study, are understood to be changes in people’s way of life(in this case their mobility, interaction with each other and surrounding spaces)as well as changes in community (community cohesion, character, services and facilities).This conception of socio-economic impacts is inspired by Vanclay’s (2012) definition of impacts as any issues that affect people directly and indirectly.

The study sought to give an account of the benefits, direct and indirect, that the implementation of Rea Vaya has brought to communities in neighbourhoods such as Moroka,

Soweto. The study also sought to understand the limitations that Rea Vaya has placed on the community of Moroka as well as the factors that may be hindering the bus system from operating optimally. Consequently, the study sought to propose recommendations for how Rea Vaya's operation could be improved, which may ultimately increase the bus system's ridership in the said neighbourhood. The study is expected to contribute to debates on community perceptions of the implications of large-scale transportation developments and how they can be improved.

1.4 Rationale, relevance for planning

The socio-economic implications of large-scale developments are arguably most profoundly felt by communities who host such developments. That having been said, it becomes imperative to understand community perceptions in order to be aware of spill-over effects, and unintended effects of the Rea Vaya system on both users and the non-users in communities such as Moroka. Whilst Community Impact Assessments (CIAs) are more and more being incorporated in Environmental Impact Assessments (EIAs), EIAs have historically focused much attention on the natural environment; and little-to-no attention has been paid to the impacts of large-scale projects on communities (Flynn and Thole, 2012). As well, whilst there is a growing literature base on the impacts of large scale developments such as Gautrain and Rea Vaya on South African cities/see for instance Chakwizira, 2007; Bickford, 2015; Vaz and Venter, 2011 the literature seems silent on the subject of community perceptions regarding such developments. This research is necessary in the sense that it explores a subject that has not been delved much into before – views on large-scale transportation developments from down below and/or 'the ground up'. The study interacts with various residents of a neighbourhood affected by Rea Vaya (Moroka) to uncover and/or understand the impacts that Rea Vaya has had on populations' respective lifestyles with the changes it has brought with it. Perhaps what highlights the significance of this study is the fact that the BRT model is being 'replicated' by many big city governments in the country without a full comprehension of its complexities and effects on

ordinary citizens, and this could have adverse implications for governance, government and democracy/citizenship in such municipalities

1.5 Study area and Limitations: Moroka, Soweto



Figure 3: The Thokoza Rea Vaya bus station within Moroka. The red dot shows the location of the bus station. The green shaded area is Thokoza Park Source: Google earth

The research used the case of Moroka, Soweto because there have been multiple public-sector investments into the area. The improvement of the Moroka Dam and Thokoza Park are well-documented revitalization projects that have been praised for its inclusion of the community. The project has been praised as "…a showcase project to restore a Soweto dam and the adjacent park has rekindled community spirit among local residents" (JhbCityparks, 2015). The Rea Vaya bus rapid transit system is one of the recent notable road and transportation infrastructure investments directed into the area. It would be interesting to see how people are interacting with the spaces and whether or not the transport upgrade is considered beneficial by the community. The Thokoza Park Rea Vaya station was named after the rehabilitated

Thokoza Park opposite the bus station. The bus station along with the Park have become Wi-Fi hotspots which can be easily accessible by everyone without the use of a password. As a result of this, the park is often filled with people carrying gadgets such as laptops, smartphones and Tablets using the free WiFi to browse the internet.

The main concern of conducting this study was the sampling. Due to limited resources and time, only a small portion of the residents of Moroka were chosen to participate in the study. The sample size may not accurately represent all the views of the community although all are also part of the community and have knowledge of the subject to also provide accurate reflections. Three interviews were rejected from the collection of examined transcripts. The researcher discovered that interviews that were filled in by participants provided incomplete answers to question in the questionnaire and others simply did not understand the questions.

1.6 Desktop Study: Literature Review

The researcher first did a desktop study. This involved an extraction, integration and synthesis of arguments pertaining to the research topic from secondary data sources (book chapters, journals, policy publications and government documents and online newspaper articles). Formal literature such as book chapters and journal articles provided the researcher with a theoretical backdrop, which was useful in the drawing up of a conceptual framework for the study. From the formal literature, the researcher was able to identify arguments relevant to the study as well as the shortfalls in the literature, which ultimately gave the researcher a sense of the extent to which this particularly study could fill in the gaps. Grey literary sources (online articles, policy documents) gave the researcher a sense of familiarisation with BRT developments in South African cities and elsewhere, particularly the controversies and challenges that normally accompany such developments. Social media pages which include face book and twitter were used to get a sense of how affected communities/commuters are using these spaces to communicate their grievances to the city.

1.7 Research methods

This study is an impact assessment more than it is an outcome analysis. Whilst outcome analysis asks whether the implemented project achieves its objectives, impact assessment asks about any possible intended and unintended impact that has been caused by the project (Saratantakos, 2005). Given the fact that projects are meant to assist communities, Impact assessment studies are particularly important, as they are the only studies that give satisfactory results to questions about the usefulness of projects such as Rea Vaya (ibid.). Community participation is an important tool for community impact assessment in the sense that because communities form part of the biggest stakeholders in any development (Centre for Urban Transportation Research, 2000; Forkenbrock and Weisbrod,2001)

This study adopted a qualitative approach to exploring and understanding community perceptions of large scale developments such as Rea Vaya. At the core of qualitative research are both primary and secondary data collection methods. The researcher made use of primary research methods such as interviews. The study findings relied on observations, interviews and complements from relevant theories where necessary. The answers to the questions are analysed through Microsoft excel. The results are then presented in a form of pie charts. Information acquired was also utilised to cross-reference the conceptual framework identified in chapter two. The benefits of these data collection methods for the researcher are briefly discussed in the sub-sections below.

1.7.1 Interviews

The main source of data used in this study comes from empirical individual qualitative interviews using a standard questionnaire across the participants. Structured interviews were conducted with community members who included users and non-users of Rea Vaya. Participants were randomly interviewed and only interviewed upon their consent to form part of the study.

Respondents were asked 14 questions each. The questions were written in English, however at the beginning of the interview respondents were asked which language they are comfortable to be asked in. the researcher is familiar with multiple south African languages including Zulu, Swati, Tsonga, English and Sotho. Most respondents preferred that the interview be conducted in Zulu. Where the respondent did not understand they asked for clarification.

1.7.2 The researcher as a participant observer

As the researcher does not reside in Moroka, Soweto, the researcher travelled to the study area via Rea Vaya; and did this throughout the course of the fieldwork. Doing thus brought to light many unanticipated issues regarding Rea Vaya and its implications for BRT commuters. The researcher overheard discussions about the adverse effects of Rea Vaya on communities and sometimes partook in these discussions. Not only that, the bus rides enabled the researcher to establish a rapport with some regular BRT commuters from the study area who the researcher met on the buses on her numerous site visits. In a nutshell, the researcher was a participant observer not only in the study area but also on the Rea Vaya buses and stations on the way to the study area. . For instance the researcher also experienced the malfunctioning of the ticketing system first hand multiple times which then became raised by participants during the course of the interviews.

In paying particular attention to the vulnerable in the community, it is also important to apply the gender lens (Vanclay, 2015). A gender analysis is important as men and women are differently affected, however even men as women are not homogeneous and it is also important to acknowledge the diversity in experience of different types of women and men.

1.8 Ethical considerations

Once entering into the community, it was important to clarify my role; my student card was hung around my neck so it is clear where I am from. A participant information sheet was attached to the questionnaire to explain the purpose of this research and it relevance and to seek their agreement to participate in this research. In the sheet, contact information of the researcher was provided in case the respondent has any questions. The letter also assured the respondents that information deemed as confidential will not be disclosed and their names will not be revealed. Respondents were willing to participate in all questions Comments / answers provided for the last question when they gave suggestions as to how the system can be improved revealed to the researcher that perhaps many were as open as could have been expected. Respondents were allowed to diverge from the questions they were asked and were not interrupted/ discussing issues not directly addressed in the questionnaire if they felt this was relevant to the subject.

1.9 Outline of Chapters

The study comprises five. The content of the chapters is outlined in the five paragraphs below.

Chapter one sets the scene and tone for the whole study. The chapter introduces the study's background, problem statement, aims, objectives, research questions as well as the study's relevance for planning.

Chapter two is based on the integration and fusion of arguments emanating from different literature re the research topic – BRT development initiatives and the consultation / participation dynamics thereof. This literature is important as it helps understand the reasoning behind adopting BRT in Johannesburg. The chapter then introduces Johannesburg's public transport system from the emergence of mini bus taxis to the introduction of Rea VayaBRT its objectives and successes. The last segment of the chapter provides a conceptual framework which provides a frame into which the findings will be presented.

Chapter three introduces the study area and significant projects that were conducted in the area. It then goes on to describe the methods and techniques that were used to collect the data.

Chapter four reports the findings of the case study and start to point out some trends in the responses to the questions asked during the interview. In this chapter and analysis and interpretation of the results is also provided. The conceptual framework is used to interrogate the case study's findings of chapter four; here an attempt is made to marry theory and practice.

Chapter five concludes on report findings through an attempt to see whether they research question and sub questions were answered or not. Recommendations are then brought forward and concluding remarks are made.

CHAPTER 2 - THE B.R.T. MODEL AS A TRAVELLING CONCEPT: DYNAMICS, MECHANISMS AND SOCIO-POLITICAL IMPLICATIONS

This chapter collate different arguments that have been presented by scholars on 'travelling' transit-oriented models such as BRT – its origins, the rationale behind its adoption in several cities, the participation and political dynamics shaping its implementation as well as its socio-spatial and socio-economic impacts on urban citizens in big cities at large. As the BRT model is relatively new in South African cities, there is not much literature that talks to consultation/participation as it relates to the model (save for many newspaper articles reporting on the initial exclusion and incorporation of the MBT industry in Rea Vaya decision-making processes, some of which were reviewed in this study). As a result, much of the reviewed literature drew from international city examples where the BRT model has been in operation for approximately 40 years and is more established and has arguably more evident implications. Not only may this present important lessons for the CoJ's transport department on the impacts of Rea Vaya on communities; it may also present crucial policy implications for other metropolitan cities and secondary cities aspiring to replicate the BRT model in their respective jurisdictions.

The rest of the chapter comprises six sections. The next section presents BRT developments around the world and its significance to development in the global south. The second section covers different concept and typologies of public participation and how it manifests in local decision making. A broad overview of the influence of public participation in the formulation of BRT policy in different cities is also provided. This section leads to a discussion about the issues of power in decision making revealing the unequal distribution of power between different stakeholders. The fifth section presents experiences of BRT from different cities around the world; highlighting components that are relevant to the study. He sixth section presents the Johannesburg history with regards to transportation and what led to them adopting the Rea Vaya Bus system as a viable means of public transport. Rea Vaya and its intended benefits and objectives are presented in this section. The last section draws a conceptual framework from

the literature review: presenting factors and processes that leads to successful project formulation and implementation further leading to social benefits.

2.2 Global BRT developments

Cities implement BRT systems due to their context-specific demands. The BRT systems are adopted to meet the travel demands and mobility needs of a particular corridor. Thus, "[t]here is no one size one fits all BRT"(Carrigan et. al, 2013: 15). Globally, BRT systems range from very high-capacity to low volume corridors. Bogota's TransMilenio BRT system is classified as a very high-capacity BRT with "a passenger demand of 1.98 million per day" (Carrigan et al, n.d.), while Mexico City's Insurgents is classified as a medium-capacity BRT with a passenger demand of between 600,000 and 800,000 per day. BRT systems in Johannesburg and Paris, on the other hand, are classified as low-capacity systems with passenger demand of less than 70,000 per day (BRTdata, 2013).

BRT has become the new buzzword in most developed and developing countries. Figure 4 below illustrates the distribution of BRT systems around the globe by country as of 2013 (BRTdata 2013). Most of these systems were built over the last 15 years. The City of Curitiba in Brazil had its first BRT system running from 1974, whereas Bogota in Colombia had its BRT system running from 2000. These two cities' BRT projects have become golden models for many cities across the globe. According to BRTdata (2013), approximately 143 cities were in the process of constructing 1,000km (new and expanding) BRT corridors. The BRT has become an efficient transport solution to addressing transport and environmental challenges such as urbanisation, high-car dependency, and climate change. This is because it can be implemented at a short period of time on a big scale and with less fiscal investments compared to metro rail (Carrigan, n. d.). The BRT is also adopted with expected environmental benefits; what has been more important for cities is to attract motorists than those who used conventional buses or rail transport (Bickford and, 2015). Nonetheless is also regarded as being multifaceted playing an

important role in urban development by providing access for people to education, markets employment, recreation, health care and other key services (Berline, 2013).

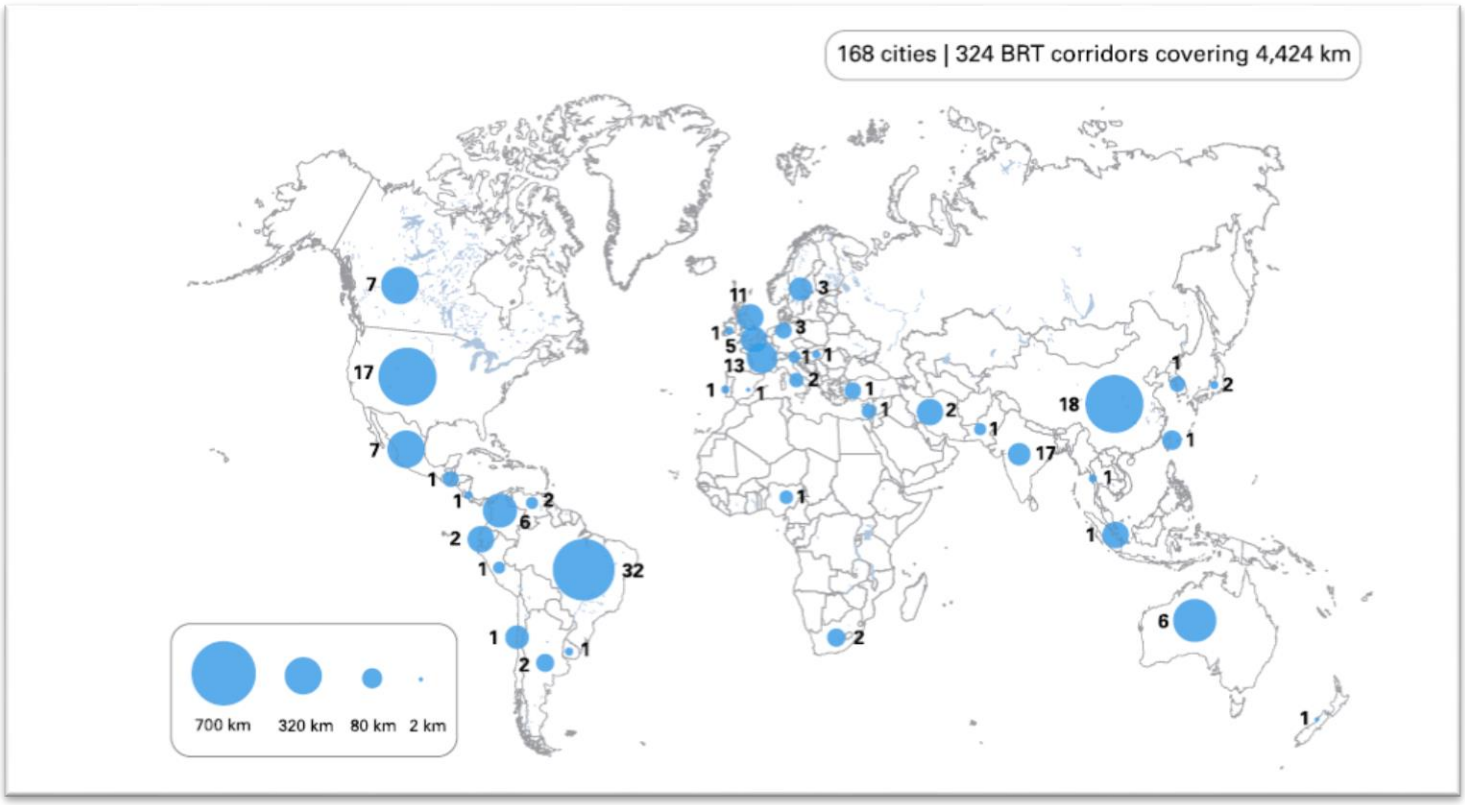

Figure 4: World map of BRT systems, by country and route kilometres

Source: BRTDATA (2013)

Since the inception of the BRT system in Brazil's Curitiba, the BRT model has become a travelling concept, having been adopted by metropolitan cities in both developed and developing world contexts as a suitable public transport mode due to its associated mobility, environmental and financial benefits (see Figure 4 above). Yet, in so far as the system has been beneficial for some cities, it has not been without challenges. The benefits and challenges are discussed in this section under the five criteria identified as the determining factors of the BRT's functionality.

What is interesting about the BRT model is that it originated in the Global South – or developing countries, particularly in Curitiba (Brazil) – and then spread to other Latin American cities and cities of the developed countries (American cities, to be more precise). Why is this interesting? It is different in the sense that most models that get to be replicated are conceived in the Global North, and then get to travel down south (such as the Improvement district model, the gated communities', the rapid rail link and/or subway model as it is called in the USA, etc.). That not only shows that all development initiatives emanate from the West, it also then points to the possibility (if not actuality) that urban processes/developments in the South can no longer be judged from the standpoint/theory emanating from the west only.

2.3 Public Participation

Public participation is defined by Dibakwane (2013) as" processes in which individuals, groups and organizations have the best opportunity to participate in making decisions that affect them or in which they have an interest ". Literature on public participation suggests that public participations main emphasis is on the need for stakeholders to share and deliberate different views and opinions in order to influence decision making. The ASALGP (2005) says that public participation is important for the public to engage, plan and decide in the development and running of service that affect their lives (ASALGP, 2005). It is important for collective decision making in order to minimize resistance and delay of projects. Local disruptions and resistance in South Africa take the form of 'invented spaces' – violent protests which often result in the destruction of public facilities. Such protests usually result in the incurring of exorbitant costs on repairing unanticipated damages, especially since "the costs of rectifying social and environmental impacts of development are borne by the public sector, not by the corporations that created them" (Burdge and Vanclay, 1996).Burdge and Vancaly (1996) therefore says that ultimately public participation benefits all stakeholders in development.

2.3.1 Classifications and Typologies Public Participation

According to Becker and Vanclay (2003); Smith (1994); khanya (2002) agree on four reasons for conducting public participation, First to fulfil a legal and policy requirements of the country to consult stakeholders for input and to promote democracy. Second, to promote development that is responsive to local needs and conditions, third to promote transparency in decision making and also had over responsibility to the locals. Lastly, participation may be conducted to empower the public in order to delegate decision making power to them. The world bank (1994) also support these reasons by further saying that the process of public participation should enable stakeholders to be owners over developments, initiatives and resources that affect them.

Pateman (1970) presents three different categories that define participation in the work place. The first category is the pseudo (false) participation, this refers to spaces of communication that conduct participation to make people believe that they are participating while in-fact they are supporting the decisions that have already taken by the state or the powerful. The second category is described as partial participation, this refers to a situation where stakeholders are made to be part of the decision making process but the final power lies with one party.

The third category is described as full participation, in this situation Pateman (1970) says that all involved stakeholders have equal power to influence the decision making process and decide on the outcome of the decision. This category can be equated to Habermas (1989) notion of communicative planning approach. Habermas uses the phrase 'ideal speech situation' to describe the forum created by practitioners where different interest take part in undisturbed communication in order to reach a consensus concerning goals for, and formation of the planning process without distorting to power and violence (Habermas, 1981). Unlike the first two categories, in this situation what is rational is not decided prior deliberation but rather as an end product based on the argument in a real dialogue. Habermas notion of communicative

planning was much appreciated but also criticized as it did not appreciate factors that can distort communication which include symbol, action and inaction, image and other body languages (Booher and Innes 2002).

Researchers like Arnstein (1969) have developed typologies of public participation bringing to our attention the different levels of participation in community projects see figure 5. “These typologies provide different levels of public participation ranging from the strong public participation characterized by bottom-up decision making process to the weak public participation characterized by the top-down decision making process"(Mngoma, 2010:15). A brief description of each level is given below

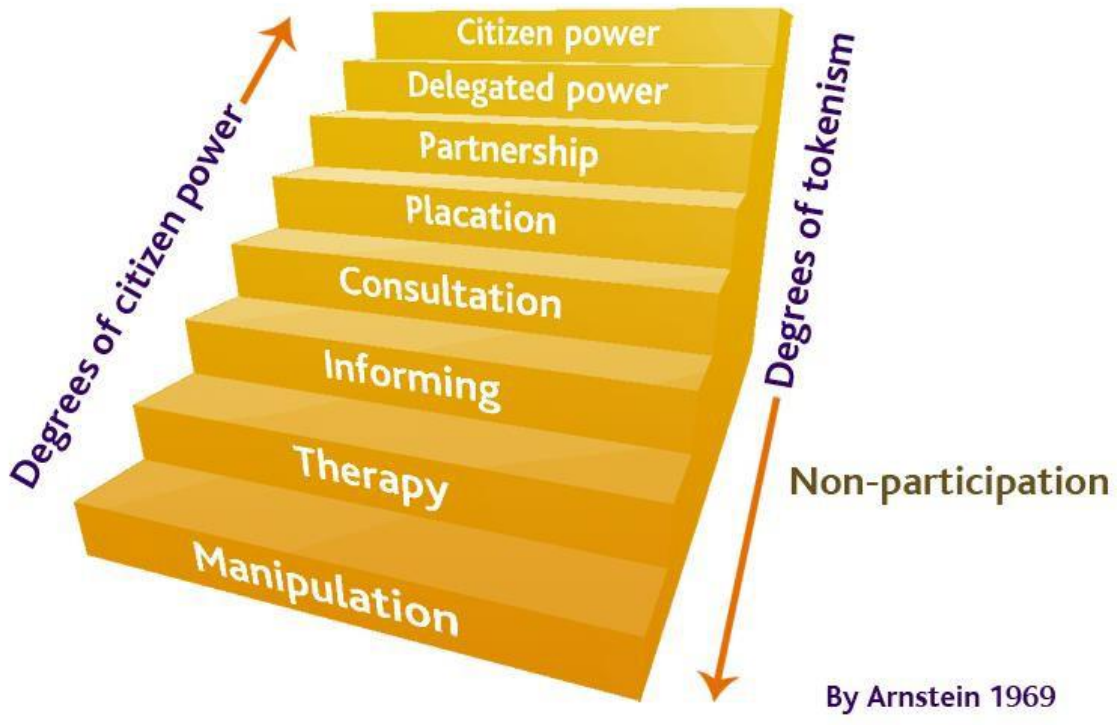

Figure 5: Arnstein Ladder of Participation

Citizen control: The public has power to make decision without the influence of external institutions to govern a program or institution. This can also be equated to Patemans (1970) category of participation-full participation

Delegated power: The public is given some power and dominates decision making processes while the government runs and funds the decision making process. Even though the processes are funded by government, the people decide on how to allocate or use resources.

Partnership: In this regard both the public and those in power are involved in negotiations. Usually the final decisions are made by having an agreement from all parties involved.

Placation: The community is made into thinking that they are part of decision making whilst the process is done to satisfy them (the public) with the claim of promoting participation. In this level the powerful does not care whether all members affected take part in the negotiation process.

Consultation: The public is asked for opinions on certain issues, with no promise that the opinions will be considered. However in most cases the public is consulted when major decisions would have been taken by those in power while the process is merely to fulfil project or legislation requirements.

Informing: The public is informed about the proposed or already decided project. This is done through public meetings, the community may be given an opportunity to say their views but they will not be taken into consideration.

Therapy: The public is told about what has already been decide on or has been implemented. It happens in a form of announcement without giving people the opportunity to give their opinion

Manipulation: The representatives that are in communication with the public have no power whatsoever but follow already set agendas by those on top. Mngoma (2010:26) simply says that "Participation is simple a pretence".

2.3.2 Participation for what? For who (m)?

This section revealed that public participation holds different meanings for different folks in different disciplines. However all scholars acknowledge the fact that in practice most of the times public participation is used 'aimlessly' and/or in a piecemeal fashion (i.e. it's just used to just give the impression that people are participating when in real fact they aren't).

In South Africa the citizens get involved through three levels of public participation in local government (Hemson, 2006). First, the public gets to participate as voters in municipal elections. Second, the public gets to be involved in community structures such as "ward committees, izimbizo (traditional consultative meetings) and municipal integrated development planning (IDPs)". Third, participation in community movements and public policy formulation and implementation through protests, memoranda and setting up of local community structure" (Naidu, n.d).

The spaces, bodies created to promote public participation have not managed to transform the nature of governance (Naidu, n.d). From the work of Naidu (n.d) it shows that community committees have only become the face while there are external decision makers who make the actual decisions. Dibakwane (2013) also shows how even community meetings are not effective in given citizens the voice in decision making instead power is used to manipulate community meetings to favour the needs of the state. The challenge here seems to be with dealing with issues of power and politics.

The typologies reveal that there is a difference between involvement and influence- being involved in a process is not equivalent to your voice having influence of decision (Cornwall, 2008). Pateman (1970) and Arnstein (1969) typologies of participation shows that participation can also be conducted just to inform, consult citizens about proposed developments without even taking into consideration of their voices.

Benit-Gbaffou (2009) argues that there is lack of participation approaches that promote the inclusion of marginalized groups to be influential in decisions that affect their lives. While the government can make claims that they involved the public, this may mean talking to a few people or community leaders. And also finding that public meetings are attended by the most active citizens in the community or set to be taking place at a time where most members of the community are not available.

Ultimately all the scholars highlight that participation is about power and control, with those who are on top dictating the extent citizens / the public can have their opinions in local projects. It is clear from the typologies that basically power is used to define rationality (flyvberg, 1998) and those that have resources, skills and knowledge are more likely to get what they want.

The typologies also highlight the use of participation to legitimize government decision, or as a means to fulfil policy or legislation. Pope (2000) cautions that public participation should be done to promote good governance. Rosener (1978) also supports this by saying that the process of public participation should be done correctly because it has the ability to enhance decision making processes, promote transparency and trust on the government while distorted participation processes impend on the integrity of democracy and the government.

Swanepoel (1992) argues that there is no other stage/ phase for involvement other than right at the start. Project phases range from the conceptual, construction, operations and maintenance. Burdge and Vanclay (1969) supports this by saying that it is important to conduct public participation in all stages on the development not only keeping citizens 'in the loop' but also obtaining their feedback for use in the 'tweaking' of policies/drafts/proposals.

This, to some extent, highlights the importance of understanding the community context prior to commencing any transportation project as well as during the different phases of such development projects. This can help transport practitioners to decide holistically, critically and systematically with regards to the Rea Vaya transportation project (Hertel and Lane, 2011).

2.3.3 Participation in BRT projects

From literature concerning impact assessments it seems that they are rarely conducted after the implementation of BRT Whether citizens were consulted prior implementation and whether they are happy with the introduction of the developments and change in image of their neighbourhood. Instead many studies focus on assessing the potential impacts of BRT rather than of current impacts (Rwenyagira, et al., 2015; Centre for Urban Transportation Research, 2000; Graf, 2011). In this they compare situations of implementing vs. not implementing the project to find alternatives and mitigation measure to the problems or challenges that might occur if implemented.

Mabena (2010: 27) finds that the "success rate of the BRT is mainly associated with final results as evaluated by customer satisfaction." This observation is in line with Telford's (2012) argument that the objectives set by the government with regards to Rea Vaya can only be verified by the citizens or communities themselves who are directly affected.

The C40 Cities Climate Leadership Group (2014) emphasis that good planning and successful implementation comes after extensive and continuous public participation (that is from project

formulation, implementation and operation) having Metrobus, Mexico as their example. Stating that "it's important to get BRT off the ground, ensure buy in and commitment to the project" (C40 Cities Climate Leadership Group, 2014: 12)

The success of BRT systems such as the Trans-Mileno and that of Curitiba was made possible by strong political will, effective planning and maximum public participation in planning and implementation (Dibakwane, 2013); Rwenyagira, et al., 2015). The C40 Cities Climate Leadership Group (2014) reveals that the success of the *Rio de Janeiro TransOestem BRT was only launched in 2012 and already transports* 120,000 Passengers per day (and Now up to 185,000 per day). This is said to be due to the "strong, strong and continuous" stakeholder involvement- feedback from one phase to the next was important to make improvements and increase customer satisfaction.

Yet, a look at the policies, documents and frameworks of Rea Vaya, according to Mabena (2010), reveals that public participation is articulated in the Rea Vaya policies and documents however its operationalization, at least in principle, is blurry. Dibakwane (2011), in his interaction with organisations such as the South African National Civics Organisation, South African Transport and Allied Workers Union, South African Commuter Organisation, South African National Taxi Council and South African Bus Operators Association, comes to the realisation that there seems to is little evidence pointing to the extent to which the public was involved in the decision-making of the bus system. The study (Dibakwane) also points out to the fact that the deadline of the 2009 confederations cup and 2010 FIfA world cup soccer tournaments led to the haphazard and flawed participation. In an interview with (Dibakwane, 2011) on the 22 November 2012, a COJ representative stated that "The tight time frames for BRT implementation in Johannesburg had a serious impact on the project. In certain instances we were labelled all sorts of things by the taxi industry and other stakeholders but our goal was to make sure that we prepared a transport system that would make this country proud about hosting the World Cup soccer tournament in this city".

This is unfortunate as the planning profession is aware of just how vital public participation is to the success of a project, especially one that is concerned with development issues. Sibiya (2009) laments that the lack of public participation is due to the manipulation of power by politicians who tend to have more power in the decision-making and implementation of plans.

The inadequacy of public participation in decision-making is considered unsustainable and can consequently be detrimental to development.

In light of the possibility – if not actuality - that the communities affected by Rea Vaya have had little influence in the crucial decision-making processes pertaining to the bus system's construction and operation, it becomes interesting, and indeed important, to conduct this study in order to understand whether or not the decisions of the local state have been accepted by the community and considered beneficial by the community. The success of various BRT above presents lessons for the (case) study, lessons pertaining to what is currently – or has been – done wrong in consultation processes and what Rea Vaya stands to learn from the different international cases (especially seeing as it is expanding to northern suburbs such as Sandton).

2.4 Power and Decision making

Gasper (2000) notes that the issue of the influence of power in planning decisions is rarely discussed openly. Flyvbjerg's seminal book, *Rationality and Power: Democracy in Practice* (1998), brings to our attention the struggle between power and rationality in current democratic societies. Using the Aalborg project of Denmark - where different stakeholders were attempting to reach an agreement on how to rejuvenate the downtown part of the city – Flyvbjerg (1998: 321) observes that whereas the focus of the project was "urban renewal, land use, traffic, and environment", over time the original goals of the project took a completely different direction by deviating to goals leaning towards the business sector. Stakeholders such as the local municipality and community had little influence on the outcome of the project as most of the benefits were yielded by the business community. In agreement, Gasper (2000) argues that "the outcome of the project was made by too few and the wrong parties." The Aalborg case reveals the relationship between power and rationality - it explicitly demonstrates that power defines rationality in the sense that power is used by the business elite to influence the state to distort democratic decision making. Thus, according to Flyvbjerg (1998), power

relations are constantly being reproduced in order to redefine rationality and only those that are knowledgeable/ learned and determined end up benefiting from decision making processes.

2.4.1 Transport Projects Decisions

As transport is crucial for development, transport decisions need to be made with careful consideration of the effects (Spit, 1976). According to Anderson (2004: 4), decisions are taken in reaction to a specific problem in the environment". Since public policies are meant to be problem solvers; they need to be done with careful deliberation and after a thought process. In a rational democratic society such as South Africa, it is assumed that government decisions are made to benefit all the public sector institutions. Thus all decisions made require a political process; and the public has to take part in the process to promote general welfare (Promoting general welfare requires balancing between people's concerns and interests as well as eliminating any dominating powers. This is perhaps best summed up by Moyake (2006: 36) who states that, "[t]o justify an action as being in the public interests, it must serve the ends of the public rather than just those of some sector of the public." However in practice we find that every planning decision cannot rid itself of power dynamics and politics, including development decisions such as those of BRT.

Different decision makers, including planners and politicians, perceive transport problems differently. Kane (2002: 4) argues that the transport planning exercise is a normative one "where the underlying values of those involved in decision making will surface in the policies and projects within adoption." This basically means that the outcomes of the problem will be influenced by the normative positions of the decision-makers. This is because those who are in power have their own values and perceptions; and even though they claim to represent the citizens, their personal values may cloud their judgment and influence decision-making (ibid.).

Dimitriou (1990) outlines different perceptions held by planners by indicating that transport planners often view "urban transport problems more in spatial and physical terms" (1990: 71). This means that physical planners assume that transport plans are a way of improving the

urban citizens' quality of life as well as exposing people to more opportunities, which could subsequently improve their livelihoods. Politicians also hold their own views which are different from those of planners. They see transport plans as a way to introduce modern developments and a more sophisticated transport solution (Dimitriou, 1990). Politicians are often the majority power holders and have more influence in decision making than most stakeholders.

The case of the planned bicycle lanes by the city of Johannesburg reveal issues of power and decision making. The project was planned for the city of Johannesburg suburb and townships of significance being Alexander. Upon his appointment for mayor of Johannesburg in 2016 local government elections, Mr Herman Mashaba discovered that the city has set aside 70 million for bicycle lanes around the city and Alexandra. The new mayor said that he feels that the project should be put on hold as there are other things that need to be done. Mr Mashaba says that people of Alexander need other basic services and poverty alleviation measure and bicycle lanes come secondary. The bicycle lane project was aimed at giving alexander citizens safe and cheaply access to Sandton business district. As a defence for this project Gauteng transport MEC Ismali Vadi maintains and pleads with the mayor not to abandon the project by saying that in fact this is also a poverty alleviation strategy as it will reduce costs of travelling for Alexander commuters, reduce pedestrian fatalities and also reduce carbon emissions (www.timeslive.co.za/local/2016/10/03/Gauteng-transport-hopes-to-change-Joburg-mayor's-mind-about-cycle-lanes). From this case the new Mayor does not view the introduction of bicycle lanes as poverty alleviation. One wonders what methods or data was used to determine which project would be suit the community of Alexander. Whilst former mayor Parks Tau saw this as a poverty alleviation strategy for the people of Alexandra, Herman Mashaba only having less than a year in the mayoral seat tends to disagree (http:www.iol.co.za/the-star/mashaba-vast-majority-of-joburg-bikes-riders-are-poor-2071748).

This sections show that there has been an increasing recognition for the need for public participation; prior policy implementation or formulation a platform is given to different stakeholders to engage in issues that should be addressed to promote development. However

those that are skilful enough (that is this and this) tend to use these participation structures as a crude mechanism to legitimize their actions and render these structures invalid. In relation to the Rea Vaya, it can be important to ask what research, analysis or technical data was considered the most when proposing for the Rea Vaya and ask ourselves whether the controversies related to BRT are a direct result of decision-making dynamics of the bus system. In this debate there is also the issue of the different needs of stakeholders- here it is shown how urban planning is influenced by different stakeholders and the needs of certain stakeholders tend to be traded off or overlooked in favour of others. A question can then be posed to the urban planning community as to whose interests they should serve; whether those of the public who seem to be overpowered by other stakeholders in decisions that affect their lives, their political employers or fulfil their professional obligations? Or better yet whether there are mechanisms and approaches in place that can assist planners to better serve the interests of different stakeholders. The discussion around power also bring to our attention that whereas it may seem like the government has more power it also seems like the private sector/ business can be said to have more power as they influence and control the behaviour of the state- business people, by virtue of the fact that they have a lot of money, hold all the power and are highly likely to hog it by co-opting the state and making it swing in their direction. Flyvberg (1998) calls this "the hidden exercise of power by the business elite and the protection of special interests by the state" with the state being viewed by the public as the most powerful organ in development matters.

In the case of the Rea Vaya it is not clear whether the decision to adopt the Rea Vaya is oblivious to the metaphysical/intangible factors such as quality of life/health/citizens' wellbeing or tangible factors such as changing the face of townships by introducing a modern transportation infrastructure development. This is because the Rea Vaya has been labelled as a modern

2.5 Bus Rapid Transit System (BRT) Experiences

The bus rapid transit (BRT) system is defined by the World Research Institute (2012: 5) as "a high-quality, efficient mass transport mode, providing capacity and speed comparable with urban rail (light and heavy rail)". It is achieved through segregated right of way, excellent customer service, rapid and reliable operations (ibid.). The performance of the BRT system can differ significantly depending on the design of the system, the context within which it was being implemented, and the level of integration with other modes of transport. For example, corridors with dedicated bus lanes increase the ability of the bus to transport more passengers per hour compared to a corridor with bus priority lanes which also permit other modes of transport to drive on it (Vanclay, 2012). The growing number of people using the BRT and its benefits highlights the success and effectiveness of the BRT in cities such as Bogota.

A review of various topic-relevant pieces of literature brings to light some of the principles and/or keywords featured in its definition which, in turn shed light on the normative principles of the bus system: safe, reliable, high speed and services, affordable, accessibility, flexible and efficient (see for example Cevero, 2013; WRI, 2012; Wright and Hook, 2007; Venter and Vaz, 2011). These are discussed in this section

Figures 6, 7 and 8 below show the benefits of BRT for Bogota's TransMilenio, Mexico's Metrobus and Johannesburg's Rea Vaya respectively. In all three mega-cities, the segregated bus lanes allow for buses to achieve high operational speeds and therefore reduced travel times. Travel time impacts were also associated with the station platforms which allow commutes to board on bus quicker, and the multiple bus doors which allow more people to board into the bus at a limited time.

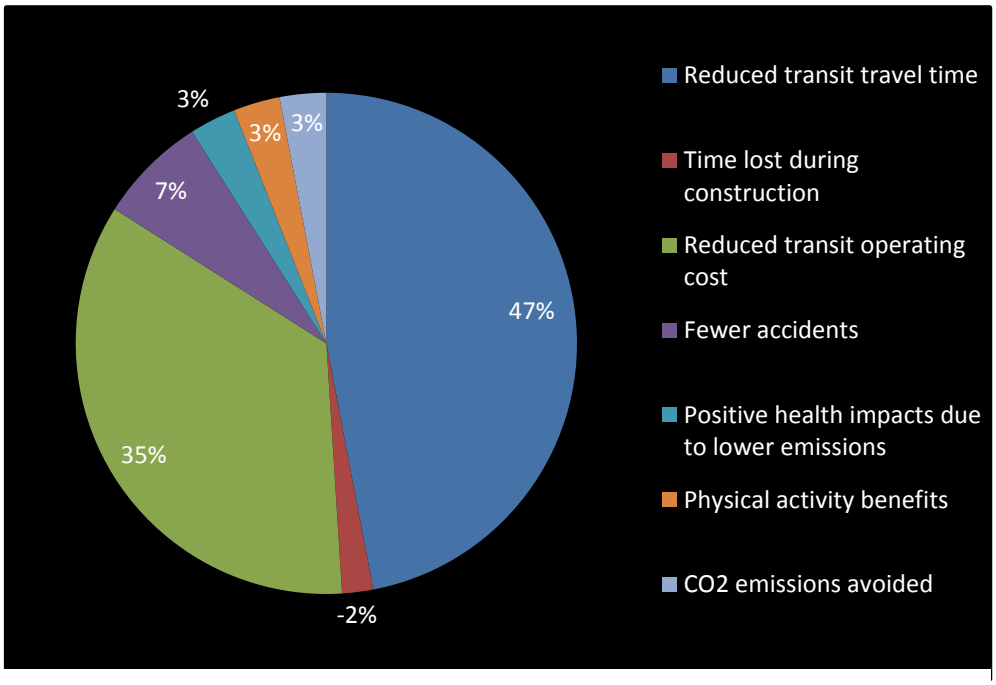

Figure 6: Benefits of Curitiba TransMilenio (Source: EMBARQ, 2013)

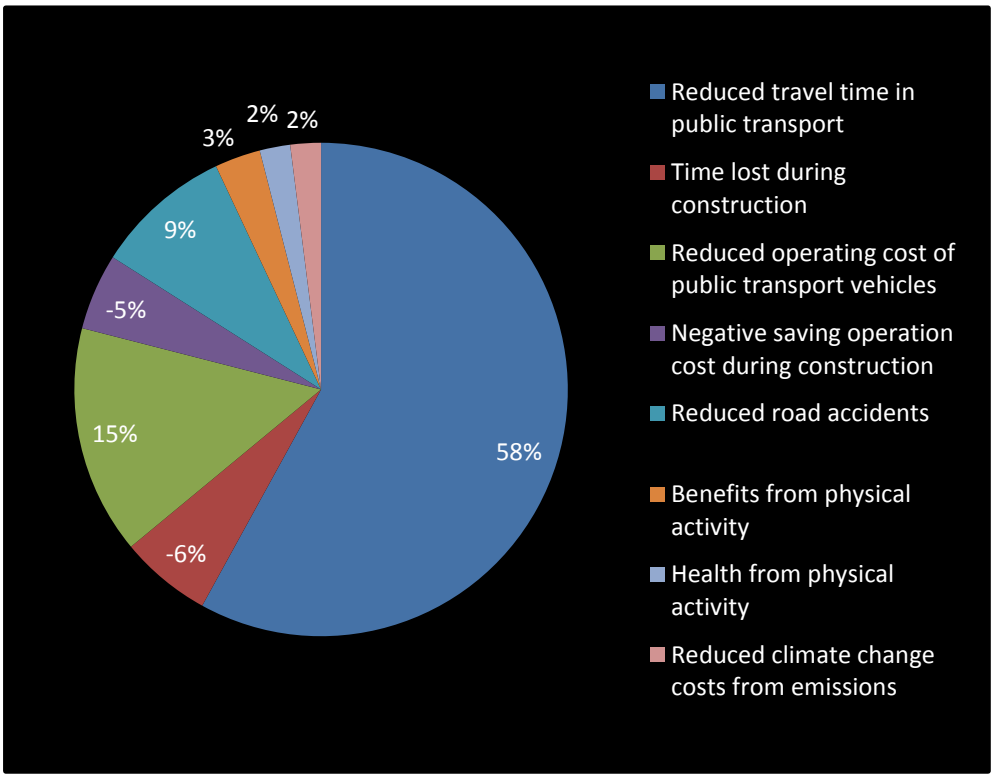

Figure 7: Benefits of Mexico City's Metrobus (Source: EMBARQ, 2013)

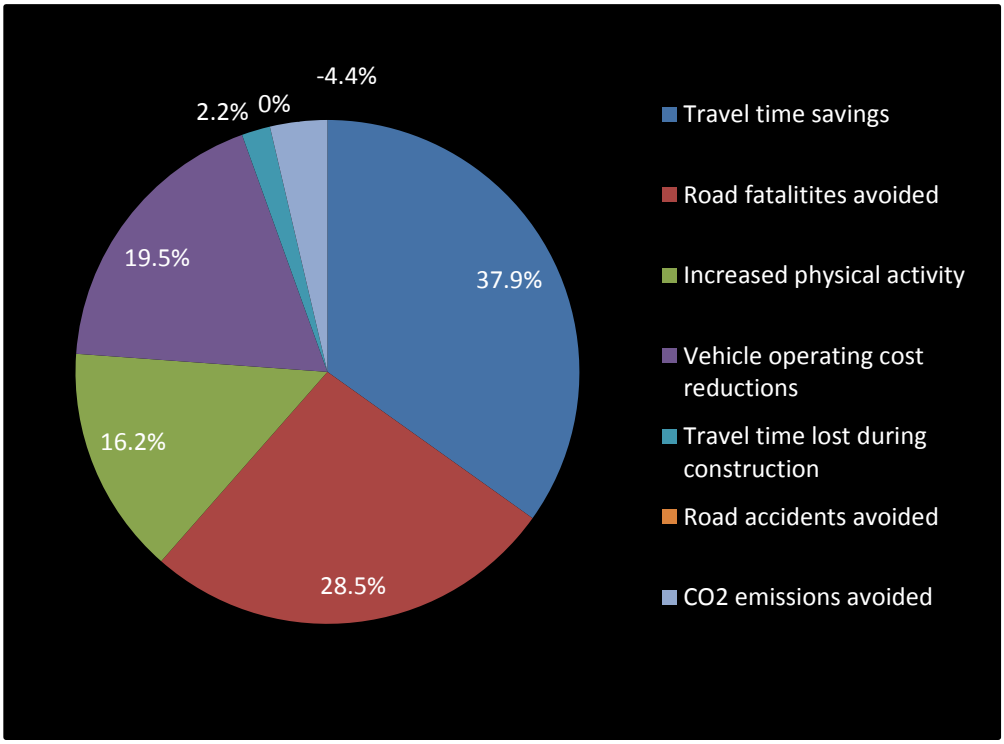

Figure 8: Benefits of Johannesburg's Rea Vaya (Source: Venter and Vaz, 2011)

The implementation of BRT was also considered as costs saving for traditional buses that were removed from the road following the implementation of the BRT. A study conducted by BRTDATA.ORG found that the traditional buses were in excess and operating at a loss. For Johannesburg, about 1.4 billion was saved on scrapping the 585 minibus taxis. Other benefits include reduced Carbon Dioxide emissions and positive health (Venter and Vaz, 2011: Berline, 2013).

According to Cervero (2013: 9), "mass transit needs mass or density" in order to be successful. Yet, a consideration of Figure 9 below shows that even though Asian countries have higher densities than their Latin American counterparts, they attract fewer customers. This shows that there are other factors other than density which play a role in attracting customers and overall productivity, and these include quality of service and affordability.

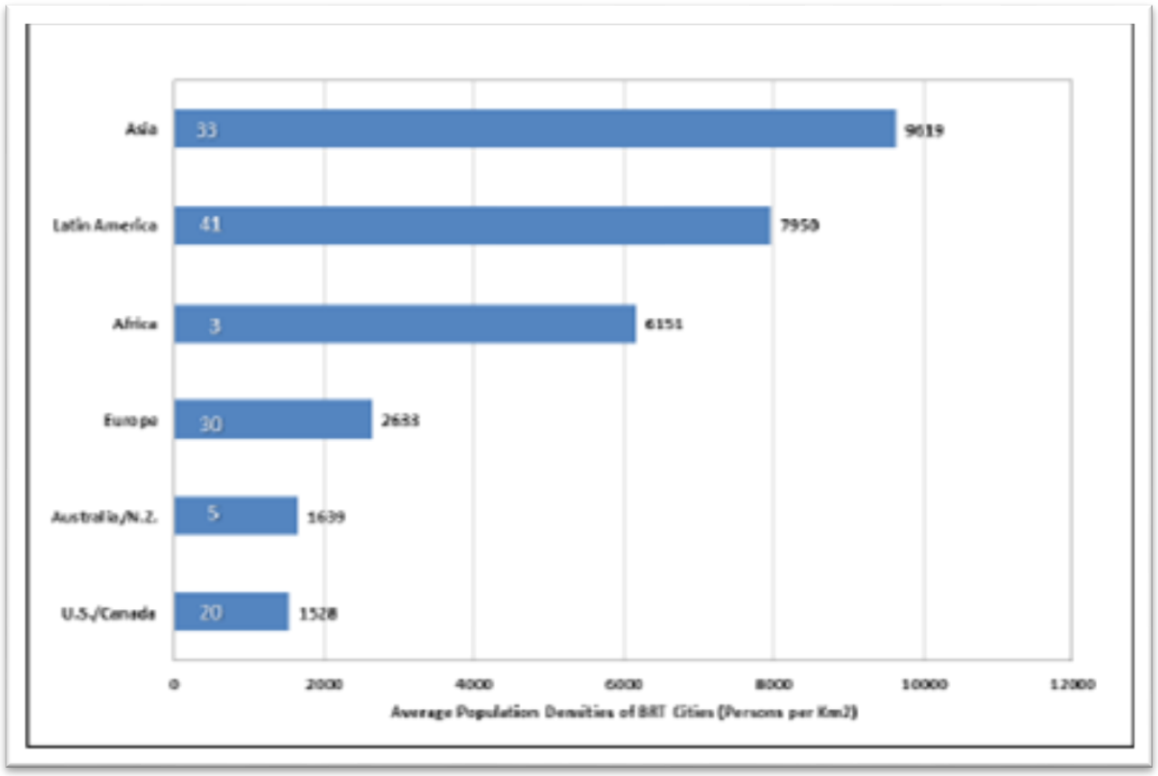

Figure 9: "Average Population Densities Among BRT Cities, by Continent-Region. Numbers in bars denote number of BRT cities in Region that are included in the analysis. Year of density data varies by city from 1999 to 2001" (Source: UN Habitat, 2012)

For South African metropolises, particularly Johannesburg, this means that Rea Vaya is capable of achieving higher ridership even though it is characterised by a lower density pattern.

Mobility and Accessibility

According to Dimitriou (2006) mobility is the ability to move freely in the community without barrier effects such as delays, discomfort and hindered access. This does not necessarily mean being on the move at a greater speed but refers to the opportunities opened to by motorization rate (Morales, 2010). Litman's (2003: 5) defines mobility as "both the ability to travel to destinations of choice and the amount of movement necessary to do so." In agreement Tyler (2002:12) defines mobility as "the ease of movement from place to place and thus represents the ease with which a person can reach an activity". According to Morales (2010), acknowledging these definitions mobility becomes a two dimensional concept consisting of two elements- movement and accessibility.

Morales defines accessibility as having a role of acknowledging diversity in society, “that not everyone has the same possibility 'ability' or 'potential' to access to all places they need to go” (2010:13). Movement is defined as “the physical displacement required to reach the activity" (Tyler, 2002:13). Tyler also says that even though some movement do not need external assistance to be done (walking), there are cases where external help is needed for them to be undertaken (vehicle). This definition reveals that movement is caused by a motive; a motive to move to another place. This also reveals that there are times when there is a need for external help for movement to occur when walking is not feasible. In relating it to transport he argues that transport project should acknowledge that offering the poor and the rich with same quality of transport does not open up access to all of them in fact it can exclude a certain group. There should be other means to assist one group in order for them to have equal chances of access to the transport and have improved mobility. In examining at both these two concepts states that mobility and accessibility can be seen as complementary instead of being exclusionary terms (Morales, 2010:14).

Cass provides four dimensions that can be used to measure accessibility. These include financial (costs of traveling), physical (barriers to get to a place- e.g. distance, increased roads, stairs etc), Organizational (how transport infrastructure and facilities are organized) and tempora (that is the time it takes to move from one to another and the availability of transportation on different times and days of the days). Tyler (2002:13) states that failure to meet accessibility-enhancing objectives can prevent, rather than reduce, travel and thus result in the exclusion of some people in the society" and further increasing mobility challenges.

Morales (2010:14) also find that the lack of accessibility leads to social exclusion of some members of society. Social exclusion is defined by Hodgson (2003) as a dynamic process of begin shut out fully or partially, from any of the social, economic political and cultural system which determine the social integration of a person in society. This can also include lack of access and participation in employment opportunities, leisure opportunities, spaces of participation and decision making and other community resources Hodgson (2003).

In Dimitrious words he says that “freeing up ones party's movement can often have negative impacts on others or other parts of the transport system" (2006:3). For instance, in the context of bus systems such as Rea Vaya, the widening of the road or creation of lanes dedicated to the BRT system may speed up the bus system’s arrival times and thus make it convenient for BRT commuters to get to their respective destinations on time (Cavero, 2013). This is seen from the new Delhi, India BRT. The BRT was introduced to improve air quality and lessen traffic congestion. However since the implementation of BRT in New Delhi, the city has seen an increase in traffic congestion on the non-brt lanes and led to private vehicle to use the bus only dedicated lanes. The bus stops are said to also been placed on areas that don’t allow commuters easy access (Mehrotra, 2016). In January 2016 the city went on to dismantle about 5.8 km long dedicated BRT lane due to motorists complains.

Morales states that “the Transmilenio was thought as a public transport that would make the city a more inclusive space for all the people living there" (2010:23). It is true in the fact that the system ran from poor to rich areas and provides them with the same level of service. The system provides many advantages, a person who previously had to take more than one bus are now able to take the Transmilenio to different destination (Berline, 2013). Morales (2010) say that however these transport facilities and services are being provided at high costs even for the poor. This is particularly with regards to the costs of using the Transmilenio to travel.

In 2000 the fare of using the Transmilenio was COP$800(US$0, 36) and increased to COP $1600 by 2010 (exchange rate taken from http://www.oananda.com). On the other hand the costs of using traditional buses that operated before the implementation of Transmilenio were at COP $739 (US$0.33) in 2000 December and went up to COP$1285 (US$0,70) in 2010- this is 74 % fare increase for traditional buses compared to the 100% increase from the Transmilenio. In Curitiba the transport service amounts for over 6 million trips per day which is about 69% of the total number of trips made daily in Bogota (SMD, 2007). Out of this the Transmilenio makes about 1, 5 million trips per day while tradition buses make the other 4.5 million. While Transmilenio has improved the quality of transport, tradition buses still transports 75% of public transport users. According to a survey conducted by SDM (2010) more middle class and

the rich use the Transmilenio. The middle class and the rich benefit more from the pronounced benefits of the bus while the rest of the people have to make do with the poor service being offered by the buses affecting their ability to have efficient access to services, resources and opportunities that could have been otherwise be efficiently provided by the Transmilenio. This shows how even the Transmilenio increased its spatial coverage, it has not improved the means of access for the low income.

Neighbourhood Safety

Apart from public transport benefits there are other changes that can be triggered by the implementation of BRT system (Centre for Urban Transportation Research, 2000). These concepts can contribute to other things not related to transport benefit but the overall wellbeing of the community. This includes safety of the neighbourhood in general instead of that of traffic or road safety. Several scholars have looked at the safety of the safety of BRT commuters and what it entails ((Rwenyagira, et al., 2015 ; Carrigan et al., 2015 ; Shangai world explosion executive committee, 2010) Safety is not just taken to mean 'immunity' from road accidents but it is also understood as commuters' sense of security and protection from criminal activity. This is witnessed in the introduction of Bogotas Transmilenio. The implementation of the Transmilenio came with the rejuvenation of spaces that were considered as no-go zones in the city and / those that were neglected by the city (Munoz-Raskin, 2010). The construction of bus station in close proximity to an area known as EL Cartucho has improved the safety of the area (Morales, 2010). EL Cartucho was considered as one of the most dangerous places in the city, dominated by crime and drug abuse and poverty (Munoz-Raskin, 2010). The spatial intervention has seen criminal and drug trafficking being reduced. The area is now being used as an informal economic source of employment; the business is also thriving due to high customer base from people passing by to the bus station (Morales, 2010). This phenomenon is called defensible space practice and is largely encouraged by urban designers as a way to enforce social control and prevent crime (Cozens et al., 2005). Defensible areas are areas designed to provide natural surveillance of open spaces to prevent against crime.

Visual quality and liveability

The introduction of new infrastructure can cause significant visual effects on the surrounding and the overall image of the area of concern; however, it can also be undesirable. Some of the undesirable effects can include blocking views of pleasant landscapes (Center for Urban Transportation research, 2000). While some of the positive effects can include improving the visual environment of the area and marking the transport development as a major landmark in the neighbourhood (Federal Highway Administration, 1987). Based on the outcomes, the new transport development can render other nearby locations undesirable to live in and thus attract people to reside closer to the development.

2.6 Rea Vaya Bus Rapid Transit (BRT) System: A suitable Public Transport Solution

The republic of South Africa was awarded to host the 2010 FIFA world cup tournament by the federation of international football association (FIFA) in 2004. The conceptualisation of the Bus Rapid Transit system in South Africa was first introduced by the CoJ in 2006 at a South African transport conference (CPSI, 2014). Efficient public transport was identified as a key issue to be addressed for the success of the soccer tournament. “At the core of this system is an amalgamation of various aspects of planning within the city that is integrative and takes account more than just infrastructure related issues” (Wright and Hook, 2007: 3). The transportation project was seen as a multifaceted initiative that would not only address traffic/mobility challenges and poverty but also restructure the apartheid spatial form. Rea Vaya had also been identified as a cost-effective and sustainable solution to the road and transportation-related dilemmas facing the city of Johannesburg.

The BRT model in Johannesburg was largely drawn from Bogota’s TransMilenio and Curitiba’s BRT As major economic nodes and/or commercial nerve centres, Bogota and Johannesburg face rapid urbanization, population growth and segregation. However, Bogota’s segregation is based on income rather than on race as experienced (New York Times, 2012). The local government

(CoJ) is the implementation body and provides co-ordination and expertise of stakeholders to carry out national policy plans (Kumar et al, 2014). The communication program included three different approaches/phases. The first phase involved the MBT industry; this was to inform, educate and seek for support for the system from the taxi industry. Efforts were also made to inform and educate the public about the system and get their inputs and seek their support.

Date	Event
August 2006	The city of Johannesburg organises for city officials and affected mini bus taxi operators to go to a study tour to Colombia to learn specifically about the successful TransMilenio.
November 2006	The city of Johannesburg announces the adoption of a Bus Rapid Transit System in Johannesburg to be known as Rea Vaya. This is an adoption as an upscale to the strategic public transport network (SPTN) in integrated transport plan.
August 2007	City officials and 17 mini bus operators go on a study tour to Bogota.
	"Informing "and "consulting" member sof the public including residents and business along the proposed Rea Vaya routes.
October/ December 2007	The top 6 management of mini bus taxis and the Greater Joburg Regional Taxi council sign a memorandum in an agreement to cooperate in the implementation of the BRT.
4 November 2008	"Prototype Rea Vaya station is opened in Joubert Park in Joburg CBD".

24 March 2009	Despite agreement by other taxi operators, there is a national taxi strike to oppose the introduction of BRT by the UTAF. UTAF () was formed by taxi associations to oppose the introduction of Rea Vaya
20 April 2009	SANTACO, the national taxi association calls President Zuma where he agrees to put implementation on hold until an agreement is reached.
12- 28 August 2009	Formal negotiations take place between city officials and mini bus taxi operators. An agreement is reached with most operators while minority is still resisting. Eventually the few operators take it to court to stop the implementation of Rea Vaya but they fail.
30 August 2009	The first phase of Rea Vaya is implemented only with a trunk route and about 40 buses, While negotiations continue to take place with taxi operators.
September 2009	Consulting and involving members of the public on a look and feel exercise in respect of the buses and stations
1September 2009	All buses are in operation while there is unofficial taxi strike.
2 September 2009	Two rea vaya buses are set to fire while two people including a police officer are shot
Feb- march 2010	The city announces the introduction of feeder bus but I threatened by national taxi strike and put the implementation is postponed until the 15th March.

15th March 2010	There feeder are introduced despite the taxi strike.
April/ May 2010	More buses are introduced. There is taxi violence where two buses are shot , 13 people are injured and one passenger dies.
9 June 2010	An agreement is reached with taxi operators on key aspects of bus operating contract.
June 2010	Rea Vaya successfully operate during the 202 FIFA world cup and manages to carry about 10 000 passengers per match.
28 November – December 2010	There are talks with affected operators and those that opposed finally participate and reach an agreement. The last feeder is introduced without violence
1 February 2011	New bus operator made up of bus operators take over from the interim bus operator
	Consulting and involving members of the public in respect of improvements to be made.
September 2011	Rea Vaya buses are not in operation due to bus driver strike over salary.
	Rea Vaya goes back to the road

Table 1 **Background, consultation, implementation and operations of the Rea Vaya Development**

From Table 1 it is clear that the public/ residents were not afforded much time in the negotiation process and implementation of the Rea Vaya. The City makes claims that it faced financial constraints and could not carry out especially face-to-face communication and promotion strategies. As a result of this, the CoJ resorted to the media to carry out promotions

to the public. Even upon operation the city continue to face financial constraints. A total of 5% which is 532 000 of Johannesburg residents are currently being serviced by the Rea Vaya (Johannesburg department of transport, 2013). Meanwhile fare revenues received in its first year of operation amounted to R50m. this unanticipated shortfall in fare revenues led to the city of Johannesburg having to subsidies the system in order for it to continue operating. However the Rea Vaya continues to be criticised for its inability to reduce travel costs for the poor due to its pricing scheme and has therefore failed to improve the livelihoods of the poor (Venter et al, 2013).

Private vehicle use has been noted as a significant driver of energy consumption and greenhouse emissions in South Africa. The JDA (2012) states that "

> If 10% of households shift to energy efficient lighting it will only reduce energy consumption by 0.1% whilst if 10% of private vehicle users shift to public transport to commute daily it will reduce energy consumption by 8%.

That said, one of the objectives of Rea Vaya is also to minimise private car use, and thus decrease traffic congestion. Several scholars have looked into the implications of Rea Vaya, and reveal that the mass transit bus system has been applauded by its users for its efficiency and reliable services (Allen, 2013; Vaz and Venter, 2011, Maunganidze, 2011, Berline, 2013). Passengers have been provided with safe and reliable public transportation, while also managing to provide formalised employment opportunities for bus drivers, securities and in the administration field. The system has also been applauded for its contribution to environmental sustainability (CPSI, 2014).

Vaz and Venter (2011) use the case of Orlando, Soweto, in a study based- on the effectiveness of the BRT as part of a poverty reduction strategy in Johannesburg. Their study shows that the benefits of the Rea Vaya are more skewed towards the middle-income rather than the low income; as shown by the number of people who use rail transport (Metrorail) instead of Rea

Vaya mostly due to reasons associated with costs. The feedback from users on social media reveals that the costs of using the BRT has become more like using mini bus taxis. Bogota BRT has managed to offer its low income population groups affordable public transport. They do this by cross subsidies - this is when the fares of low income groups are subsided by that of high income groups. The strategy used is one that charges “one flat fare for all trips"- since the below income live in the periphery, their long distance trips are subsidized by the trips of the high income groups who tend to stay in city Centre.

Most cities if not all with the BRT System use what Shanghai world explosion executive committee (2010) terms the Road diet to reduce the use of private vehicle and encourage commuters to use public transport. Road diet measures can include increasing the costs of using other modes of transport (eliminating fuel subsidies, charging for the use of automobile), reducing lanes for other modes of transport to dedicate to BRT and Non-motorized Transport. Singapore- used the electric road pricing system to manage automobiles travel demand, the measures included the need to pay to access the City Centre during peak hours; the costs would be depended on the actual demand of the area the higher the demand the higher the costs of entering the city. The method was transparent in that the road leading to the city Centre had electric boards to show how much the billing is for certain periods of time. Private vehicle users eventually understood the need to use the BRT; this method along with others is responsible for the free flowing traffic in the city. What is beneficial by adopting this method is not only contributing to reducing carbon emission but a model to create revenue to fund public transport.

For the low income, Vaz and Venter(2011) reveals that one set of potential advantages of Rea Vaya relates to providing enhanced accessibility to livelihood opportunities- either through extending the range of destinations; this can be to people’s homes, work and other leisure opportunities. This also proves to be true considering Guangzhou China's Direct-Line, Open BRT System Figure 10.

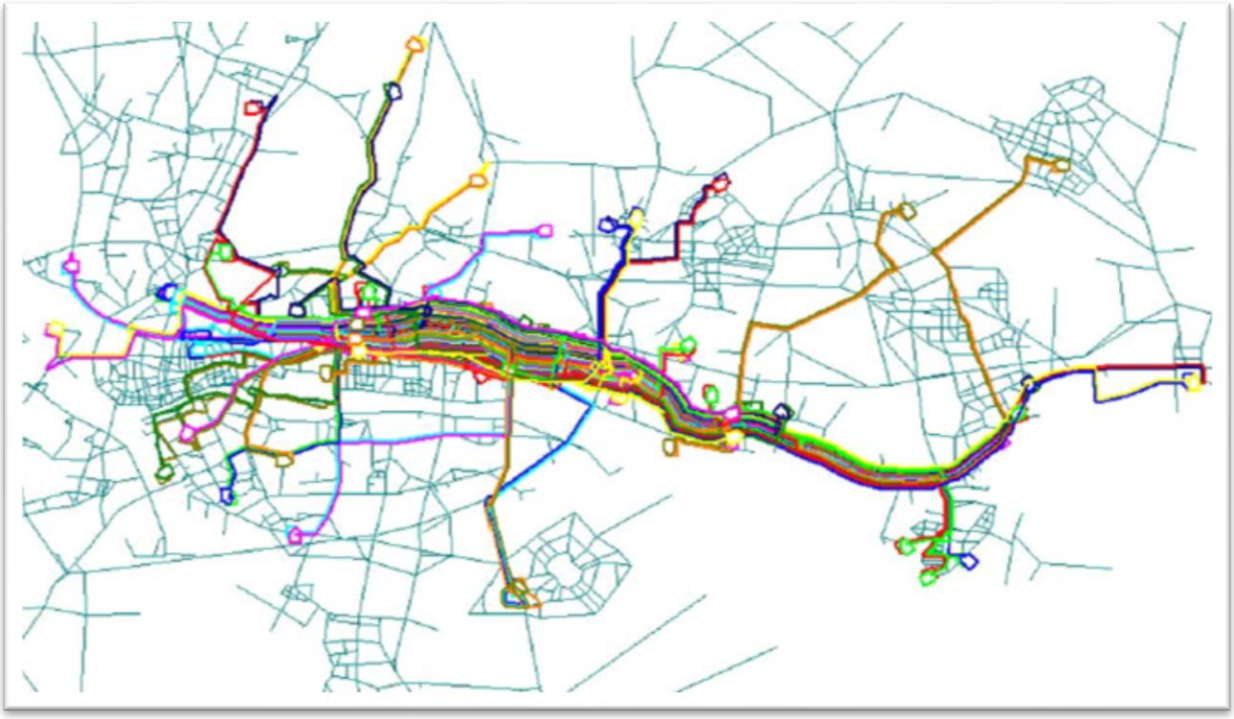

Figure 10: Guangzhou China's Direct-Line, Open BRT System, with 31 different bus routes sharing a 23 km BRT corridor. (Source: Institute for Transportation and Development Policy, 2016)

Figure 10 above shows the many bus routes of Guangzhou Bus Rapid Transit (GBRT), the open BRT system in Guangzhou, China. China's GBRT consists of 31 different bus routes sharing a 23 km BRT corridor (ITDP,2016). Its BRT is designed so that it goes everywhere; "a no-transfer one seat ride" (Cevero, 2013). It has managed to carry over 27 000 passengers per hour per direction which is higher than any other Asian BRT system. The nature of this BRT system demonstrates the ability of BRT systems to be versatile and flexible if implemented and/or operationalized optimally.

Whereas the technical aspects of the BRT may enhance its success and operation, Cevero (2013) argues that the success of a BRT above all depends more on political championship and support than it does on financial and/or technical aspects. In support of this notion, Wright (2011) writes that BRT systems in cities such as Jakarta, Lagos and Santiago fell short particularly because of political forces to retain the existing state of affairs. According to Wright (2011: 454), "ultimately the obstacles to BRT development are more likely to be political than

financial or technical. However, for the few political leaders who take the chance to redefine their cities with full BRT, the rewards are clear. Johannesburg's Rea Vaya eventually got to be implemented due to political will to introduce Bus Rapid Transit System and improve the state of public transport. Berline (2013) states that despite threats and acts of violence, the BRT was supported, protected and enabled to continue. " This not only begins to point at the importance of political leadership in development initiatives but it also indicates the inescapability of development issues – however technical – from politics".

2.7 Conceptual framework

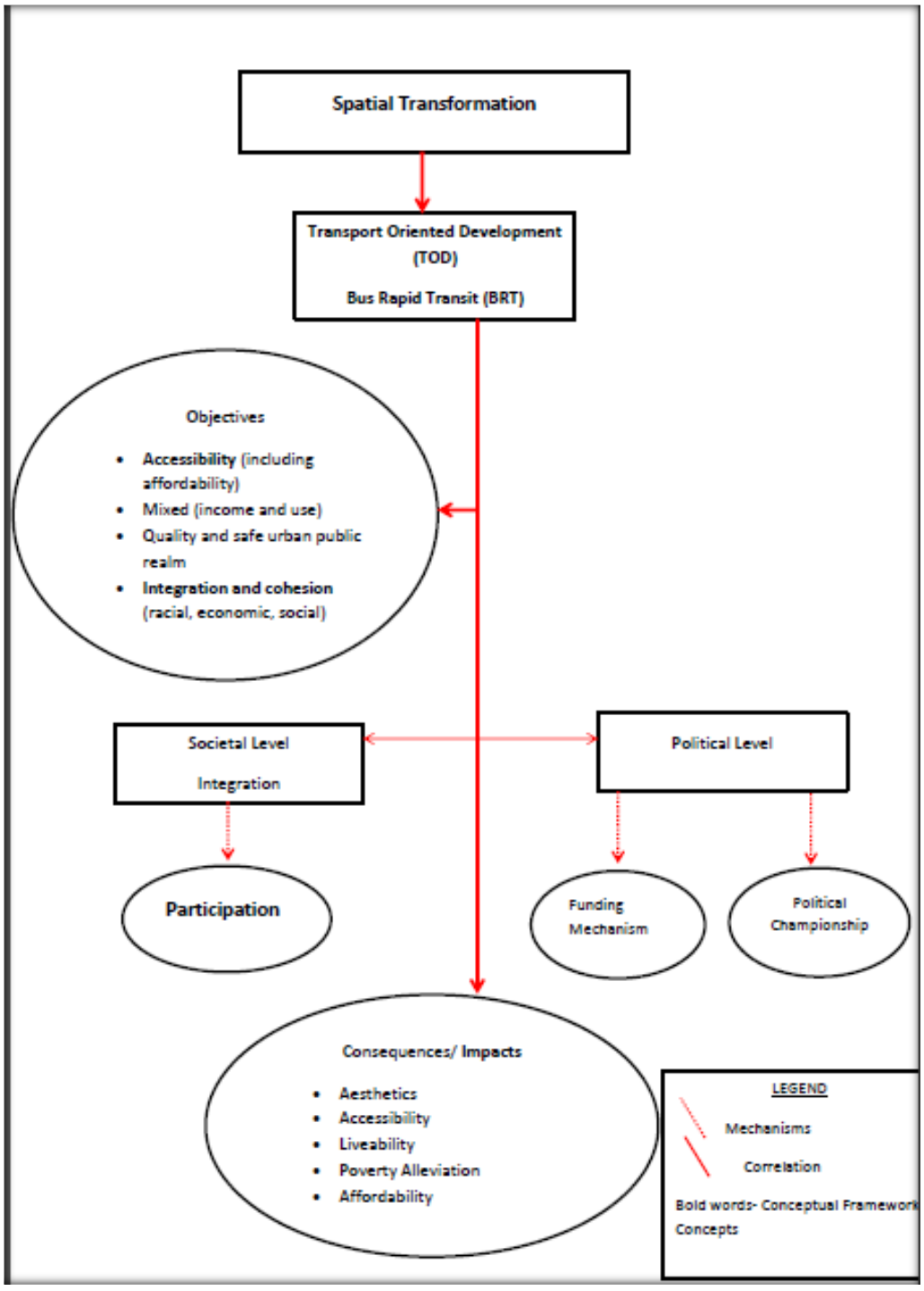

Figure 11: Concepts, issues and their connectedness. A diagrammatic representation of core concepts and issues

The abvove diagram (Figure 11) shows that policy formulation and impelemntation occurs on two levels- societal level(community members and environment) and the policy making level where policy is being designed.

The newly elected democratic government of South Africa noted transport as one of the key factors that can act as a catalyst in correcting spatial distortions. As a result, planning has emphasized on corridor development to restructure the apartheid spatial structure. The emphasise has been reflected in its policies, strategies and frameworks such as the white paper in national public transport of 1996 and municipal SDFs which are promoting TODs as a way to achieve spatial restructuring (Bickford et al, 2014). "TOD is an international popular term used to describe dense, mixed land use, pedestrian and cyclist priority precincts that are inextricable linked to public transport systems"(Bickford et al, 2014:8). This strategy continues to be adopted as it enables dense communities to live around public transport infrastructure and offer greater proportions of people access to the same quality of transport services (CPSI, 2014).

While the tendency has been to suggest that transport can lead to various socio-economic benefits and also lead to spatial restructuring as presented in Rea Vaya website, policies and strategies, the reality is more complex (Rea Vaya, 2009). It is indeed true that public transport can lead to various socio-economic benefits however this is not automatically achieved. In adopting these models (TOD's), it is important to understand that South Africa faces unique challenges inherited from apartheid injustices and that the transformation needed is not only physical but also socioeconomical and environmental.

In relation to the spatial form of most South African cities, this means that the goal towards the restructuring of South African cities would have to take into consideration of the location and distribution of the transportation development while also taking into consideration of its affordability levels and accessibility for different users. This also means that transport investment alone cannot lead to spatial restructuring but should be accompanied by supporting mechanisms, strategies and policies to lead to short-medium development.

The study has noted Political championship, Public participation and funding mechanisms as supporting factors that have the potential to lead to the realisation of quality of public transport services, which in turn increases confidence in public transport as an attractive and viable transport option for commuters.

An introduction of a development into a society can cause problems and pose challenges to the current system in a society, this can be in a positive and negative way. The problems and benefits indicate the need for policy evaluations/ public participation mechanisms not only to keep citizens 'in the loop' but also obtaining their feedback for use in the 'tweaking' of policies/drafts/proposals. It is important that upon agreement with all stakeholders, there is a clear defined objective before implemetation – this is so that the objectives can be used as reference point when analysing changes brought by the implementation. The study has also revealed that political championship or leadership is an important factor into the success of a transport project. The case studies presented in section # of chapter 2 have shown that regardless of opposition from other stakeholders, if the state is determined to introduce and imeplement a certain project, the project will be implemented. It has also been revealed that to run this kind of transport project and cater for different groups of people, large amounts of subsidies or findings are required. Successful funding mechanisms lead to sustainable and smooth developmental operations.

Policy output manifest at societal level, for instance the introduction of a transport project can reduce the space given to private motor vehicle users. Experiences from different countries revealed that the implementation of transport project can have output that have societal (community acceptance, improved liveability), economic (poverty alleviation, employment opportunities, reduced traveling costs) and environmental impacts (reduced carbon emissions, improved air quality) - these can be used as indicators to measure the changes brought by BRT into communities. Monitoring and responding to these can lead to customer satisfaction and successful project operation. Above all, the consequences or daily frustrations of citizens can only be understood through lived experiences.

CHAPTER 3 - METHODOLOGY: EXPERIENCES AND CHALLENGES ON SITE

This chapter is based on an account and/or discussion of the steps that were taken by the researcher in the collection and collation of data relevant to the research topic. The chapter outlines the researcher's experiences (both unique and mundane), obstacles and opportunities as well as lessons learned on site. The chapter consist of four sections. The first section is an introduction to Soweto and the study area within Johannesburg; its history, and location within the City of Johannesburg. The second section is expands on the data collection tools introduced in Chapter 1. The third section presents a discussion of the data collection experiences from researcher perspective which includes; the path to getting to the site – what it took to get there, experiences, challenges and approach used to get respondents for the study. The last two sections provide the ethical considerations employed throughout conducting the study and other limitations and challenges.

This study is an impact assessment more than it is an outcome analysis. Whilst outcome analysis asks whether the implemented project achieves its objectives, impact assessment asks about any possible intended and unintended impact that has been caused by the project (Sarantakos, 2005). Given the fact that projects are meant to assist communities, Impact assessment studies are particularly important, as they are the only study that give satisfactory results to questions about the usefulness of a project (Sarantakos, 2005).

3.2 Introduction to Soweto

Located in the southwest of Johannesburg, Soweto is area-wise the largest urban residential district in South Africa. One of the areas that were developed and meant to be a 'fiscally autonomous' black township by the apartheid government in the 1930s, Soweto's population is approximated at 1.3 million and comprises approximately 99% of the African population (Census, 2011).

The apartheid government adopted policies such as the Urban Areas Act of 1923 in order to keep different races other than whites from Johannesburg's inner-city areas. Not until recently

have South African policies been linked to efficient public transportation in most cities across the country. In the apartheid era, policies were used to promote segregation and discrimination. This ultimately forced those located on urban peripheries such as Soweto to commute long distances daily to places of work. As well, it resulted in high transportation costs for the poor (Bickford et al, 2014). The spatial pattern of the apartheid regime has been persistent and has been a significant contributor to the post-apartheid democratic government's formulation of policies to address, if not redress, the fragmented spatial configuration (Weakley and Bickford, 2015). This is evident in the extensive transportation investments all across the country. At local/metropolitan level, the CoJ's Rea Vaya is one of the massive road and transport infrastructure investments aimed at improving public transportation experiences as well as reducing travel times and costs (CPSI, 2014).

There are limited studies conducted on the impacts of the Rea Vaya bus system in Soweto. Most impact study research conducted in South Africa emphasise the impacts of the Rea Vaya system on poverty reduction that is, on efficiency and ability to reduce travel costs (Weakley and Bickford, 2015; Maunganidze, 2011; Rahim, 2014) This is unsurprising given that the issue of improving poor people's lives through integrated transport and access has been featured in many post-apartheid transportation policies (Maunganidze, 2011). Whilst these studies hail Rea Vaya for having managed to provide communities with an efficient alternative mode of transport, it still remains unclear whether or not the system has managed to reduce poverty levels and, if it has, to what extent (Maunganidze, 2011).

3.2.1 Case study area: Moroka location

The study was conducted in Moroka, Soweto. Johannesburg consists of seven administrative regions, A to G: Soweto falls under region D and consists of 36 wards. Primary data was collected in Thokoza Park which is located along Chris Hani Road and Ntuli Street in Moroka, which covers 4.5 hectares of land: the park is currently being regulated by Johannesburg City

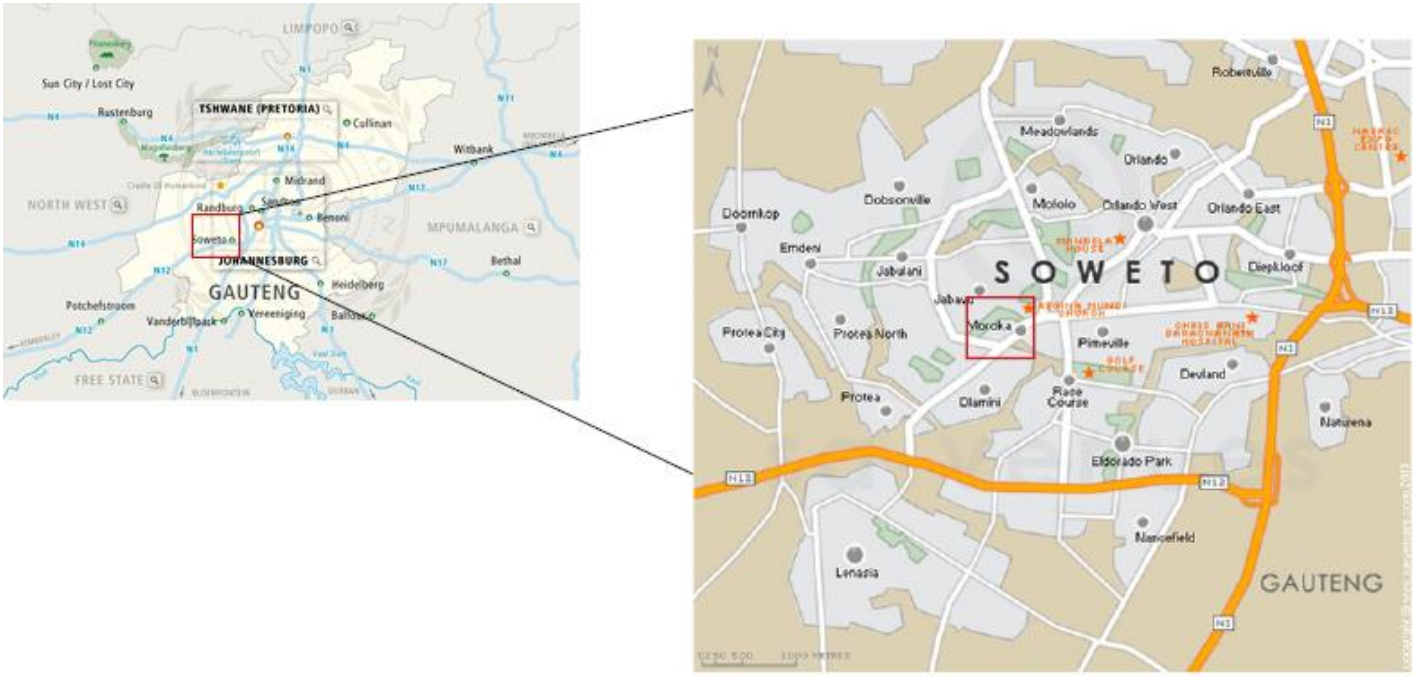

Figure 12: Contextualising Moroka within Johannesburg and Soweto

Source: Parks and Joburg Zoo (JCPZ, 2014).

The station is part of the phase 1A route that runs from Johannesburg to Thokoza Park (see figure 13). The study area was chosen because there have been multiple public-sector investments into the area. The improvement of the Moroka Dam and Thokoza Park are well-documented revitalisation projects that have been praised for its inclusion of the community. The project has been praised as "…a showcase project to restore a Soweto dam and the adjacent park has rekindled community spirit among local residents" (COJ, 2002). The Rea Vaya bus rapid transit system is one of the recent notable road and transportation infrastructure investments directed into the area. It was of interest for the researcher to see how people are

interacting with the spaces and whether or not the transport upgrade is considered beneficial by the community.

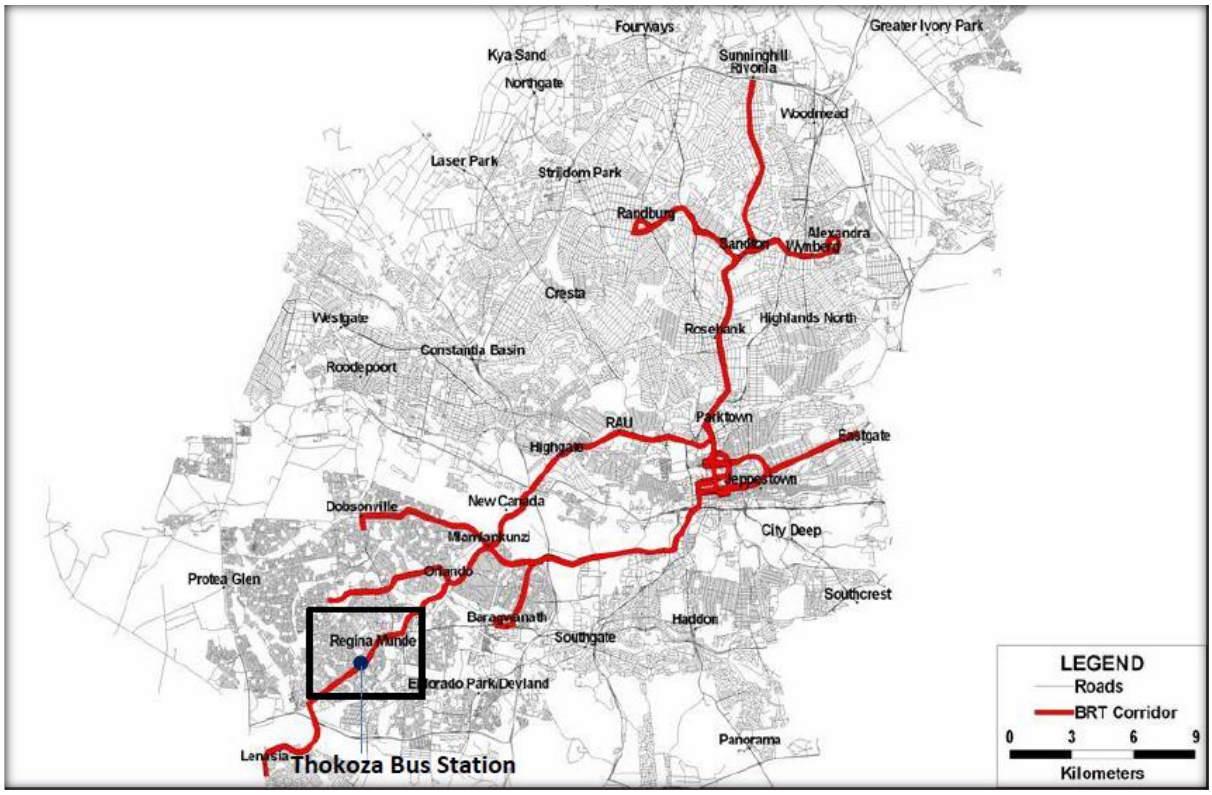

Figure 13: Location of Thokoza Bus Station within the Phase 1 BRT Corridor Source:

As the study was qualitative in nature and made use of a case study, it granted the researcher an opportunity to assess the impacts of Rea Vaya on the community of Moroka as well as various community members' perceptions of the mass transit system. This in turn shed light on the question of whether or not the Rea Vaya policy formulation was influenced by residents or not as well as the extent to which it responds/ed to the needs of the community. The multiple data collection methods that the researcher made use of were inspired by Creswell's (2009) realisation that in order to understand experiences and perceptions shared by a group/community/institution, a researcher needs to use multiple data sources.

3.3 Primary data collection tools

3.3.1 Case study

The literature review revealed that BRT does not produce single outcome, different indicators can be used to measure the extent to which the BRT has led to changes in communities. A single case study was chosen as suitable for the research. Yin (1984: 5) defines the case study research method as "an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used." Case study research is also relevant to this study as it "attempt to illuminate a decision or set of decisions; why they were taken, how they were implemented and with what results" (Schramm, 1997). The use of a single case study provided the researcher with an opportunity to emphasize contextual characteristics that would not be found in areas other than Moroka. There is undeniably danger of selection bias (Simel, 2010). As such, this study is meant to serve as a case study – with the acknowledgment that there is no method that is without problems - and is not aimed at inferring causality or generalizability. Whilst they may have shortfalls, overall they are useful and legitimate as any other method of social research.

3.3.2 Qualitative

Qualitative methods, as described by Creswell (1998), are to make sense of social actions such as opinions, perceptions, interaction and behaviour. Qualitative methods also allow the researcher to study phenomena in their natural settings, and it is for this reason that qualitative methods are chosen were the best methods for this study. The primary data collection tool included interviews and observations.

3.3.3 Survey questionnaires

Having assembled some of the key issues pertaining to Rea Vaya online as well as (from the conversations had) on the BRT rides to Moroka, the researcher designed a questionnaire that touched on issues such as accessibility, convenience, ETC. (see Appendix 1). The researcher reasoned that twenty community members – ten Rea Vaya users and ten non-users – would be

identified, interviewed, would be an adequate representation of perceptions shared by all community members in Moroka as well as shed light on reflections. Yet, while interviewing more community members would have painted a better picture of the overall community perceptions in regard to Rea Vaya, it was made impossible by the researcher's financial and time constraints.

The gathering of primary data and/or interview material involved the posing of fourteen open-ended questions to all participants order to gather the necessary data, each participant was asked fourteen questions; questions asked on the field to collect data are provided on Appendix A. the questions allowed to gain insights on participants' perceptions and experiences of the implementation of the Rea Vaya. Neuman (2007) states that "open ended questions offer an unlimited number of possible answers which enriches the content of the study." An open question was used as the last question of the interview, this offered certain advantages. It offered a platform for participants to point out their concerns and at the same time propose ways in which the identified challenges faced by the Rea Vaya according to their perceptions could be resolved. This is one question which the researcher believes gives participants a voice to say what they feel and be creative about the information they have.

The survey questionnaire questions were presented in a semi-structured manner. Semi structured interviews are those that consist of structured interviews (those that require short and defined answers) and questions that allow participants to be flexible in their responses. Most questions were both open and closed question. Open ended questions are those that give participants freedom to answer the question in a way they see fit. While closed questions are those that limit the number of possible answers to be given. Most questions required a yes / no answer and required them to support their statements (May, 2001).

The survey questionnaires were accompanied by a participant information sheet (see Appendix 3) that introduced the researcher, the participants' rights and seeking permission to conduct the interviews within the specified period. A formal consent form (Appendix 2) for participants to sign to indicate that they understand their rights and give permission to be part of the study.

The survey questionnaires were conducted at approximately 15-20 minutes, with their responses being recorded on paper.

3.4 Data collection experience

The visits that were made to the community prior conducting the interviews shed some light on how people use the Rea Vaya and its immediate surroundings. I spent some time in the area to gain first-hand knowledge of community life. Conducting site visits was useful as opposed to having just done a desktop study. It helped put things into perspective and gave some explanation as to why some people are frustrated by the dysfunctional utilities of the Rea Vaya and are taking to social space to voice their concerns, anger/concerns.

3.4.1 Community layout

There is minimal economic and pedestrian activity along the corridor. However what was interesting was the layout of three particular stations –Lakeside, Thokoza Park and Orlando stations (see figure 14).



Figure 14: Similar layouts in the location of three Soweto Rea Vaya bus stations

Legend

Commercial/ Business

Residential

Recreational

Transportation

These stations all have the same layout- bus station situated across a filling station on one side and a park on the other. One wonders whether this layout is a coincidence or on purpose. This layout has led to a creation of mixed use development nodes which comprise of residential, business/ commercial and recreational activities and seems to be a move towards the realisation of the COJ corridors of freedom plan.

"The Rea Vaya routes follow the existing high volume corridor between Soweto and the Johannesburg" (Arrive Alive, n.d). These are corridors that are already well-served especially by mini-bus taxis and bus modes. This is not surprising as the operational success of BRT requires high volumes of passengers and the possibilities of placing it along the existing transport corridors is high.

3.4.2 Access

The researcher had never used the Rea Vaya bus before and planned to get to the research site using it in order to have first experience and make some observations. In order to use the Rea Vaya, a Rea Vaya smart card or single trip ticket is needed. The research site was presented as one that is easily accessible by the Rea Vaya from any other station especially because it is part of the trunk route/ main corridor. The researcher lives close to the Constitutional Hill bus station however had to take a bus from the Park Station Bus station due to unavailability of tickets.

Since the researcher does not reside in Soweto and is unfamiliar with the residential, it was important for the researcher to visit the site three days prior to commencing the actual interviews in order to familiarise herself with the neighbourhood under study. The familiarisation process included the exploration of the site, the identification of commuting trends, and extraction of meaning from the site, all of which was diarised and used later for research purposes. A trial run was also conducted on the field in order to test the questionnaires and determine whether the questions were well constructed as well as whether the answers satisfied the purpose of the questions.

The researcher does not reside in Soweto and is not familiar with it but has become a participant observer in the study. The researcher travelled to the study area by Rea Vaya and noted relevant information to the research topic. In trying to familiarise myself with the research site, during the winter study break attempts were made to go to the research site with the Rea Vaya, only to find that the so-called state-of-the-art infrastructure emphasized on the Rea Vaya website is broken/dysfunctional- the ticketing system was offline and smart cards were not available.

It has been imperative to take the Rea Vaya to get to the study area to observe and gather relevant data to the study. Additionally, the researcher needed to use the bus in order to gain experience with the way in which the Rea Vaya operates.

The researcher spent a week at the site to conduct the interviews and observation and also be familiar with the study area from the 25th to the 30th of July 2016,- from 10h00 to 17h00 daily. It was important to visit the site multiple days to understand the community's activity trends revolving around Rea Vaya at different times of the day. In order to minimise being biased, the community was not informed that they were being observed and were therefore unaware of the researchers' activity in the neighbourhood; only those who asked were told.

3.4.3 Desktop study Vs Reality

An aerial photograph analysis was useful in giving a more long-term picture of the area as well as assist in understanding the effects of the system on the spatiality of the study area over a certain period of time. Google Earth was used to conduct this exercise. Changes from aerial photograph reveals that there is a change in the use of space specifically the park and ride facility (see figure 15).



Figure 15: Change in the use of the Park and Ride Facility

From the aerial photograph (Figure 15) the increase in the use of the parking lot seem to be influenced by the presence of the Rea Vaya - Intensification came with the introduction of the Rea Vaya. During the site visits, the park and ride facility was filled with cars on a daily basis, however only two car users were interviewed. In the mornings, none of them were available to be interviewed as they wanted to go catch the bus and later after work most were always in a hurry to go home. With the absence of the car owners, most information was given by the car guides who were willing to form part of the study when they were not washing the cars. I ended up being friend with them, at some point they would even promise to give me protection if anything happens. From the words of the car guides, the facility only used to be used by church members on weekend and those that come to the park for recreational activities but since the introduction of Rea Vaya the facility is used daily, more people are said to be using the facility as seen from the cars that park on the sidewalks due to limited parking

space. The questionnaire questions also included a question that asks about the reasons behind deciding on using the Rea Vaya. The question applied to car users and pedestrians

I boarded the Rea Vaya to Moroka, to find that the so-called state-of-the-art infrastructure emphasized on the Rea Vaya website is broken/ dysfunctional. Upon asking some of the fellow commuters whether this has always been the case or it is a 'new' incident, you are informed that the infrastructure has been broken for a long time and some people start talking with emotion about the issue, bearing testimony to the fact that this is really a touchy issue for them. This has inspired me to frame the questionnaire for the real respondents on site, and decided that some of the questions will revolve the topic of convenience of the infrastructure in the station and whether it provides any form of convenience.

3.4.4 Choosing appropriate place to conduct interviews

The plan was to find a comfortable place to conduct the interviews. The Rea Vaya station was considered as an option to conduct interviews however some factors led to the researcher to conduct the questionnaires at the Thokoza Park. First, the Rea Vaya station is not only used by the people of Moroka; it is also used by those brought from locations outside the corridor by complementary bus to get another trunk route bus to their final destinations. Second the station only has 8 seating space, conducting the interviews inside the station would inconvenience those that need them the most. Lastly most Rea Vaya users know the bus schedule times and go to the station just before their bus arrives; it therefore becomes difficult to conduct the interviews as their buses would arrive before we complete the questionnaire. Due to this, Rea Vaya users were interviewed when coming from the bus crossing the Thokoza Park as attempts to interview those that were going to catch the bus proved to be challenging.



Figure 16: Chosen interview site- Thokoza Park

Most interviews were conducted in The Thokoza Park (see Figure 16), the main nodal area in Thokoza, not only because of its advantageous location (close proximity to the Rea Vaya bus station in the area) but also because it is a 'hive of activity'. As there were always many people accessing the space and/or using their laptops and smartphones at different times of the day – perhaps due in large part to the presence of WiFi within the park and around the Rea Vaya station – with no fear of being robbed, it looked like a very safe place to conduct the interviews, and contributed to the researcher's comfort and safety. All of the people that the researcher approached and asked to interviews were extremely friendly, approachable and willing to answer the questions, which made the interview process much easier. A remarkable or highlight interview was once conducted with a small-scale farmer women who was seating at the park with her phone surfing the net. The points she made brought to the researcher's

attention the potential the Rea Vaya has to improve people's lives socio-economically (to be discussed in the latter chapters, most notably Chapter Four)

An important fact to note on-site, and in the initial stages of the fieldwork, was that not all the people who accessed Thokoza Park and who were encountered by the researcher were from Moroka. While this made it somewhat difficult for the researcher to identify 'bonafide' residents of the study area, encounters with such individuals brought to light an interesting observation. Whilst most of them agreed that they benefit from the Rea Vaya station in the study area, they felt excluded by the bus system – most argued that Rea Vaya was biased and catered mostly for people who reside in Moroka, Orlando and Dobsonville and lesser for those who reside in other parts of Soweto and Johannesburg such as the Glen and Lenasia.

3.4.5 Approach

Finding the confidence to approach strangers for their story and photos was challenging. However the more I randomly stopped strangers, the easier it became to approach more participants. The approach was to greet a person, ask for a few minutes of their time, if they agree hand them the PIS while also explaining it to them. Upon their verbal agreement, give them a pen to sign the PIS and thereafter ask them questions. All interviews were completed. Most people did not allow for their pictures to be taken and therefore proved as a challenge to have enough pictures of the site as it was occupied. I was particular about who I wanted to form part of the respondents; the selection of respondents was therefore not random. Only individuals who had been residing in Soweto for more than eight years at the time of study were allowed to be participants. As Rea Vaya was introduced to Soweto approximately eight years ago, the researcher assumed that that the residents who had been residing in the area for that long knew the township/place best and thus could account for the changes in the area prior and after the introduction of Rea Vaya.

It was easy for me to approach people in the park and ask them for interviews as majority were warm, receptive and willing to participate. However there was a few who suspected that I might be a journalist or a Political representative or someone that could not be trusted; they only trusted me once they saw my student card. From asking them questions about the

dysfunctional system, commuters began to give more information with many brought politics into the conversations- that is blaming the ruling party for employing 'incompetent' people. Most people that I had conversations with in the bus were not Moroka residents but where going to the Thokoza Park station to catch the complementary bus to take them to work while some got off along the way either at hospitals or school. No participant was interviewed inside the bus or bus station. As most respondents could articulate themselves better in isiZulu – the widely spoken language in the focus area – the researcher reasoned that isiZulu would be the best medium of communication between her and her respondents.

The visual quality of the area was estimated through observation, and the researcher observed the aesthetic character in the study area, the use of Thokoza Park as the main nodal area and/or community facility, as well as pedestrian activity. The change in the use of community facilities and/or the built environment was scrutinised during interviews, which aroused questions related to changes in the use of Thokoza Park.

3.5 Data analysis

The data analysis was aided by the use of the Microsoft package, particularly Excel, a programme that proved efficient in the recording and graphic presentation of written data. The responses from survey questionnaires were presented in the form of pie charts and bar graphs. " As this is a naturalistic (imitating real life) study; the data will therefore be presented in a descriptive, narrative form rather than as a scientific report. The overall analysis will present participant's experiences and challenges. This will allow readers to understand the experiences and challenges narrated to the researcher by participants.

The surveys were aimed at the identification of patterns and themes from participants' perspective and thereafter explaining these. The data is presented under different themes/ concepts; benefits, accessibility, neighbourhood safety, visual quality and liveability. Some of the themes were initially expected based on the insights from existing literature while several other themes emerged at data coding and analysis stages Bloomberg and Volpe, 2008)."

3.6 Ethical considerations

Many scholars who discuss qualitative research design caution to the importance of ethical considerations when conducting interviews (Locke et al, 1992; Marshal and Roseman, 1989; Merriam, 1998). Ethics clearance was approved by the School Of Architecture And Planning Human Research Ethics Committee at the University of the Witwatersrand (see Appendix 4). The study depended on data provided by people both in terms of observations and survey questionnaires. It is important to note that conducting interviews in the community is an 'invasion' itself and that there would be a likelihood of some community members noting the presence of a stranger in their midst which may have then offset certain social change processes (Creswell, 2007). On every day that the researcher spent on site, the researcher carried her student card with her and showed it to every respondent, all in an attempt to be transparent about her role in the study area. Everyone who was a participant in the study gave the researcher the permission to conduct the interview, and every participant was requested to read and sign the Participants information Sheet (PIS) (see Appendix 3). The PIS contained the rights the participants have during the course of the interview, one of which was the right to withdraw from the interview/research process in the event of doubt and uncertainty about participation. Even though the objectives of the study were outlined in the PIS, the researcher was aware of the possibility – or perhaps actuality – that some community members were semi-literate or illiterate. It was thus important to articulate the objectives verbally to all respondents for clarification purposes. As well, it was important to treat the community with respect/dignity and not to mislead the community. It was also imperative that the community not have any unrealistic expectations, and the researcher went to great lengths to ensure that they all understood the purposes of the study. Overall, it can be said that respondents were more willing to participate than expected as most of them understood that the researcher was neither a journalist nor a municipal worker. Participants were also assured of anonymity. Moreover, only participants above the age of 18 were interviewed and no sensitive or confidential questions were asked.

3.7 Other Limitations and challenges

One potential conceptual difficulty can be determining the causality of impacts. Arbuckle (2009) confirm this by arguing that “one of the most important, yet most difficult, tasks of an impact assessment is to provide convincing evidence that the measured changes, or impacts, can be attributed to the program being evaluated.” This potential difficulty was addressed through mindful structuring of questions during interview situations. Careful wording was important in all phases of the interview. As the interviews were conducted during the 2016 municipal election period (in August), conducting the interviews was challenging in the sense that many participants answered questions by making reference to the failure of either the governing party or other main opposition parties. Yet, the researcher tried by all means necessary to stay impartial and not necessarily agree with their political views.

CHAPTER 4 - FROM THE MOROKA COMMUNITY PERSPECTIVE: EMPIRICAL ANALYSIS OF REA VAYA'S IMPACTS

This study is an impact assessment more than it is an outcome analysis. Whilst outcome analysis asks whether the implemented project achieves its objectives, impact assessment asks about any possible intended and unintended impact that has been caused by the project (Sarantakos, 2005). Given the fact that projects are meant to assist communities, Impact assessment studies are particularly important, as they are the only study that give satisfactory results to questions about the usefulness of a project (Sarantakos, 2005).

Based on a triangulation of data yielded by the data collection methods of the study, this chapter presents the key fieldwork findings. The findings are categorised and presented through nine different themes.

4.2 Appearance versus reality

Bus stations feature passenger information such as bus time schedules, maps, self-service loading machines, seating areas and a cashier. Since the beginning of the field work, the self-service machines have not been operating, and participants also confirmed that the self-service machines have never worked since their installation at the Thokoza Park bus station. Each bus station has eight seats for passengers waiting to board the Gautrain, and each bus has eight seats reserved for special people (pregnant, disabled and old). The bus stations do not have any air conditioners and heaters, and on many occasions, the researcher's fellow passengers and selected respondents lamented about the poor quality of the station structure, saying that it gets cold during winter whilst the station roofs leak when it rains and/or during the rainy season.

The Rea Vaya markets itself as a better mobility solution; Fast modern, short waiting times, reduced travel times, greater flexibility, affordability and accessibility (Rea Vaya, n.d). Further the electronic ticketing system is promoted and supported as a feature that is supposed to benefit everyone. While the story about the Rea Vaya is painted as one that offer convenience

for people, on the ground things are not as they seem. It is Ironic that a so-called world-class bus service of this calibre has such shortcomings. More interesting is that despite many complains on social media these things have been dysfunctional for quite a long time now. On the other hand although the CoJ is claiming that prices are affordable, on the ground this is not necessarily the case because a lot of people cannot really afford. From the findings it is clear that the nice thing about the BRT is that the seats are more comfortable (and perhaps that way, it more 'disability-friendly when compared to other modes of transport) and it has its own lanes (which then adds to its ease of access as well as convenience).

Whilst the researcher noted that the Rea Vaya bus station(s) and fleet were disabled-friendly, it was somewhat troubling to observe that handicapped passengers were nowhere in sight in the buses and at the bus stations. However experience from a wheelchair bound user says that she commends the Rea Vaya for being one of the most disability friendly public transports in Johannesburg (www.thejournalist.org.za/kau-kauru/wheelchair-bound-and-in-search-of-accessible-public-transport).

Palesa Manaleng a qualified journalist narrated how difficult it was for her to commute with public transport in Johannesburg after being involved in an accident which left her paralysed and wheelchair bound. She explains that her first experience with public transport was not a pleasant one. Amongst all the public transport, she laments that the challenge for wheelchair users is getting to the bus stations- the pavement makes the task to get to the stations and stops difficult without extra help as they do not have ramps.

With minibus taxis- a wheelchair user always need someone to be with them to help get into and off the taxi and further needs to pay for extra seating space for the wheelchair. With metro buses- the buses do not have wheelchair designated spot. People also have to help you into the bus; however it is better when compared to Putco buses as it has wider spaces between seats which can be used by wheelchair users compared to Putco which has narrow entrances. She commends the Rea Vaya for being disability friendly- despite the fact that its bus stops do not have ramps for wheelchair users, Rea Vaya stations have a ramp, and its buses have designated wheelchair spots and seat belts.

4.3 General community

Whilst the researcher had ease approaching and engaging potential participants for the study, it was somewhat awkward screening and selecting interview respondents. What made it difficult to do this had to ask them a question that served as the main selection criterion – how long they had been staying in Soweto. Only individuals who had been residing in Soweto for more than eight years at the time of study were allowed to be participants. As Rea Vaya was introduced to Soweto approximately eight years ago, the researcher assumed that that the residents who had been residing in the area for that long knew the township/place best and thus could account for the changes in the area prior and after the introduction of Rea Vaya. Yet, the fact that all the approached participants – whose ages ranged from 20 to 78 years old - said that they had spent all their lives residing in different townships within Soweto contributed to the ease of identifying respondents for the researcher, who then equated their ages with the number of years spent living in Soweto. The researcher encountered people who had lived in Soweto for their whole life and not people who just moved into the area, thus making the interview process convenient.

4.4 Participation

Respondents were asked whether or not they had been informed by any party about Rea Vaya prior to its implementation. The significance of this question lay in its ability to bring to light the nature of public participation that the City undertook prior to the introduction of the bus system as well as uncovering the extent to which the decision to implement it was influenced by the community. As can be seen from figure 17, only three out of the seventeen respondents – 15% - reported knowing about the development prior to its implementation in their neighbourhood. Interestingly, all those who knew about the development prior to its implementation had some form of relation with the City - one woman is an ANC member, the other is a small scale farmer who is being sponsored by the government while the male is a former Rea Vaya bus driver. The remaining 85% said that they only started hearing about the bus system in its construction phase; and most people claimed to have heard from taxi drivers and PUTCO bus drivers on taxi/bus rides. This gives the impression that only those who are

connected to the city are in a better position to know or perhaps knowledge is political. It also seems as if the city was more in communication with taxi drivers than the public.

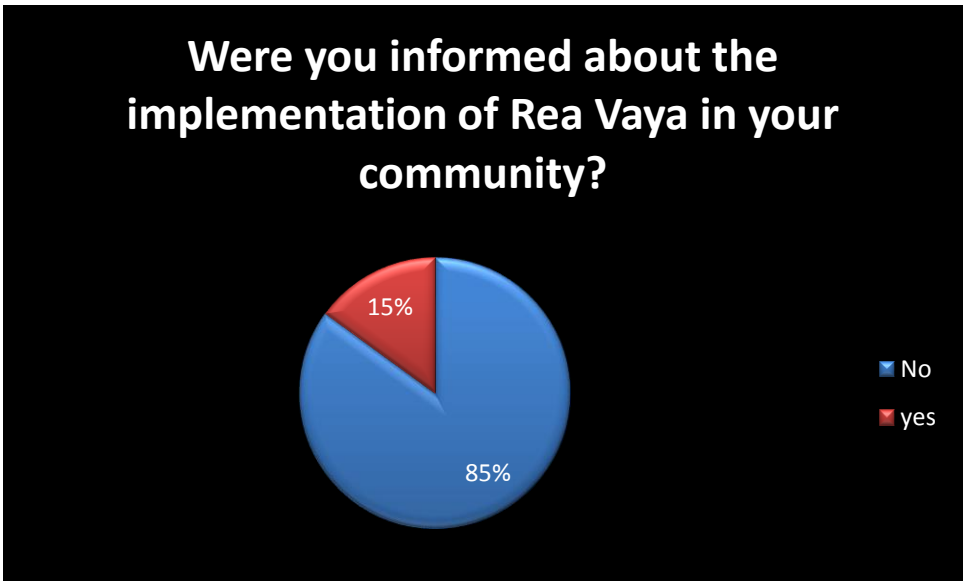

Figure 17: Residents who were informed about Rea Vaya relative to those who were uniformed

As it appears, many people in the study area were not well informed about Rea Vaya plan especially from the government. This is surprising especially in light of the fact that Rea Vaya publications argue that extensive public participation was conducted. There seems to have been an assumption from government that the residents of Soweto approve this transport development, which is not entirely true as shown from the findings.

4.5 Community expectations

Respondents were asked what expectations they had prior to the implementation of Rea Vaya in their neighbourhood. Some participants did not have any expectations as they said they only got to know about the BRT when it began with its operation. Here respondents were given the freedom to name as many expectations as they can give.

Almost all of the respondents stated that they only started having expectations about Rea Vaya BRT after the commencement of the construction phase. Most participants expected the bus system to be the most affordable mode of transport in the area, which would enable them to

save on transport and/or cut back on mobility costs. Nevertheless, these expectations were somewhat not met when the bus fares – which began at R5 - escalated to R9.20 and most of them said that they had assumed that the fares were going to remain low. As the graph below shows, most respondents said that they expected the bus to be affordable especially because it is a government initiative.

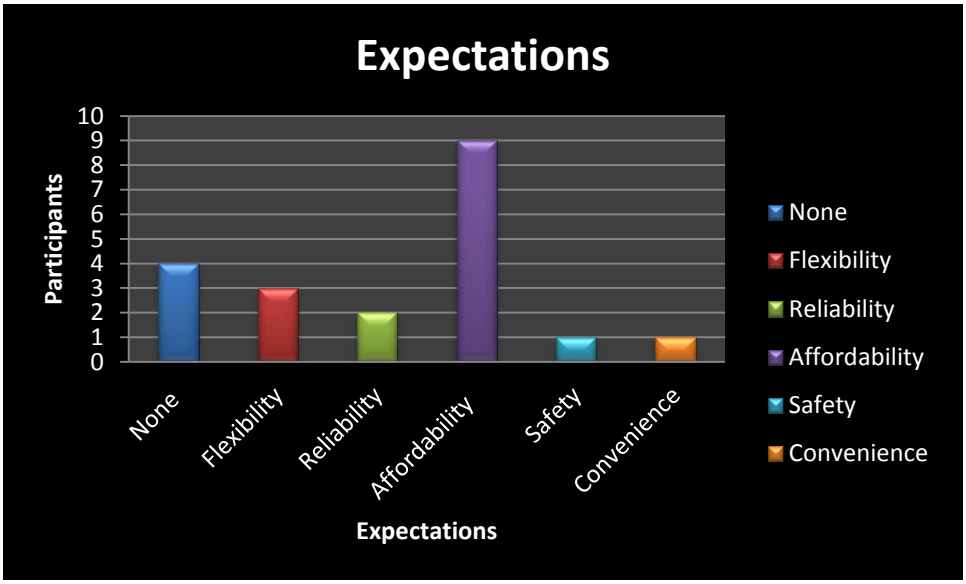

Figure 18: Community Expectations

Most participants said that they also expected Rea Vaya to operate more or less like taxis in terms of flexibility, with one respondent saying, “We have never seen a bus that operates this way because we are used to Metrobus and Putco.” Respondent said that they expected Rea Vaya to not only be reliable but also afford them better services than taxis in terms of safety and convenience.

While the system has managed to attract private vehicle users, it has not been easy on MBT users. From the findings, this can be eluded to two reasons - area coverage, convenience and commuting fares. Currently taxi fare from Thokoza Park to Johannesburg is R10.50 and R13 by Rea Vaya. Second convenience gives minibus taxi the advantage over Rea Vaya. This is because whilst the Rea Vaya has dedicated corridors taxis are flexible and can literally drop one off on their doorstep.

This study together with that conducted by (Vaz and Venter, 2011) reveals that the introduction of the Rea Vaya has not been able to keep the costs of travelling low. From COJ policy documents we get that, this has been because the Rea Vaya is not attracting as many people as the city anticipated which leads to less revenues. To make up for this, the city increases the bus fares. However on the other side the system is trying by all means necessary to attract customers that are still buying into the systems they know and are accustomed to. The city has come up with initiatives to encourage the use of Rea Vaya through the day; commuters are given 10% discount during off peak hours which is between 08:31 am and 2:59 during week days. Commuters are also given back points for loading their smart cards with amounts from R60. From observation during off peak hours, the Thokoza Park Station is rather empty with only a maximum of about of 10 individuals.

4.6 Visual quality and liveability

Respondents were asked how they felt about the introduction of the system in their neighbourhood, whether they are happy with the appearance or not and whether they feel as if it is part of their neighbourhood or not. These questions, to a greater extent, shed light on the extent to which community members in the study area have personalised the bus system.

The researcher discovered that in so far as there were complaints pertaining to Rea Vaya's operation, all the respondents said they were happy with the introduction of a new bus system into their neighbourhood. Most argued that Rea Vaya was the best transport system that could have ever been introduced in their area, with one participant stating: "We never thought we could get something so fancy." Moreover, all found the bus system's physical bus stations aesthetically pleasing and as something that was least expected, which was somewhat surprising in light of the angry rants on social media platforms and the complaints about Rea Vaya that the researcher got wind of on the bus rides to and from the study area. This demonstrates that people will always talk no matter what; some are there to give positive and some negative criticism which should all be taken into consideration.

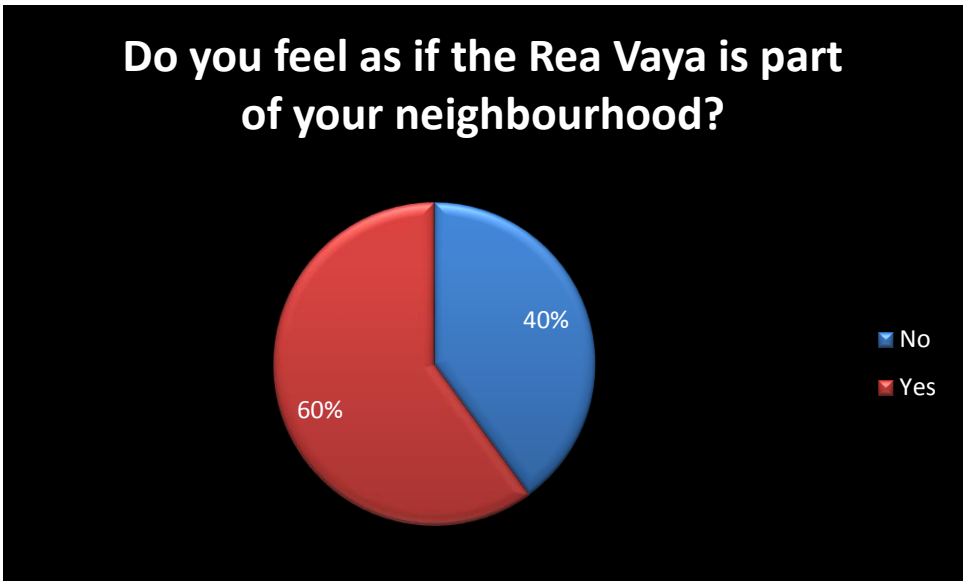

Figure 19: Percentage of people who think Rea Vaya is part of their neighbourhood

Even though most participants (85%) were not well informed about the Rea Vaya prior to its implementation, most of the respondents (60%) appeared to appreciate the efforts made by the government to improve the physical character of their neighbourhood. The participants who replied in the affirmative seemed to appreciate, more than anything, the physical character that has been ushered in by Rea Vaya - beautiful bus stations adorned by colourful/conspicuous local artworks (and have become points of reference for some community members), the improved sidewalks, to mention but a few. The participants who replied in the negative (40%) argued that in so far as they also appreciated the development, they did not pride themselves about it. Such participants spoke more about the bus system's limited area coverage thus implying that the community was not consulted in regard to which areas they would like the Rea Vaya route(s) to penetrate**.** Some even said that they felt more like clients than owners of the Rea Vaya development, and one participant made this expressly clear by stating that, "It is for the government; we were not asked what we want."

When the respondents were asked whether or not they use Rea Vaya, as well as their reasons for using it or not using, the researcher's primary objective was to separate the responses of users from those of non-users. This question yielded interesting responses.

Amongst the participants, only two have never used Rea Vaya whilst the rest of the people that fall under non-users had only used Rea Vaya in its first year of implementation. The reasons for this were varied - for some it was an issue of affordability (especially since Rea Vaya fares increase annually) whilst for others (five) it was simply a matter of preference and convenience (they preferred taxis and Putco bus to the Rea Vaya bus).

The Rea Vaya seems to be well accepted and appreciated by most members of the community. This signifies that the infrastructure investment into the community has been considered as a positive intervention by the community - a perception that seems to be building local pride and improving social cohesion.

Respondents were also asked what mode of transport they used to get to the bus station. The researcher needed to get a sense of the degree (if any) to which Rea Vaya is integrated/linked with other modes of (public) transport.

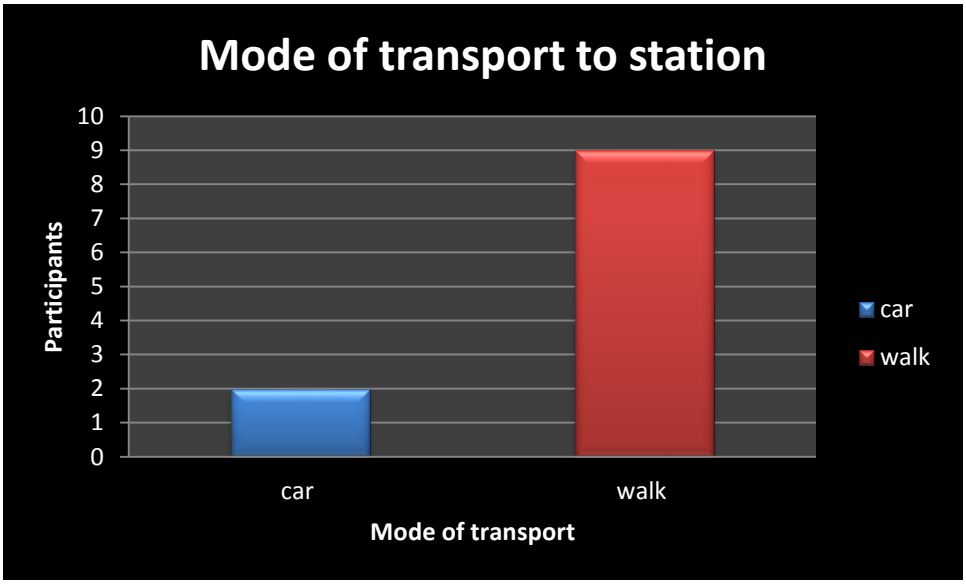

Figure 20: Mode of transport used to get to the Rea Vaya Bus station

As Figure 20 above shows, none of the bus users used a taxi or other standard buses to get to the Rea Vaya bus station.

8 users out of 10 said that they used non-motorised transport (NMT), particularly walking, to get to the Rea Vaya bus station while only 2 used their own cars to get to the bus stations. It

proved challenging to interview motorists who use Rea Vaya in the mornings, they were rushing to get the bus while in the evenings they were rushing to get home. As a result of this, not many of them were interviewed. From observations the only improvements made are in the immediate surroundings of the bus station. Respondents also said that there has not been Improvement in safety of the neighbourhood which has led to some of not being able to use the Rea Vaya at certain times of the day. Four women out of five said that they only used the Rea Vaya Bus when coming back from work and used taxis in the mornings; and this was attributed to the precariousness of the route they take to work in the early hours of the morning. Even though the park is regarded as one of the safest areas in the neighbourhood, safety has not improved for other parts of the neighbourhood or even major walking routes.

4.7 Safety

Respondents were asked whether they think the safety of the neighbourhood has improved since the inception of Rea Vaya into the neighbourhood.

In answering this question, the participants were very specific about the areas which contributed to their feelings of safety and security in the neighbourhood of Moroka. They spoke of three particular areas - the Rea Vaya bus station, the parking lot and Thokoza Park – and gave reasons as to why such areas made them feel safe. The reasons pertained to the presence of human surveillance and/or natural surveillance (eyes on the street) in such areas. For instance, the bus station was regarded as safe due to the presence of security guards, the parking lot was viewed as safe because parking lot attendants, and the park was regarded safe because it is frequented by many people at certain times of the day. Interestingly, the Rea Vaya bus itself was regarded as safe and earned high marks for passenger comfort than mini-bus taxis due, in part, to the presence of security guards on buses.

The Thokoza Park Rea Vaya station consists of a park and ride facility. The park and ride comprises parking space for about 100 cars. On the days of the field work, the parking lot was full to capacity, other cars had to park on the sidewalks. The parking lot does not have any formal security or official regulation and is currently being regulated by six male community

residents from Soweto who guard and wash some of the cars for cash in return. These six individuals are regarded as place manager of the park and ride facility. “Place manager can include persons such as bus drivers and parking lot attendants who perform surveillance function by virtue of their positions ", (Welsh et al, 2010: 8). The difference between security guards and place managers is that, unlike security guards, for place managers, surveillance is secondary to other duties within their jurisdictions. The ability of security guards and place managers to prevent crime lies in their presence: potential offenders are discouraged from committing crime due to increased risk of being detected (Mayhew et al, 1979).

The introduction of the Wi-Fi has formed part of surveillance measures in Thokoza Park. From the findings, it is clear that the rehabilitation of the park and installation of free Wi-Fi that has come with the Rea Vaya has increased the use of the park; this has further intensified natural surveillance and in turn reduced crime. This phenomenon is called Ambiquitous computing. Ambiquitous computing allows communities to have access to the internet on their smart phones or laptop through wireless internet connection (Pule, 2013). Improving surveillance measures of an open space is said to affect offender’s perceptions about an area due to the possible number of witness that can intervene to prevent the crime (Cohen and Felson, 1979).

The use of space varies according to time, day and what is being offered in any area (Worpole and Knox, 2007). From observations, people begin to gather in the park at around 10h00, and during lunch time people come to the park to have lunch and get back to work. The flow of people at the park becomes dominated by school learners from 14h00 to 16h00 and employees’ flow from 18h00 to 20h00. This further supports claims made by respondents- that the park is regarded as one of the safest places in Moroka due to the presence of people from in the morning to the evenings.

4.8 Benefits

Respondents were asked what benefits have been brought to them by the Rea Vaya bus system. The responses are expressed diagrammatically in Figure 21 below.

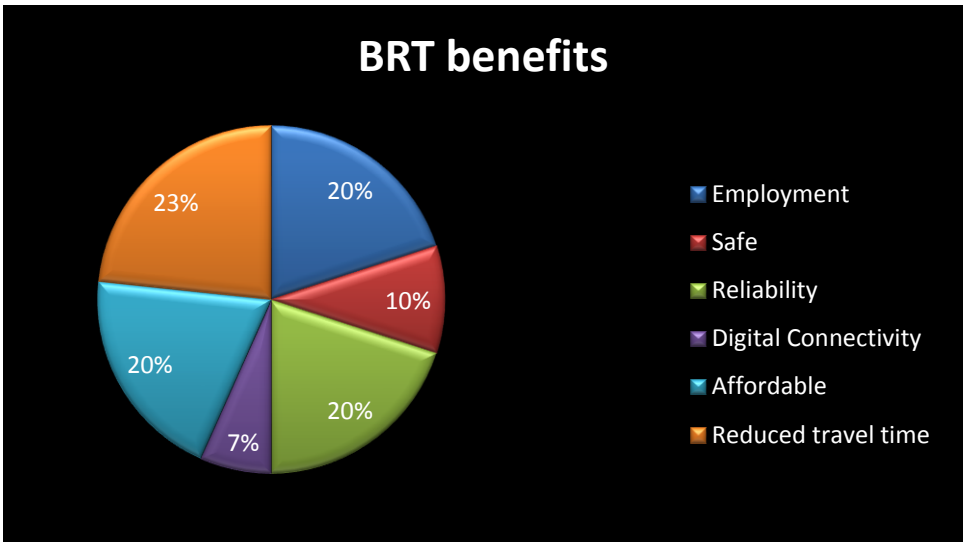

Figure 21: Benefits brought by the Rea Vaya Bus

As shown by Figure 21 above, Rea Vaya is credited more for its contribution to decreased travel times than anything else. This, to a greater extent, is attributable to the fact that Rea Vaya has segregated bus lanes which implies that it, in comparison to other modes of road transport, is the least affected by traffic volumes/congestion. Figure 21 also shows that regardless of the complaints by many that Rea Vaya fares are increasing and thus becoming unaffordable; Rea Vaya is still regarded by a fifth of the respondents as affordable. As well, whilst Rea Vaya is also regarded as reliable by 20% of the respondents, the majority of the respondents who use the BRT commended the bus(es) for being at the stations on time, especially during peak/rush hours.

The CoJ's introduction of the Wi-Fi network to BRT stations in 2015 has also proven to be a drawcard for many community members, most notably youths. Upon engaging with the youths of Moroka, the researcher realised that they praised Rea Vaya for, above all else, granting them digital connectivity (WiFi). Even though some respondents alluded to the WiFi system's technical problems - its 'slowness' and failure to connect them to certain sites - they were

generally happy with the free internet access that they have been afforded by the Rea Vaya station as well as the socio-economic opportunities that have come with this. Nowhere was this more evident than in an interview with a small-scale business woman who applauded the local government for having introduced free Wi-Fi on the basis that the free internet had afforded her the opportunity to conduct her business research online as well as keep in touch with her clientele, an important thing for her especially since she claimed not to have enough funds to cover all her technicalities.

One of the things that the researcher was interested in was uncovering the degree (if any) to which the use of community facilities such as Thokoza Park has changed since the implementation of Rea Vaya in Moroka. The researcher was particularly interested in this facility not only because it serves as the major focal point for the community but also for reasons of its close proximity to the Rea Vaya bus station, especially compared to other community facilities.

Indeed, the use of Thokoza Park has changed significantly since the operation of Rea Vaya, at least according to all the respondents. According to the respondents, prior to the materialisation of the Rea Vaya bus station, the users of Thokoza Park could not access the park after 18h00 for fear of crime. The fact that Rea Vaya is operational until 21h30 – coupled with the fact that the stations comprise human surveillance – has meant that the community members and/or park users can stay in the park for longer periods. Naturally, this has had positive impacting the public realm of Moroka. Safer spaces (2015) reveal that public spaces in the post-apartheid South Africa have fallen because they are regarded as being unsafe. This comes after reports of incidences such as rape and murder that occur in public spaces. A recent one being the case of Rhodes Park whereby two couples were attacked and some individuals were raped and murdered (Mchunu, 2015). This has seen a decline a decline in the public realm and has seen public spaces such as Mary Fitzgerald Square and Pieter Roos Park remaining under-utilised. This phenomenon (Ambiquitous computing) offers an opportunity to change the face of South African public spaces.

Not only that, Thokoza Park, which was most frequented during weekends prior to the introduction of Rea Vaya, is now also a hive of nodal activity on weekdays due, in large part to the availability of free WiFi. Indeed, the researcher's observations of the activity in Thokoza Park – youths browsing the internet using their cellular phones, laptops and tablets - confirmed that WiFi brought about by Rea Vaya is the major drawcard for the park users.

Perhaps another amenity that has seen increased activity/use after the introduction of Rea Vaya is the park-and-ride facility adjacent Thokoza Park (see Figure 22 below). Beneficial for car users who wish to use the Rea Vaya, the park-and-ride was, prior to Rea Vaya, only used during weekends, especially on Sundays by Regina Mundi church members. Following the introduction of Rea Vaya in the area, the facility, according to the respondents, used daily by Rea Vaya users and is always filled to capacity (also see Figure 2 below). Site visits showed that indeed, there is lack of parking space in this facility, so much so that other cars had to be parked on pavements, thus encroaching pedestrian space (see Figure 23 below)



Figure 22: Park and Ride facility Moroka fully packed



Figure 23: Overflow of cars in pavements at Park and Ride Facility

When asked how Rea Vaya would/has impacted on their choices of where to live – particularly whether their choice to move out of Moroka to other parts of Soweto and/or Johannesburg would be curtailed by Rea Vaya in the near future – all respondents replied in the negative, albeit for different reasons. While most elderly people argued that they would not move to other places on the basis that they had resided in Moroka for a long time and thus considered it home, their reasons for wanting to stay on in Moroka had nothing to do with the presence of Rea Vaya. The same sentiment was shared by the younger respondents, most of whom reasoned that despite the presence of Rea Vaya in their neighbourhood, they longed to live in other places such as Sandton and Midrand. The researcher thus concluded that Rea Vaya had, and would likely have, very little impact on community members' choice to move out of Moroka.

4.9 Complains and Suggestions

It is always important to listen to people's stories and experiences regarding a project in order to adequately improve the system's performance. Although residents seemed excited about the introduction of a new public transport system into their neighbourhood. However, they still had suggestions as to how the system could be improved and/or optimised. After having sensed that her fellow Rea Vaya commuters had suggestions regarding how Rea Vaya could be

made better, the researcher was inspired to devise a set of questions that spoke to recommendations for the City from the community. Respondents were thus asked to give suggestions that may increase Rea Vaya's operational benefits. Here respondents were given the freedom to name as many suggestions as they can give. The most prominent suggestions are tabled in Table 2 below in descending order:

System upgrade and customer service
Increased area coverage/ flexibility
More buses
Direct buses instead of transfers
Decrease bus fare rates
Bring back cash payment system
More seating areas at bus stations
Toilets at the stations
Different rates for learners and old people

Table 2: Complains and Suggestions from community in descending order

As shown by the table above, the two most prominent complaints were with regards to the poor system quality and area coverage.

4.9.1 System upgrade and customer service

The Rea Vaya ticketing system seemed to be a nightmare for many respondents. The system has two types of ticket regulating systems. The first is a smart card ticketing service which allows passengers to load funds onto the card and swipe it at the bus station to gain access through automated electronic gates. The second is the paper ticket service that can be bought at the station and be used to also gain access into the station through the automated electronic gates.

According to the respondents – and based on my experiences at the Rea Vaya stations in Johannesburg and Moroka - the ticketing system is often offline. This then implies that smart card users with limited credit on their cards have to either pay a fine, go back home or use alternative modes of public transport. This was perhaps better articulated by one participant in the excerpt below:

> "These stations are more offline than operational. You have to guess what your balance is and hope it's enough when offline and you do not have sufficient balance. There is not always a cash accepting ATM in close vicinity to load the smartcard. If not, then you're left stranded."

The failure of the ticketing system does not only have a negative impact on everyday commuters but also has external implications for the car guards at the park and ride facility in Thokoza Park especially since the lesser the number of car users, the lower the amount of money they make. The boys who have taken the opportunity to become car guards stated how this has enabled them to financially provide for their families.

Many people were happy with the use of the smart card as they could load it prior to boarding the BRT and be granted discounts if they loaded money in bulk. However, as the system was offline at the time of writing, and had been offline for some time, the smart card users have been forced to resort to the option of purchase single trip tickets which cost approximately R15. It was precisely for this reason that many urged the City bring back the cash system so that they can use cash when the system is offline.

4.9.1.1 Change

It seems that there is reluctance to (adapt to) change on the part of Moroka residents and Soweto citizens as a whole. Even 6 years after the Rea Vaya has been implemented it is difficult for residents to crossover. Brickford et al (: 11) states that "Today information technology is a fundamental aspect of Urban lifestyles". ICT platforms and hardware are therefore used to communicate information and to improve systems service. However many of the respondents

said that they prefer the paper ticketing system compared to the smart card – the smart card requires a pin and in case one forgets it they need to buy a new smart card. The smart cards are therefore regarded as being complicated for many and seen by others as something that is made for the literate. This was perhaps better articulated by multiple participants in the excerpts below:

"Buying the ticket is expensive and once you forget the pin then it is over cos you need to buy another one"

"What is really frustrating is that if you lose your card then you need to buy another one with R25, and transferring the money from your lost card can take up to 30 days"

"These things are too complicated and most of the times the clerks don't seem to know the solution"

These complaints became understandable after visiting the Rea Vaya website (http://www.reavaya.org.za/consumer-information/smartcard-information) From the Rea Vaya website they say that for the process of transferring your balance to your new card, you don't only need to know your personal details but also know the number of the old smartcard and expiry date. This further shows how complicated the system can be especially for elderly people. Even if one writes down these details on a diary or somewhere, anything **can happen this means that there is a high possibility that one will not be able to recover their money.**

4.9.2 Area coverage

One of the complaints that were shared by users and non-users of Rea Vaya pertained to the bus system's area coverage. For the two participants who have never used Rea Vaya, they said that they would use it only if it could go to their destinations). For them, using the Rea Vaya would be expensive in the sense that Rea Vaya does not reach their places of socio-economic opportunity, which means that they would then have to board other modes of public transport (taxis, Metrobus) to get to areas of work, thus incur more costs. Some Rea Vaya users also shared the same sentiments, stating that they would like it if the bus could increase coverage to

other places such as Lenasia and other neighbouring places of interest. Palesa Manaleng the wheelchair bound individual also says that even though the Rea Vaya is disability friendly, “it does not reach half the places that Putco and metro buses reach either”. It is clear that the fixed stations and chosen corridor are proving to be somewhat hindering the Rea Vaya’s flexibility and have rendered some of parts of the area accessible and others not.

Respondents also made mention of the issue of being transferred from one bus to the next - from a complementary bus to a Trunk route bus. There are buses which do not have a direct route. The bus stations are often clogged during peak hours, with people standing in long queues waiting to catch the next bus. Most of these people have been transferred from a complementary bus that is coming from another location, and what is problematic about this type of strategy is not just the fact that people often have to wait in lines for yet another bus to take them to work areas, thus tediousness of Rea Vaya. The main challenge is that the time schedules of the complementary bus and trunk buses often clash, leading to people sometimes getting to work late.

4.9.3 Suggestions from the community perspective

Participants proposed the following suggestions to improve the operational success of the Rea Vaya Bus:

- Introduction of a self-service system in order to relieve the workload for the administrative clerk
- Allowing commuters to use cash that is equivalent to the fare charged on the smart card
- The introduction of more seating areas inside the bus stations as it gets crowded especially during peak hours and people have to stand while they wait for the bus
- The introduction of toilets at the bus stations

- The introduction of different/lowered rates for learners (in the manner of the Metrobus system)

Four participants out of 20 said that they no longer used Rea Vaya because of the bus fare hikes. During its first few months of operation, the bus fares were R5 per trip. Seven years later the bus fares are R11.50. The biggest challenge however seems to be the little area coverage and lack of flexibility. Non-user participants said that despite the difference in costs, they preferred using the MBTs due to their ability to navigate different routes (thus flexibility) and their propensity to drop the respondents off at their door step compared to Rea Vaya which drops them off at a fixed station.

4.10 Summary

The conducted interviews, recorded observations and supporting literature brought to our attention various issues. First it was surprising to find out that many people in the study area were not well informed about Rea Vaya plan especially from the government. Even though the government might have had good intentions for the community, it seems that they did not ask for input as to what kind of transportation or even the routes they would prefer the bus to go to. second is the issue of appearance vs reality- that the so-called state-of-the-art infrastructure emphasized on the Rea Vaya website and documents is broken/ dysfunctional. However on the other side it has to be acknowledged that the Rea Vaya has come as the best public transport for the needs of the disabled specifically the wheelchair bound citizens of Johannesburg. From the findings it seems that the Rea Vaya fails to attract a significant number of MBT and private vehicle users due to the routes it takes.

CHAPTER 5: CONCLUSION AND RECOMMENDATIONS

The main aim of this study was to provide an account of the social and economic impacts of Rea Vaya on communities, at least from the perspective of various community members in Moroka. The objectives of the Rea Vaya BRT in Johannesburg are to improve the quality of life for previously disadvantaged communities by affording the opportunity to access various socioeconomic opportunities, provide sustainable, safe and reliable alternative public transportation and promote social inclusion.

This study was important as it first, revealed whether the government was well informed about the needs and the challenges that need attention in the community. Second, reveal whether residents are pleased with the development or not and third reveal both positive and negative implications of Rea Vaya for the residents of Moroka. As the BRT model is increasingly being replicated by other big city governments in South Africa (cf. Tshwane, Cape Town, Ekurhuleni), it becomes important to unpack the lessons that Rea Vaya presents for other cities as well as how other cities can optimise the participation of communities directly affected by BRT developments (both users and non-users) in order to mitigate controversies and increase their BRT customer base

5.2 Summary of Findings

The results from the study not only highlight the challenges of Rea Vaya in the study area (and perhaps in other areas where the system is operational) but also highlight factors that are impeding the success and operation of the mass transit system in Johannesburg. This is in particular with reference to Rea Vaya's time schedules, ticketing system, fare prices and flexibility. Having all participants express their frustrations about the system – albeit in varying degrees - signifies a need to put in place improved regulatory technologies if the increase in ridership is to be realised.

Interactions with the study site as well as both passive and active participants suggest that the BRT passengers form different groups with the majority of both users and non-users expressing

sensitivity to fare prices and quality of service. Affordability seems to be an important factor to consider in the City aims to contribute to poverty reduction.

The study revealed that many people were not formally informed about the development and introduction of Rea Vaya in their neighbourhood. Even though most participants appreciated the development, the fact that most of them were not incorporated in the bus system's decision-making processes and had little-to-no input in the project has made many reason that the development is more for the government than it is for the community.

It was interesting to find that the Rea Vaya non-users use MBTs. Rea Vaya non-users who participated in the study said they continued to use MBTs on the basis of the MBTs' flexibility and ability to navigate other areas that Rea Vaya cannot penetrate. The results of the study conducted by (Vaz and Venter, 2011) in the Orlando BRT station show that Rea Vaya benefits the middle class rather the of the lower income residents that it is supposed to catered for. This was proved by the number of people who commute by rail transport instead of the Rea Vaya mostly due to reasons associated to costs. From this study, the all week fully occupied park and ride facility may signify that benefits are also being skewed towards the middle income.

A look at the community's expectations of Rea Vaya as compared to the bus system's actual benefits reveals a small chasm between the expected and what actually is. Whereas the community expected the bus fares to remain low and thus meet their affordability needs, Rea Vaya fares have been on an upward trajectory since the bus system's introduction in 2009. Additionally, Yet, there have been benefits associated with Rea Vaya that were somewhat not expected by the community members, most notably the City's introduction of the Wi-Fi system inside the BRT station and hotspots within Thokoza Park. Not only has this rejuvenated public spaces by enabling people to meet in nodal/focal points – thus 'awakening' the public realm - it has also had positive socio-economic implications for community members such as small-scale entrepreneurs who use the free internet to extend their business networks, among other things.

The Rea Vaya routes follow the existing high volume corridor between Soweto and the Johannesburg" (Arrive Alive, n.d). These are corridors that are already well-served especially by

mini-bus taxis and bus modes. For this reason it does not seem as if the Rea Vaya enhanced accessibility as routes that were previously not serviced remain the same despite the introduction of the new transport system.

From the findings, it is clear that Rea Vaya BRT is not just about transporting people from one place to another but is also about the transformation of spaces, stitching of the fragmented post-apartheid city as well as transformation of ways in which previously marginalised neighbourhoods work.

The study shows that the implications of Rea Vaya, and perhaps any other BRT system, at sub-local level, go beyond the users of the system. While the non-users of Rea Vaya may not be the direct beneficiaries of the project, the disbenefits accrued to them due to the project need to be assessed, and hence mitigation measures planned when proposing the project in other neighborhoods.

5.3 Recommendations

5.3.1 Flexibility/ area coverage

It is clear that the fixed stations and chosen corridor are proving to be somewhat hindering the Rea Vaya's flexibility and have rendered some parts of the area accessible and others not. Commuters still prefer using the MBTs due to their ability to navigate different routes (thus flexibility) and their propensity to drop them off at their doorstep compared to Rea Vaya, which drops them off at a fixed station.

From the findings of the study and literature, this study proposes two options. First to either integrate all modes of transport into one system. In his interview with Steyn (2013) minister of transport Buthelezi said that "MBT were the only answer to public transport and Rail and BRTs can only succeed if integrated with MBTs. Buthelezi further said that rail and bus continue to receive about 11 billion on subsidies, however this relationship " bears no fruit". The city can

therefore acknowledge the fact that some routes might better be suited for other modes of public transportation; the Rea Vaya can continue operating on the chosen corridors while MBTs operate on complementary routes to bring people to the Rea Vaya. This system is used by cities such as the Mexico City (2005), Seoul (2004) and Bangkok (2010) – using the BRT as a transport system to complement rail transport. The introduction of the park-and-ride facility at the station is proving to be a good step into the right direction as an attempt to integrate the different modes of transport

Second, creating a ”network of BRT lines” as suggested by Paul Browning instead of corridors in order to allow for flexible routing options. This system is seen from China’s Guangzhou BRT which consists of 31 different bus routes sharing a 23 km BRT corridor (see figure 10). Its nature expresses the ability of BRT to be flexible and versatile. In an interview with Business Day (2015) transport analyst Paul Browning said that he does not think that the Rea Vaya is for places like Johannesburg, as it currently does not have a population to support the system. He added, “With the development of a BRT system it would have been better to start with high frequency bus services and not special construction of a fixed service”. Mr Lokre shared the same sentiments during peer review training for the Rea Vaya (Berline, 2013: 16). He suggested that perhaps it would be better "to create a network of BRT lines rather than corridors"; he argued that this would increase the potential of the Rea Vaya and allow for numerous routing options”.

This will not only improve the current public transport service but also direct public funds where they are needed the most. Moving forward there is a need for studies on suitable policy strategy to improve the flexibility of the Rea Vaya so that it reaches more people at a time.

5.3.2 Safety

The study has redefined the concept of safety; whereas safety has been known to be influenced by the presence of security guards and CCTV cameras, the study revealed that the presence of Wi-Fi can alter the dynamics of an open space and further improve its safety. In looking into ways to improve the safety of public spaces in Johannesburg, Ambiquitous computing should be taken into consideration.

Digital communication/ Wi-Fi can be used as a way to promote safety in public spaces in Johannesburg and beyond. This will not only provide a social benefit but also act as a poverty alleviation strategy. From the research finding, the introduction of the Wi-Fi has also had positive socio-economic implications for community members such as small-scale entrepreneurs who use the free internet to extend their business networks, among other things. Moving forward, Wi-Fi connectivity can be introduced in different parts of disadvantaged communities such as in libraries, and various hotspots as a way to reduce costs associated with accessing the internet

5.4 Closing remarks: Decision making influenced by the public

The government's justification for lack of direct extensive community consultation is related to financial constraints. Due to this, they resorted to the media (newspaper, radio, Facebook and Twitter) to reach communities. However, 90% of the participants stated that they had little information about the project as they only heard rumours about it and nothing specific. According to Alfred (2015) in 2014, about 48 % of South Africans had access to the internet. Pule (2013), states that most South Africans are restricted by the high broadband costs. Low-income communities tend to be the most affected as accessing the internet has become a privilege (Vuma Reputation, 2015). This is still prevalent in 2016 as shown by the rise of #datamustfall campaign, which got the government intervening in an attempt to find solutions to offer communities the opportunity to access the internet at lower rates.

The Soweto local newspaper (Soweto express newspaper) is distributed in Soweto at no cost and is written in English (bizcommunity, 2016). This means that even though there are people that have access to the social media and the free local newspaper, there are those who are excluded due financial constraints and language barrier.

The lack of access to project information and low understanding of the objectives of a project leads to discrimination and bashing of a project especially by minority and low income (Forkenbrock and Weisbrod, 2001). The public involvement techniques used may not

necessarily be intending to exclude the poor or minority; however the channels used might not be easily accessed by the poor. Even though the project can be implemented without community approval, the community can only accept the project if it knows that their concerns and needs have been addressed in decision-making. The Rea Vaya transport project seems to have had good intentions for the community. However as it appears from the findings, many people in the study area were not well informed about Rea Vaya plan especially from the government. This had led to the city to be perceived as an agency that it is not open to community concerns.

Even though the City makes claims that it faced financial constraints and could not carry out especially face-to-face communication and promotion strategies. Forester (1999) brings to our attention of the use of power by the state to distort spaces of communication. They do this by using various elements, which include image (who delivers the information), information (giving out only certain information), language (technical or simple use of concepts), absence, and presence (the absence and presence of significant personals or even certain information). From the research findings, there is no proof of information distortion by media or government- **only** that the community was not informed.

In relation to the study, Even though the media may seem to be one of the fasted ways to reach many people at once, not all people have access to it; even those that have access to it may not understand and not be able to respond due to the language used.

Foucault states that “knowledge is power" (Odendaal, 2010: 1052). Mkhize (2012: 117) says that collaborative/ communicative planners have knowledge in abundance due to information obtained through interaction with affected communities as well as the information they gain from experience/ expertise". Planners can use a combination of transactive planning approach (exchanging of information between planner and citizen) and critical communicative/ collaborative planning methodologies to make citizens aware of power distorting mechanism, empower and increase benefits of those deprived during communication discourse. Sager (2006) reformulates critical communicative planning in terms of transition costs. This is where" the critical planner counteracts systematically distorted communication by augmenting the

transaction costs of those trying to influence the planned solution by learning their power base instead of the force of the better argument (Sager 2006: 223). The aim here for planners is ensuring access to information for communities for instance who do not have access to social media or who cannot attend meetings and ensure that decision making is founded on facts informed by firsthand experience. Planners should determine ways in which residents receives information and use those medium to reach them and involve them in decision making processes.

Planners should therefore acknowledge that even though some communication platforms seem adequate there are groups who will need assistance more than others. For instance while digital communication may be seen as the best communication platform to reach all stakeholders, it might be complicated for others- it would be better to resort to the traditional face-face communication.

Planners can also use power to empower the community. Planners should use their expertise and with the combination of approaches such as transactive, communicative and advocate planning to ensure that the government or decision making is well informed about the needs and the challenges that need attention in the community.

The study reveals that integrating community impact assessments into transportation planning would increase the effectiveness of transportation decision-making and result in quality transportation projects that address a broad range of community needs. One of the things that this research process has taught the researcher is that decision makers should take the advice given by Jane Jacobs who said 50 years ago;

"Go out there and see what works and what doesn't work and learn from reality. Spend some time in the streets and squares and see how people actually use spaces learn from that and use it" (Anderson-Oliver, 2013)

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APPENDICES

APPENDIX 1: Survey Questionnaire

1. How long have you been staying in Soweto?

2. Were you aware of the Rea Vaya before it got implemented?

3. What were your expectations with regards to the Rea Vaya development?

4. How do you feel about the introduction of the Rea Vaya system in your neighbourhood?

5. Are you happy with the change of appearance? Yes ☐ No ☐
   Why?

6. Do you use the Rea Vaya? Yes ☐ No ☐
   Why?

7. How often do you use the Rea Vaya per week? Where to?

8. What mode of transport do you use to get to the bus station? Do you feel safe all the time?

9. Do you feel as if the safety of the neighbourhood has improved since the inception of the Rea Vaya bus system?

10. What are the benefits brought to you by the implementation of the Rea Vaya Bus system?

11. How has the use of facilities such as the park and community hall around changed since the implementation of the system?

12. Do you feel as if the system is part of the neighbourhood?

13. Would you consider moving to other parts Soweto or Johannesburg now that there is the Rea Vaya?

14. What would you like to see change or stay the same with regards to the Rea Vaya system in order to increase its benefits?

APPENDIX 2: Formal consent form

[redacted]

SCHOOL OF ARCHITECTURE & PLANNING

FORMAL (SIGNED) CONSENT FORM

I hereby confirm that I have been informed by the student researcher of the purpose, procedures, and my rights as a participant. I have received, read and understand the written participant information sheet. I have also been informed of:

- ☐ the nature of my participation in the form of an interview
- ☐ the place and duration of the study
- ☐ the reasons for why I was selected to participate in the study
- ☐ the voluntary nature, refusal to answer, and withdrawing from the study
- ☐ no payment or incentives
- ☐ no loss of benefits or risks
- ☐ anonymity
- ☐ confidentiality
- ☐ how the research findings will be disseminated

I therefore agree to participate in this study through answering questions asked in the interview.

I AGREE / DO NOT AGREE that you can write responses during the interview.

PARTICIPANT:

_____
Printed name

_____ _____
Signature Date

APPENDIX 3: Participant Information Sheet (PIS)



SCHOOL OF ARCHITECTURE & PLANNING

PARTICIPANT INFORMATION SHEET

The social impacts of the Rea Vaya bus system on the residents of localities affected by the development: The Case of Rea Vaya in Moroka, Soweto

Greetings

My name is Skhulile Ubisi and I am currently a full time student studying towards a BscHons Urban and Regional Planning in the School of Architecture and Planning (SOAP) at the University of Witwatersrand. I am currently investigating the community impacts and perceptions on the Rea Vaya Bus system.

I am inviting you to be part of the study through an interview process at the Thokoza Park.
The interview will take no longer than 20 minutes of your time. During the course of the interview you will be asked questions regarding your perceptions on the Rea Vaya Bus System. The interview responses will be hand written.

You have been selected to participate in this study due to the fact that you're a member of the community.
Your participation is voluntary, you may refuse to answer any questions that make you uncomfortable, and you may withdraw at any time without penalty or loss. You will receive no payment or other incentives for your participation.

Your participation will be completely anonymous and you will not be personally identified in the final report. You will be referred to as a participant. However, your location may be identified.

The results of the interview and your personal views will not be linked to you in the final report. *In the event that I use direct quotations from this interview, please note that your identity will not be revealed. Any comments that you make that you deem "off the record" or similar, will not be quoted. Further, any information that you share will be kept confidential and can only be accessed by me on a password protected computer. There are also no foreseeable risks associated with your participation.*

The research undertaken is solely for academic purposes and once completed will be available electronically and can be accessed publicly.

If you have any questions, concerns, or comments or if you would like a copy of the final report, please feel free to contact me at ubisiskhulile@gmail.com or my supervisor at aly.karam@wits.ac.za

_____
Skhulile Ubisi
Bsc (Hons)Urban and Regional Planning

APPENDIX 4: Ethics clearance

[redacted]

SCHOOL OF ARCHITECTURE AND PLANNING
HUMAN RESERCH ETHICS COMMITTEE

SCHOOL OF ARCHITECTURE PLANNING

CLEARANCE CERTIFICATE
PROTOCOL NUMBER: SOAP102/24/06/2016

PROJECT TITLE:	Investigating impacts of the Rea Vaya Bus System through the lens of the community
INVESTIGATOR/S:	Skhulile Ubisi (Student No. 732024)
SCHOOL:	Architecture and Planning
DEGREE PROGRAMME:	BSc Honours Urban and Regional Planning
DATE CONSIDERED:	18 July 2016
DECISION OF THE COMMITTEE:	APPROVED
EXPIRY DATE:	18 July 2017

CHAIRPERSON
(Professor Daniel Irurah)

DATE: 18-07-2016

cc: Supervisor/s: Ally Karam

DECLARATION OF INVESTIGATORS
I/We fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to endure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I/we undertake to resubmit the protocol to the Committee.

Signature

Date
19/07/2016

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